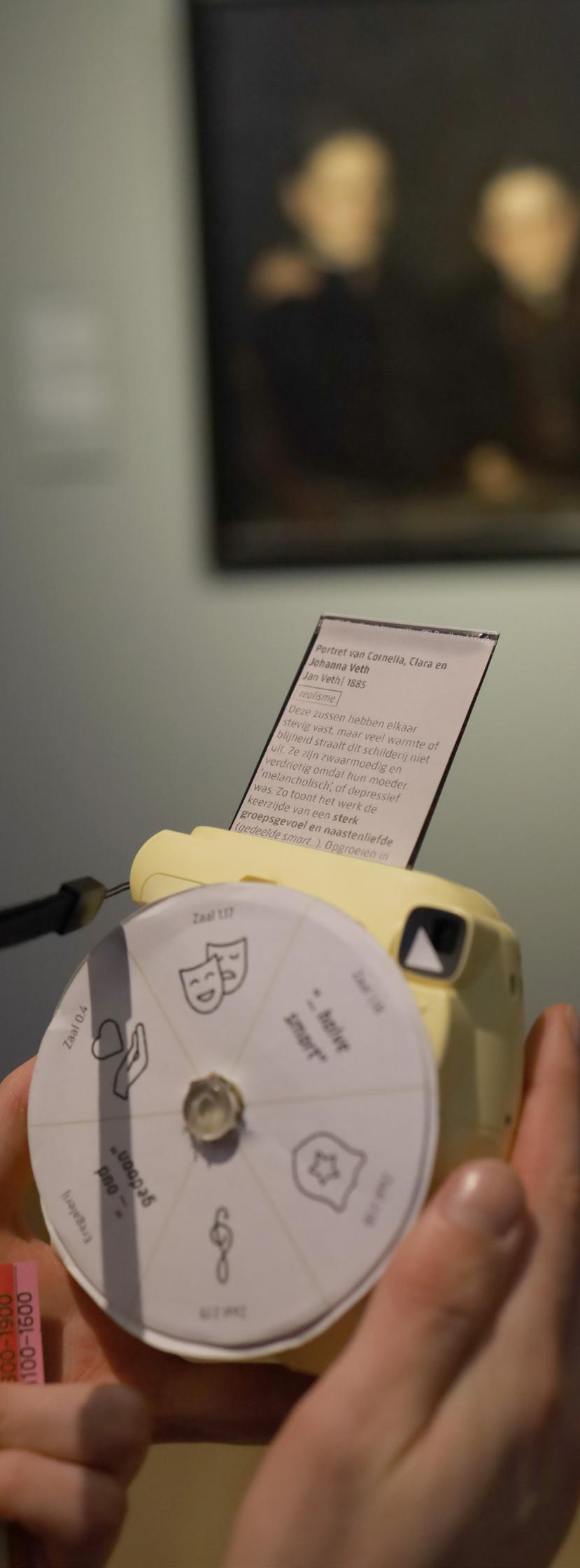


DESIGN OF A DISCURSIVE MUSEUM GAME TO REFLECT ON COLLECTIVE HUMAN THEMES IN HISTORICAL ART

DESIGN FOR INTERACTION
THESIS REPORT

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RIJKS MUSEUM
INNOVATIELAB

TU Delft

Industrial Design
Engineering

COLOPHON

Thesis report

Delft University of Technology
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September 2024 - March 2025

SUMMARY

This thesis report describes the research and design process towards the museum product concept 'Polaroid Quest', a game for a discursive experience uncovering fundamental human needs within the Rijksmuseum's collection and enhancing players' sense of time.

The Rijksmuseum, the primary stakeholder in this project, is the largest and most visited museum in the Netherlands. With over 2.4 million annual visitors, it seeks to connect people with art and history, offering a rich collection of over one million objects. Its strategy emphasizes deepening public engagement by telling compelling stories that surprise and inspire visitors. The museum aims to maintain high visitor satisfaction while expanding its reach, particularly among young adults.

The design challenge addresses the Rijksmuseum's need to innovate while preserving its traditional values. The problem lies in balancing technological advancements with the museum's classical identity, ensuring that new products align with its mission. The Polaroid Quest is developed within the framework of the museum's 2023-2028 strategic plan, focusing on engaging visitors through reflection on shared human experiences.

The target user group for this product is the Dutch Young adult Fun seeking Explorer (DYFE), a profile that is underrepresented in the museum but has significant potential for engagement. This audience is characterised by curiosity and independence, has a need for social interaction and exciting activities, and likes to engage with trendy services, possibly involving photography and multi-media. The profile combines a visit type from the Rijksmuseum's own audience segmentation tool, a role from Falk's identity-related motivations model and a particular demographic population.

To understand how to connect this audience with art and history, the project employs a human-centred design methodology. A contextmapping study is conducted with 7 DYFE target users to uncover their values and needs regarding a visit to the Rijksmuseum in specific, and the connection with art and history in general. The rich results are analysed and supplemented by findings from desk and field research, e.g. literature review, employee interviews, and observations of guided programs. A dozen insights on context, interaction and product level are found and translated to requirements and opportunities for the design of a new product. The interaction with the new product is envisioned to be explorative, playful and challenging.

In a creative process of multiple months, including a design sprint and three iterations, a product concept is developed. Low-fidelity prototypes are built and tested with DYFE users in the Rijksmuseum. The form of the final product is a photography game, the content revolves around the notion of fundamental human needs. The Polaroid Quest challenges visitors to view art through a human lens and connects the historical objects to the timeless and universal desires that all people can relate to. The juxtaposition of contrasting views on the same artwork and the social nature of the game lead to a discursive museum experience in which visitors discuss and curate a thematic narrative from various voices.

The Rijksmuseum is recommended to further evaluate this concept with visitors and continue the full development of game content and product form. An app embedded in the existing digital ecosystem may provide a more feasible solution than a completely integrated device with AI-powered image recognition and portable duplex printing technology, although it compromises some key properties of the desired interaction.

GLOSSARY

DYFE	Dutch Young adult Fun seeking Explorer (see Part 2)
Museum Educator	Tour guide in the Rijksmuseum
Program	Staff-guided service in the Rijksmuseum
Product	Unsupervised and independently used service in the Rijksmuseum
Wizard of Oz	Method in which the design researcher executes functionalities of the concept, to give users an impression of the intended interaction without actually integrating technology.

PREFACE

“Welcome!”

I invite you to my graduation report. Feel free to browse through some parts, read all chapters from cover to cover, or just scan the (79!) figures. This document represents half a year of hard work, and I hope it shows. With this final project I graduate from the master program Design for Interaction and finish my student life in Delft. The faculty of Industrial Design Engineering has been my second home for 6 years and this chapter of my life now comes to an end.



My personal motivation for this project about museum experience design is grounded in my interest for art and history. In secondary school I took extra art (history) classes and in Delft I developed a particular interest in Dutch 17th century because of side job in tourism. As a tour guide, I love telling stories and showing secret details in the city, and try making old things relatable for my modern-time guests. I am convinced that in some way history repeats itself and humankind can learn a lot about the future by studying the past. Art forms a gateway to different ages, so museums play an important role in society.

It has been an honour and pleasure to work for the largest museum of the Netherlands and be part of such a prestigious institute. I want to thank the Rijksmuseum for accepting me as a graduation intern, giving access to invaluable resources and opportunities, and considering the results of my project.

I want to further express my gratitude for all the individuals that have supported me throughout this graduation project. I want to thank my chair Arnold and mentor Aadjan for providing crucial feedback, helping me get an overview and keeping me on track. Thank you to my company mentor Evita for sharing your positive energy and critical view, and to my fellow intern Sander for your helpful assistance and pleasant companionship.



Finally, I want to thank my girlfriend Jinthe for standing by my side from the very start, and my best friend Ruben for helping me through the hardest parts (and for the free coffee). Thank you to my parents for offering a warm hug to come home to and fresh outsider perspectives.

Enjoy the read!

Joris

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PART 1

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1.1 READING GUIDE

This report describes the development of the product concept 'Polaroid Quest'. This museum game uncovers fundamental human needs in the collection of the Rijksmuseum and enhances the players' sense of time. A research and design process has been executed and is described in the 5 parts of this report (see fig. 1.1). The report is roughly structured chronologically, but as the process is very fuzzy and iterative most information is presented per topic for logic and ease of reading.

Part 1 introduces the context of the project and future product use, and the approach for research and design. The Rijksmuseum is an interesting organisation with various challenges that call for creative solutions.

Part 2 answers the question "who should the concept be for?" It defines the target user group as Dutch Young adult Fun seeking Explorers (DYFEs).

Part 3 answers the question "how can the Rijksmuseum connect DYFEs with art and history?" Insights from a contextmapping study, review of literature and internal reports, and observations and analysis of existing services in museums, are categorized on context, interaction and product level. Conclusions are formulated as design requirements and opportunities for the concept, and an interaction vision is presented.

Part 4 finds forms for the concept to connect DYFEs with art and history in the Rijksmuseum. One design sprint and 3 iterations, with ideation, prototyping and testing activities, are executed to develop a new product.

Part 5 presents the Polaroid Quest as a full product concept and digital product for 2028. Key features are highlighted and a scenario of use is sketched.

Part 6 closes the report with a reflection on the process, discussion of the final concept on the basis of the design goal, and recommendations for future implementation of the concept.

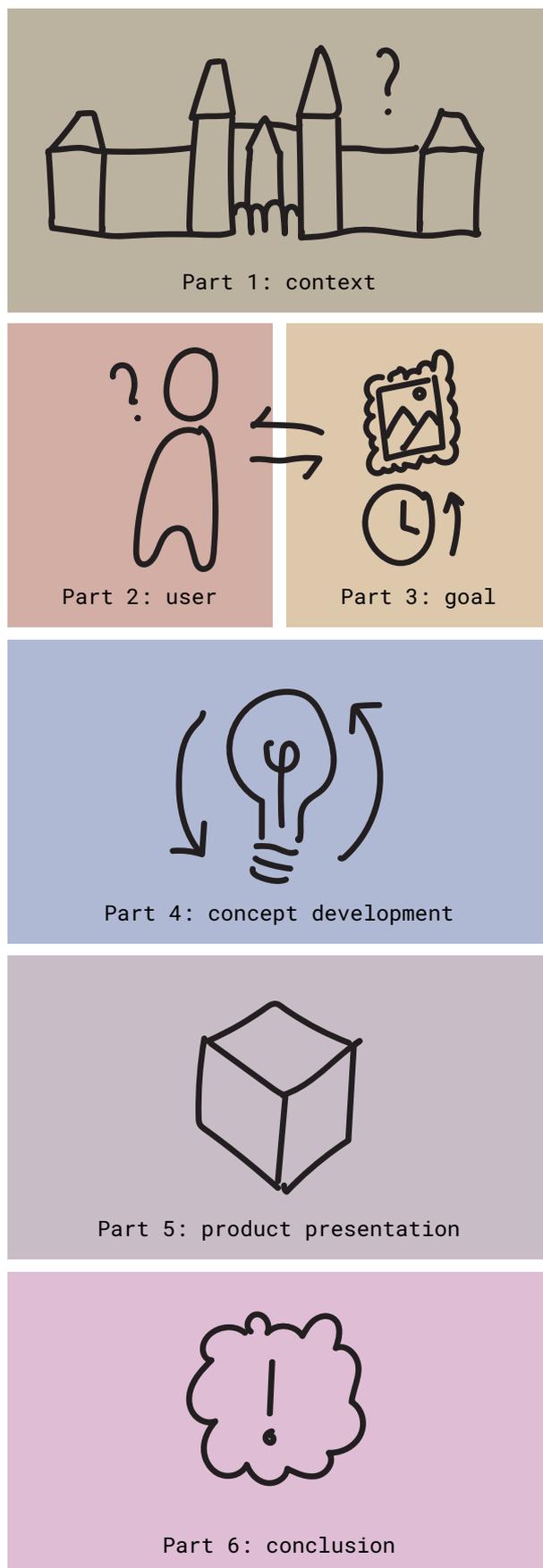


Figure 1.1: Report overview

1.2 RIJKSMUSEUM CONTEXT

The client of this graduation project and **primary stakeholder** in the development of the Polaroid Quest is the Rijksmuseum. This chapter introduces the Rijksmuseum as an organisation, their strategy and current offering of services. Such background knowledge is necessary to understand the context of the research and design project and develop a meaningful new concept.

The Rijksmuseum in Amsterdam is the biggest, most visited and best-known museum in the Netherlands. Their collection of more than 1 million objects tells the story of 800 years of Dutch history, with the most prominent artworks in the Gallery of Honour displaying the glory of the 17th century. In 2024, 2,4 million people visited the Rijksmuseum, over 900,000 of them coming from the Netherlands. They graded their visit with an average of 8,6 out of 10,0 (P. van de Wiel, email, February 20, 2025).

The Rijksmuseum has a public task of managing the State's museum cultural goods. As a national institution, the Rijksmuseum offers a representative overview of Dutch art and history since the Middle Ages and important aspects of European and Asian art. The museum preserves, manages, conserves, restores, researches, processes, collects, publishes and presents objects of art and history, inside and outside its own building. (Rijksmuseum, 2024).

1.2.1 STRATEGY

For some years now, the Rijksmuseum has the strategy to "deepen and broaden the connection with the public by telling stories that appeal to the imagination and that amaze and surprise, so that visitors can empathise and are touched." The collection is always the source and starting point for the stories, and the museum collaborates with various partners to connect people and "draw attention to the collection in surprising and unexpected places" (Rijksmuseum, 2024).

MISSION

This contemporary strategy relates to the long-term mission of the Rijksmuseum: "**to connect**

people, art and history" (Rijksmuseum, 2010). At the Rijksmuseum, art and history become meaningful for a broadly composed, contemporary (inter)national audience. Therefore, the aim is to **give visitors "a sense of beauty and awareness of time."**

VISION

The Rijksmuseum believes that **art and knowledge about the past broaden someone's view** and make them understand that there are different ways of looking at the world. "By becoming more aware of their surroundings, people can gain a better understanding of themselves" (Rijksmuseum, 2024).

VALUES

The Rijksmuseum has 5 core values (Rijksmuseum, 2011). According to the collection plan for 2023-2028 – a strategy and vision document for various departments (Rijksmuseum, 2023) – these serve as **criteria for plans and activities programs**. In practice, employees seem to have forgotten about these terms and do not actively integrate it in their work.

- Authentic
- Quality
- Personal
- Innovative
- Simplicity

1.2.2 ORGANISATION AND STAKEHOLDERS

The Rijksmuseum is a large company with over 800 employees (P. van de Wiel, email, February 20, 2025) spread over dozens of departments, divided in the sections 'public', 'collections' and 'business' (Rijksmuseum, 2024). The most important stakeholders for this research and design project are the Innovation Lab, the Public & Education department and the board of directors.

RIJKSMUSEUM INNOVATION LAB

Since 2019, the "Rijkslab" or "Rijksmuseum Innovatielab" is the creative and experimental design studio of the Rijksmuseum. A small team explores, designs and tests new technologies and concepts together with colleagues from

other departments or external partners. Although the content and organisation of each project is different, the mission remains to **discover the value of digital innovations for the present and future**. In addition, they contribute to the innovation power of the Rijksmuseum by facilitating lectures and creative sessions for all employees.

The full-time leader of the Innovation Lab, Evita Goettsch, is the supervisor for this graduation project and has been involved with all research and design activities. Her primary motivation for involvement is the Lab's **need for inspiration and investigation**. Finding insights on visitor experience and developing a convincing and innovative concept is more important than delivering an instantly produceable and deployable product.

PUBLIC & EDUCATION DEPARTMENT

The "Publiek & Educatie" department forms the **bridge between the historical art collection and the visitors** of the Rijksmuseum. Their mission is "to connect people with the collection and help a wide audience find meaning in the collection." They do so by "touching people in heads and hearts" and "offering context and tools to experience a sense of beauty, awareness of time, and different perspectives, to learn and exchange information," says Kim Muller, Head of Public (email, October 16, 2024).

In practice, the department is responsible for all programs and products (see next section), from object text signs in galleries to sketching workshops in studios, and from multi-media app content to guided tours. As such, team members of Public & Education would adopt, further develop and implement the final interactive concept from this research and design project. Of course, they also form an important source of information about the current offering of services and approach to interaction with visitors.

This department consists of a team of Education Officers, Managers and Assistants who develop the services for specific audience segments (i.e. families, primary school students and high school students) and a pool

of 50+ Museum Educators and Actors who give the guided tours and deliver the workshops. For this project, it is key to get in contact with many types of Public & Education employees, not only to get a good overview and gain a variety of perspectives, but also to build acceptance for the final interaction concept.

BOARD OF DIRECTORS

At the top of the hierarchy are three executive managers who are end-responsible for the Rijksmuseum. Taco Dibbits (general director), Erik van Ginkel (managing director) and Janneke van der Wijk (director of audiences) make executive decisions and determine the strategic direction of the organisation. They steer and review the work of the departments and determine what will and will not end up in the Rijksmuseum's collection, galleries and services. As such, the director of audiences may be involved with the implementation of the new interaction concept developed in this research and design project. The initial judgement is the task of the Head of the Public & Education department. Alignment with strategic goals and fit with their personal vision are the main assessment criteria.

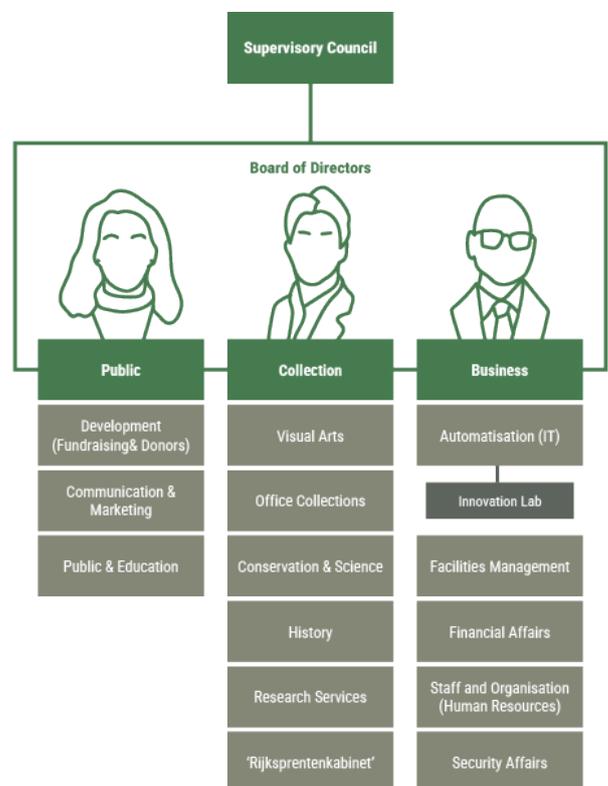


Figure 1.2: Organogram of the Rijksmuseum

1.2.3 MUSEUM SERVICE OFFERING

The Rijksmuseum offers a range of staff-guided programs and independent products to their visitors, on top of the general public information. These services are developed by the Officers of the Public & Education department, executed by the Museum Educators and Actors, and technically and logistically supported by Front Office and Facility Management staff.

INDEPENDENT PRODUCTS

Currently, the Rijksmuseum offers 7 different museum products that can be used by visitors independently (see Appendix D). This includes the multi-media guide (see fig. 1.3), which is available on tablet devices for rent at the service desk, and as a free smartphone app. This digital guide with audio and video clips is used by 25% of visitors and forms the tertiary source of information about the collection (see later section on public communication of information).

Apart from the general multi-media product, a handful of specialised items are developed, most notably for families with children. In terms of form and content of the products, some observations can be made. Most self-

guided tours are designed like a game, quest or quiz. This seems to be an effective format to engage an audience with art and history in an entertaining and still informative way. Within this category still variety in subject and theme exists (e.g. 'animals', 'music' or 'investigating historical objects'), narrative linearity differs (one sequence or free order of points) and physical type varies (digital app, printed cards, notebooks).

STAFF-GUIDED PROGRAMS

Museum Educators guide visitors on tours through the collection (see fig 1.3 and 1.4), give workshops and perform theatre shows. Per default, the Rijksmuseum currently offers 35 museum services that actively involves guidance and supervision of employees (see Appendix F), excluding periodical courses, occasional lectures and symposia, or special events. Overall, these staff-guided programs are successful in providing visitors with a special, educational and entertaining experience in or around the Rijksmuseum. However, only a fraction of visitors take part in these programs and so their intended impact – an enhanced sense of beauty and awareness of time – is limited (Howes Smith et al., 2024).



Figure 1.3: Visitors engage with the multi-media guide and staff-guided tour (photo by the Rijksmuseum)



Figure 1.4: Visitors engage with the staff-guided tour and gallery texts. (photo by the Rijksmuseum)

For this project a handful of programs was observed and analysed (see Appendix F), from which a few general take-aways are drawn. Firstly, the majority of program users are children who visit the Rijksmuseum on an excursion with their primary or secondary school class. As a rule, for each group of 15 students a teacher must join the program in order not to burden the Museum Educator (tour guide) too much with group management. Secondly, each tour through the museum must touch upon four mandatory topics: a) the museum building and its architect Pierre Cuypers; b) the *Nightwatch* by Rembrandt; c) paintings by Johannes Vermeer; d) the theme of glory and slavery in the Dutch 17th century. Thirdly, the most popular programs ('The Best of', 'Welcome to') are made accessible to visitors with special needs, like blindness, low-vision, deafness, dementia, and hypersensitivity. Additional insights are gathered from the current program in Part 3 of this report.

Figure 1.5: Example of an 'inzoomer' card with highlighted details of artworks

BASIC INFORMATION TOOLS

The Rijksmuseum is full with texts, on object signs, gallery walls (see fig. 1.4) and 'inzoomer' cards (see fig. 1.5). The team concerned with the Public makes the collection accessible to all visitors of the Rijksmuseum, without targeting a particular audience segment. The starting point is the motto '**see more, know more**'; providing tools to look at art in a focused way, in order to gain greater understanding (source). They collaborate with collection curators on content, and with external media partners on form. Building on others' expert knowledge and applying own tactical communication skills, they develop the basic information tools in 3 layers. An audience study (Howes Smith et al., 2024) reported that only 15% of visitors read the 'inzoomer' cards and gallery texts on the walls.



1.3 DESIGN CHALLENGE

Within the context of the Rijksmuseum, the research and design project needs an initial direction. This chapter defines a problem, marks a project scope and sets an initial design goal.

1.3.1 PROBLEM DEFINITION

In the 21st century, the Rijksmuseum faces several challenges that ask for innovative solutions from an interaction designer. Firstly, the Rijksmuseum has the **ambition to grow** to 3 million visitors annually while staying within physical limits and keeping up the average customer satisfaction score of 8,6/10,0. Secondly, in a rapidly evolving world and a digital age, the Rijksmuseum needs to respond to the trends and expectations of **new technological experiences** (as shaped by, for example, Artificial Intelligence and Virtual Reality). Thirdly, following the ICOM's definition (see Glossary) and parallel to the growing polarization in society, the museum needs to **offer varied experiences** and foster diversity.

In order to stay relevant in the future and appeal to a bigger variety of people, the Rijksmuseum needs to create new experiences for their visitors. Opportunities lie in novel technologies that engage visitors in new ways and bring the art and history to life. An interesting design problem arises in the tension between innovation and tradition: new products or programs must **“preserve the current collection and story, and align with a stately, conservative institution.”** (Manager for Young adult visitors, E2). Currently, physical and virtual artilleries (see previous section 1.2.3) are employed in a minimalistic and conservative manner to establish full focus on the authentic objects and leave room for interpretation. However, the richness of the service offer and collection is not fully experienced, and the impact on the visitor is more on sense of beauty than awareness of time. A significant proportion of visitors fail to make a strong connection with art and history (Howes Smith et al., 2024).

1.3.2 SCOPE

While the Rijksmuseum would benefit from a vision document, future scenario analysis or roadmap to address this problem, an interaction designer like me can make a more meaningful contribution in another way. There needs to be **a concrete solution that meets the needs of today and tomorrow**. Besides, a long-term strategic framework is already being developed by staff in another department. Therefore, for this research and design project the **time frame** of the current collection plan (a strategy and vision document, often referenced in my report) was adopted, namely **2023-2028**. The concept to be developed must fit the current zeitgeist and be feasible to produce and roll out within the next 3 years.

The collection plan 2023-2028 has the tagline “We come to museums to be reminded of our shared humanity.” Also, one of the four leading thematic ‘lines’ for audience support and education is **‘identity’**: “from the individual to global identities, from religion to gender. From the function of artworks as individual expression to the (collective) ownership, artworks as makers and carriers of (local, national, global) identities” (Rijksmuseum, 2023). These statements inform a **thematic direction** for the research and design project. A connection between people, art and history can be established when **underlying, timeless themes** emerge from the collection. **Reflection** on one's own identity and awareness of a **shared human nature** may therefore be what visitors need in order to connect with the Rijksmuseum's objects and stories.

1.3.3 DESIGN GOAL

In summary, I aim to **design a historical art experience for the Rijksmuseum in 2028 to help visitors reflect on collective human themes**. Many matters, like target user group, concept form and exact functionalities still need to be defined. The research and design activities will inform and shape an interaction vision and eventual solution.

1.4 METHODOLOGY

To solve the defined problem and reach the design goal, a research and design project is organised. This chapter outlines the approach and planning, and gives an overview of the methods and tools applied throughout the process.

1.4.1 APPROACH

As interaction designer, I take a **human-centred design approach** to this project. This process starts with finding and understanding the target user audience and ends with building and testing a solution.

The research and design project lasts from September 2024 to March 2025. Roughly the first half of this period was dedicated to research activities, resulting in parts 2 and 3 of this report, and the second half was spent on the development of prototypes and design of the final product concept, presented in parts 4 and 5. Figure 1.7 on the next pages shows a simplified representation of the process and planning over the six months.

1.4.2 METHODS

Figure 1.4 also gives an overview of all methods and tools applied in each stage of the project. The primary methods for research and design – contextmapping and prototyping respectively – are briefly explained here. For the method of interviews, Appendix G lists the interviewed employees, their role in the Rijksmuseum and the reason for interviewing them.

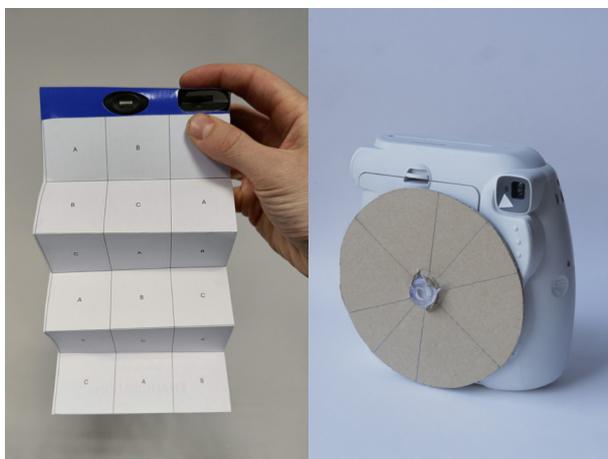


Figure 1.6: Impressions of low-fidelity prototypes made in the design iterations (see Part 4)

CONTEXTMAPPING

One of the personal objectives for this project is the successful implementation of the contextmapping method, with application of creative facilitation techniques and the Metaphoric Associative Cards tool in generative sessions.

To **gain tacit knowledge** about future museum visits and connections with art and history, a contextmapping study is conducted with target users. This method is part of the co-creation design approach and can be well applied in human-centred design. The user research technique developed by Sleeswijk Visser et al. (2005) focuses on participation of users to ensure a good fit between the design and use of a future product or service. The contextmapping study consists of **two generative sessions** as prescribed by Sanders & Stappers (2013) with application of sensitising booklets and metaphoric associative cards. More information on the procedure and materials, and complete results are presented in Chapter 3.1.3 and Appendix H.

PROTOTYPING

During the design sprint and concept development phase **a total of 5 prototypes are built**. They are key in shaping the product, envisioning the interactions, refining the qualities and validating the underlying assumptions. Prototyping is a method to rapidly build ideas and concepts so they can be better understood, communicated and tested. McElroy (2017) even argues prototyping is a skill and a mindset embedded in a designer's way of working. For the first prototypes (0, 1 and 2) the main goal is understanding and developing the envisioned interaction, so low-to mid-levels are set. Prototype 3 (see chapter 4.5) and the digital product (see chapter 5.4) primarily aim to convincingly communicate the product concept and so a higher fidelity is pursued.

design results

process steps

applied methods,
tools and
technologies

**DEFINING THE TARGET GROUP:
DUTCH YOUNG ADULT PLEASURE SEEKING
EXPLORER**

see Part 2

**UNDERSTANDING THE CONTEXT:
THE RIJKSMUSEUM**

see Chapter 1.2

**EXPLORING THE MISSION:
CONNECTING WITH ART
AND HISTORY**

see Part 3

**PROTOTYPE 0:
SELF-REFLECTION MIRROR**

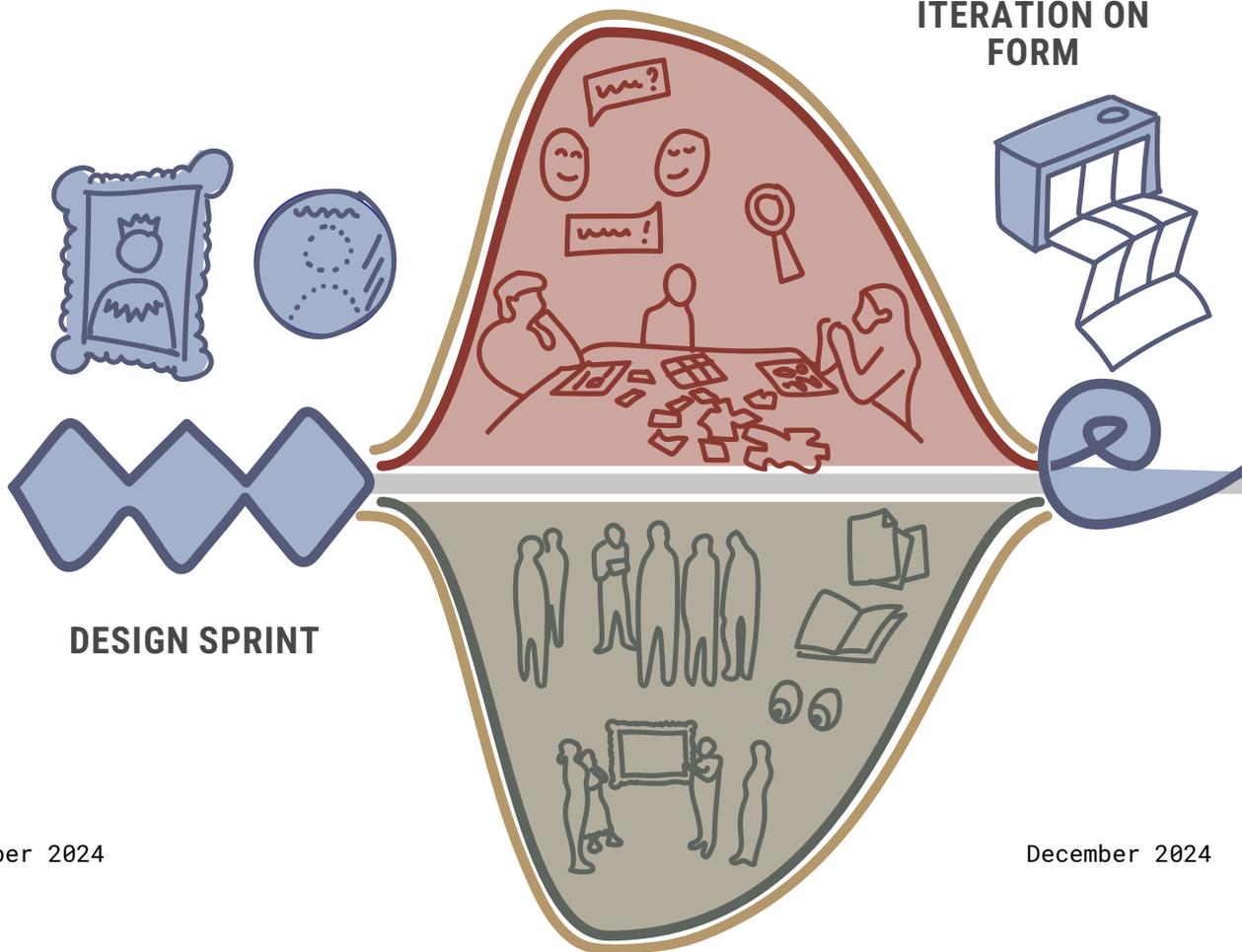
see Chapter 4.2

**PROTOTYPE 1:
BINGO CAMERA**

see Chapter 4.3

CONTEXT-MAPPING STUDY

**ITERATION ON
FORM**



DESIGN SPRINT

September 2024

December 2024

OBSERVATION & DESK RESEARCH

- Harris Profile
- rapid prototyping
- simulated context of use
- user test

- generative session
- sensitizing booklet
- Metaphoric Associative Cards
- semi-structured interviews

Figure 1.7: Research and design project journey

**PROTOTYPE 2A:
PHOTO BINGO**

see Chapter 4.4

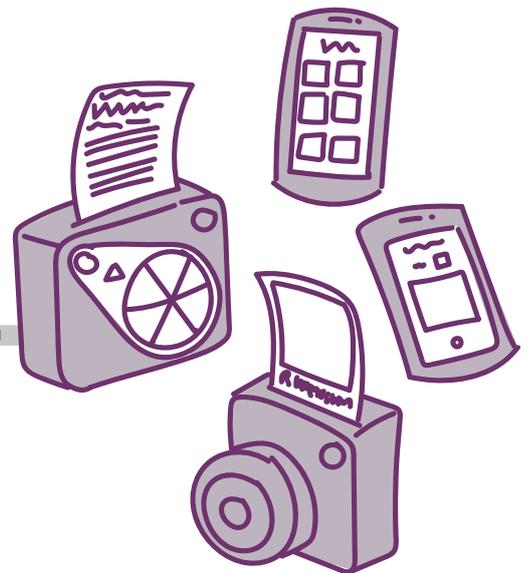
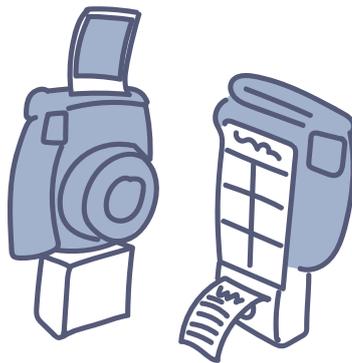
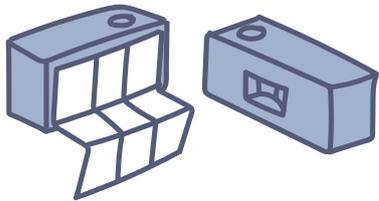
**PROTOTYPE 3:
POLAROID QUEST**

see Chapter 4.5

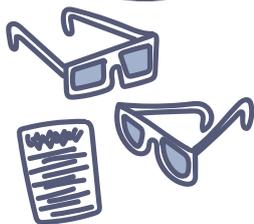
**FINAL PRODUCT CONCEPT:
POLAROID QUEST**

see Part 5

**ITERATION ON
CONTENT**



**ITERATION ON
IMPACT**



**PROTOTYPE 2B:
EMPATHY GLASSES**

see Appendix N

March 2025

prototype Fidelity Wheel
user test
storyboard scenario

P5 JavaScript coding
Teachable Machine AI



PART 2 DUTCH YOUNG ADULT FUN SEEKING EXPLORERS

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2.6 CONCLUSION	28

2.1 INTRODUCTION

The Rijksmuseum welcomes a huge crowd of roughly 2,5 million visitors every year. Beyond that, there are many more people who do not yet engage with the historical art collection. How much I would love to impact as many people as possible with my new product, program or service, I know that to design for all means to design for none. Services tailored to everyone are not optimal for anyone. So, to increase the potential of my work, I need to target it at a specific group of people.

This part of the report describes the target audience of the design project: **Dutch Young adult Fun seeking Explorers**, abbreviated to **DYFEs**. This group is very important for the Rijksmuseum, has high potential for an enhanced connection with art and history, and is most susceptible to an innovative visitor experience. The next chapters specify all defining demographic – nationality (chapter 2.2) and age (2.3) - and behavioural – visitor type (2.4) and identity-based motivation roles (2.5) - characteristics. Each chapter briefly outlines the various options for the variable and argues for the selected segment. The concluding chapter (2.6) summarizes and illustrates the **profile of DYFEs** and the implications for the design project.

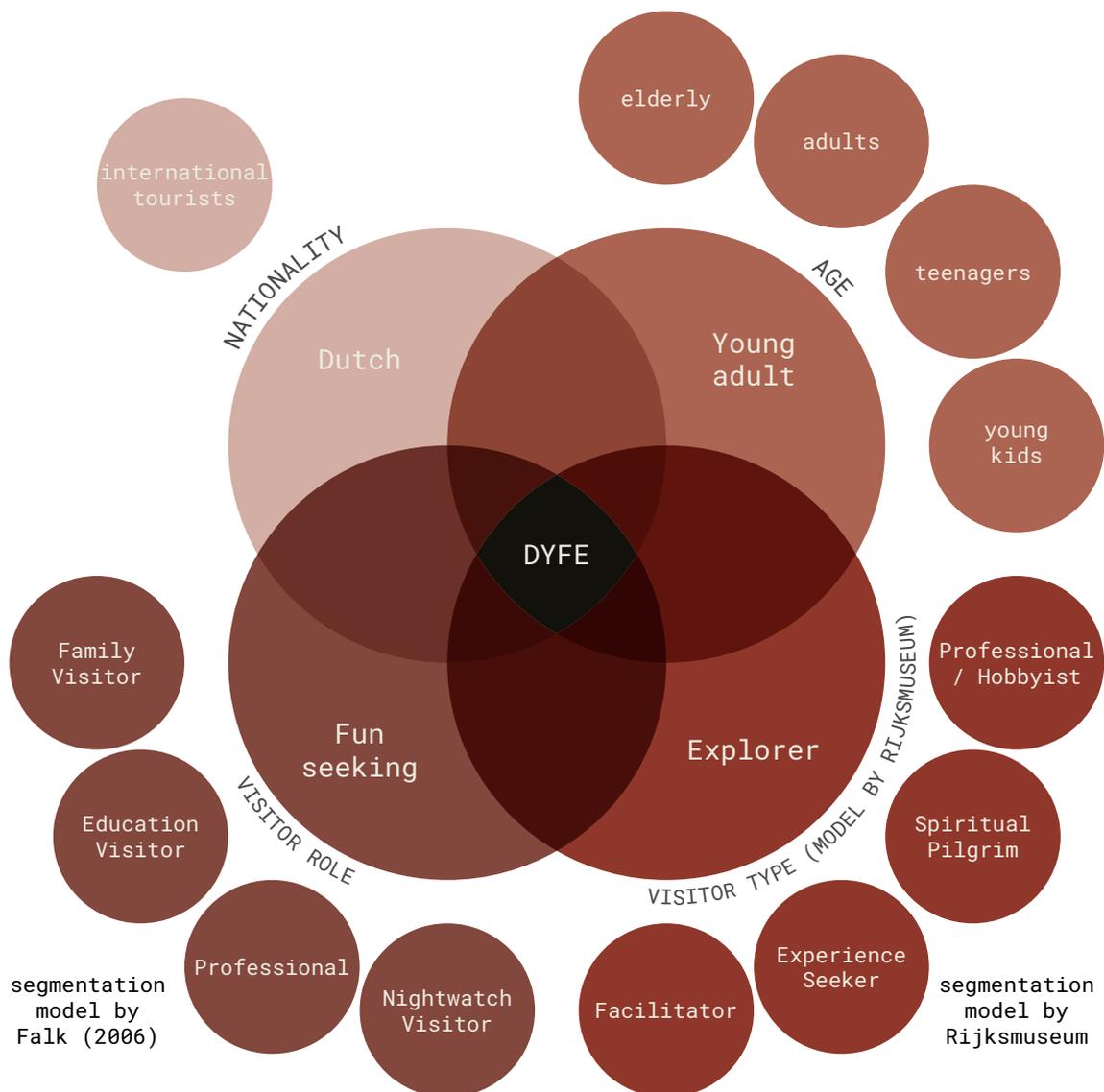


Figure 2.1: Venn diagram of target audience segments, with the selected user group DYFE in the central overlap

2.2 DUTCH

The first characteristic of the target group is **nationality**. I have selected the segment of Dutch people, because **residents of the Netherlands are priority audience** for the Rijksmuseum and form an accessible research group for this design project. This chapter further explains my choice for Dutch target users.

The Rijksmuseum primarily focuses on the Dutch visitors, according to their five-year strategy (Rijksmuseum, 2023). That document even states the target that all Dutch children must see the Nightwatch, which is why so many resources are spent on school tours.

Currently, roughly **38% of visitors are Dutch**, which makes 62% foreign tourists (Rijksmuseum, 2024; see fig. 2.2). According to various interviewed employees, this balance is askew and must be restored. Some believe that there is **no need to further address international visitors** (in marketing and programming), as they will come to the museum anyway. In the Marketing and Communications department, the Data and Insights manager (E3) states that foreign tourists want to see the highlights, maybe use the multi-media guide on their smartphone or rented device, and take home souvenirs from the shop. She suggests they do not need additional services. This group is very heterogenous with big variations in age and origin, which makes it hard to design for. "Tourists are from all ages and all countries," says one Museum Educator (E14). Indeed, Rijksmuseum visitors come from all over the world, with the biggest international segment originating from the UK, USA, France and Germany (totalling 65%; Rijksmuseum, 2024).

The interviewed Museum Educator (E14) continues to state that international visitors tend to be more intrinsically interested in the content of the museum and so more often choose to follow a guided tour, compared to Dutch visitors. On one hand this forms an argument to further address the existing need for an informative experience, on the other hand this indicates **a challenge to engage with a group that is less likely to use a service**.

*"They [international visitors] choose to follow a guided tour, so they are intrinsically interested, in contrast to Dutch teenagers who are forced into an excursion by school."
- Museum Educator (E14)*

On a practical side, it is relatively **easy to involve** residents of the Netherlands **into this research and design project**, in comparison to foreign tourists. Inviting my personal network in the country to come to Amsterdam for a study or test is more successful than recruiting participants at the entrance of the Rijksmuseum, which would be the only feasible option of reaching international visitors.

I must note that **'Dutch'** in this report means **'living in the Netherlands'**, because the design project targets people who want to engage with Dutch art and history on a deeper level than the average foreign tourist, and who are in the position to visit the Rijksmuseum several times. This can include foreigners who have moved to the Netherlands, master the language, and wish to further integrate in Dutch society (for example research participants T1 and T2, see chapter 4.3).

Also, while the fit with a Dutch audience forms a proper design requirement for this project, I also **wish the final product can be enjoyed by international users**, or at least can easily be adapted to this group by means of translation.

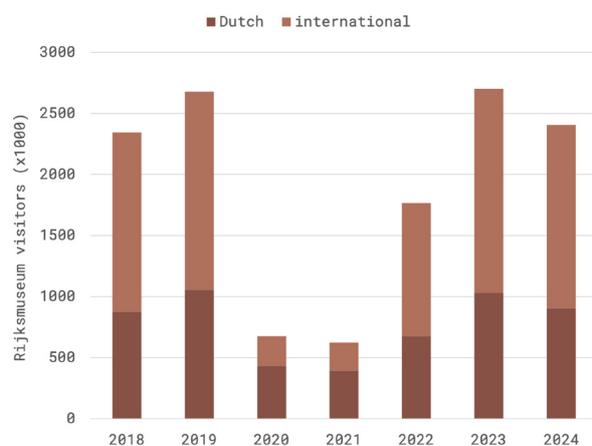


Figure 2.2: Rijksmuseum visitors in the past 7 years, split by nationality. Statistics from 2018 to 2023 were copied from corresponding year reports. Statistics of 2024 were provided by secretariat, in the absence of the 2024 annual report.

2.3 YOUNG ADULT

The second characteristic of the target group is **age**. I have selected the segment young adults, people aged **between 18 and 30 years**. This age group is **underrepresented** in the Rijksmuseum and generally **hard to reach** for the museum sector. Yet, there is a big need and **high potential** for engaging this audience. Also practically, it is relatively easy to do research and design activities with peers. This chapter further explains my choice for young adult users in contrast with other age groups.

2.3.1 YOUNG ADULTS AND THE RIJKSMUSEUM

Several sources indicate that young adults are underrepresented in and hard to reach for the Rijksmuseum. The collection plan (Rijksmuseum, 2023) states that “reaching the group of young adults up to 30 outside school is a **big challenge**.” An overview document with study results by a market research agency (Howes Smith & Motivaction, 2023) lists thresholds for visiting: the Rijksmuseum is too expensive, too far, and too crowded. Young adults also do not want to come because **they have no interest in art** or because **they have already been there**. The financial and logistical objections are understandable and justified, and unfortunately not easily resolved with an interaction design intervention. However, while the latter reason seems logical, it is not a strong argument, because of two reasons.

Firstly, **it is impossible to see the entire Rijksmuseum** and take in the vast collection in one visit. This is echoed by the participants of the generative session (see the contextmapping study in Part 3) and prototype tests (see chapter 4.4):

“The Rijksmuseum, that’s art from the year 0 to modern art. But that’s way too much to feel a connection with.”
- participant V3

“I anyway don’t think it’s feasible to go through an entire museum, because then I take nothing in.”
- participant T4

Secondly, these young adults are **unlikely to have actually connected with art and history on a previous visit** during their childhood or adolescence. Observations on tours with school classes indicate very limited attention to the objects and stories (see fig. 2.3). One teenager in the German high school group literally said he thinks “it’s normal to be bored in a museum.”

So, while trying to engage teenagers with the Rijksmuseum will a futile effort, there is much more to be gained for an older age group. I still see opportunities to attract young adults by and connect them with art and history. As people in this age group mature and pay more attention to the world around them, they are **more open to the Rijksmuseum’s collection and new experiences**.

The Rijksmuseum agrees on the **need and potential to address this audience**. The collection plan (Rijksmuseum, 2023) calls it “extremely important to **establish a connection from the perception of the diverse group of young adults**,” and recognizes this requires a different kind of approach. The Public & Education department has particularly expressed an extra focus on young adults (Kim Muller, email, October 16, 2024). Statistics also indicate opportunities for new engagement with this age group: Howes Smith and Motivaction (2023) report that **35% of young adults in the Netherlands is a potential visitor** for the Rijksmuseum. Since October 2023 the Rijksmuseum employs a dedicated Manager for Young Adults (E2), who developed strategy in cooperation with market research consultant Fronteer. They want to reach Dutch people aged 18-30 years and **engage them in a structural and sustainable relationship**. My interaction product concept targeted at young adults may contribute to that.

2.3.2 YOUNG ADULTS' NEEDS FOR MUSEUM EXPERIENCES

This project would not be the first attempt to study and design for young adults in a museum context. In recent years **museum visitors aged 18 to 35 have been subject of research**. The most striking and relevant findings are listed below.

Kisiel (2024) investigated young adults' perception of two art museums in Poland and explored changes to be made. Analysis and classification of comments from 42 respondents aged 17 to 22 led to two main insights. Firstly, according to the young adults, **a museum is 1) a place known for being unknown, 2) a site inaccessible to all, and 3) an unmodern and unattractive place**. Secondly, to improve this image and attract young adults, solutions are needed in 1) form: "modernizing forms of contact with art," and 2) content: "updating the museum offer and adjusting it to the expectations of young cultural audiences."

Prentice et al. (1998 in Batat, 2020) found that young adults' main reasons for going to museums are **to be entertained, for a social outing, or as a leisure activity**. They want a museum experience in which to relax, chat and interact, and they expect a high-quality social and recreational environment that matches their lifestyle.

Xanthoudaki (1998) concludes that young adult visitors don't want to be passive receivers of curated information by an unknown individual. They **want to be actively involved**, be understood and taken seriously, supported by the museum staff, able to choose their own program, and utilize their own imagination and experience to enjoy the visit.

Research by Howes Smith and Motivaction (2023) for the Rijksmuseum states that young adults are more curious than people older than 30 years. "They indicate a **wish to learn something new every day**, and like to be inspired by new knowledge and experiences."

The **young adults' need for different experiences, social interaction, active participation, and new knowledge** aligns with

the features attributed to the **Emerging Adult**, as defined by Arnett (2000). In his theory, people aged 18 to 25 are in a period of **searching for and constructing their own identity** as well as attempting to define their relationship to others. Also, this group is characterized by self-centeredness, constructing an identity entering the world of independent adults. This transition is a period of **openness to different possibilities** in life and flexible choices for the future. In this graduation report, the term 'Young adult' includes reference to Arnett's 'Emerging Adult'.

Another finding regarding young adults' needs for museum experiences, is the wish to be surprised. Multiple participants of the contextmapping study recognized the classical and static nature of the Rijksmuseum, but also expressed they would like to see and do something new and unexpected.

*"For me and my target audience, museums may show some more courage in the ways they present art. ... I would like to be more surprised about how I experience the art."
- participant D1*

*"I really enjoy being surprised and seeing something new, and learning to deal with it."
- participant D3*

Young adults primarily visit the Rijksmuseum with a companion. 29% of young adult visitors visited the Rijksmuseum alone, 70% visited it with one or more other adults (museum monitor, n = 2447). Among Dutch young adults (n = 550) more than three quarters (75,5%) visited the museum with someone else. Participants of the contextmapping study also stated that **experiencing art is a social activity** and always prefer to go to museums together with their partner, friend or sibling.

Earlier research (Gofman et al., 2011) supports this choice for the **explicit social dimension in the new museum experience**: visiting with friends is very important for young adults since they highly value positive social interactions. They prefer attending cultural activities with another person in which the learning experience can be shared later between each other or through their social media accounts.

2.3.3 YOUNG ADULT CHARACTERISTICS

As the timeframe of this project runs until 2028 and young adults are aged between 18 and 35, the target group is born between 1993 and 2010: **Generation Z** (Dimock, 2019). The young adult strategy by market research consultancy Fronteer (Ramsche, 2024) sketches a strong profile of this Gen-Z, that matches well with findings from my own research.

Generation Z, the first post-internet generation, has **grown up with technology** as an integral part of daily life. This makes them skilled at filtering vast amounts of information quickly but also prone to shorter attention spans and overstimulation. Facing a world marked by climate change, housing shortages, and a shifting job market, they cannot rely on traditional certainties and instead seek new forms of stability and security. Financially, Gen Z is **highly price-conscious** making thoughtful spending choices and prioritizing purchases that hold real value. Mental health is an open topic of discussion; burnout, stress, and anxiety are common, making self-care and resilience essential themes in their lives. Similarly, they are **outspoken on social issues**, actively advocating for climate action, equality, and justice. With social media as their playground, they are not just consumers but **creators**, using digital platforms to influence, innovate, and drive change in ways previous generations never could.

Besides, Gen Z shows affinity with **retro lifestyles**, embracing elements such as vinyl records, DIY clothing, vintage fashion, and analogue photography (see fig. 2.4). In an era dominated by digital experiences, Gen Z's gravitation towards **analog mediums** signifies a yearning for authenticity, tangible connections, and tactile experiences. This **'historical nostalgia'** can also be explained as a psychological coping mechanism (Routledge et al., 2024). Immersing themselves in the cultural artifacts of previous decades provides young adults comfort and an escape from contemporary issues, like the mental health problems, social inequality and economic uncertainties mentioned before.

2.3.4 OTHER AGE GROUPS IN THE RIJKSMUSEUM

The Rijksmuseum is keen to welcome children and young people. "We aim for every primary school child to have seen The Night Watch at least once in their life," said former general director Wim Pijbes (Sikkema, 2013). That is why admission is free up to the age of 18. Additionally, the Rijksmuseum offers a wide range of products and programs for children and teenagers (see chapter 1.2).

Yet, when it comes to an actual connection with art and history, **teenagers are not really engaged with the Rijksmuseum**. As the observations and quotes earlier in this chapter indicate, the intrinsic motivation for a museum visit and informed interest in art or history is very low in the adolescent age group.

This challenge of effectively connecting young people to art and history in the Rijksmuseum is a big one that I do not want to spend my energy and limited research and design resources on. I see it as a near waste of effort, because **teenagers inherently have little interest** in the collection of ancient objects and their stories. In the school tours, I observed a lot of boredom, distraction and mutual interaction at the expense of learning and entertainment. Yet in a few years, these people naturally enter a stage of life where they are more open to the world around them: **young adulthood**.

Finally, at the other end of the spectrum are older visitors, aged 30 to 65. They make up the vast majority of the audience and tend to be very satisfied with their museum experience. The multi-media guide is sufficiently informative and useful, and otherwise they also know how to find guided tours with a museum educator. Of course, there are issues in their visit experience, but these have less to do with preferred forms of learning and entertainment and more to do with logistics and communication. The Rijksmuseum is working on a review of the collection presentation, better signage and accessibility. A design intervention from me does not seem necessary for this older audience for now.

2.4 FUN SEEKER

The third characteristic of the target group is their **type of museum visit**. I selected the 'Fun Seeker' (Plezierbelever) from the 5 different types of museum visitors in the **Rijksmuseum's audience segmentation model**. This chapter argues why the Fun Seeker is the most interesting and promising segment and summarizes the other types.

2.4.1 RIJKSMUSEUM'S AUDIENCE SEGMENTATION MODEL

The Public & Education department (2024) created the audience segmentation model informed by quantitative (ticket sale statistics, post-visit survey monitor) and qualitative studies (short interviews on-site, focus group sessions). The tool is intended for formulating policy and making plans, that can help the Rijksmuseum **reach and serve a diverse audience**.

Unlike Falk's identity-related categories (see next chapter 2.5), these profiles are not purely based on motivation or learning behaviour. The visitors are namely first allocated in one of four **visit types**: leisure with kids, leisure without kids, educational or professional. Second, adult visitors who visit the Rijksmuseum in leisure time without children can be categorised in the segments 'Enthusiasts', 'Fun Seekers' and 'Nightwatch Visitors' (see fig. 2.6). These profiles are a combination of **behavioural, motivational and some demographical aspects**, and include needs for a museum visit.

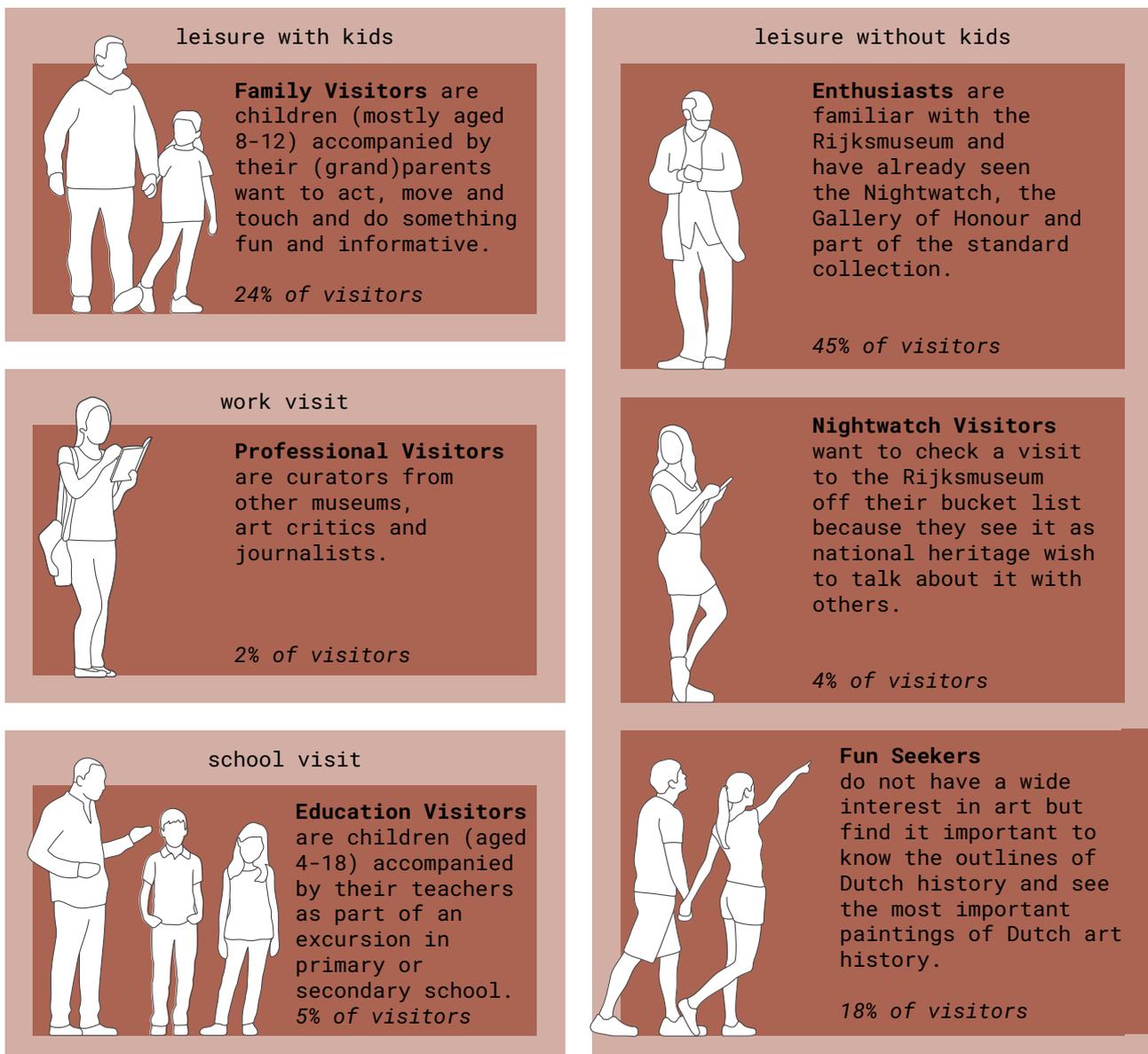


Figure 2.6: The 6 visitor types in the Rijksmuseum's audience segmentation model (images by dimensions.com)

2.4.2 CHOICE FOR THE FUN SEEKER

Fun Seekers are the most interesting type of visitor to target in this design project for various reasons. The characteristics and needs presented in figure 2.7 are derived from internal reports, but many things are still unknown. The Rijksmuseum Manager for Young Adult Visitors (E2) stated that they don't know the Fun Seeker well enough: "What do they need practically and in terms of content?" The **need for information about this visitor type** is the first argument to target them in this research and design project.

Secondly, Fun Seekers currently make up approximately one fifth of the Rijksmuseum visitors, while 36% of potential visitors in the Netherlands qualifies as this type. In contrast, Enthusiasts form only 9% of the Dutch population but represent 65% of all Rijksmuseum visitors (Howes Smith, 2024). Obviously, this balance must be restored, so **more Fun Seekers must be attracted and engaged**.

Thirdly, there is potential to enhance the Fun Seeker's connection with art and history.

Currently they barely return for a second visit, as they try to get a complete image of the collection or the museum at once. This makes them saturated with mental stimulation of artworks early, and fail to make a deeper connection with the objects and stories. However, Fun Seekers **like to learn something and are open for unfamiliar artworks**, seeking a deepening and **special experience** in the museum.

It may seem more logical or attractive to appeal to the **potential Nightwatch visitor**, as they form a huge group (30% of Dutch citizens) but still do not come to the museum much (5% of Rijksmuseum visitors). However, these are people who have little or **no intrinsic interest** in art or history, and would actually rather go to the cinema or an amusement park. So targeting a group that doesn't actually want to be in the museum is a **waste of time, money and effort**.

In conclusion, the Fun Seeker is chosen as target segment because of their characteristic openness to exploring new, fun learning experiences, and the Rijksmuseum's strategic preference for and interest in this group.

characteristics

- curious
- active
- social
- young (25-44 years)
- practically or theoretically educated

motivation

- a museum visit is part of a day outing in Amsterdam
- believes everyone needs to have visited the Rijksmuseum at least once

characteristics

- want to visit together with friends or family
- want to see highlights and something famous that gives status
- want to do something interactive
- want to learn in a playful way
- want to follow a story
- want to absorb information in various ways
- want to take photos
- want to post about experience on social media after visit



Figure 2.7: Profile of the Fun Seeker (illustrations by storyset.com)

2.5 EXPLORER

The fourth and final characteristic of the target group is the **role** that museum visitors can adopt. I selected the ‘Explorer’ from the 5 categories proposed by John Falk (2006), who clustered all the various **motivations** that visitors ascribe to visiting museums. This chapter summarizes the 5 segments and argues why the Explorer is the most interesting and promising to include in the target group for this design project.

2.5.1 FALK’S AUDIENCE SEGMENTATION MODEL

Prominent sociologist John Falk has published various articles in which he presents a new model to categorize museum visitors. Rather than demographic segmentation, he suggests ‘identity-related motivations’ for visiting museums. The 5 segments are presented briefly in figure 2.8 and elaborately in Appendix J.

These 5 **roles** are tied to a situation rather than to a person. Namely, someone can act as a Recharger when visiting a museum on their own, but also as Experience Seeker during a visit with their partner, and as a Facilitator if they bring their kids. As Falk states in his later work for a seminar (Lundgaard, 2013), the museum visitor experience is a uniquely constructed relationship that occurs each time a person visits a museum: “the same person can visit the same museum on two different days and be an entirely different visitor.” This is supported

by results from the generative sessions in the contextmapping study conducted for this design project, illustrated by this single quote:

“In a museum I can really have two modes: I can either feel very much like gaining knowledge, ... or I don’t want to read anything at all and just wander around.”
- participant D3

It is important to note that these roles are **not attached to individual visitors** of the Rijksmuseum, and therefore can **exist in parallel to the types** of visitor presented in the previous chapter (2.4). For example, I could be a Professional (visitor type) and Facilitator (role) in the same museum at the same time: in the Prinsenhof Museum I was taking mental notes of exhibition design and analysing the product and service offer for my professional (or academic) project, while also making an effort to guide and support my girlfriend’s learning and entertainment by sharing information and suggesting actions.

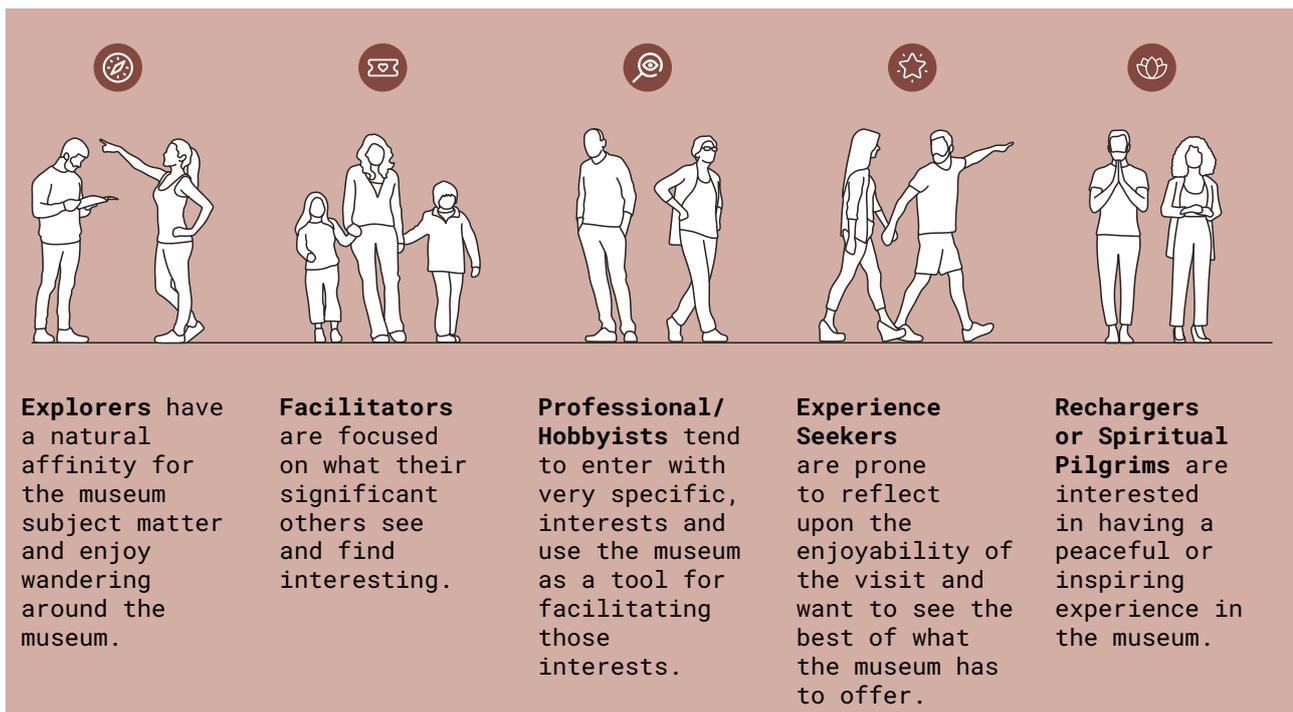


Figure 2.8: The 5 visitor roles in Falk’s identity-related motivation segmentation model (images by dimensions.com)

2.5.2 PROFILE OF THE EXPLORER

In Falk's model (2006) Explorers are visitors who are curiosity-driven with a **generic interest in the content of the museum**. They expect to find something that will grab their attention and fuel their learning. Explorers have a natural affinity for the subject matter but generally they are not experts. They **enjoy wandering around** the museum and 'bumping' into new objects, focused on what they see and find interesting. They do usually not really care about whether others in their social group enjoyed the visit, as the experience is first and foremost about themselves.

2.5.3 CHOICE FOR EXPLORER

Explorers are the only role that explicitly want to **find something new to experience** in the museum, hence they are most accessible and susceptible to a designed product or service. Falk (2006) even suggests that if the Rijksmuseum provides an Explorer with the opportunity for a unique museum experience, their **need to feel special** is fulfilled and they will be encouraged to come back for more. This fits well with the museum's intention to engage repeat visitors.

In comparison to the other motivation-based profiles, Explorers have the **highest potential to respond well to the intended design**: a historical art experience for the Rijksmuseum in 2028 to help visitors reflect on collective human themes. As further described in chapter 4.2 this reflective experience namely requires a degree and type of learning for which not all visitors are open. For example, Facilitators are too busy supporting and entertaining their companions, and Experience Seekers will be satisfied with seeing a few highlighted artworks. While Professionals/Hobbyists may be most intellectually and mentally available for a reflective experience, visitors in this role do not require additional services and can inform and entertain themselves well enough. Also, this group generally forms a very small segment of museums' audiences, and therefore not a priority for the Rijksmuseum to design for.

2.6 CONCLUSION

Dutch Young adult Fun Seeking Explorers form the most interesting and promising target group for the design project. While this is not homogenous set of people, they have a common profile of demographic and behavioural characteristics, and corresponding shared needs for a meaningful museum experience.

OPEN

DYFEs look for a new experience and want to be surprised in the museum.

IN SEARCH OF SELF

DYFEs try to relate to the world around them and look for meaning that help them shape their identity.



Figure 2.9: Characteristics of the Dutch Young adult Fun seeking Explorer (illustrations by storyset.com)

INDEPENDENT

DYFEs want to find their own way in the museum and choose their program.

TRENDY

DYFEs have their own style of fashion, communication and behaviour.

CURIOS

DYFEs want to learn new knowledge.

YOUNG

DYFEs like to engage with content in an interactive and playful way.

PHOTOGRAPHING

DYFEs take photos during their visit and share them on personal media channels and in social networks.



SOCIAL

DYFEs visit the museum together with friends and/or family and want to have a social experience.

PART 3

CONNECTING WITH ART AND HISTORY IN THE RIJKSMUSEUM



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3.1 INTRODUCTION

This part of the report aims to identify **key challenges and opportunities** for the future product and inform and inspire design choices. It provides insight into the **visitor experience** at the Rijksmuseum in general, and the **connection with art and history** in particular. The findings are drawn from various sources and studies, including internal reports and policy documents of the Rijksmuseum, academic literature and a **contextmapping study** with Dutch Young adult Fun Seeking Adults. The insights will eventually lead to an interaction vision for the new product design.

3.1.1 STRUCTURE

The information is presented in three chapters (see fig. 3.1 on the next page): insights on context level (see chapter 3.2), interaction level (3.3) and product level (3.4). This division is often applied in design research and manifests ecosystem thinking.

Context-level insights are human principles, cultural developments, and strategic visions. For example, the roles art can play for people and the Rijksmuseum's intentions in terms of audience and education are discussed in this chapter.

At **interaction level** are the relationships between user and product, or in this case, between visitor and the Rijksmuseum and its services. This chapter shows how young adults currently experience and would like to experience the museum.

Insights at the **product level** touch upon the qualities of form and content in the Rijksmuseum's services. This chapter builds upon the analysis of the current offering of programs and products (see section 1.2.3) and sets concrete requirements for the new design.

All insights are closed with a box that states the consequence(s) for the design project, i.e. **design requirements** (blue) and **opportunities** (green). In the concluding chapter of this part (see chapter 3.5) these implications are summarised. The **design goal** is reviewed and an **interaction vision** is formed on the basis of the insights and requirements, which set the direction for product design in parts 4 and 5.

Less relevant insights that did not make the final selection presented in this chapter can be read in Appendix K. The participants of the contextmapping study came up with many ideas for new products or services in the Rijksmuseum. These ideas are collected in Appendix L.

3.1.2 OVERVIEW OF INSIGHTS

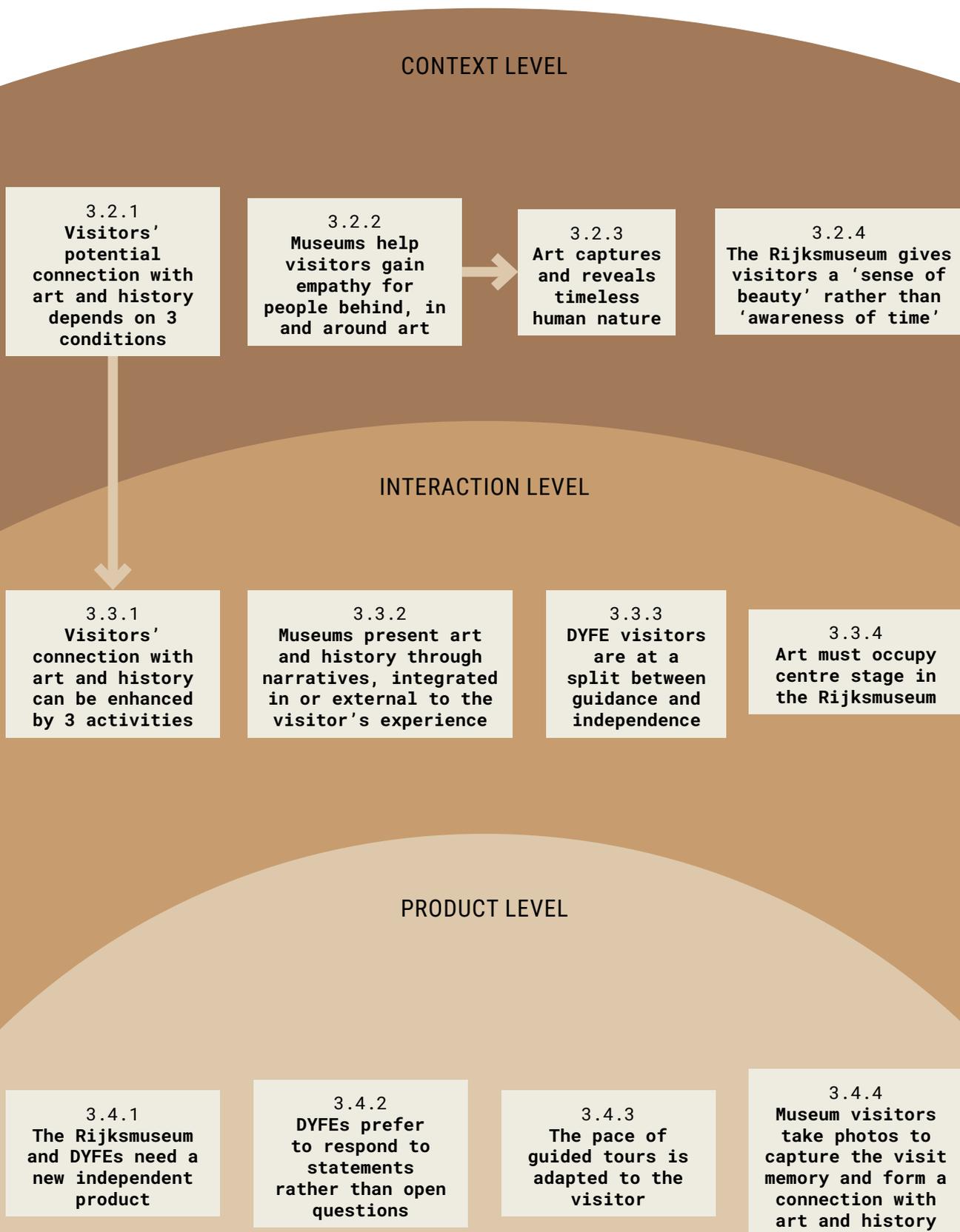


Figure 3.1: Overview of insights on different levels

3.1.3 CONTEXTMAPPING STUDY

The research question for this part is “How do Dutch Young adult Fun seeking Explorers want to connect with history and art in the Rijksmuseum?” To find answers to this question, a contextmapping study is conducted. The method is selected because it helps to **uncover latent needs and tacit values** of future users of the product or service to be designed. It is an intensive **qualitative study** with a low number of participants that supply rich information that can be transformed into knowledge (Sleeswijk Visser et al., 2005).

The scope of the study is **‘connection with history and art’ in general**, the focus is on experiences and interactions **in the Rijksmuseum in particular**. To find answers to this question, the session follows the path of expression from the Convivial Toolbox (Sanders & Stappers, 2013) in four steps. First, the present or recent experience in the Rijksmuseum is addressed. Then, memories from past museums visits are elicited. Next, the participants share deeper values and needs about connecting with art or history. Finally, these are translated into ideas for services that the Rijksmuseum could implement.

Two workshop sessions with in total 7 DYFE participants (see table 3.1) are organised. A decent mix of gender, age and background is achieved. Before the workshop the participants visit the Rijksmuseum together,



Figure 3.3: Impressions of the contextmapping study with a Dixit deck serving as Metaphoric Associative Cards

without supervision of the design researcher, and fill in a logbook about their experience to be sensitised for the workshop (step 1). The workshop covers steps 2 to 4 in 3 activities, each with a guiding question, a set of printed artworks from the Rijksmuseum collection, a deck of Metaphoric Associative Cards (Dixit), quiet working time to craft collages on paper sheets, and time to discuss the creations.

The conversations are recorded and crafted artefacts are captured, and both analysed with transcription software (Transkriptor), an online whiteboard (Miro) and generative AI-model (ChatGPT). Clusters of quotes are made and summarised, linked and combined, leading to the overview of insights (see 3.1.2). Full information, results and materials of the contextmapping study are presented in Appendix I.

Table 3.2: Participants of the contextmapping study

photo							
number	D1	D2	D3	D4	V1	V2	V3
name	Tommie	Mily	Meye	Lodewijk	Maas	Jikke	Teska
age	19	24	27	24	22	22	27
gender	M	M	F	M	M	F	F
relation	friends			friends (different sessions)			

3.2 INSIGHTS ON CONTEXT LEVEL

This chapter clarifies the context of the design project, namely the Rijksmuseum in the near future, i.e. 2028. These 5 insights with sub-insights must be viewed on top of the context sketched in chapter 1.2.

3.2.1 VISITORS' POTENTIAL CONNECTION WITH ART AND HISTORY DEPENDS ON 3 CONDITIONS

To make a connection with art and history, visitors need to be in the right state of mind (see fig. 3.4). The contextmapping study found **three conditions to affect the potential impact of a museum visit**. These variables lie largely beyond the control of the museum or the designer, as they derived directly from the visitor's internal world. Still, interventions can be made to lower the threshold for connecting with art and history or enhance the potential (see insight 3.3.1).

By summarising illustration, contextmapping participant D2 stated that teenagers who visit museums in school excursions cannot engage in a connection with art and history, because "they don't have that bit of preparation (limited **scope of prior knowledge**), they are not interested (low **attitude to engage**), they are dragged along by their teacher (poor **intention for visit**)." These three conditions are explained in this section.



Figure 3.4: The right state of mind (illustration by storyset.com)

SCOPE OF PRIOR KNOWLEDGE

Visitors need to have **prior knowledge of a certain breadth and depth** to connect with art and history. Contextmapping study participants D2 and D3 have a 'pile of knowledge' collected from art history classes in high school and minor education program, and parents who are interested in art, which help creating mental links and insights from artworks.

*"All the **prior knowledge** you have gives you **handles to appreciate art** and connect with something you see. ... It helps for some [artworks], makes them more interesting."
- participant D3*

*"For example, my **insight** in the [beautifully finished] table leg only [emerged] because I am just **interested** in how one makes [such woodwork], already before the visit."
- participant D4*

This prior knowledge does not necessarily have to concern history or art. A general interest in culture or technology, or a specific theme of focus also creates opportunities for connection. **Visitors 'wear glasses' with a particular pre-focus, expectation or bias** that influences how they perceive their environment and connect with it.

Design opportunity 1: The product can offer users a specific **scope of information**, a set of glasses to view art through.

ATTITUDE TO ENGAGE

Visitors need to have a certain attitude to engage with art and history. Contextmapping study participants mention a **willingness** to read object and gallery texts, and a feeling of **relaxation** and rest. The interaction with art should not be rushed but requires time. Participation in special programs (such as a guided tour) and use of products (such as the multi-media guide) shows an extra strong willingness to be informed and entertained in the museum. While it may be natural for a true art enthusiast, this attitude is not always present in a museum visit for DYFEs.

*"I think **time and peace** are prerequisites for feeling connection."*
- participant V2

*"Before a visit I am like an empty **sponge**."*
- participant D2 (see fig. 3.5A)

*"You're not always **open for everything**. Sometimes you don't feel like reading [the object and gallery text signs], and sometimes you do."*
- participant D3

INTENTION FOR VISIT

To connect with art and history, visitors need to enter a museum with the **right motivations, expectations or goals** in mind. From the Rijksmuseum's audience segmentation model (see chapter 2.4), 'Enthusiasts' and 'Fun Seekers' intrinsically want to learn about the stories and objects on display. It is harder for 'Nightwatch Visitors' to connect with art and history because they just want to quickly see the highlights.

Most high school students are only **extrinsically motivated** because they are driven into the museum as part of an excursion. Contextmapping study participant D1 explains that when the museum visit is not strongly motivated from **intrinsic interest**, his connection is weaker.

"I go to a museum to get insight."
- participant D4

"When I am on vacation, I visit a museum because that's an 'easy' option to do in a new city. But then I am less amazed and feel less connected, because I am just there because I don't know what else to do."
- participant D1

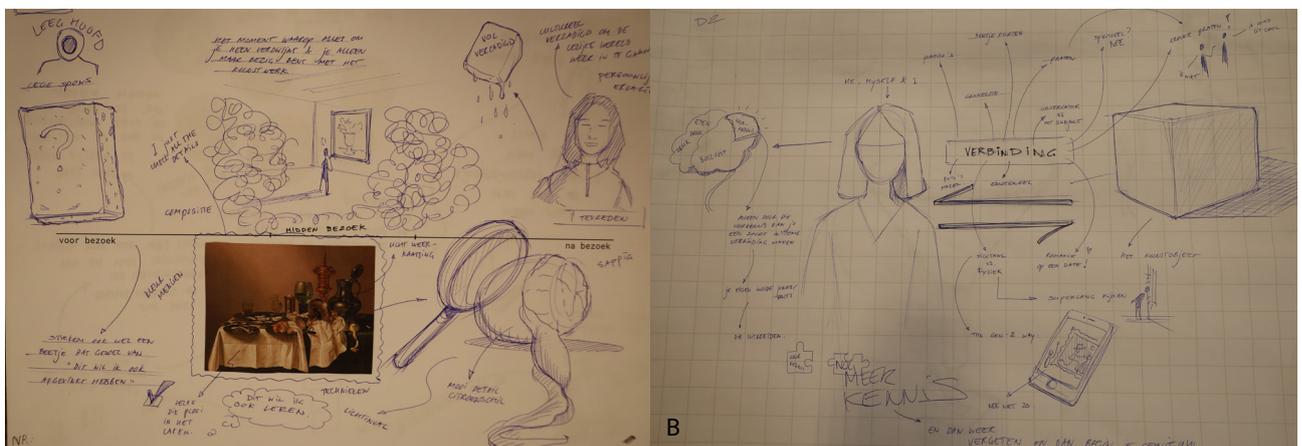


Figure 3.5: Artefacts created contextmapping study participant D2 illustrating conditions for connecting with art and history.

A: Response to the question 'What makes a museum visit valuable for you?'

B: Response to the question 'How do you connect with art or history?'

Design opportunity 2: The product can try to give users an **active attitude** to engage with art by inserting a sense of relaxation or incentive to consume the public information services.

Design requirement 1: The product must match an **existing intention** to engage with art in the museum.

3.2.2 MUSEUMS HELP VISITORS GAIN EMPATHY FOR PEOPLE BEHIND, IN AND AROUND ART

The contextmapping study found that art can help viewers empathise with people in three dimensions:

- **behind** the artwork: the creator and their historical context
- **in** the artwork: the characters depicted in the image
- **around** the artwork: other viewers in the museum

These different ways are explained in this section and presented in figure 3.6.

According to contextmapping study participant V1 **empathy is the sensation of 'putting yourself in the other person's shoes'** to compare perspectives: "I check for which areas I relate to this person, or where we actually differ." He believes that empathy for other people also leads to self-reflection and better understanding of the world, which are desirable outcomes. The Rijksmuseum shares this vision on comparing perspectives: **"art and knowledge can show you that there are different ways of looking at the world and give you a handle on how to relate to it"** (Inclusiviteit, n.d.).

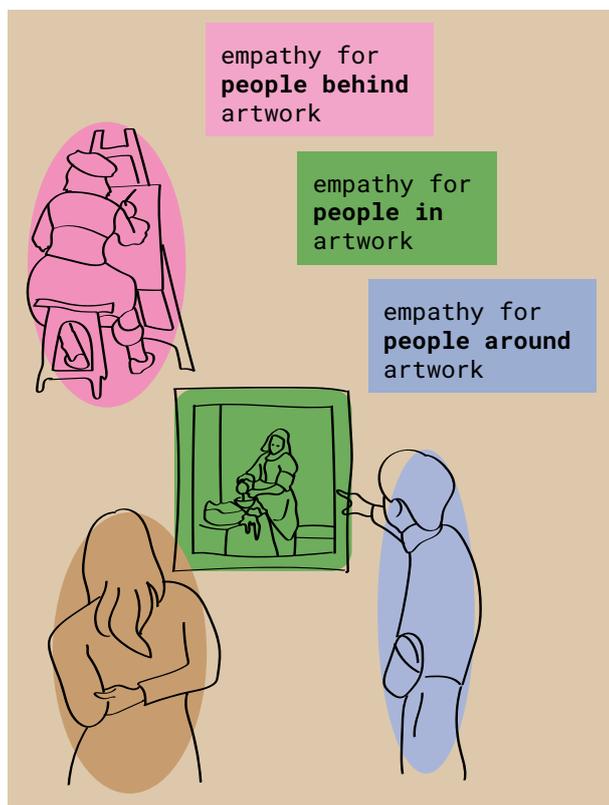


Figure 3.6: Museums visitors gain empathy for people behind, in and around artworks.

EMPATHY FOR PEOPLE BEHIND THE ARTWORK

Connection with art and history is enhanced by understanding and empathy for **people who created the artwork**. Visitors feel a stronger connection to artworks if they know who made them, where, when, why and how.

"Knowing the life of the artist makes you understand the artwork more."
- participant V3

Contextmapping study participant V1 points out that empathy for the creator is stronger in the domain of classical visual arts than cinema or literature.

"With painted art, it adds a lot for me to know who made it and why. ... That alone creates a beautiful story."
- participant V1

In contrast, a participant in a later prototype test finds it easier to empathise with creators of contemporary art, because the integrated emotions and personal connection are more evident in the artwork.

"Here [in the Rijksmuseum] you don't even know what the artist was thinking while they were painting. ... I feel it's easier to just look at it and enjoy it, without knowing the context."
- participant T2

Participant V3 explains that their appreciation of the paintings of Mondriaan increased after learning about the artist's history.

"Mondriaan not only painted boxes. ... He could also paint realistically very well."
- participant V3

Design opportunity 3: The product can enhance the user's empathy for people by telling the **stories about the context of creation and artist** behind an object.

EMPATHY FOR PEOPLE IN THE ARTWORK

Connection with art and history is enhanced by understanding and empathy for **people depicted in the artwork**. Visitors feel a stronger connection to artworks if they know the portrayed characters and the scene.

"It's fun to know she wanted to be portrayed so to attract a future husband, like a Tinder profile!"

- participant D2

For example, V1 viewed a painting of a Dutch army gathering in Rotterdam, not knowing the specifics. Reading information about the soldiers on the sign led to an attempt to put himself in their shoes, which **triggered self-reflection** and a stronger connection to the artwork.

Participant V3 has a natural tendency to **interpret stories depicted in art** (see fig. 3.7). For example, in Vermeer's 'The love letter' she imagines the maids are gossiping about the family in the house. And for Israëls' 'Children of the sea' she fills in the thoughts of children, like "my ship works! Later I will become a sailor!"

Design opportunity 4: The product can enhance the user's empathy for people by telling the **stories about the characters** depicted in artworks.

EMPATHY FOR PEOPLE AROUND THE ARTWORK

Connection with art and history is enhanced by understanding and empathy for **other people who view the art in the museum**. Visitors feel a stronger connection to an artwork if they know the perspectives on it of other visitors and experts. One obvious way to achieve this is talking with people about art (see insight 3.3.1).

Contextmapping study participant V1 acknowledges that viewing art is a personal experience, but finds it **very valuable to get other interpretations**. D1 finds it interesting to see how much emotion is released by people when seeing the Nightwatch. He likes the feeling of **viewing and admiring the same thing all together**.

One group of participants overheard a bit of a guided tour for children. They appreciated not only the guide's new information, but also the children's questions and comments in response. Listening to kids talking about art gives additional depth in the experience of an artwork, because it gives a **new perspective**.

Design opportunity 5: The product can enhance the user's empathy for people by gathering, presenting and integrating the **voices of other visitors** about the museum and its collection.



Figure 3.7: Participant V3 annotated her first responses and spontaneous thoughts to some artworks that she cut from the available sheets in the generative session.

3.2.3 ART CAPTURES AND REVEALS TIMELESS HUMAN NATURE

By contributing to empathy for other people, art can eventually lead to a **sense of collectivism** and reveal human nature. Museum visitors who make an emotional or cognitive connection with art realise that **all humans share the same fundamental needs and core values**. While people in the past lived very different lives from ours today, they had very similar beliefs, hopes and fears.

In essence, art transcends temporal and cultural boundaries, addressing the core of human nature. This sense of collectivism and greater empathy for humans in general, even if it follows from viewing art from the distant past, is important when dealing with people in the present.

"We all want the same thing: recognition, social connection, status. ... People respond to the people around them, and the push-and-pull factors of the environment. Our surroundings, means, and technology change, but in essence we've never been different. ... Through the collective art experience, you get an idea of what humankind essentially is."
- participant V1

For example, during the contextmapping study **a classical painting is related to the present by a trait of timeless human nature**. The portrait in fig 3.8 is a typical representation of wealth in the 17th century. Participant V1 comments that "people still want to **show their wealth...**" and V2 continues "...but **now that happens on social media.**" So, museum visitors can relate art from the distant past to the present and even use art to think about the future.

Dr. Hutson (2023) states vividly that art, in its variety of forms, serves as a bridge over the linguistic, cultural and geographical differences that exist between humans. As a barometer of societal moods art "captures the heartbeat of humanity across eras." It **reminds viewers of their shared human experience**, universal joys and sorrows, dreams and fears.

This insight heavily relates to the notion that **humans have fundamental needs**, which are mapped and modelled by Maslow (1943), Max-Neef (1991) and Desmet & Fokkinga (2020). The latter and newest typology was developed to provide a practical understanding of psychological needs as a resource for user-centred design and as such may be particularly helpful in this project.



Figure 3.8: 'Portret van Gerard Andriesz Bicker' by Bartholomeus van der Helst (1642) was the subject of interaction between participants in the contextmapping study.

Design requirement 2: The product must support users in seeing a **relation** between the historical art from the **distant past and the modern world** of the present and future.

Design requirement 3: The product must highlight the elements of **timeless human nature** captured in art.

Design opportunity 6: The product can integrate the **Thirteen Fundamental Needs** of Desmet & Fokkinga to relate historical art to timeless human themes.

3.2.4 THE RIJKSMUSEUM GIVES VISITORS A 'SENSE OF BEAUTY' RATHER THAN 'AWARENESS OF TIME'

Since the grand reopening of the Rijksmuseum, their motto is 'sense of beauty and awareness of time' (Sikkema, 2013; see figure 3.9), and they wish to convey those sensations to their visitors. The former refers to the challenge of viewing art carefully and seeing more, appreciating craftsmanship and mastery. The latter stems from a conviction that knowledge about the past broadens the view of one's own contemporary existence. **Visitors must gain broader awareness of past developments and their relation to the present** (Schep & Kintz, 2017). Therefore the museum's layout is designed with chronology as guiding principle (Pontzen, 2016). The collection is divided in 7 historical art eras spread over the building, so that visitors feel the difference between object styles (e.g. the church artworks in the Middle Ages and the lack thereof in the 17th century). Janssen (2014) argues in his review of the collection display in the reopened Rijksmuseum that it is "not made easy for the interested layman to look in a new way at what is offered to him or her, or simply to gain knowledge." **Visitors are barely informed about the connections between artworks and underlying stories in a gallery.** Janssen concludes that the director's 'less is more' slogan leads to a lack of communicated historical perspectives and a consequent low awareness of time for the visitor.

These findings are echoed in the visitor study conducted in collaboration with Philips for the review of the permanent collection display (Howes Smith et al., 2024). **Interviewed visitors did not understand the connection between objects** and had difficulty understanding context and remembering stories. They conclude that **the Rijksmuseum's impact on visitor focuses on the sense of beauty more than the awareness of time.** On the one hand, visitors lack substantive preparation before arrival and a plan of action for their visit. On the other hand, the Rijksmuseum offers too little guidance in route and structure, and the connection between objects is not explained. Consequently, the historical and thematic narratives in the collection are eluded by most people and **only the aesthetic value of art is perceived.**

Participants of the contextmapping study who visited the Rijksmuseum also noticed the impact of individual artworks and appreciated their **beauty**. For example, participant D2 says she is satisfied by finding a few beautiful things that she finds special. Still, they also express a wish to receive "information that places the artwork in a broader context." That is not yet satisfactory, as D3 finds that "there is only explanation of the things I can see on the painting. But for information from the museum, I want just the things that I don't instantly see or know." Therefore, for the Rijksmuseum opportunities lie in the unanswered questions that arise in visitors, and the **unrealised potential of awareness of time.**

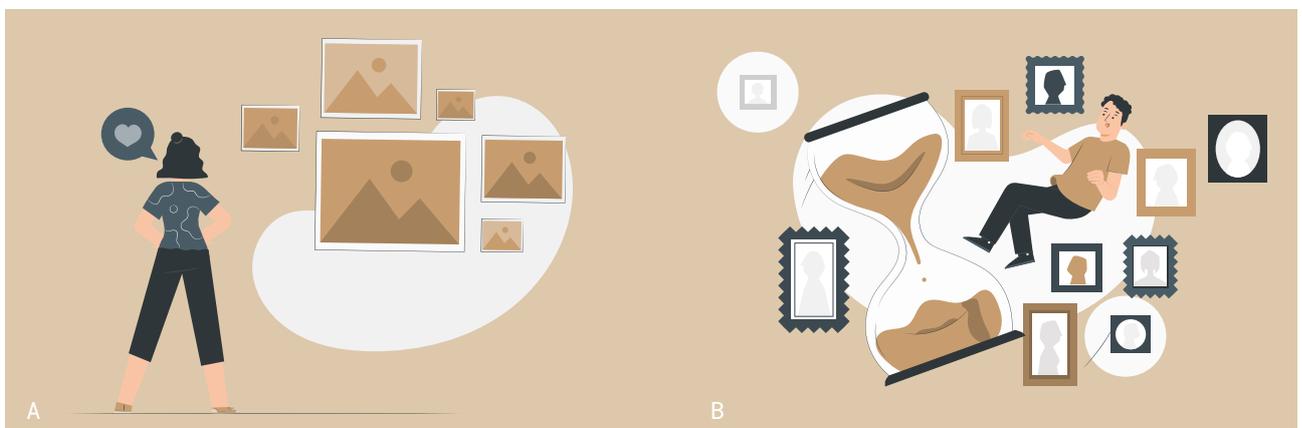


Figure 3.9: Rijksmuseum visitors must get **A:** sense of beauty and **B:** awareness of time. (illustrations by storyset.com)

Design requirement 4: The product must aim to give visitors 'awareness of time', which is a sense for historical art periods and the coherence between objects.

3.3 INSIGHTS ON INTERACTION LEVEL

This chapter explores the **interactions between visitors and products or services in the museum**. Understanding the relationship between people and the objects they use in a particular context is crucial for good design. Insight 3.3.1 is closely related to insight 3.2.3 in the previous chapter because it unfolds what the Rijksmuseum can do to enhance the connection with art and history. Where insight 3.3.2 explains a model currently used in museums, 3.3.3 focuses on the experience of visitors and 3.3.4 highlights a philosophy specific to the Rijksmuseum.

The insights on interaction level are derived from various sources, primarily the contextmapping study conducted with 7 DYFEs and internal documents from the Rijksmuseum.

3.3.1 THE CONNECTION WITH ART AND HISTORY CAN BE ENHANCED BY 3 ACTIVITIES

The museum can employ various tactics to increase the potential of a connection between people, history and art. Contextmapping study participants expressed **3 types of active interactions that accelerate the connection-building process**: talking about art, creating artefacts and consuming multi-sensory content.

*“Even if you just go to another room. Just that you have to **think about it** yourself, instead of just viewing. Or a **multi-media version**, with a lot of stimulation and not just your eyes as senses. Or actually **making something yourself**.”*

- participant V2

DYFEs wish for an **active experience** in a museum. For participant D1, museum visits that are based on an experience, or include some activity, are better embedded in memory and lead to return visits. These findings correlate with **Kolb’s cycle of experiential learning**, a theoretic model often applied in programming education and museums. Sitzia (2016) summarizes that “several stages should be covered for the learning cycles to be complete: active experimentation (doing), concrete experience (feeling), reflective observation (watching) and conceptualization (thinking). Museum visits are usually limited to watching artworks and thinking about them, but DYFE visitors also need activities for doing and feeling to complete the learning cycle and fulfil the connection with art and history.



Figure 3.10: Talking about art in the museum (illustration by storyset.com)

TALKING ABOUT ART

Contextmapping study participants are convinced that **sharing perspectives** is interesting and valuable, and helps to connect with art and history (see fig. 3.10) Moments to **talk about the objects** they view in the museum is appreciated. Yet, classical visual arts are often watched individually. Visitors are expected to be quiet in a museum and admire the art by themselves. This contrasts with the way young adults like to enjoy other arts: **together and free to comment out loud**. V1 believes that most people engage with art because it’s a social thing: *“listening to music together, watching movies together.”*

*“Literally **just sharing** with other people what you feel and how your experience art, is very **valuable**.”*

- participant D1

Design requirement 5: The product must **spark and guide conversations** between the user and other users, visitors or staff members.



Figure 3.11: Creating artefacts (illustration by storyset.com)

CREATING ARTEFACTS

When people engage with art in a **creative activity**, the connection with art grows. In one way, this is related to understanding and **empathising with the creator**, because they feel for themselves what it is like to work with materials and techniques and express thoughts and feelings.

“When I make a painting myself, I feel respect for artists and their courage.”
- participant V3

In another way, the creative act strengthens the connection with art because of the **personal interpretation and custom version** that are made of an original object. People use the museum visit as one source of inspiration that is transformed into creative output.

Museums already often **inspire** visitors to make something new. Contextmapping study participants with a **creative hobby** expressed feeling new ambition to get to work (see fig. 3.11).

Participant D4 footnotes that a creative activity in the museum should not be compulsory for visitors, and D1 remarks that **it can be a very small creation**: “just going around with a small sketchpad is still nice.”

Design opportunity 7: The product can facilitate an act of **creative expression** for users to form a connection with art and history.



Figure 3.12: Consuming historical art information through various senses (illustration by storyset.com)

CONSUMING MULTI-SENSORY CONTENT

Services that **engage more senses than sight** or appeal to abilities other than reading, create a more **intense experience** with high potential to connect people with art and history. The contextmapping study found that insights from historical information and artistic inspiration are better embedded if they reach people in **novel forms**.

DYFEs like **many different mediums to receive information** about art and history. They want a variety of options, so they can choose a format based on their preference in the moment. Contextmapping study participant V3 likes to listen to historical podcasts and art **podcasts**, and D1 often takes **audio tours** in museums, while D4 dislikes that format. Participant D3 connects to art and history by reading **books**, and D4 suggests offering booklets with in the gallery with longer texts about the mythologies and stories depicted in the artworks.

In earlier research with Polish young adults, Kisiel (2024) found that **“for young adults, an art museum is a space that is not necessarily limited to the sense of sight.”** For example, audio guides for headphones are suggested, to let visitors listen to text while viewing artworks or listen to music to break the silence in the museum. This technology is common in Dutch museums, including the Rijksmuseum (see 1.2.3).

Design opportunity 8: The product can **appeal to other senses** than sight, to engage users in new ways that go beyond simply viewing art.



Figure 3.14: Discursive museum design presents narratives next to the visitor's personal experience. (illustration by storyset.com)

This immersive design project, however, could never have been executed in the context of the primary museum venue, because of the strong conviction that works of art should take central stage in the museum (see insight 3.3.4). Hence the **low-tech and art-central character** of the Rijksmuseum argues **against immersive museum design in the main building**.

DISCURSIVE MUSEUM DESIGN

A discursive experience in a museum creates a **space for reflection and discussion**, full of cognitive analysis and critical views. The Rijksmuseum strongly endorses and widely applies this model for exhibiting art.

The collection plan (Rijksmuseum, 2023) states that **connecting people with art and history** happens through **two-way traffic**: "The museum not only tells stories from its own expertise, but listens to the visitor and gives them a voice." The strategy document even raises the idea to **give visitors space for sharing thoughts** and visions on what they see, for example by letting them write text signs. This would be an interesting service where **multiple voices are presented** without judgement and right or wrong answers (see fig. 3.14).

In practice, most of the services offered to visitors in the Rijksmuseum (see section 1.2.3) are designed as discursive experiences. The multi-media guide offers different texts, videos and audio fragments highlighting various perspectives on an artwork. Museum Educators all share their own views on the collection and ask tour participants for their opinions and interpretations. In the series of audio and video stories available on the website, a **variety of different narratives** are presented by different people. For the painting of 'The merry family' by Jan Steen for example, no less than four videos with experts, a personal podcast episode, and an interactive 'inzoomer' all offer diverse perspectives on the artwork.

Discursive museum design should also be applied in the development of the new product. I believe **gaining and discussing perspectives on art and history** can effectively lead to reflection on collective human themes (the design goal) and it is already greatly valued by DYFEs and proven to enhance the connection (see insight 3.3.1).



Figure 3.15: Immersive design for 'Expedition Rijksmuseum'

A: A low-ceiling room on a moving platform and audio-story give kids the feeling of escaping in a book chest.
B: Kids dress up and act out historical scenes on a richly decorated theatre stage with props.

Design opportunity 9: The product can apply **sensational mechanisms** from immersive experiences to impact users in an affective way.

Design requirement 6: The product must facilitate a discursive museum experience in which **multiple voices** are curated into one narrative and that invites **conversation and debate**.

3.3.3 DYFE VISITORS ARE AT A SPLIT BETWEEN GUIDANCE AND INDEPENDENCE

In the Rijksmuseum many visitors **seek a balance between offered structure and own flexibility**. The visitor study conducted in collaboration with Philips (Howes Smith et al., 2024) found that people **want to wander without getting lost**. "Visitors want to make their own choices, but more guidance than presently available."

On the one hand, they **want to be guided** through the museum and supported in their exploration, appreciation and connection with art and history, but dislike being completely controlled. On the other hand, these visitors **want to be independent** and flexible to choose their own experience in the museum, but succumb to the excess of visual, emotional and cognitive stimuli and are left with unanswered questions. This contradiction of needs (see fig. 3.10) is further explained in this section.

NEED FOR EXTRINSIC GUIDANCE AND SUPPORT IN THE MUSEUM

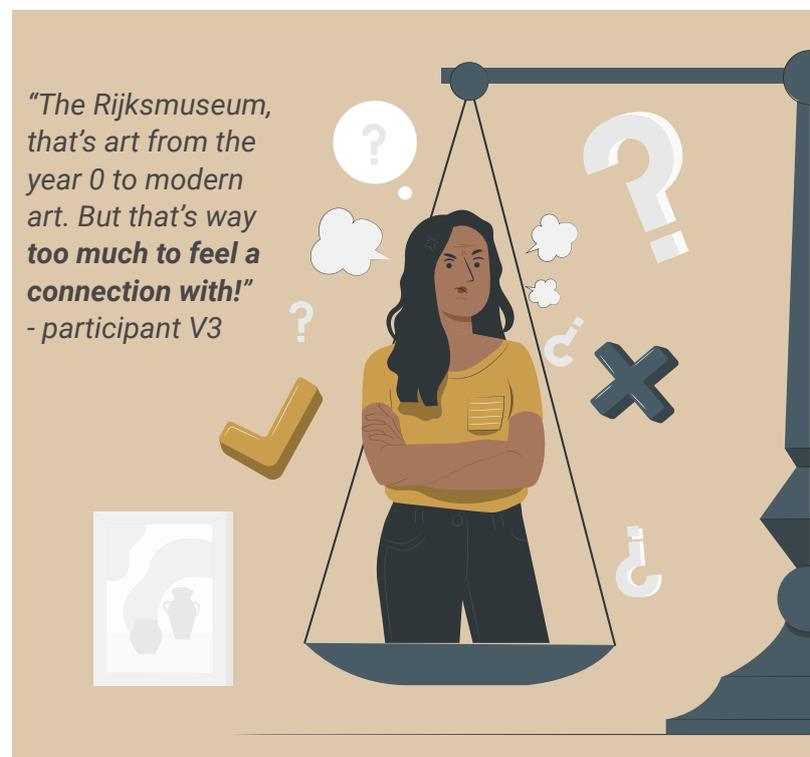
The contextmapping study participants expressed a need to find focus in the collection, because it is **too much**. Visitors physically and psychologically **cannot take in all the stories and objects** displayed in the museum, and if they could, they simply do not wish to engage with art and history for so long. Fun Seekers experience the collection as **overwhelming** and are more quickly **'saturated'** than Enthusiasts.

Museum fatigue, a state of decreased interest in and limited absorption of new stimuli from art, already occurs after 20 to 30 minutes (Bitgood, 2009). Young adult visitors themselves set a limit to their engagement with a timeframe of 30 to 60 minutes (D1, D2).

To achieve a valuable visit and protect themselves from stimulus overload, visitors **seek a scope of focus**. On one hand visitors apply, subconscious or not, their own **viewing strategy** when roaming through the galleries. On the other hand, the guidance and support of the museum strongly contributes to a scope of focus in the visit. This **structure** takes shape in relatively simple and passive services, like a

user-friendly floorplan map, readable signage, as well as more complex and interactive products and programs, like the multi-media app or a staff-guided tour.

Besides, the contextmapping study participants find that the **art presentation must be clear, manageable and focused**. They express a **preference for one theme or one timeframe**, to make it easier to connect with art and history. The visitor study (Howes Smith et al., 2024) echoes that visitors **want to be helped in selecting** what is important and what is less important, **choosing** what is worth their attention. There is a lot of art hanging in the galleries and everything seems equally important, so key objects need to be distinguished.



"The Rijksmuseum, that's art from the year 0 to modern art. But that's way too much to feel a connection with!" - participant V3

Figure 3.16: DYFEs feel overwhelmed in the Rijksmuseum and want guidance and support. (illustration by storyset.com)

Design requirement 7: The product must present art in a sufficiently **focused** and clear manner, introducing a **scope** that makes the collection **manageable** for the user to comprehend.

Design opportunity 10: The product can **limit its scope** to a small selection of artworks, either in one section of the museum or spread over the collection.

NEED FOR INTRINSIC INDEPENDENCE AND CONTROL IN THE MUSEUM

Opposite to and at the same time as their need for external help, DYFEs want to **feel independent** in the museum and **be in control** of their visit experience.

The contextmapping study participants demonstrate a **free attitude** in the museum. During their visit nobody followed a guided tour, or multi-media tour with a mobile device. This **aversion to services** is also represented in the statistics of Dutch young adult visitors drawn from the post-visit survey (n = 550). Only 16,4% used a multi-media tour and a mere 4,2% followed a tour with a staff member (Dashboard Jongvolwassenen, n.d.).



Figure 3.17: DYFEs feel controlled and want to be free to explore the Rijksmuseum independently. (illustration by storyset.com)

Academic studies also found that young adults want to take the cultural experience of their museum visit **in their own hand**, and dislike traditional museum displays that are static (Black, 2020).

Participant D4 states that **part of the fun** of a museum visit is to **"find it out myself."** Consequently, he is not a fan of a guided tour with a set route and long commitment. More casual, sporadic and short tours like D3 experienced in the Bonnefanten Museum better suit this need for freedom.

Interestingly, visitors that play the role of Explorer (see chapter 2.5) want to be somewhat **independent of their companions** too. The participants on Friday went through the museum together and later classified their experience as **'parallel' visits**. They moved through galleries together, while looking at artworks individually. Sometimes they called each other to see the same piece and discuss it.

The need for independence and control of the experience has to a low degree been embedded into the programs of the Rijksmuseum. For example, the museum educators delivering the 'Behind the Gold' and 'Best of the Rijksmuseum' tours (see Appendix B) explicitly ask the group to **voice personal preferences and make suggestions** for artworks to view in detail (see fig. 3.). Unfortunately, there were few to no responses, which can be explained by the fact that they had only just entered the museum and did not really know what to expect or what the options are to choose from. This again demonstrates the need for support and structure from the museum.

Design requirement 8: The product must give the user enough **agency to control** their experience during the visit, so they **feel free** to respond to their impulses and view the artworks that attract their attention.

Design requirement 9: The product must offer **customization options to adapt** the experience to the user's personal needs.

Design opportunity 11: The product can, when used by groups, offer different experiences to individual users **in parallel**.

3.3.4 ART MUST OCCUPY CENTRE STAGE IN THE RIJKSMUSEUM

To connect people with art and history, the Rijksmuseum’s **collection must be the central point of the visitor’s experience** in the Rijksmuseum. This criterium stems from both the Rijksmuseum’s vision and the DYFE visitor’s needs.

“The collection is the starting point” (Rijksmuseum, 2023) and “**the art is central**, and its class must be preserved” (Head of Marketing E5, 2024). ‘Less is more’ is the director’s credo and one of the guidelines for the redesign of the museum until 2013. The Rijksmuseum believes in **the significance of the historical art object in itself**. “What we show must be authentic and unique,” said Taco Dibbits in an interview with de Volkskrant (Pontzen, 2016). Visitors of the Rijksmuseum must be able to enjoy the beauty and get a sense of time while viewing the artworks on display.

This explains the **low-tech character** of the museum experience. Technology may not distract visitors from the objects, says the Rijksmuseum’s Head of IT (E16, personal note, November 5, 2024). Hence, **visible digital installations**, like screens or projections, **are forbidden**, or at least extremely exceptional in the museum. Portable technology is allowed, but also with limits to **preserve the focus on the art**. The multi-media tour is only available for a few hundred artworks, does not offer any real bi-directional interaction (user input/output) and is to a limited degree integrated in the visitor’s experience.

DYFE visitors agree that the authentic art objects play a central role in their museum experience. Contextmapping study participants say “**standing in front of the art gives the biggest connection**”. While appreciating online services like the Rijksmuseum Collection Online or “Closer to Johannes Vermeer”, the contextmapping study participants don’t seem engaged by a purely digital experience: participant V2 says “it does not give the same feeling.”

Participant V3 draws a parallel with music (see fig. 3.18). On a low-engagement level, seeing a photo of a painting on a phone screen is the same as listening to a song on Spotify. On a high-engagement level, facing a painting in person is the same as attending a concert. Hence for a strong connection with art and history, the interaction must take place in the museum.



Figure 3.18: Parallel between consuming visual arts and music, physically or virtually (illustration by storyset.com)

Design requirement 10: The product may not fully distract users from the art on display in the museum, but rather **complement their art-viewing experience** in a non-intrusive way.

Design requirement 11: The product must **primarily be used in the museum** during a visit, where the potential for connection with art and history is highest.

3.4 INSIGHTS ON PRODUCT LEVEL

This chapter presents insights from research activities on a **product level**. The findings were synthesised into insights that relate to the design project on the level of product design. They relate to **qualities of the product or service** to be designed, i.e. what **form** it should take or which **content** to include.

3.4.1 THE RIJKSMUSEUM AND DYFES NEED A NEW INDEPENDENT PRODUCT

The challenge for this graduation project is to design a **new independent guide product** for Dutch Young adult Fun seeking Explorer visitors in the Rijksmuseum. This assignment follows from both the intrinsic needs of the target user group and the organisation's interest and capacities.

*"I like to roam around the museum freely and determine how much attention I pay to which art. ... I am not a fan of taking a guided tour."
- participant D1*

USER WISHES

DYFES indicate themselves to **dislike guided tours** and rather enjoy a visit with free roaming. While they suggest staff-supervised activities like a creative workshop or expert lecture, they often say that it should be very casual, and that they wouldn't come to the museum just for that. At the same time, they want to receive some form of guidance and support to help them navigate the museum and view artworks (see insight 3.3.3), which an independent product could give them. Most of the ideas suggested in the contextmapping sessions are self-guided activities.

ORGANISATIONAL PREFERENCE

The Rijksmuseum also prefers to develop a service that can be used by visitors **without supervision of staff members**, rather than a guided program, for several organisational reasons. Firstly, the **financial and human resources** of the Rijksmuseum are not sufficient to provide for a new staff-guided program. For the near future, until 2028, this is not expected to change. Secondly, **programs reach only a fraction** of the museum's visitor crowd. The tours, workshops and other staff-guided services are highly rated and seem to make a significant impact on people, but only a small group of people. This number is simply limited by the available human resources. In contrast, **independent products, particularly digital apps, can be 'delivered' to big numbers of people** (see fig. 3.18), which is much less bound to the staff capacity. Such autonomous services only need to be developed once and maintained regularly over time, but require very little repeated efforts like tours or workshops do.

*"We want to offer something for which **no additional personnel is needed**: an independent product."
- Head of Public (E13, semi-structured interview, October 10, 2024)*

Design requirement 12: The product must be used **independently** by users without supervision of staff for most of the experience.



Figure 3.18: Snapguide is an independent product that combines the popular social media app with famous influencer ambassadors. It was used by thousands of teenagers during school excursions in the Rijksmuseum, but quickly became outdated because of the dependence on trends. (photo by Rijksmuseum)

3.4.2 DYFES PREFER TO RESPOND TO STATEMENTS RATHER THAN TO QUESTIONS

When acquiring new information and reflecting on insights, young adults prefer to respond to statements than to questions. It is **easier for people to react to a statement than to a question**, because it gives a reference point. Agreeing or disagreeing with a stance, or countering an opinion with an argument, is easier than putting a statement out at first.

In the design sprint at the start of this project (see chapter 4.2) test participants are confronted with an open or closed question relating to an artwork. Observations, interviews and survey answers indicate that the **young adults are prone to ignore the question** and dedicate no mental energy to it. Some suggest however, that a **statement would be more inviting to respond to**.

The same conclusion can be drawn from some results of the contextmapping study. In the conversation about accelerators for connection (see insight 3.3.1) an idea for an open art discussion space was raised. The participants however were opposed to a blunt invitation to such an activity. Instead, they would be more susceptible to attend an activity if it were advertised as a lecture where an expert would present a statement that visitors can respond to. **It is easier for people to start an interaction if the beginning is made by something or somebody else.**

*"If an expert speaker can inspire you a little bit, you will also start talking yourself."
- participant V1*

Design requirement 13: The product must invite the user to interaction by **posing a statement** rather than asking a question out of the blue.

3.4.3 THE PACE OF GUIDED TOURS IS ADAPTED TO THE VISITOR

The Rijksmuseum considers their target user (motivation, age and background) in the design of their services, particularly when it comes to their **attention span and state of mind**. The range of staff-guided programs are diversified in target audience, theme and approach, but share some points of form and content. Most importantly, it is noted that the **pace of the tour**, i.e. the density of the information and the number of highlighted artworks within the 1-hour time frame, was **dependent on the participants**. Per illustration, three observed programs are briefly discussed here (see full descriptions in Appendix B).

The 'PlusBus' tour is aimed at elderly and the guide (Museum Educator, E7) kept a slow pace. Within one hour around a dozen artworks were visited and viewed, each with a rather basic story without too much detail. A group supervisor advised to **keep the tour as short as possible for the senior visitors**: "The stories quickly get too lengthy, then it will slip from memory."

In contrast, the 'Welcome to the Rijksmuseum' tour for **high school students** was rather **high paced**. The museum educator guided the visitors through multiple galleries, telling stories at 15 (groups of) artworks. Surprisingly, some students felt like they did not see many artworks at all: "We just saw 3 paintings. He should talk about just 1 or 2 paintings per room, and **give us free time** to see other paintings on our own."

A final interesting observation is the extremely low pace of the 'Best of the Rijksmuseum' tour (see fig. 3.13C), where only 6 galleries were visited to tell stories about art history in general on the basis of a group of objects. This approach fitted the need of the audience of art enthusiasts who want to know more than the typical information but still see the masterpieces.

Design requirement 14: The product must maintain a **pace** of the experience that fits the DYFE target user.

3.4.4 MUSEUM VISITORS TAKE PHOTOS TO CAPTURE THE VISIT MEMORY AND FORM A CONNECTION WITH ART AND HISTORY

Photography was observed in many guided tours and individual visits in the Rijksmuseum. Visitors of all ages **take photos of the collection and building**. From the target user group of Dutch young adults, and visitors adjacent to that (i.e. German teenagers) some motivations are recorded.

Some students **carry photo cameras** (see fig. 3.19) and take pictures throughout the tour, also of artworks that are not highlighted in stories by the educator. They stay behind the hall for a moment while the group moves on, so that there is more free space to take a better picture. This shows that teenagers value aesthetics and **desire to 'save' artworks** that appeal to them.

One student expressed their intention to show the pictures of the whole trip to Amsterdam to his parents at home. This illustrates that **photos serve as documentation for memories** of the museum visit.



Figure 3.19: German teenager takes a photo of the library in the Rijksmuseum (an artwork in itself) with a rather old fashioned digital camera.

Photos also serve as **documentation for particular details** in artistic and historical objects. In the contextmapping study, various participants mentioned the habit of photographing artworks to revisit and study later as inspiration for a personal creation.

"If it's about a technique, I will take a lot of photos. ... Of a wooden cabinet with a special table leg, I took many different photos of how it is made and how it was assembled."
- participant D4

"I take photos of small details ... I collect those things to gain inspiration, and maybe make a painting or drawing myself."
- participant D2

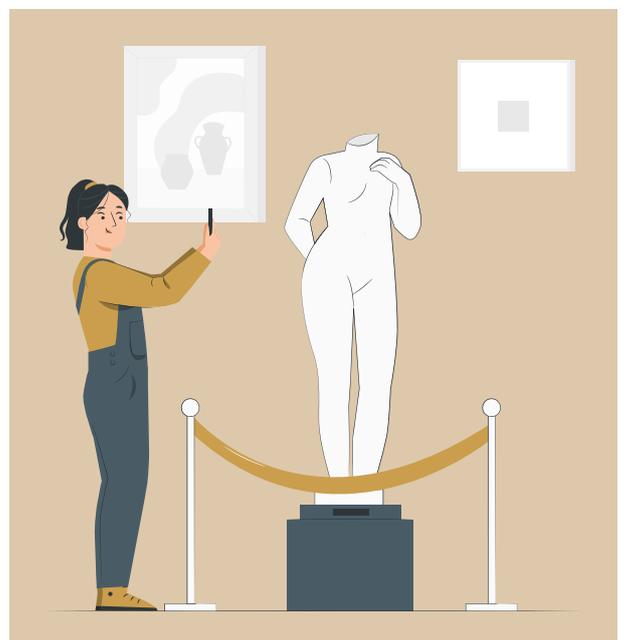


Figure 3.20: DYFEs take photos of artworks and details for documentation of the memory or particular details. (illustration by storyset.com)

Design opportunity 12: The product can yield the visitor's **habit of photography** in the museum to document the visit experience and artwork's details.

3.5 CONCLUSION

The insights on context, interaction and product level have yielded design requirements, opportunities and ideas. This chapter provides an overview of these implications, and highlights the key factors that most significantly impact the direction of the product design. The initial design goal is reviewed and an interaction vision is described with a metaphor. Design ideas from the contextmapping study are presented in Appendix F.

3.5.1 REVIEWED DESIGN GOAL

The goal for this project is to **design a historical art experience for the Rijksmuseum in 2028 to help visitors reflect on collective human themes**. This historical art experience is going to take the shape of an **independent product** that can be used without continuous supervision or support of staff members. Within the visitors crowd the audience of **Dutch Young adult Fun seeking Explorers** is targeted. In particular, the product is aimed at **pairs of users**, but can also be used by single or more users. Regarding the reflection on collective human themes, something **fundamental and psychological** like emotions or desires is most interesting.

Furthermore, the product must provide a **discursive** museum experience **across the collection** of the Rijksmuseum, inciting conversation about and insight in different discourses. Ideally, this interaction enhances the users' **awareness of time**, i.e. they get a feeling for historical art periods and understanding of key events, styles and themes throughout the centuries. The distant past of the artworks is related to the modern lives of the visitor through links with universal human nature.

Overall, the reviewed goal is

*to create an **independent product** for pairs of **DYFES** to provide a **discursive** museum experience **across the collection** of the Rijksmuseum enhancing the **awareness of time** through **narratives** and conversations that relate the past with the present by revealing **universal human nature** in art.*

3.5.2 INTERACTION VISION

The interaction between the product and the user must be **like bouldering: playful, challenging and explorative** (see fig. 3.21). This metaphor was chosen because the qualities of this sports activity largely overlap with the desired interactions described by the insights in this part of the report.

EXPLORATIVE

The product must **help users to navigate** the overwhelming and big environment and discover the richness of elements. It offers both structural support and independent freedom. There is no predetermined path, so users find their way and form a strategy based on a **chosen scope**.

PLAYFUL

The use of the product must be **fun and free**, and focus on entertainment and recreation, while contributing to cognitive skills and knowledge. Users **socialise** with peers and gain new energy from the experience. They **can drop out** of the activity anytime if they need a break or want to respond to other impulses.

CHALLENGING

In the interaction with the product, users repeatedly have a **clear and concrete goal** to reach in multiple attempts. The game is varied in difficulty level. Users can engage in **competition** with a peer, or support each other with new perspectives and advice in a **cooperative** approach.



explorative



playful



challenging



*Figure 3.21: Interaction qualities for the new product
(photo by Ruben Vermeulen & Tofan Teodor from unsplash.com)*

3.5.3 DESIGN REQUIREMENTS

The design requirements from all insights in this part of the report are collected here.

The product must...

1. match an **existing intention** to engage with art in the museum. (3.2.1)
2. support users in seeing a **relation** between the historical art from the **distant past** and the **modern world** of the present and future. (3.2.3)
3. highlight the elements of **timeless human nature** captured in art. (3.2.3)
4. aim to give visitors '**awareness of time**', which is a sense for historical art periods and the coherence between objects. (3.2.4)
5. **spark and guide conversations** between the user and other users, visitors or staff members. (3.3.1)
6. facilitate a **discursive museum experience** in which multiple voices are curated into one narrative and that invites **conversation and debate**. (3.3.2)
7. present art in a sufficiently focused and clear manner, **introducing a scope** that makes the collection **manageable** for the user to comprehend. (3.3.3)
8. give the user enough **agency to control** their experience during the visit, so they **feel free** to respond to their impulses and view the artworks that attract their attention. (3.3.3)
9. offer **customization options** to adapt the experience to the user's personal needs. (3.3.3)
10. **not fully distract** users from the art on display in the museum, but rather **complement their art-viewing** experience in a non-intrusive way. (3.3.4)
11. primarily be **used in the museum during a visit**, where the potential for connection with art and history is highest. (3.3.4)
12. be used **independently** by users without supervision of staff for most of the experience. (3.4.1)
13. invite the user to interaction by **posing a statement** rather than asking a question out of the blue. (3.4.2)
14. maintain a **pace** of the experience that fits the DYFE target user. (3.4.3)

3.5.4 DESIGN OPPORTUNITIES

The design requirements from all insights in this part of the report are collected here.

The product can...

1. can offer users a specific **scope of information**, a set of glasses to view art through. (3.2.1)
2. try to give users an **active attitude** to engage with art by inserting a sense of relaxation or incentive to consume the public information services. (3.2.1)
3. enhance the user's empathy for people by telling the **stories about the context of creation and artist** behind an object. (3.2.2)
4. enhance the user's empathy for people by telling the **stories about the characters** depicted in artworks. (3.2.2)
5. enhance the user's empathy for people by gathering, presenting and integrating the **voices of other visitors** about the museum and its collection. (3.2.2)
6. integrate the **Thirteen Fundamental Needs** of Desmet & Fokkinga to relate historical art to timeless human themes. (3.2.3)
7. facilitate an act of **creative expression** for users to form a connection with art and history. (3.3.1)
8. **appeal to other senses** than sight, to engage users in new ways that go beyond simply viewing art. (3.3.1)
9. apply **sensational mechanisms** from immersive experiences to impact users in an affective way. (3.3.2)
10. **limit its scope** to a small selection of artworks, either in one section of the museum or spread over the collection. (3.3.3)
11. when used by groups, offer different experiences to individual users **in parallel**. (3.3.3)
12. yield the visitor's **habit of photography** in the museum to document the visit experience and artwork's details. (3.4.4)

PART 4

DEVELOPING A NEW INTERACTIVE MUSEUM PRODUCT

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4.5.2 PROTOTYPE 3: POLAROID QUEST

4.5.3 TEST WITH DYFES

4.5.4 DISCUSSION

4.1 INTRODUCTION

This part of the report describes the process of translating design implications from the research results in parts 1 to 3 into a new product concept. A design sprint is executed in an early phase of the project, and two iterations are made at later stages. The following chapters describe the steps and design choices in detail.

The design goal for the first design sprint is rather broad: to connect young adults with art and history in the Rijksmuseum. For the iterations after the research activities, the design goal is specified: creating an independent product for pairs of DYFEs to provide a discursive museum experience across the collection of the Rijksmuseum, enhancing the sense of time through narratives and conversations that relate the past with the present by revealing universal human nature.

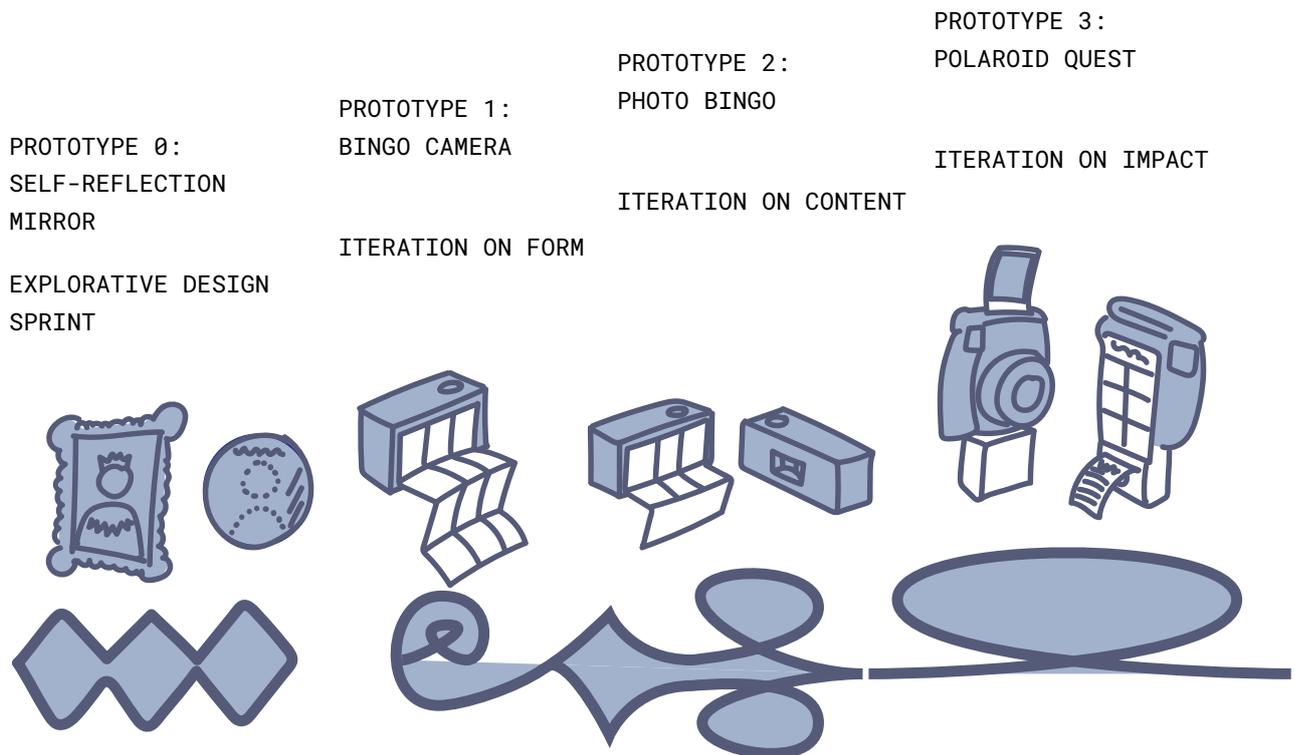


Figure 4.1: Process of developing a new interactive product, from explorative design sprint to final iteration on impact.

4.2 EXPLORATIVE DESIGN SPRINT

The explorative design sprint takes part at the **start of the research and design project**. This early and fast edition of the design process primarily works as **creative exercise** and **trial for tests** in the context of the Rijksmuseum. I want to generate a first set of ideas and test my assumptions about the target audience and environment. The process helps me refine the project scope and plan other research and design activities. The design sprint (see fig. 4.1) consists of **a triple diamond for investigation, ideation, and implementation** (prototyping and testing), which are described in detail in this chapter.

populated the problem space.

In the converging part of the investigation diamond the 40+ statements are synthesized into 5 themes (see fig. 4.2). By combining these themes, two How Might We questions (Rosala, 2021) are phrased. The questions are phrased in this way to include a few design requirements (target audience: young adults; environment: in the Rijksmuseum; form: a shared and multi-sensory experience) but still have undefined elements (type of product/service? moment/period of use? theme or topic?). This balance of guidelines and freedom yields a usable creative space for idea generation.

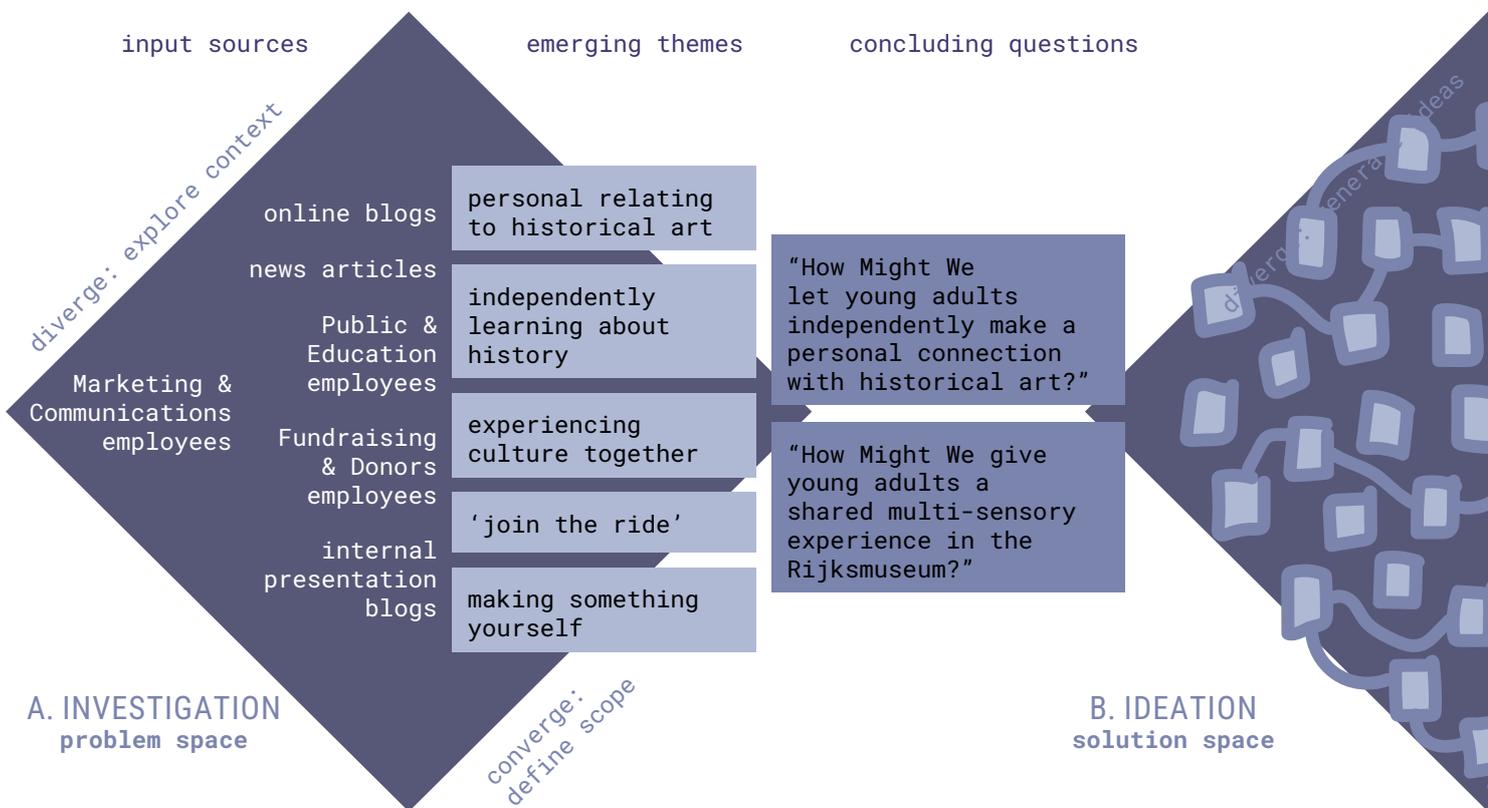


Figure 4.2: Triple diamond of the Explorative Design Sprint

4.2.1 INVESTIGATION

In the diverging stage of the investigation diamond the **problem space** is explored (see fig. 4.1A). The starting point is the initial design challenge **to connect young adults with art and history in the Rijksmuseum**. Various explorative research activities are executed to gain knowledge in the field of museum experience design and the Rijksmuseum in particular. Within the first two weeks of the project, **40 short statements** are found in response to the initial design challenge and

4.2.2 IDEATION

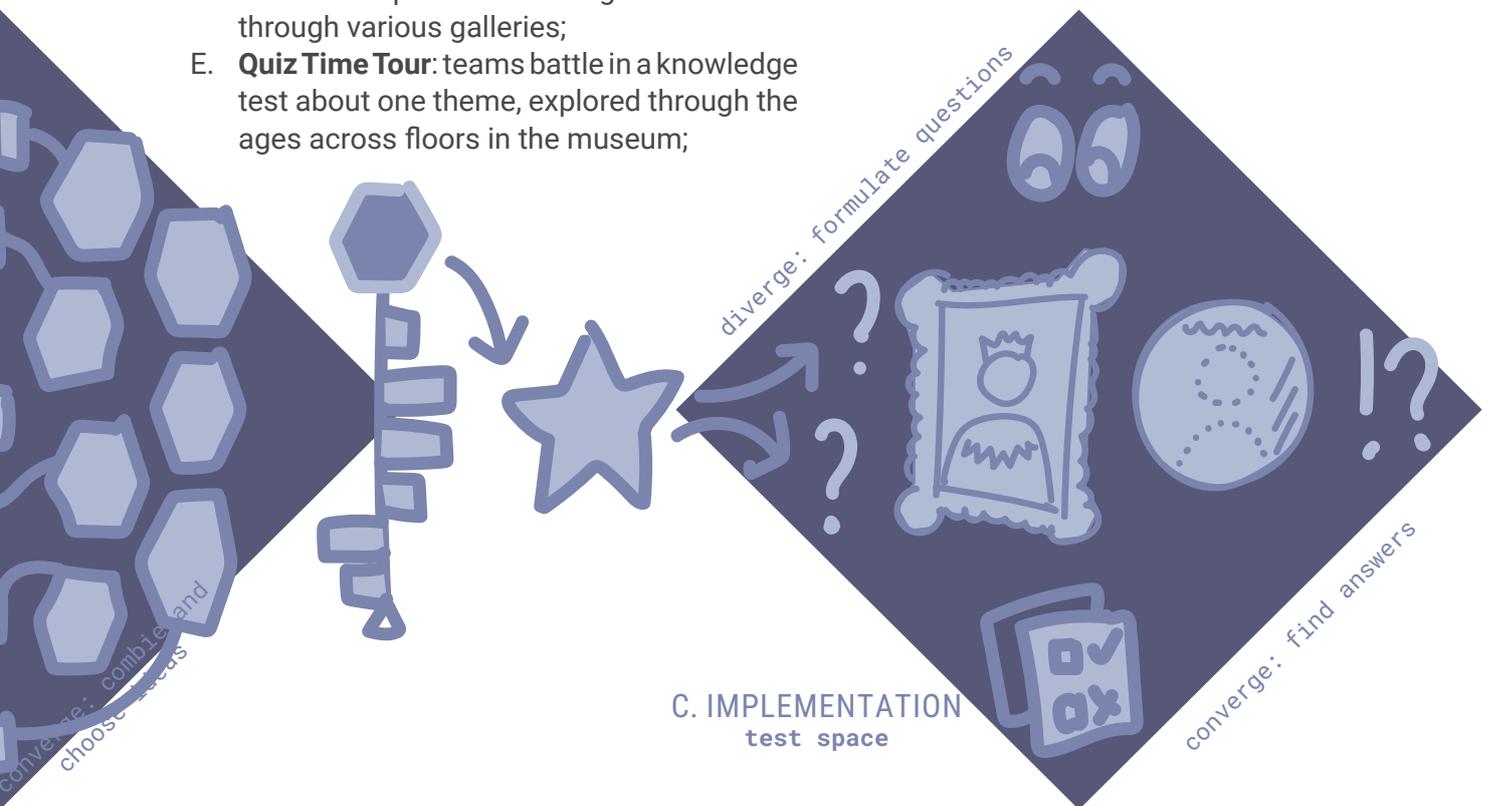
In the diverging stage of the ideation diamond, over **30 ideas are generated** in response to the How Might We questions (see fig. 4.2B) Together with 2 peer design students I conduct an activity with brainwriting and brain drawing (Van Boeijen et al., 2013). In two sets of three rounds the group writes and draws ideas on sticky notes and paper sheets.

In the diverging stage of the ideation diamond the ideas are discussed, combined and further

developed into **8 concepts** (see full sketches in Appendix M). In the diverging stage of the ideation diamond the ideas are discussed, combined and further developed into 8 concepts (full sketches in Appendix E):

- A. **Mirror Reflection:** mirrors with self-reflection questions are installed next to portraits in the galleries;
- B. **ArtTok:** social media influencers share their view on an artwork in short video reels available in the multi-media app;
- C. **Association Projection:** visitors enter their personal interpretations of artworks in an interface that projects input on the wall around the artwork;
- D. **Polaroid Challenge:** a treasure hunt with an instant photo camera guides visitors through various galleries;
- E. **Quiz Time Tour:** teams battle in a knowledge test about one theme, explored through the ages across floors in the museum;

These concepts are assessed with the Harris Profile tool (Van Boeijen et al., 2013). The grading criteria (see appendix X) are derived from the explorative research activities, and ranked by perceived priority. Concepts **A. 'Mirror Reflection'**, C. 'Association Projection' and E. 'Quiz Time Tour' score best, and for the practicality of this design sprint, concept A is selected for further development, prototyping and testing. Compared to the other high potential concepts, it is deemed most feasible to simulate a gallery context and modify it with mirrors installed next to the artworks. In contrast, C or E would not be possible within the budgetary and logistical limits.



- F. **Hear the Art:** noise cancelling headphones connected with a location-tracking device plays music and ambient noise to simulate the historical age represented in the gallery, and sound details for individual artworks;
- G. **Step into the history:** before entering a gallery, visitors step into a side-room filled with stage props, LED screens and projections that simulate the corresponding historical environment;
- H. **Immersive Booth:** visitors step into a small semi-isolated space in the gallery to experience and control an audiovisual representation of a selected artwork.

4.2.3 IMPLEMENTATION

In the iteration loop the selected concept is **prototyped and tested with users**. The main aim of this activity is verification of assumptions about the value of the product. It is important to assess whether **the principle of posing self-reflection questions next to artworks in a gallery** works. Feasibility, desirability and viability of the concept on a larger scale are not yet considered in this stage of the project.

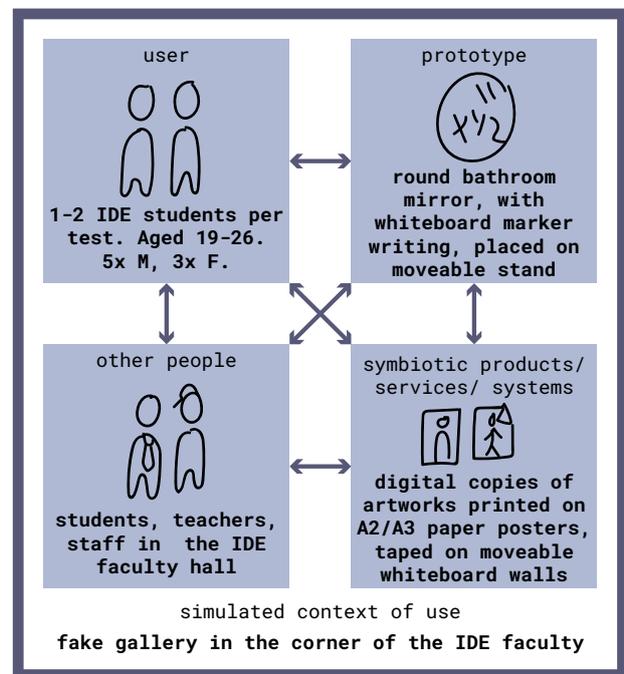
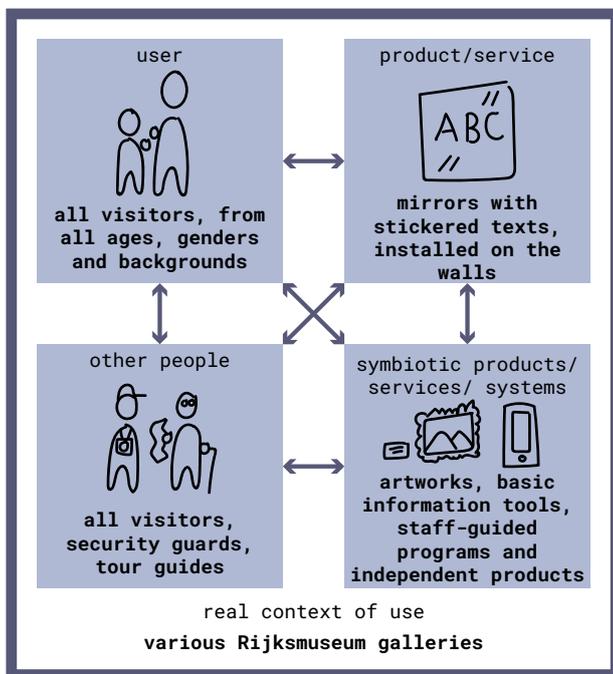


Figure 4.3: Real (left) and simulated (right) context of use for prototype 0, adapted from the model by Wever, Van Kuijk & Boks (2008)

The ‘Mirror Reflection’ concept is executed for two focus artworks in prototype 0 ‘Self-Reflection Mirror’ (see fig. 4.4). **Portraits of famous people are selected** in order to increase recognisability and relatability from the user, with the assumption that self-reflection would arise quicker if background knowledge is accessed and empathy is triggered. For the portrait of King William III the self-reflection question is “What would you do as leader of the country?” and next to the self-portrait of Rembrandt van Rijn the question is “Do you ever take a sad selfie?” These questions aim to connect the art from the distant past with present day experience, by applying one feature of the depiction to the viewer’s own life. The prototype of the Self-Reflection Mirror is created by **simple writing with a whiteboard marker on a circular bathroom mirror**.

The test for the prototype is simulated after the real context of use of the product (see fig. 4.3). **Two configurations of posters and mirror** are tried, one for each focus artwork and so with different questions on the mirror. Test participants 1 to 5 test the prototype in the configuration with the king’s portrait, and participants 6, 7 and 8 interact with the self-reflection next to Rembrandt’s self-portrait. In this way the risk of biased results (in relation to one artwork) is somewhat lowered, and the research question on open or closed questions can be answered.

4.2.4 DISCUSSION

The significance of the test results is not guaranteed, because the **test set-up does not sufficiently simulate the context** of the Rijksmuseum and the integrated concept. The participants namely do not perceive the relatedness between the Self-Reflection Mirror and the artwork, because they are presented on different planes, i.e. the moveable stand and the whiteboard walls (see fig. 4.4). The objects are not visually grouped – by Gestalt’s laws of proximity and similarity – so they **are not regarded and experienced together**. Hence, the research questions regarding the relation between artwork and mirror unfortunately cannot be answered confidently.



Figure 4.4: Prototype 0 in the simulated context of use. The mirror is not well integrated in the gallery, so the intended interaction does not take place.

4.2.5 CONCLUSIONS

The design goals leading to the Mirror Reflection and the assumptions embedded in the concept inform a set of **research questions that are answered** in this test by observation notes, pre- and post-experience survey responses, and semi-structured interviews. Overall, the experience with the Self-Reflection Mirror is not particularly impactful.

What is the initial reaction to the Self-Reflection Mirror?

THE PRODUCT BLENDS IN TOO MUCH WITH THE ENVIRONMENT

Installations on the wall, among artworks, blend in too much with the gallery environment that it's **hard for the visitor to** detach from the artworks and **focus on a reflective task**. It's easy to walk by and skip the experience.

*"I can't think about the question when walking through the museum watching the art. Maybe in a different space, a full installation, I might."
– participant S5*

Is there a difference in response to open or closed questions?

REFLECTION QUESTIONS ARE HARD TO RESPOND TO IN GENERAL

Self-reflection in response to a question does not occur if no further task is given. Participants briefly scan the text on the mirror and walk on, and only reconsider the question and formulated an answer when asked to write about it in the post-test survey form.

*"I started thinking more logically when writing down the answer. Then I realized I don't want that role of a king at all."
– participant S3*



What is the role of the artwork in the interaction with the Self-Reflection Mirror?

INTERACTION WITH THE OBJECT IS LIMITED IF VISITORS ARE NOT INITIALLY DRAWN TO IT

If the artwork is not visually appealing, or if the question is answered with a 'no', **no further reflection and connection occurs**. Rembrandt's self-portrait is too dark and does not make an impression (at least not the half-sized paper print copy), and the corresponding question ("do you ever take a sad selfie?") is not understood.



Does the interaction with the Self-Reflection Mirror lead to self-reflection?

BIG SINGLE QUESTIONS WITHOUT INTRODUCTION ARE VERY HARD TO ANSWER

Visitors need to be eased into a thought process of self-reflection and philosophy, by getting background information. One participant suggests that the reflection question in the mirror must be directly related to the object text on the wall next to artwork.

*"The question about the king is so big that it doesn't mean anything anymore. Then I quickly arrive at a point where I ask myself, 'what do I know?'"
– participant S7*

4.3 ITERATION ON FORM

After the in-depth research activities, i.e. service observations and contextmapping study, a design iteration is made. The main aim is to **translate insights about the target user group** (DYFEs, see Part 2) **and design goal** (connecting people with art and history through reflection on collective human themes, see Part 3) **into a concrete concept** with a tangible form.

First, I select an idea from the earlier design sprint that aligned most with the insights from research. Secondly, I build a prototype for this concept and pilot-test and discuss it with design student peers. Based on the initial results, I build a second version of the prototype with quick fixes and test it in the real context of use, i.e. in the Rijksmuseum, and with real users, i.e. DYFEs. This chapter briefly describes the steps and presents the key findings and design implications of this design iteration, which is mostly focused on the form of the product, namely a photography game.

4.3.1 SELECTION OF THE POLAROID CHALLENGE CONCEPT

The primary starting point for this prototype is a concept that is developed in the first design sprint, D. 'Polaroid Challenge' (see fig 4.5). This product is a treasure hunt with a photo camera that guides visitors through various galleries in the museum. The idea mostly revolves around the form, i.e. **a physical object that users play a game with, combining the established custom of photography in museums and bingo and treasure hunt games.** The content, i.e. the type of clues, the connection between clues, the target artworks (treasures) are not yet defined.

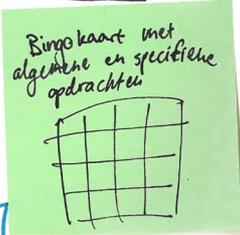
The 'Polaroid Challenge' concept **meets the design requirements** that derived from the research insights (see chapter 3.5), so it is eligible for further development. It is selected because it **incorporates a great number of design opportunities and ideas.**

CONCEPT D POLAROID CHALLENGE

Speurtocht met een ~~analoge~~ instant camera door meerdere verdiepingen/zalen

- Voor duo's / kleine groepen
- Competitie in grotere groep
- Digitaal opslaan ~~aan~~ → uploaden naar app/systeem aan het einde van programma
- Beperkt aantal shots gericht → goed zoeken & beter kijken

Aansluitend quiz met juiste beschrijvingen. Team dat als beste heeft gekken en gelezen weet het meeste. EXTRA



- + ~~onbegrijpelijk~~ ~~onduidelijk~~
 - + geen permanente installatie op zaal
 - + geen scherm/bewegende content die afleidt
 - + meer oog voor details en visueel beeld
 - + polaroid cams zijn hip & nostalgisch (aansluiting Gen. Y)
- minder oog voor verhaal/geschiedenis
 - lange ~~reeks~~ reeks interacties, verplichte reis
 - begeleiding begin en eind vereist.

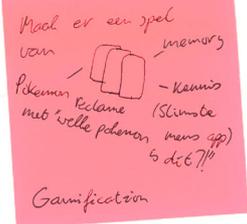


Figure 4.5: Original sketch of the 'Polaroid Challenge' concept from the Explorative Design Sprint

Most notably, the **form of a game experience** is found to be effective to engage people with the collection. Independent products for other target audiences in the Rijksmuseum already take the form of games (see section 1.2.3). Fun seeking visitors want to learn in a playful way (see 2.4.2). The challenge format also gives users an incentive to read object texts, which is desirable for a learning experience (see 3.2.3).

Also, the **form of a camera** suits Dutch Young adult Fun seeking Explorers very well. Visitors in the Rijksmuseum are continuously taking pictures, teenagers were observed with little cameras (see 3.4.4) and some young adults have said to prefer a dedicated device over a smartphone. It is also characteristic for Fun Seekers to take photos and share their visit experience through images on social media (see 2.4.2).

4.3.2 FIRST DEVELOPMENT OF THE PHOTOGRAPHY GAME

Research insights help further inform the content of the 'Polaroid Challenge' concept. Contextmapping study participants namely express a habit to **view art through a pre-conceived filter** with prior knowledge and a bias (3.2.3). The concept uses this principle by imposing a new filter for users to view the collection through. An **overarching theme** is introduced as common factor through the artworks that need to be found in the treasure hunt.

In line with with the deisgn goal, the **theme must be human and collective**. Human emotions are very recognisable and relatable to all people, and are widely depicted in historical art. Seeing feelings in an image arouses empathy, which also fosters connection with art (see 3.5.1). Therefore, the **universal emotion of love** is selected as an overarching theme for the photography game.

Many artworks in the Rijksmuseum collection are found to directly or indirectly depict love. A **selection of 12 objects** was made based on roughly 3 criteria: a) a decent spread over the building's galleries, b) a balance between abstract and concrete references, and c) a number that is challenging but achievable

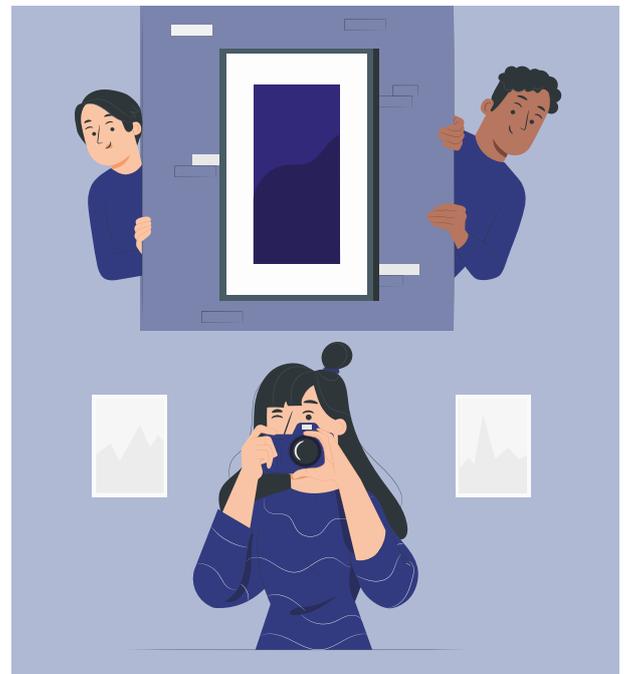


Figure 4.6: Key forms of the concept. **A:** treasure hunt game. **B:** photo camera (illustrations by storyset.com)

within a 1,5-hour experience. For each of the artworks a visual or textual clue is designed. The visual clues are smartphone emoticons (selected from emojipedia.com, very familiar and popular for DYFEs) and literally refer to items depicted in the artworks and relate to the theme of love. The textual clues are short phrases with verbs that describe an act related to the theme. Figure 4.7 gives an overview of the selected artworks and the corresponding clues.

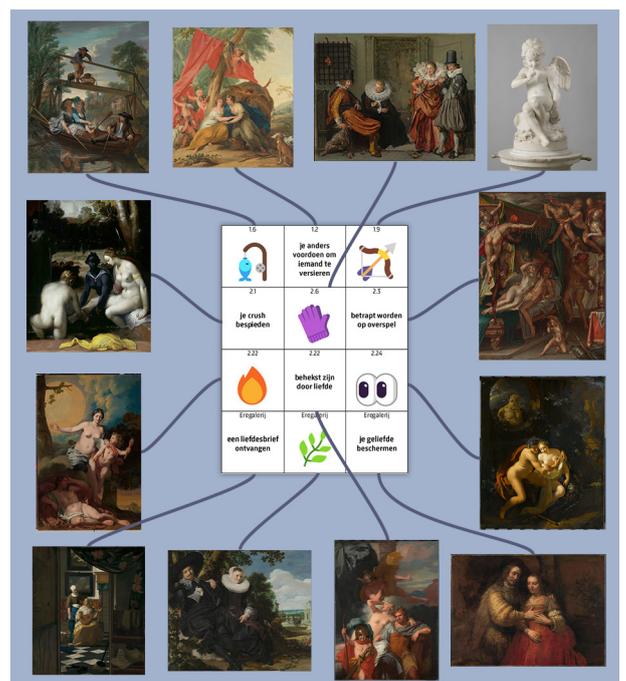


Figure 4.7: Challenge card and corresponding artworks for prototype 1

4.3.3 PROTOTYPE 1: BINGO CAMERA

The primary aim of the first prototype is to **validate the value of the forms of a treasure hunt game and photo camera**. A low-fidelity prototype (see fig. 4.8) is made to include these key functionalities without unnecessary extra features or special appearance. While the brand logo font is used for credibility of the prototype, no time was invested in custom illustrations because standard emojis suffice as visual clues.

The Bingo Camera is prototyped by **modifying a disposable camera** purchased at HEMA. A sticker sheet with 12 stickers was glued to the side of the cardboard housing, and a folded bingo card is glued to the back (see fig. 4.8). The gallery numbers correspond to the numbers on the floorplan that visitors of the Rijksmuseum can collect from the central service desk in the entrance hall. Each box with a clue and gallery marker hints towards a single artwork (see fig. 4.7).



Figure 4.7: Sequence of finding the correct artwork in gallery 1.6 during the pilot-test of prototype 1

A: Participant L2 is visually drawn to a detail in artwork matching the clue (fish rod) and reads the object description sign, with reference to second artwork in the gallery.

B: He moves to second artwork and reads the sign, learning about a symbolic meaning of the depicted love scene.

C: He concludes that the first artwork is the best match with the clue and takes a photo of the detail.



Figure 4.8: First version of prototype 1

4.3.4 TESTS WITH DYFES

Prototype 1 is pilot-tested with a colleague in the Innovation Lab (L2). The simulated context of use differs from the real intended context of use in two aspects: the user is alone instead of in a pair, and there are barely any other visitors present in the museum because it is nearly closing time. The main objective of this pilot-test is to **identify minor problems** that are relatively easy to solve. Such **quick fixes** are implemented in the second version of the prototype (see fig. 4.10).

The participant rates the 'Bingo Camera' concept with 8,5/10,0. He likes that he was **pleasantly forced** to not only pay attention to objects that interest him, but explore the museum with a theme. He also expects that it would **help visitors to read text signs** when they usually would not. Also he finds that the **freedom of choice and control** was good. Finally, he confirms that it would be **fun to play the game with a partner**, "especially if it's a bit harder. Then it's nice to have someone to strategise with."

User has difficulty handling and viewing the map with both hands while holding the camera, so a **neck strap** is added to free the user's hands.

User forgets the 'game rules' after the initial instruction and the camera flash may not go off at artworks in the museum, so **printed instructions** are added to the packaging of the camera as a visible reminder to the user.

Stickers are covered from sight by the user's hand gripping the camera on the side, so the **stickers** are moved to the **top of the camera** where they are visible and accessible to the user.

For a full test of the low-fidelity prototype **two Dutch Young adult Fun seeking Explorers** (T1: male, 18 years; T2: male, 20 years) are recruited and invited to the Rijksmuseum. The simulated context of use closely resembles the real context of use because the test can take place in the actual Rijksmuseum during opening hours, with other visitors and staff members in the environment. The key differences between the test and the real use are in the fidelity of the prototype and the presence of the researcher as silent observer and Wizard of Oz. Impressions of the prototype test are presented in figures 4.11 and 4.12 and appendix X.

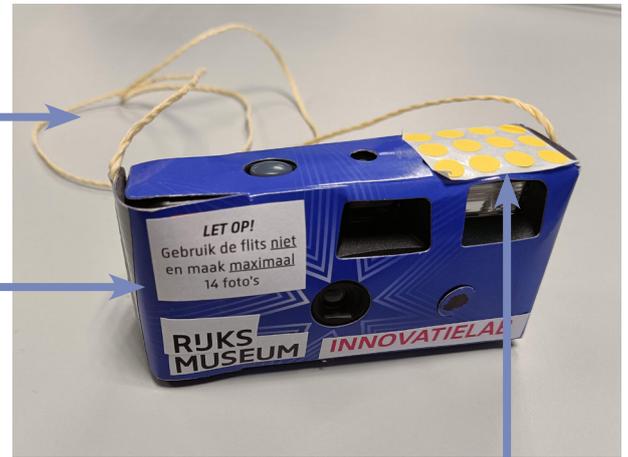


Figure 4.10: Second version of prototype 1



Figure 4.12: Users of the Bingo Camera read the object texts to find extra information that indicate that the artwork fits the clue and theme on the bingo card.



Figure 4.11: As one user takes the photo with the Bingo Camera, the other pose for the selected artwork to add a personal touch to the photos.

The test participants occasionally displayed **surprising behaviour** and said gave various interesting insights, that do not directly answer research questions as conclusions (see next section 4.3.5) but do inform some design implications (see 4.3.6). For example, they saw the game as an opportunity for creative photography and **brought new fun and creative elements to the experience**. They found it wasteful not to use the available 14 photo shots up after completing the 12 clues, so they took one picture of the Nightwatch and one mirror-selfie. Also they made an effort to make the photos more meaningful for them by posing in front of the artworks (see fig. 4.11), and tried capturing two artworks in one shot with a creative technique. Besides, participant T2 expressed that the concept would appeal to a broad audience, including those less interested in art, due to its social-media-like, low-barrier format. Especially visitors who enter the Rijksmuseum without a plan, the Bingo Camera game "gives them something to do."

4.3.5 CONCLUSIONS

The full test of prototype 1 in the real context of use yields **many interesting results**. Observations and recordings are made, and a post-experience interview of 45 minutes is conducted. In analysis of the audio transcriptions the key quotes are extracted, categorized and summarized to form **answers to the key research questions**.

What do users think of the form of a treasure hunt game?

THE SEARCH FOR ARTWORKS GIVES DESIRED SUPPORT AND MOTIVATION FOR EXPLORING THE MUSEUM

Both test participants enjoy the game, noting it **provides structure and purpose in their visit** and enhances engagement with the artworks. T2 highlights how the game encourages deeper observation and reading of object information. T1 felt positively forced to be “a bit more attentive and present with what you see.” At the same time, he appreciates how the game allows for **spontaneous discovery** while still providing a **goal-oriented experience**. T2 feels that the game gave him space and time for roaming that he usually does in museums: “I still get to see all the rooms and still look around.”

*“It’s been a long time since I had that much fun in a museum!”
– participant T1*

How does the Bingo Camera affect the connection between users and art and history?

THE PHOTOGRAPHY GAME GIVES NEW UNDERSTANDING AND APPRECIATION FOR HISTORICAL ART

For both participants the game enhanced their perceived connection with art and history with 0,5 out of 10 points. The Bingo Camera made T2 **change his mind about historical art**: “I was taking pictures of them in the context of ‘love’, instead of in the context of ‘these people are rich.’ It makes me think about [the art] again.” T1 said to feel **more knowledgeable** about culture and history, and has “a bit deeper understanding of **how things work in context**.”

How do users handle the Bingo Camera?

MORE INFORMATION AND USECUES ARE NEEDED FOR BETTER USABILITY

The participants noted that **clear instructions for use** of the product, either with markings on the device housing or spoken explanation by the multi-media desk employee, would be appreciated to ensure proper handling of the camera.

How much time does it take users to complete the Bingo Card?

THE PHOTOGRAPHY GAME CAN BE COMPLETED WITHIN A REGULAR VISIT

The participants needed 1 hour and 25 minutes to find 12 artworks and use all 14 photo shots available on the camera.

What do users think of the form of an analogue camera?

THE HANDS-ON INTERACTION ENHANCES THE ENGAGEMENT WITH THE GAME

Both participants emphasized the appeal of the tactile, analogue experience, with T2 noting the mindful engagement provided by the camera’s physical mechanics (e.g. turning the scroll wheel and clicking the shutter button). Both T1 and T2 would like to take printed photos home as tangible memories, with T1 favouring **polaroids (instantly developed film sheets) for a nostalgic, museum-fitting aesthetic**.

What do users think of the collective human theme of ‘love’ or other emotions as leading scope for the game?

EMOTIONS ARE EASILY RECOGNIZED IN HISTORICAL ART

Participants T1 and T2 appreciated the themed approach, suggesting various topics such as ‘nature’ and ‘colonial history’ for other versions of the product. This would be intellectually stimulating, offering opportunities to focus on specific facets of art across multiple visits. T2 found it interesting to see connections between artworks within rooms, related to the overarching theme, which he “wouldn’t have noticed unless they were doing the game.”

*“You are telling me there is a big theme, and now I am seeing it everywhere.”
– participant T2*

4.3.6 DESIGN IMPLICATIONS

The answers to research questions, in combination with individual findings and suggestions from participants, inform consequences for the design of the product. These implications are organised in the DAKI model from agile retrospectives (Gonçalves, 2023) as elements to be dropped, added, kept or improved in next iterations of the photography game (see chapter 4.4, 4.5 and Part 5).

DROP

Remove the stickers from the camera, because it is not necessary for users to keep track of their progress in a game with a low number of challenges that can be remembered easily enough.

ADD

Give each player their own camera with a different bingo card, so they can explore one particular theme themselves, visiting in parallel with their peers.

Enable digital photo storage by adding a SD card slot or Bluetooth- or Wi-Fi-based file transfer functionality, so service employees can easily access and export the photos taken by the users at the moment of handing in the camera at the multi-media desk.

Add the Rijksmuseum logo to the printed photo for brand identification.

Give more information about the artwork when a player takes a photo of the correct artwork.

Create a competitive element in the game to raise the stakes. For example, by displaying the best photos of the month in the museum or online, or rewarding a complete bingo card with a simple prize.

Offer a digital app version of the game, that has the same functionalities except for the tactile, mechanical operation. Appendix H.IV shows a quick wireframe sketch of a 'Bingo Quest App'.

KEEP

Maintain the range of 12 tasks for a visit experience with 2 users, because this number balances a serious challenge with a decent spread over the museum within a 1,5-2 hour visit.

Let the bingo clues be mixed in difficulty and rely on both visual resemblance in the artwork and analytical reading of the object text, not just either.

Give one clear theme to the camera that affects the entire experience of viewing and perceiving artworks.

Uphold the tactile aspects of a mechanical device that needs to be handled with clicks, switches and scrolls.

IMPROVE

Move the instructions for camera handling to the backside where the user can always read them before taking a picture.

Rearrange the clues in the order of progressing through the galleries - e.g. 1.2, 1.6, 1.9 – so to ease the navigation through the museum.

Give result and feedback directly during the game (after each photo taken) instead of at the end (at hand-in of the camera at the multi-media service desk).

Change the form to an instant polaroid camera. Participant T1 suggested that "polaroids would be very cute, because it just fits with the whole museum vibe."

Make the bingo card interchangeable so visitors can select one of the collective human themes, take the corresponding card and insert it into their camera, which is a universal device.

Encourage users to personalise their experience and photos by posing in front of the artworks they are challenged to capture, or including a prompt like 'try out the camera by photographing your friend in the Atrium'.

4.4 ITERATION ON CONTENT

After the successful test of prototype 2, an iteration in the design is made. This iteration mostly **focuses on the content of the product**, namely the theme of the game, the set of fitting artworks and the information on photo cards. This chapter describes the process and results of developing prototype 2 – ‘Polaroid Bingo’ – and testing it with users.

Uncertain about the legitimacy of the creative process and low variety of ideas, I come up with another concept to develop into a prototype and test it with users, in parallel to the Polaroid Bingo. The intended interaction is achieved but is not convincing enough to continue the concept. Therefore, the ‘Empathy Glasses’ are not further integrated in the project or report. The corresponding concept, prototype and test results are presented in Appendix X.

4.4.1 SECOND DEVELOPMENT OF THE PHOTOGRAPHY GAME

The ‘Polaroid Bingo’ (see fig. 4.13) is the next iteration on the Bingo Camera (see section 4.3.1) in which many design implications (see 4.3.6) are applied. The most important changes are summarised and motivated in figure 4.14. **A key addition to the concept is the information card** that is printed by the camera after it recognizes the photographed artwork. This feature aims to raise the user’s **understanding of the collective human theme** in relation to the object and historical context and so enhance their awareness of time. This physical artefact also forms a **concrete talking point** to incite a discursive experience, which is further stimulated by **juxtaposition of different perspectives** on the same artwork. With this change the photography game concept meets the reviewed design goal (see 3.5.1) better.

The Polaroid Bingo concept includes two technical features that are hard to prototype within the financial limits of the project. The image recognition relies on Artificial Intelligence models that are trained with photos of artworks in the Rijksmuseum. The information card must be printed on the backside of the polaroid, which requires a form of integrated duplex printing.

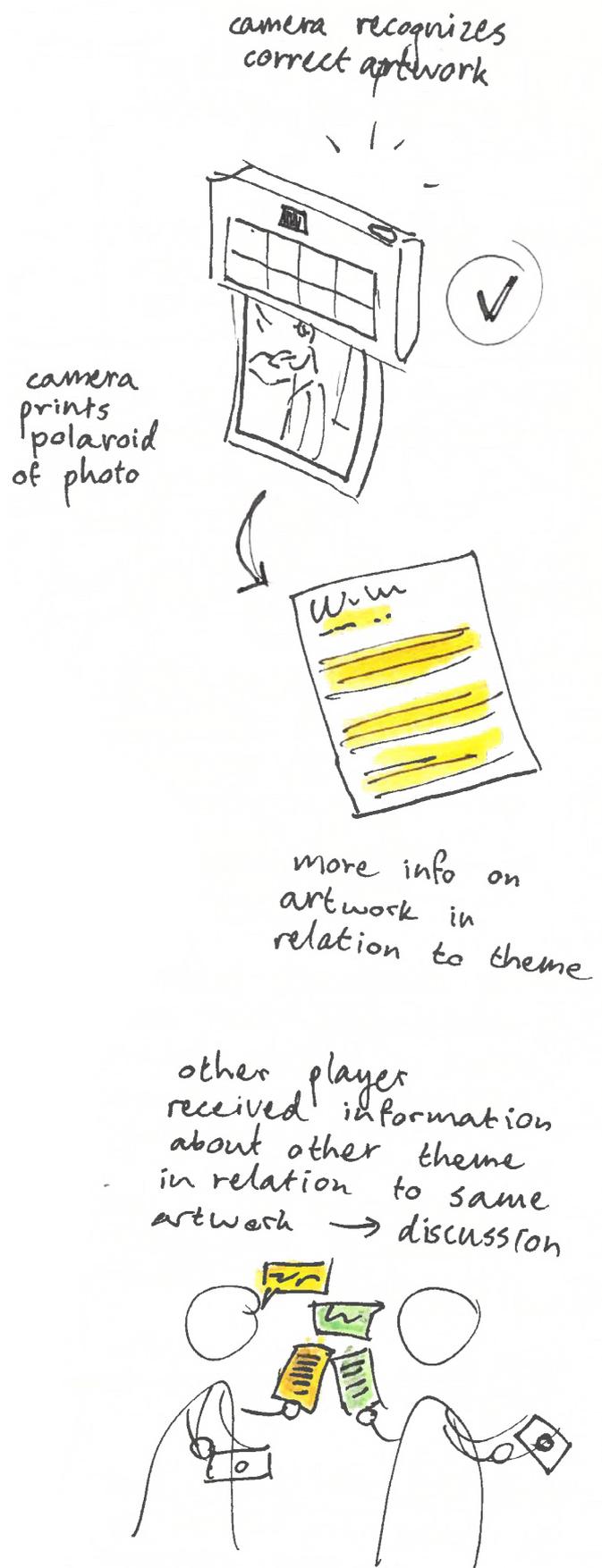


Figure 4.13: Original sketch of the Polaroid Bingo

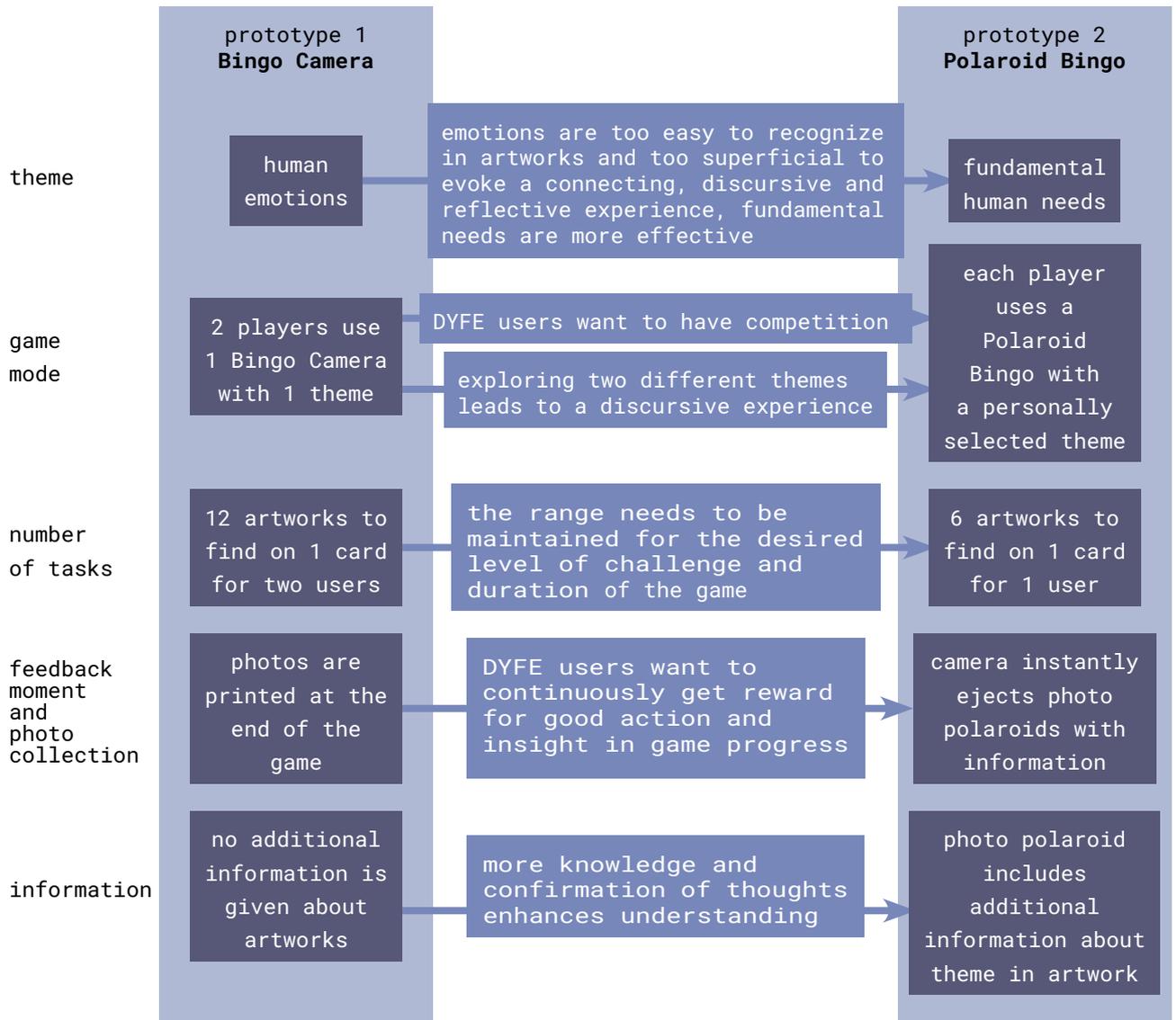
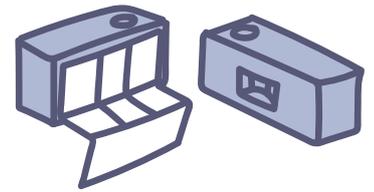
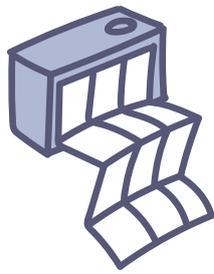


Figure 4.14: Design changes and motivations in the iteration on content.

PAIRS OF FUNDAMENTAL HUMAN NEEDS

The **model of Thirteen Fundamental Needs** (Desmet & Fokkinga, 2020) informs the themes of the Polaroid Bingo. My conviction is that these needs are perfect examples of collective human themes to connect people with art and history. Because they are **universal**, they are relatable to a wide audience of visitors, and as they are **timeless**, they are actually represented in the collection of the Rijksmuseum.

All needs and sub-needs are laid out and matches between them are made, in search for pairs of contrast. The product is intended to be used by pairs, so each player selects a personal theme, or 'lens' to view art through. A discursive experience where users get different perspectives and engage in conversation about the content is more likely to arise when the topics of discussion are diverse (different needs), yet united within the same realm of thought (fundamental human needs).

4.4.2 PROTOTYPE 2: POLAROID BINGO

The main aim for this iteration on content is to validate that DYFE users enjoy the envisioned interaction with a polaroid camera that ejects information cards, within a bingo game themed with fundamental human needs, and that this experience enriches the visit.

With this goal, integration of advanced technology required for the real product (i.e. duplex card printing, image recognition) is not needed for this prototype, and thus replaced by Wizard of Oz technique: as design researcher I will follow the test participants and hand them the correct information card when I recognize they take a photo of the correct artwork.

Instead, the focus of the prototype (see fig. 4.15) lies on the tactile operation of the camera, the navigation through the museum with the bingo card, the game mode of two players each pursuing their individual challenge in parallel, and the reception of information. To simulate the polaroids, double sided cards are printed in advance. The front side holds a photo of the artwork, the backside contains text: the artworks' title, artist and year of creation, and 12-18 lines of information that aims to highlight how the fundamental human need is represented in the artwork. For this explanatory text, various online sources were combined and generative AI-model ChatGPT was used to compose coherent and accurate phrases.

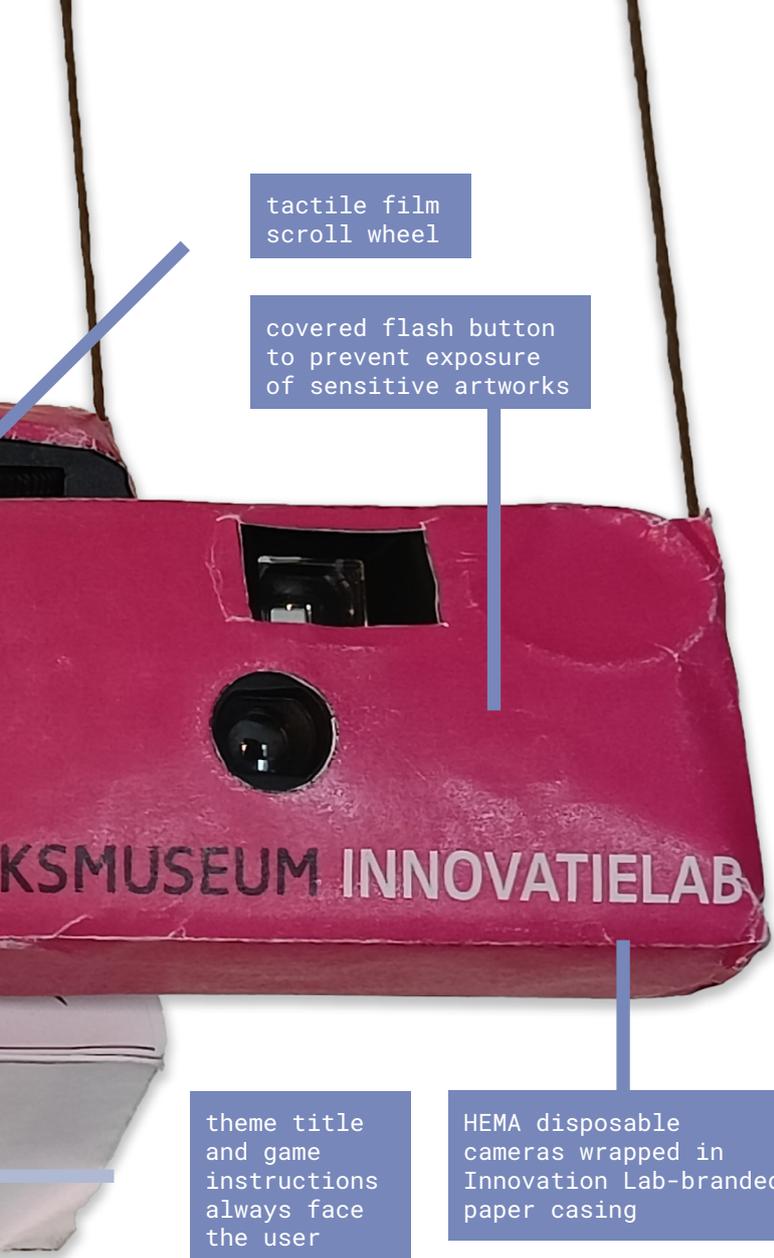


mix of textual and visual clues

Figure 4.15: Two Polaroid Bingo cameras, with themed challenge cards 'autonomy & freedom' and 'community & group feeling'



Figure 4.16: Twelve unique information cards for the Polaroid Bingo



The bingo cards hint to artworks that represent the human needs for autonomy and community respectively (see fig. 4.17). The Rijksmuseum's Collection Online with AI-powered search tool made it easier to browse through the galleries and find artworks with implicit and explicit thematic elements.

Note that the two cards have some content in common. Both players need to navigate to the Gallery of Honour ('Eregalerij') and galleries 1.12, 2.15 and 2.19. In gallery 1.18 they even have the same clue, which leads to the same artwork ('The Yellow Riders' by Breitner). Yet when they take a photo with their own camera, **they receive different information cards**. The player with the 'autonomy' card reads about the depicted power of the soldiers and the free individual expression and authenticity of the artist, while the other player learns about the joint movement and uniform clothing of the military 'community'. Similarly, both human needs are represented in the 'schutterstuk' in gallery 2.18. In gallery 2.15 the players both are challenged to photograph an artwork related to admiral Michiel de Ruyter – one player reads about his autonomous actions, the other learns how he influenced the Dutch community. By giving the players different information, the game intends to stimulate a discursive experience. The **juxtaposition of two different perspectives on the same artwork will prompt discussion and reflection**.

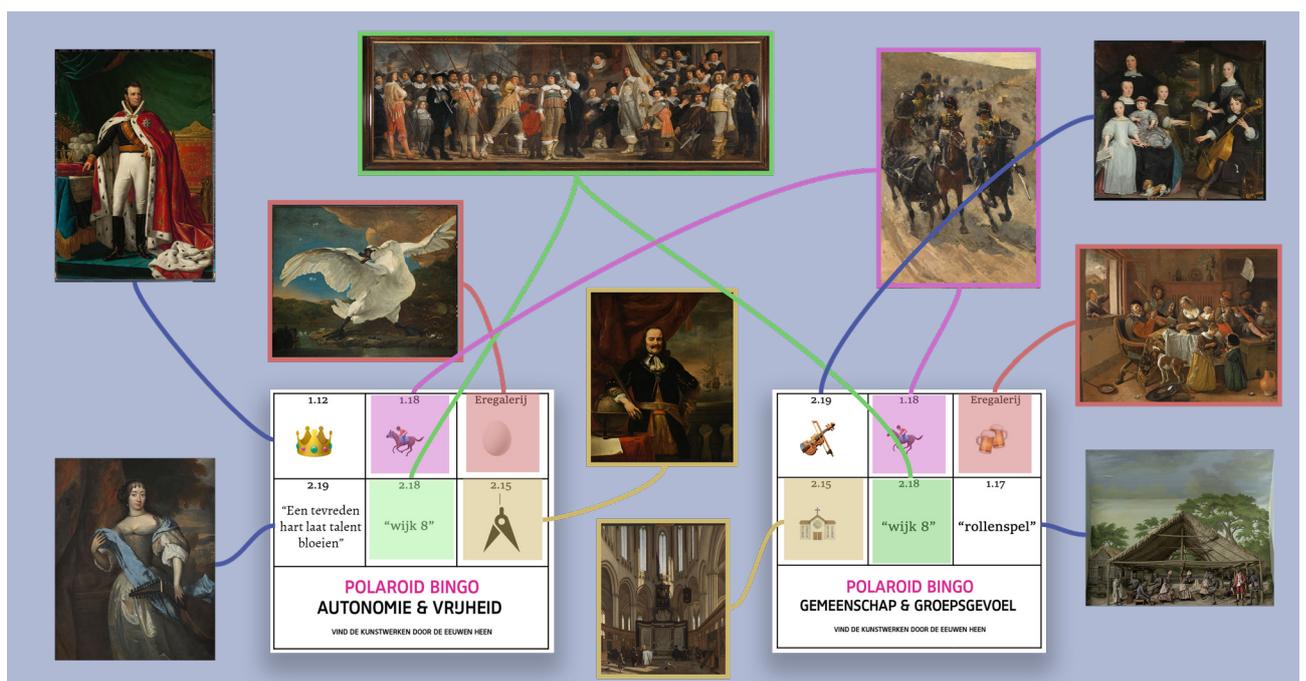


Figure 4.17: Overview of the Polaroid Bingo cards and the corresponding artworks, some overlapping.

4.4.3 TESTS WITH DYFES

Prototype 2 is tested with the intended user group in the real context of use: Dutch Young adult Fun Seeking Explorers in the Rijksmuseum. The main aim for the prototype test is to **validate the new content** of the photography game, i.e. the fundamental human needs as thematic lenses for exploration and the information cards belonging to the artworks.

Half of the group of participants (table 4.18) qualifies as the DYFE target user. There is a **variety of genders and relationships**. The age is spread from 16 to 25 years, which exceeds the age range of young adults (18 to 30 years). Results of the test with the **two teenagers** (T9 & T10) may be interesting to see if there is a difference in product usage in another age group, and **whether the concept can expand its target audience**. The same goes for participant T3, who does not fully qualify as Fun Seeking Explorer, because she studies art history and so identifies as Enthusiast or Professional/Hobbyist.

Each test session lasts 2 hours and consists of an introduction, hand-out roleplay scenario, game experience, hand-in roleplay scenario and interview (see full test plan in Appendix X). Figure 4.19 gives an impression of the user behaviour displayed during the tests.



Figure 4.19: Test participants use the Polaroid Bingo. A: P9 and P10 look for visual resemblance between artworks and the clue on the bingo card. B: T6 photographs the detail in the artwork that was depicted by the visual clue. C: P3 and P4 compare their information cards, concerning the human need of 'community' and 'autonomy' in the same artwork.

Table 4.18: Participants for the Polaroid Bingo prototype tests

photo	T3		T4	T5	T6	T9	T10
number	T3	T4	T5	T6	T9	T10	
name	Fleur	Eva	Wieke	Kay	Tom	Boris	
age	22	22	25	24	16	17	
gender	F	F	F	M	M	M	
DYFE?	no: enthusiast/ professional	yes	yes	yes	no: teenager	no: teenager	
relation	friends		partners		friends		

4.4.4 CONCLUSIONS

The observations and interview quotes form a rich variety of results. The research questions, that follow from the design choices in this iteration (see section 4.4.1), can now be answered.

How do users feel after receiving an (in)correct result?

DIRECT IN-GAME FEEDBACK MOTIVATES USERS TO PLAY THE POLAROID BINGO

Users value the direct feedback provided by the product, particularly the immediate receipt of polaroid pictures with information on the back, which they find **enjoyable and clarifying** (T5, T9). Even when users choose incorrectly, the tangible polaroid still offers a positive takeaway (T4). They prefer the real-time feedback over delayed answers at the end of the experience (T9), but also desire the **possibility to ask for the correct answers at the multi-media desk**, with one user noting frustration over not knowing the correct answers after returning the camera (T5).

How does the thematic lens of a fundamental human need influence the way users view artworks?

VIEWING ART THROUGH A HUMAN LENS MAKES A MUSEUM VISIT MORE THOUGHTFUL

Test participants recognize and appreciate the fundamental human needs as leading themes in the game. Some even explicitly confirm the contrast between ‘autonomy & freedom’ and ‘community & group feeling,’ as opposites on a spectrum (T4, T9). Users feel encouraged to think differently about art. They note that the experience requires deeper contemplation of the artworks (T3) and keeps them engaged with the themes (T4). One user is inclined to **make far-fetched interpretations and connections between many artworks and his theme** of ‘community,’ which indicates a change in thinking pattern (T10). The game also helps users notice aspects they might have otherwise missed, such as recognizing ‘autonomy’ in a painting they hadn’t initially considered to view in detail (T3). One user highlights how a new perspective on a painting— seeing music as a symbol of harmony—**enhances their understanding of the context and reason of creation** (T4).

How does the parallel multi-player game mode influence the relation between the users?

PLAYERS FEEL INDIVIDUAL RESPONSIBILITY AND SPACE FOR COOPERATION AND COLLABORATION

The Polaroid Bingo experience offers users **flexibility** in how they approach the game, with participants praising both the ultimately individual responsible for their own choices (T6) and the option to support each other in the quest (T4) (see fig. 4.20). In a real-life context strategic approaches would vary, even within pairs: T10 expresses a **more competitive attitude**, while T9 noted he would focus more on the art rather than the game. If playing with their partners, T4 would introduce tactics to deceive her boyfriend, while T3 would explicitly **challenge** her respective boyfriend to critically observe and analyse the art.



Figure 4.20: Player T10 helps T9 to reason if and how an artwork matches the clue and theme on the bingo card.

How does the thematic exploration lens influence the navigation through the museum?

THE POLAROID BINGO BRINGS FOCUS TO THE VISIT

Participants appreciate the thematic focus of the Polaroid Bingo game, as it allows them to explore specific artworks **in depth** while being comfortable with leaving other parts of the museum unexplored (T4, T5). Some users note some degree of **tunnel vision** focusing primarily on completing the game and finding specific

artworks, which led them to quickly pass by other galleries and pieces (T3, T4, T5, T6), and feel like they missed parts of the museum (T9, T10). However, a few users acknowledged they still had the **freedom to pause and explore artworks** that personally interested them outside of the game's objective, balancing the structured quest with spontaneous exploration (T5, T6, T10).

How do the information cards influence the users' understanding of fundamental human needs in relation to artworks and their historical context?

ANSWER

Users express mixed opinions about the information on the back of the polaroid cards. Many appreciate how the texts confirmed or clarified their reasoning, enhancing their **understanding of the artwork in relation to the theme** (T4, T10). T4 likes the bold highlighted words, which make key phrases easy to scan, and suggests to shorten the text to make it less overwhelming. T3, while acknowledging the quality of the information, tends to overlook them due to the volume of texts already present in museums. It is suggested to **include more details** like time period, art style, and characteristics in the text, which would help players recognize and appreciate (transitions between) art periods, and so enhance their awareness of time.

Do the users read each others' information cards and do they start a discussion about the texts and artworks?

ANSWER

Unfortunately, test participants largely focused on their own challenge (see fig. 4.21) and **did not engage much with the perspectives of other players**, with some occasionally glancing at others' polaroid texts but rarely engaging in deeper comparison or discussion (T5, T6, T10). While there is occasional recognition of shared artworks reflecting both themes, players do not actively collaborate or discuss their findings (T4, T3). While T3 enjoys discovering how both extremes could be reflected in the same artwork, T6 does not perceive the cameras as offering distinct thematic lenses for viewing the same artwork and so does not manage to link the themes.

EXTRA INSIGHT: DIFFICULTY AND DESIGN OF CLUES

Users note that the game's difficulty varies, with some clues being more challenging than others (T5, T6). Some users find that the **combination of literal clues and abstract themes is unpleasant** because it requires a mental switch (T10). Users say that overly **literal clues**, such as those relying solely on visual elements or quotes from signs, are **less engaging** and often lead to a decrease in attention and motivation. Participants T4, T5 and T6 note that finding the correct artwork for such straightforward or superficial clues is **unsatisfying**, as they cause their brains to "stop" and hinder further thought or interaction with the artwork and information card.

Consequently, users express a **preference for harder, more abstract clues** that encouraged deeper thought and engagement with the artwork. T6 and T3 both highlight that the **more challenging clues lead to more meaningful discussions and critical thinking** about the art and the represented theme, particularly when the reasoning process involved **intricate analysis or symbolism**. T5 and T4 mentioned that these complex clues prompted a deeper dive into the themes, as they require players to think abstractly and interpret the art beyond surface-level details.



Figure 4.21: Players T5 and T6 read the information cards they received individually after photographing the same artwork (a 'schutterstuk' in 2.18) and do not compare the perspectives on the depicted 'autonomy' and 'community'.

4.4.5 DESIGN IMPLICATIONS

Again, key take-aways are phrased for this iteration of the photography game, in the DAKI structure. Some design features concern usability rather than desirability, or some content details rather than the overarching concept.

DROP

Limit the literal and direct clues in the bingo card, because they are too easy to find and do not contribute to the discursive experience. Still, a few easy clues must be included in alternation with more difficult clues in order to keep up the momentum and raise the spirit.

Remove the neckstrap, because it not used by any of the players in the tests of prototype 1 and 2.

ADD

Add key historical art information to the polaroid backside to enhance the player's 'sense of time', like boxes with the time period, art style and characteristics.

Include the explicit notion that the users look at artworks through different lenses, when handing out the cameras. Players must understand that their mission is to find out how these perspectives are represented in art. They must also be warned that they may have to photograph the same artwork, but learn about it from different perspectives.

Prompt the users to take a photo of each other in the Atrium. This will inspire the players to include each other in the other pictures and so personalise the polaroid, and also offers a trial for operating the camera.

KEEP

Limit the number of shots per camera to a sensible buffer zone (6 clues + 3 extra shots) as room for error and personal expression. On the one hand this allows players to 'waste' a few pictures they are in doubt about, without losing the game. On the other hand, the limit also prevents the players from taking pictures of any and all artwork.

Take contrasting pairs of Fundamental Human Needs as foundation for the themes. The stark difference between the perspectives contributed to the discursive experience. The game can be extended with more themed lens sets like 'stimulation' versus 'comfort'.

IMPROVE

Expand the game journey to all floors, but stay on one side of the museum. The game covers a wider variety of art periods and styles, and gives players the sense that they have seen enough of the museum (satisfaction) but also shows that there's more to explore (curiosity). This also demonstrates that human fundamental needs have been a subject of and motivation for art through all centuries.

Shorten the theme-related text on the information card to prevent or minimise the risk of information overload and a tendency to tuck away the polaroid card without reading. Also this makes it easier for players to digest the key message of how [human need] is represented in [artwork] by [artist in historical context].

Give result and feedback directly during the game (after each photo taken) instead of at the end (at hand-in of the camera at the multi-media service desk).

Make the clues more abstract and cryptic, and relate directly to the human need themes. This makes the success of finding the right artwork more enjoyable and raises curiosity for the information card.

4.5 ITERATION ON IMPACT

In the final month of the research and design project, a third iteration of the photography game is made. This prototype - the 'Polaroid Quest' aims to resemble the envisioned product with higher fidelity, and validate if the desired impact is made on the users.

4.5.1 THIRD DEVELOPMENT OF THE PHOTOGRAPHY GAME

No major changes are made to the concept of the photography game. The form is still a treasure hunt, now called 'quest', with a camera that ejects 'polaroids' with information. In terms of content, the suggested historical art information (see section 4.4.5) is added to the backside of the polaroid cards, and the Rijksmuseum logo is added to the front. Also, the selection of artworks is adapted so to spread the scope to all floors on one side of the building. Because the juxtaposition of two perspectives on the same artwork or topic did not have the desired effect in previous tests, this overlap is only made for one clue. Still, the same gallery numbers occur on both camera challenge overviews, so that both users have something to look for in the same space.

4.5.2 PROTOTYPE 3: POLAROID QUEST

This medium-fidelity prototype is a combination of two off-the-shelf products loosely assembled and modified, and supplemented with custom material and content (see fig. 4.22). For visual distinction, two differently coloured cameras are used in this prototype, where for the full concept product the base camera would be the same for all versions, but have different coloured components mounted to them.

The prototype is technically incomplete, because direct printing on the backside of the photo card is not possible with this mini printer, neither is AI-powered image recognition in the camera. Therefore, the test participant and researcher need to take over these interaction features. Before use, the camera is loaded with 10 film sheets of 86x55mm. When the participant presses the white button, the film is exposed to light and instantly ejected. The photo develops in the hand of the user, taking a



Figure 4.22: Prototype 3, the 'Polaroid Quest'

covered flash to prevent exposure of sensitive artworks



Fujifilm
Instax
Mini 8

Orbit Electronics
Mini Thermal Printer

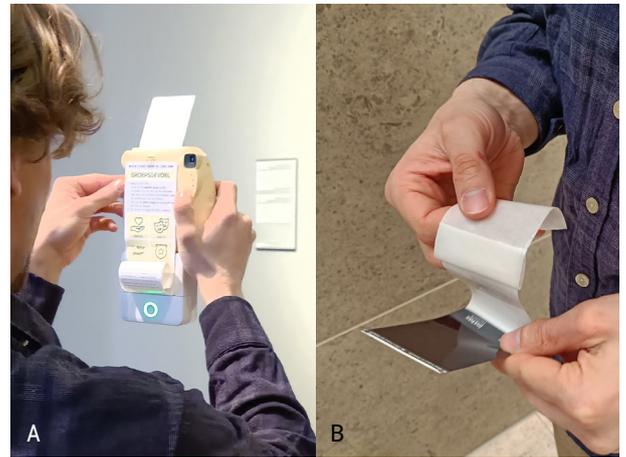


Figure 4.23: Assembly of the polaroid by the user (participant T13) in the test of prototype 3
A: Camera ejects photo card and printer ejects sticker.
B: User attaches the sticker on the back of the photo and folds the logo over the top.

few minutes to fully clear up. At the same time, I - as design researcher acting as **Wizard of Oz** - I send the information image corresponding to the photographed artwork to the **printer** through a **Bluetooth** connection with my smartphone app. Within 15 seconds, the printer ejects a **sticker** of 100x55mm holding the information for the backside of the photo card (86x55 mm) and the Rijksmuseum logo (upside down on strip of 14x55mm). Then the participant has to tear off this printed sticker, peel off the plastic foil and **attach it to the ejected polaroid photo** (see fig. 4.23). I will demonstrate this assembly sequence at the start of the test and explain that this is not part of the envisioned interaction of the full product design.

This interaction is rather cumbersome and not fully representative of the intended interaction, but it does introduce some important product elements that were not included in earlier prototypes: after a **short moment of anticipation** and **without visible involvement** of a design researcher, the user receives a polaroid card with a unique, **self-taken photo** on one side, and in-depth information on the other.

4.5.3 TEST WITH DYFES

The previous iterations succeeded in confidently answering research questions regarding form and content of the photography game. Now two questions on the impact of the concept remain:

- Does the experience with the product **enhance the users' connection with art and history** in the Rijksmuseum?
- Does the experience help users to **reflect on collective human themes** in relation to the Rijksmuseum's collection?

While it is impossible to assess if a transformative experience is facilitated by the photography game in the museum - because I cannot measure effects in the long-term - a prototype test can uncover **if users have gained new insight and awareness** in the realm of art, history and collective human themes.

For the final prototype test, **two participants of the contextmapping study** are again invited to the Rijksmuseum (D4 = T14, V1 = T13). As they both contributed valuable insights on 'connecting with art and history' and significantly inspired the interaction vision and design goal regarding 'reflection on collective human themes', I am curious to their perception of and experience with the final concept. Their second participation in the project has a **few risks** however, like strong positive bias and primed preconceptions towards the product, and less fit with the target user group of irregular visitor, because they were in the Rijksmuseum 4 months ago. Despite these conditions, the participants show an **honest and critical view** towards the prototype and concept, yielding interesting results, presented on these pages.

THEMATIC LENSES SHAPE USERS' VIEW OF THE COLLECTION THROUGHOUT THE VISIT

The **human fundamental needs determine the way the participants look at the art** in the museum, both in the galleries where they have to find and photograph an artwork, and in others. In search for the correct artwork, **they reason for various artworks how they match the theme**, and so justify their choice for photographing them. In a gallery they cross on their way to the next challenge, T14 points to an artwork: "this painting would also have been a nice one for 'community!'"



Figure 4.23: Test participants of prototype 3 both look for an artwork matching their respective clues.

USERS ENGAGE WITH AND REFLECT ON THE FUNDAMENTAL HUMAN NEEDS

After a few succesful challenges in the quest, the participants seem to have immersed themselves in their respective themes and can **critically relate** it to themselves and the artworks. For example, upon receiving the information card for one artwork, T14 remarks he finds the text a bit weird and inconsistent with his perception of the fundamental need (see fig. 4.24), demonstrating reflection on the collective human theme. Similarly, in another gallery he notes "I would not have picked this one. I think this other artwork has more to do with autonomy."



Figure 4.24: T14 studies the photographed artwork again after reading the information card.

COOPERATION AND DISCUSSION MAKES THE GAME FUN

The participants argue that **playing together** is a requirement for using the product, as its added value is in discussing the information (see fig. 4.25) and sharing ideas in the search. For example, T14 contributed crucial insight in T13's quest for an artwork corresponding to a symbol of a heart in a hand. T14 remarks: "That is the symbol for charity," while T13 thought "it was about giving love."

INFORMATION CARDS UNCOVER SURPRISING DETAILS AND INSIGHTS

After reading the information card participant T13 notices details that he had not seen before. The game brings his attention to artworks that do not naturally appeal to him, and give him funny and interesting insights (see fig. 4.26). This leads to more understanding for the historical contexts of creation. For example, T14 now knows why the family chose to portray themselves as musicians, or what Jan Steen tried to tell with his household party painting. However, when information cards do not present new information, the engagement with the respective artwork is low.

PRODUCT CAN BE USED FLEXIBLY TO OWN PREFERENCES

After the test, both participants expressed appreciation for the **freedom of the game**, and admitted that in a real-life scenario they **may have abandoned the quest** after a few



Figure 4.26: The information card for the family portrait points out to participant T13 that all faces are depicted very similarly.

completed challenges, to dedicate their attention to galleries and artworks of their own choice. While they thought that the product allows that choice and can still be used to take photos of random artworks of interest, the test environment gave them the feeling they needed to complete it.

4.5.4 DISCUSSION

Overall, the results of the final prototype test with DYFE users are very positive and in line with outcomes of earlier iterations. However, two **technical flaws in the test set-up** significantly distorted the flow of the experience and results of the test. The camera ejected black polaroids, because with the flash covered too little light is captured on the low-sensitive film. Therefore the effect on the user of receiving personal and unique photo cards in the museum could not be assessed. Secondly, the pasting of the information stickers onto the polaroids took too much time, because it is a small operation that requires dexterity and precision for which both hands are needed. Still, the participants did read the information as soon as it rolled out the printer, so that instant effect is simulated.



Figure 4.25: T14 studies the photographed artwork again after reading the information card.

PART 5 DELIVERING THE POLAROID QUEST

Portret van Cornelia, Clara en
Johanna Veth
Jan Veth | 1885
realisme
Deze zussen hebben elkaar
stevig vast, maar veel warmte of
blijheid straalt dit schilderij niet
uit. Ze zijn zwaarmoedig en
verdrietig omdat hun moeder
'melancholisch', of depressief
was. Zo toont het werk de
keerzijde van een sterk
groepsgevoel en naastenliefde
(gedeelde smart...). Opgroeien in

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5.1 INTRODUCTION

This core part of the report finally presents the end result of this research and design project: the Polaroid Quest, a discursive museum game for Dutch Young adult Fun seeking Explorers to reflect on collective human themes in historical art of the Rijksmuseum. The following chapters show the product, intended interactions and user experience of the concept, in text and images. The characteristics of the DYFE target users, interaction vision, design requirements and opportunities, are all brought into the final design.

Complete content is developed for one edition of the game with two themes. On top of the full concept with custom technological devices, I propose a digital product version of the Polaroid Quest that can be implemented by the Rijksmuseum with a lower budget and a shorter time scale.

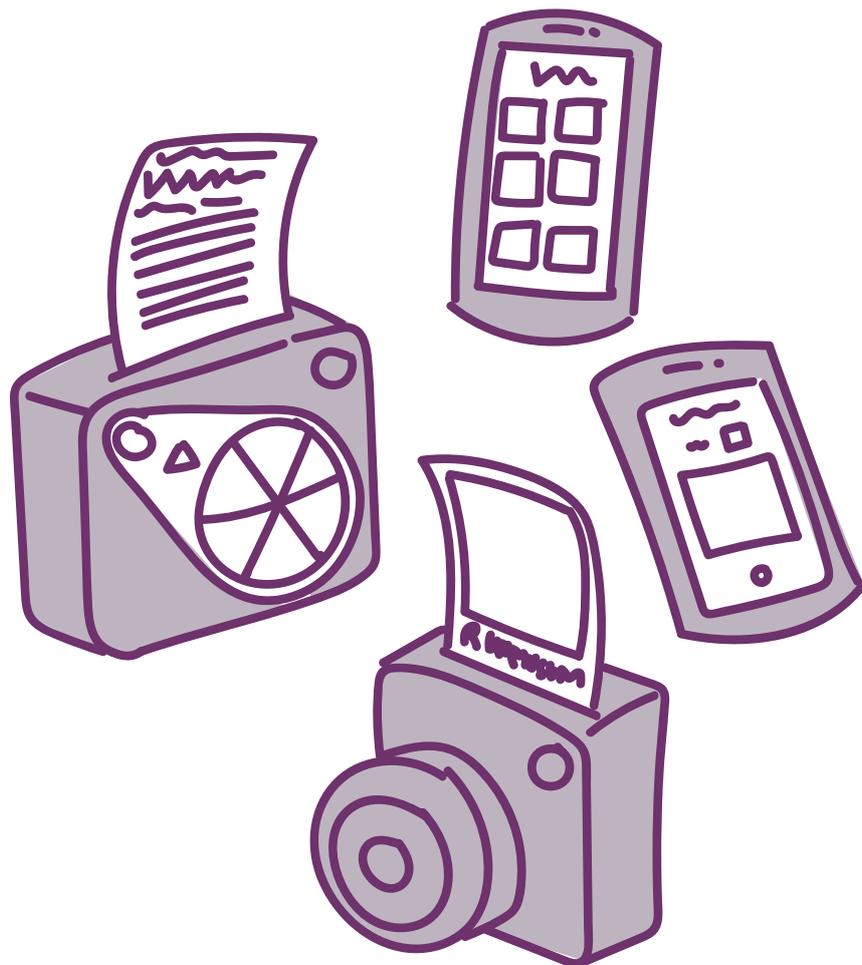


Figure 5.1: Simplified sketches of the Polaroid Quest, as physical device and digital app

5.2 FINAL CONCEPT

5.2.1 DESCRIPTION

The Polaroid Quest is a **photography game** for pairs of visitors in the Rijksmuseum. The game product resembles a treasure hunt that challenges players to find and photograph 6 specific artworks in the Rijksmuseum, in relation to a fundamental human need. All players receive a camera with a **photo limit of 10 shots**, so they have some buffer for mistakes and can choose to capture other artworks and spaces of their liking. For their camera, each player chooses a thematic lens from a set of fundamental human needs, like 'independence', 'community' or 'comfort'. During their quest, they **view the art from the perspective of this relatable desire** that all people have. The lens has an overview with 6 challenges, consisting of gallery numbers and visual or textual clues. Upon selecting a challenge, navigating to the corresponding gallery and photographing the correct artwork for that clue, the player receives **information that explains how the fundamental human need is represented in the artwork by the artist**, and how that relates to its historical context. After completing all challenges the player can hand the camera and lens back in at the multi-media service desk.

WHAT IS IT?

The Polaroid Quests consists out of 3 components:

The **camera bodies** are hand-held devices equipped with a neck strap for easy carrying (see fig. 5.2). The housing features a microprocessor with an **AI-powered image recognition model**, digital storage for photos and information cards content, and a double-sided printer. Cassettes with 10 polaroid cards can be loaded into the device. The sleek appearance aligns with the Rijksmuseum's classical yet innovative identity. The device has a slot on the backside into which the different lens dials can be clicked, featuring 6 LED lights that indicate the status of each challenge through the small windows in the dial. For every game the camera is loaded with 10 photo cards, which the user can read from the number on the backside.

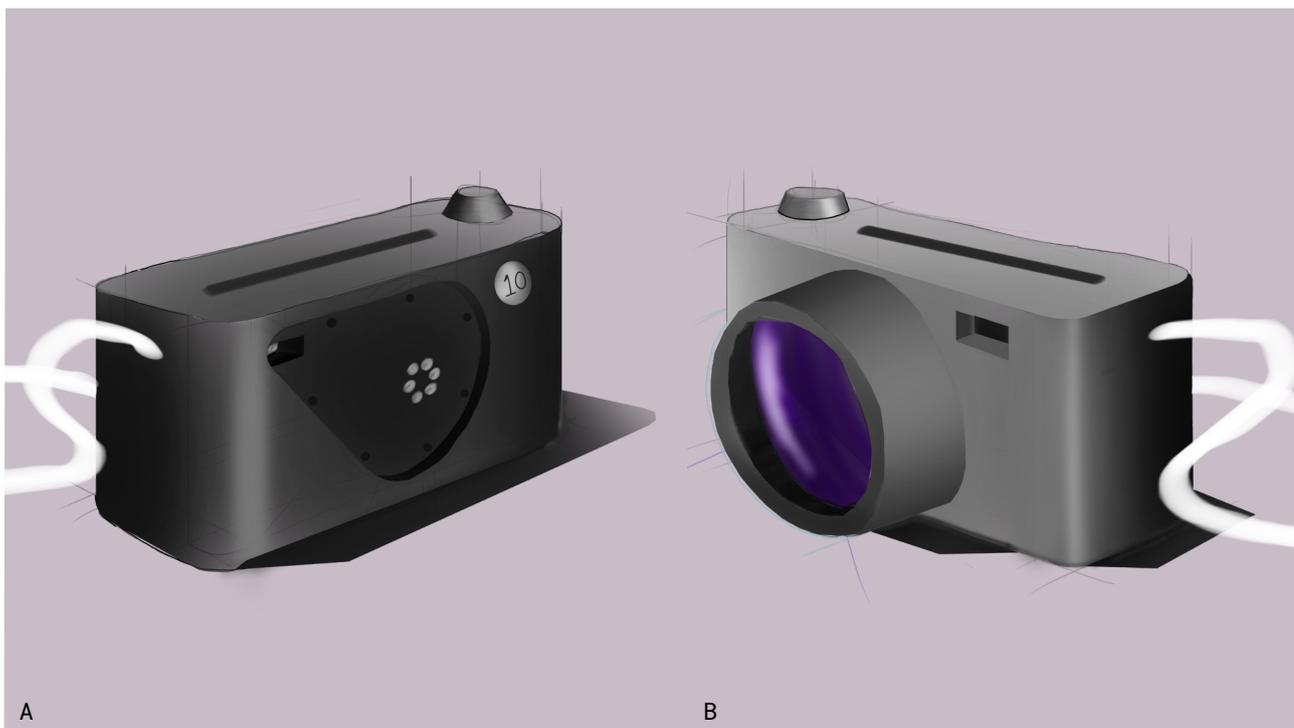


Figure 5.2: Computer sketches of the Polaroid Quest camera body from the back (A) and front (B)

The **lens dials** (see fig. 5.3) serve as the thematic challenge overviews for the game. At the start of the game, users pick one of the **coloured attachments** and mount it onto the backside of their camera. To select a specific challenge (destination gallery and clue) the **player rotates the disc** to align a segment with the arrow pointing to the viewfinder. Little windows at the centre of the dial let the LED signals from the main camera body through to the user to indicate the completion status of each challenge.

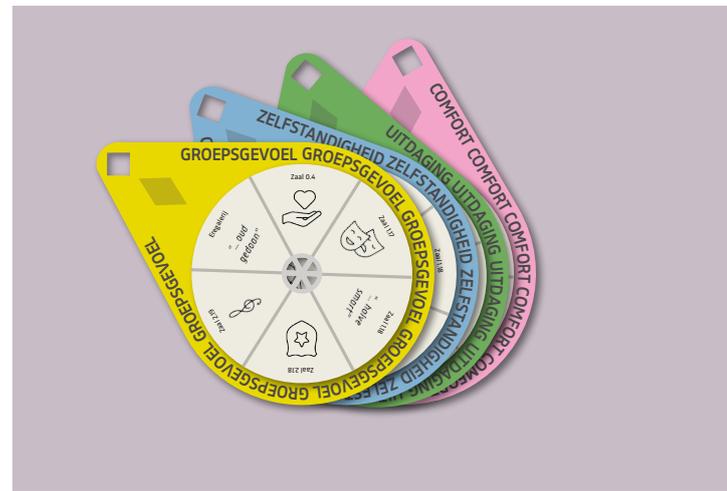


Figure 5.3: Examples of lens dials for the themes 'community', 'autonomy', 'challenge' and 'comfort'

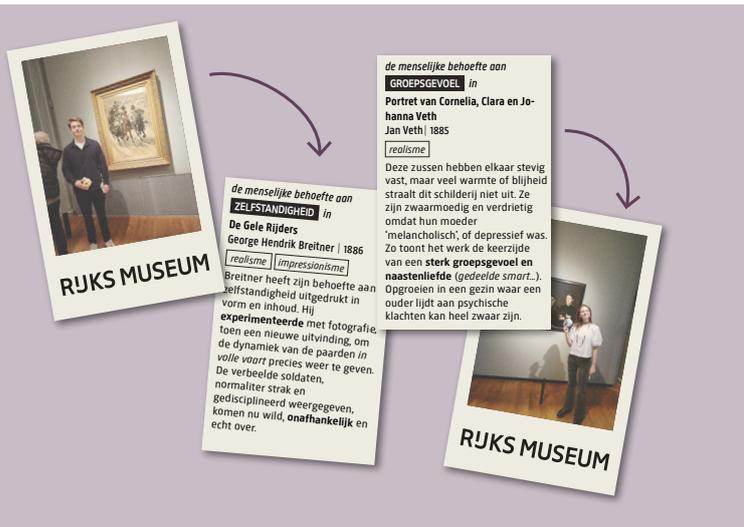


Figure 5.4: Examples of polaroid cards with the photo on the front and information on the back

WHAT DOES IT DO?

In the core, the Polaroid Quest **challenges visitors to see art through a human lens**. It gives players a different perspective on the collection of the Rijksmuseum. It connects the distant past of historical art with the users' modern lives in the present and future, by highlighting the timeless elements of human nature. The information cards explain how **people in past centuries have felt and expressed the same fundamental needs as people in the present**. During the game, players start to view the objects on display not as mere aesthetical artworks, but as manifestations of human nature. It prompts players to go to galleries they would otherwise skip, read object signs they usually ignore or study paintings in detail.

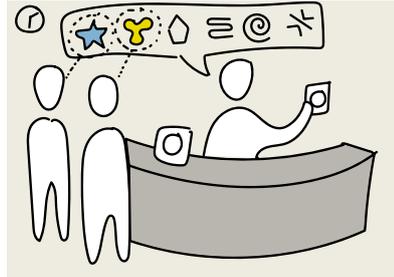
HOW DOES IT WORK?

Upon collection of the Polaroid Quest from the multi-media desk, each player chooses one of the available lens dials and mounts it onto their camera. The **microprocessor senses the selected theme and opens the corresponding program of content**. As the player rotates the dial to pick a challenge, the microprocessor opens the **image recognition model** for the corresponding gallery, that is trained with hundreds of images of the artworks on display in that gallery. When the player takes a photo, the model is run and returns the code of the detected artwork. If that matches the identifier of the correct artwork, the **corresponding information text** is loaded from the content program. The **photo and text are printed** on opposite sides of a card stored in a cassette, after which this polaroid rolls out of the camera. The storyboard on the next pages give a full impression of the envisioned use of the Polaroid Quest (see chapter 5.2.2, fig. 5.5).

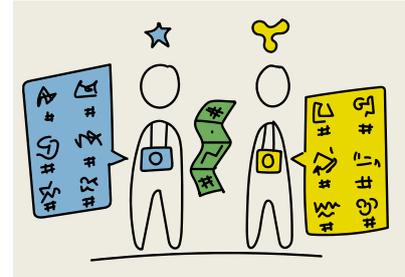
5.2.2 SCENARIO OF USE



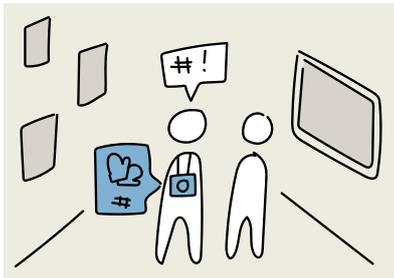
Visitors see advertisement of new guide product: the Polaroid Quest



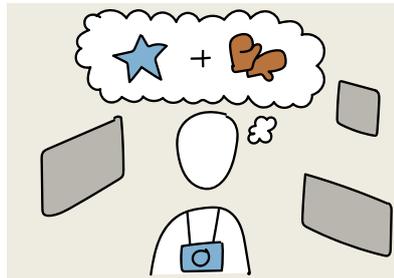
Visitors go to multi-media desk to try the new product. Staff member offers choice between 6 themes, the fundamental human needs. Each player picks one.



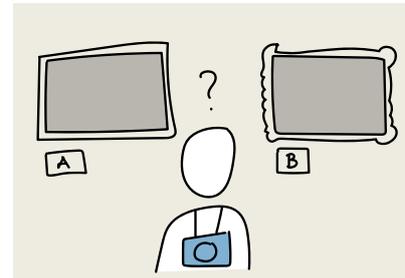
Each player gets a camera with a challenge overview of prompts (galleries and clues). Players use the floorplan map to navigate to their destination galleries.



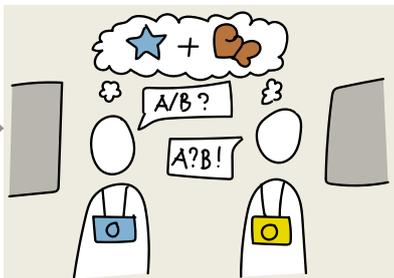
At arrival in the destination gallery the player checks the clue.



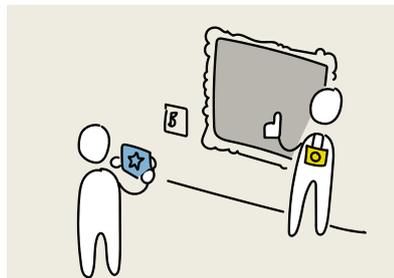
Player views art in the gallery while thinking of their selected human need thematic lens and the clue, and so filters the collection.



Player finds visual resemblance with two artworks and reads the object texts for more information about their content and context.



Player is still in doubt and asks companion to think along and make a decision.



Player takes a photo of the chosen artwork with the other player posing for fun.



The camera instantly prints the polaroid card with the photo on the front and information on the back.

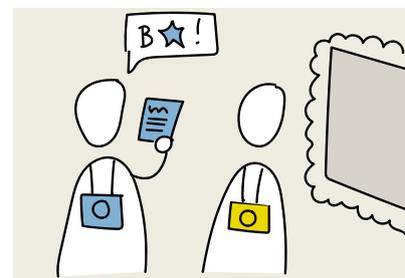


If the incorrect artwork for the prompt was photographed, the backside gives an error text. Player can try again until the photo limit is reached.

or

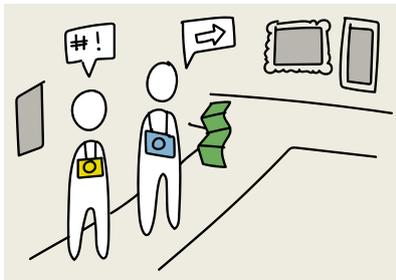


If the correct artwork for the prompt was photographed, the backside of the polaroid card shows information about the artwork.

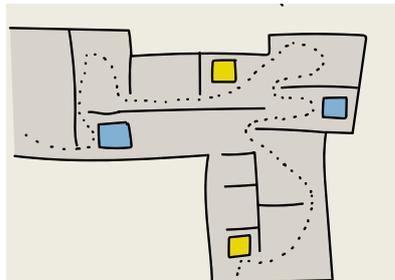


Player reads the text out loud, explaining how their selected human need is represented by the artwork, and how that relates to its historical context.

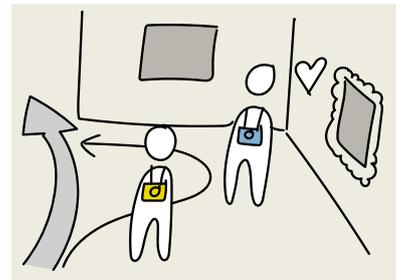
Figure 5.5: Scenario of two DYFEs using the Polaroid Quest in the Rijksmuseum



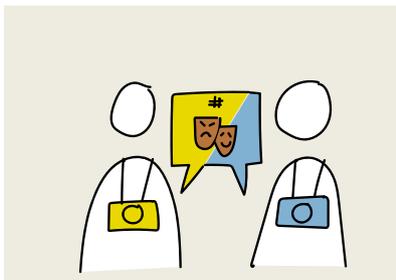
Players continue their journey through the museum using the floorplan map and gallery markers on the challenge overviews.



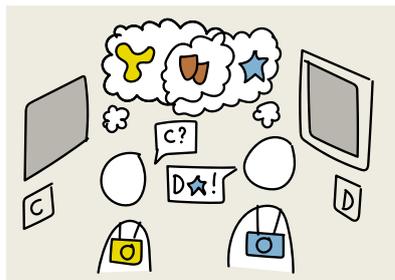
Players move through one side of the Rijksmuseum, on different floors. They determine the order and pace of the stops.



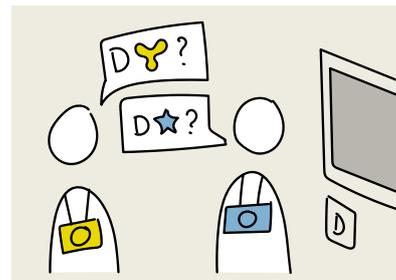
Players can temporarily divert from their planned path to enter non-destination galleries and view art that draws their attention.



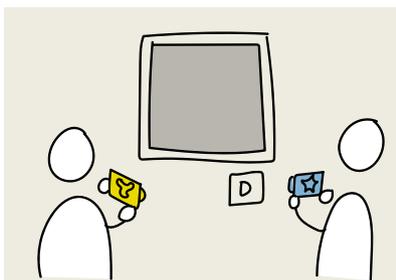
Players' challenge overviews share at least one prompt, so they need to find the same artwork.



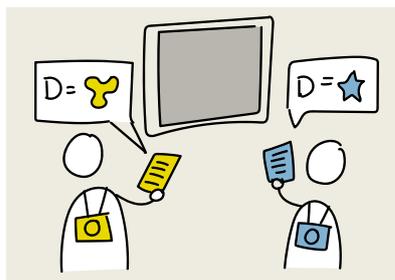
In the destination gallery both players search artworks matching the clue, but view them from two different perspectives.



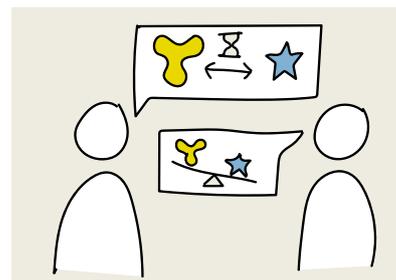
Players discuss how both human needs are represented in the same artwork, and decide to photograph it.



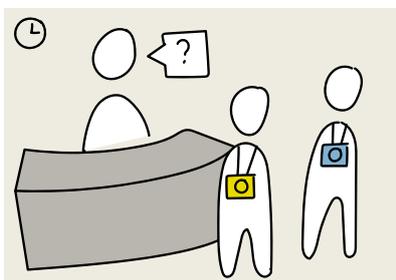
Both players photograph the chosen artwork.



Both players get a polaroid card, but with different explanation texts.



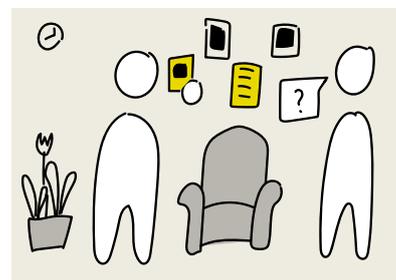
With new information, the players compare and discuss the human needs and their representation in the artwork, and their relation to the past and present.



Players continue following the challenge and photographing artworks. After 1 to 1,5 hours the users have completed all prompts, or used all 10 available photos in each camera. They return to the multi-media desk.



Players return the cameras to the service staff member, but keep the polaroid cards to take home.



Later, player decorates their home with the polaroid cards. Visiting friends and family notice the photos and information and ask about it, starting a conversation about the Rijksmuseum, art, history and collective human nature.

5.2.3 INTERACTION VISION

The Polaroid Quest is a manifestation of the Interaction Vision that was formed as conclusion from the research conducted about 'connecting with art and history' (see section 3.5.2) (see fig. 5.6).

EXPLORATIVE

The Polaroid Quest helps visitors to navigate the overwhelming and big environment and collection of the Rijksmuseum and deal with the visual stimuli. **The thematic lens gives players a scope:** instead of paying attention to all artworks that appeal to them, users now only have to focus on objects in which they recognize one defined theme. With that, the Polaroid Quest **offers structural support, but also allows for independent freedom.** The challenge overview does not dictate a predetermined path through the museum, but only marks points of interaction. It is up to the player to connect the points in their preferred order to form a route.

PLAYFUL

Players are **free** to abandon the quest, retry a challenge later, or pause in galleries along the way between destinations to respond to their impulses. The independence of the players and the **casual** nature of the game make the interaction with the Polaroid Quest **accessible and enjoyable.** While its form is mostly entertaining and fun, its content contributes to knowledge of art and history and analytical and reflective skills. The photography game is a **social activity** in which peers can develop their relationship in **collaboration or competition**, make tangible memories in the form of polaroid cards and gain new energy.

CHALLENGING

In the treasure hunt visitors have 6 clear and concrete goals, for which they get 10 attempts. The clues are **mixed in difficulty level**, mostly calling upon abstract thinking skills and sometimes literally referring to elements in the artworks. Players are responsible for completing their own set of challenges but can **help each other** with fresh perspectives and personal insights. Alternatively, peers can compete for who takes the fewest attempts to complete all challenges in the shortest time.

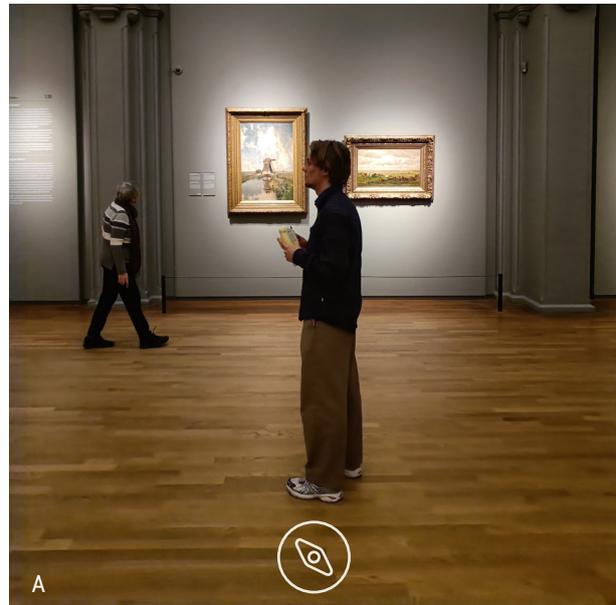


Figure 5.6: Interaction qualities highlighted in the experience with the Polaroid Quest
A: Explorative. **B:** Playful. **C:** Challenging

5.2.4 KEY FEATURES

The characteristics of the Dutch Young adult Fun seeking Explorers (see Part 2) and design opportunities and requirements for 'connecting with art and history in the Rijksmuseum' inform the core elements of the Polaroid Quest.

VIEWING ART THROUGH A HUMAN LENS

Before starting the game, players choose a theme for their challenges. The Polaroid Quest introduces a manageable scope for the collection by literally giving visitors a lens to view art through. They select a **theme that is not bound to a historical period or object type, but universally human and personal**: a fundamental need. These timeless desires have taken shape and been expressed in a variety of ways throughout the centuries, but always come down to the same core of human nature.

Seeing historical artworks from this familiar perspective makes users resonate more with the people in and behind the object, and **build empathy** for them. They recognise their own wishes and struggles in the depicted scenes and characters that seemed unrelatable before. The Polaroid Quest so **helps visitors find personal meaning in the collection**. The lenses of fundamental human needs connect the artworks from the distant past to the modern lives of young adult visitors.

Design requirement 7: The product must present art in a sufficiently **focused** and clear manner, introducing a **scope** that makes the collection **manageable** for the user to comprehend.

Design opportunity 1: The product can offer users a specific **scope of information**, a set of glasses to view art through.

Design opportunity 6: The product integrates the **Thirteen Fundamental Needs** of Desmet & Fokkinga to relate historical art to timeless human themes.

Design requirement 2: The product supports users in seeing a **relation** between the historical art from the **distant past and the modern world** of the present and future.

Design requirement 3: The product highlights the elements of **timeless human nature** captured in art.

IN SEARCH OF SELF

DYFEs try to relate to the world around them and look for meaning that help them shape their identity.



Figure 5.7: Player views art in the Rijksmuseum through the lens of 'autonomy' that she selected for her camera.



Figure 5.9: Players compare their information cards explaining the 'autonomy'- and 'community'-related aspects of the 'Diorama of a du' by Gerrit Schouten.

JUXTAPOSING PERSPECTIVES FOR A DISCURSIVE EXPERIENCE

All thematic lens dials have **overlapping challenges**. Both players in a pair need to find an artwork that matches the same clue, but also relates to different fundamental human needs. Not only the **discussions** that lead to finding the correct artwork, but also the consequent presentation of **two different information cards** for the same artwork (see fig. 5.9) constitute a discursive experience. The lenses can take near **opposite perspectives**, like 'autonomy' and 'community', so they lead to interesting comparisons and debates. The players curate various perspectives and voices into one narrative.

Design requirement 6: The product facilitates a discursive museum experience in which **multiple voices** are curated into one narrative and that invites **conversation and debate**.

POLAROID CAMERA FOR NOSTALGIC, TACTILE AND ANALOGUE ENGAGEMENT

The Polaroid Quest appears as a mid-tech device with analogue and tactile components, i.e. the bulky camera body with clickable buttons (see fig. 5.10), mechanical lens dial for challenge selection and paper polaroid cards with printed information. By using a physical medium rather than a digital interface, the product encourages a **hands-on approach to engagement with art**. In contrast to a smartphone app with notifications and access to an infinite source of online information, this simple device and short-text cards **do not distract the visitor from viewing art**. At the same time, the weight hanging on the neckstrap continuously remind players of the game and motivates them to eventually continue and finish the challenges. The tangible and limited-edition nature of the polaroid cards also fosters a deeper emotional connection with the experience and allows users to **take home a personalized record** of their journey through the museum.



Figure 5.10: Player takes photo by clicking a mechanical button on the camera and receives a printed paper card.

Design requirement 10: The product **may not fully distract users** from the art on display in the museum, but rather **complement their art-viewing experience** in a non-intrusive way.

Design opportunity 8: The product can **appeal to other senses** than sight, to engage users in new ways that go beyond simply viewing art.

PHOTOGRAPHING

DYFEs take photos during their visit and share them on personal media channels and in social networks.

Design requirement 11: The product is **primarily used in the museum** during a visit, where the potential for connection with art and history is highest.

Design opportunity 10: The product **limits its scope** to a small selection of artworks, either in one section of the museum or spread over the collection.

Design requirement 12: The product must be used **independently** by users without supervision of staff for most of the experience.

Design requirement 14: The product must maintain a **pace** of the experience that fits the DYFE target user.

Design requirement 8: The product must give the user enough **agency to control** their experience during the visit, so they **feel free** to respond to their impulses and view the artworks that attract their attention.

INDEPENDENT

DYFEs want to find their own way in the museum and choose their program.

TREASURE HUNT GAME FOR A CHALLENGING, EXPLORATIVE AND PLAYFUL EXPERIENCE

The Polaroid Quest is a product for people who have a fun outing in Amsterdam and want to **experience something new** in the Rijksmuseum. The game offers a different experience than an individual, unsupported visit or a staff-guided tour, because it is challenging, playful and explorative. Users can be tourists who have never visited the Rijksmuseum before and need some support but want to feel in control of their experience, or art-loving locals who want to rediscover the collection in a new way, or any type of visitor in between.

WIDE AND FLEXIBLE SCOPE FOR EXPLORING THE COLLECTION INDEPENDENTLY

In between the marked destination galleries on the challenge overviews, **players can roam freely** and view artworks that are not included in the game. The neckstrap allows them to drop the camera to free their hands, and so take their mind of the challenges and focus their attention on other artworks. Unlike traditional guided tours with fixed routes, the Polaroid Quest allows visitors to **determine their own order and pace of exploration**. They can even decide to abandon the quest completely if they feel done with it, and still use the camera to take polaroids photos of artworks of their liking.

The artworks in the Polaroid Quest are spread over galleries on all floors on one side of the Rijksmuseum (west or east). This wide playing field ensures that users visit a big part of the museum and get the sense that they have seen enough of the collection to **call their visit successful**. At the same time users realise that there is more art and history to explore on a **repeat visit**, which will be promoted by **taking another version** of the Polaroid Quest with other thematic lenses.

Design requirement 1: The product must match an **existing intention** to engage with art in the museum.

Design opportunity 2: The product can try to give users an **active attitude** to engage with art by inserting a sense of relaxation or incentive to consume the public information services.

Design requirement 9: The product must offer **customization options to adapt** the experience to the user's personal needs.

YOUNG

DYFEs like to engage with content in an interactive and playful way.

OPEN

DYFEs look for a new experience and want to be surprised in the museum.

PLAYING TOGETHER IN PARALLEL FOR A SOCIAL AND DISCURSIVE EXPERIENCE

Users of the Polaroid Quest are responsible for completing their own challenges, but can help each other to find the correct artworks for the clues. In this search, players **exchange interpretations** of the clue, the theme and the artworks. They read the collected information cards together and respond to them (see fig. 5.11). These **conversations about art and history** are needed to successfully play the game, and make it fun.

Design requirement 5: The product sparks and guides conversations between the user and other users, visitors or staff members.

Design opportunity 11: The product, when used by groups, offers different experiences to individual users in parallel.

SOCIAL

DYFEs visit the museum together with friends and/or family and want to have a social experience.



Figure 5.11: Players help each other find the correct artwork, pose on the photo and read the information card together.

5.3 GAME CONTENT

In the Polaroid Quest players need to find an photograph artworks in the Rijksmuseum. The target artworks for the 'autonomy' (blue) and 'community' (yellow) challenges are highlighted in figure 5.12. The artworks are selected so that both players start their search in the first gallery they encounter after entering the collection from the start at the multi-media service desk (marked by the green arrow) - they both need to follow a clue in gallery 1.18. From there they logically move on to gallery 1.17, where they have the same clue. After this starting sequence, the players can go multiple ways and choose their own routes along the target galleries.

The visual and textual clues are generated in a creative session with team members of the Innovation Lab (L1 and L2). The icons are downloaded from flaticon.com. The information card content are written with input and feedback from 6 Museum Educators.

Het vrolijke huisgezin
Jan Steen | 1668

Nederlandse Gouden Eeuw

genre-schilderkunst

Het is een gezellige boel bij dit katholieke gezin aan tafel. Naast de boodschap over de overdracht van gedragsregels in een gemeenschap (*jong geleerd...*), vertelt dit werk iets over het menselijke **verlangen ergens bij te horen**. Het calvinistische bakkersjongetje in het raamkozijn (ook te zien in het schilderij hiernaast) wil meedoen met dit jolige stel. Hij rookt net als zij een pijp, maar **staat toch letterlijk buiten de groep**.

Portret van Aernout van Beeftingh, zijn echtgenote Jacoba Maria Boon en hun kinderen
Nicolaes Muys | 1797

neoclassicisme | portretkunst

Jacoba Maria Boon laat zich portretteren terwijl ze borstvoeding geeft aan haar baby. Dat is een bekend symbool voor moederliefde in werken met niet-bestaande figuren. Het is uniek dat echte mensen hebben gekozen om hun intieme familiemoment zo op een groot doek af te beelden. Dit toont de **vrijheid en vooruitstrevendheid** van het gezin.

De Gele Ridders
George Hendrik Breitner | 1886

realisme | impressionisme

Breitner heeft zijn behoefte aan zelfstandigheid uitgedrukt in vorm en inhoud. Hij **experimenteerde** met fotografie, toen een nieuwe uitvinding, om de dynamiek van de paarden *in volle vaart* precies weer te geven. De verbeelde soldaten, normaliter strak en gedisciplineerd weergegeven, komen nu wild, **onafhankelijk** en echt over.

De Bedreigde Zwaan
Jan Asselijn | 1650

Nederlandse Gouden Eeuw

Zelfstandigheid is op twee manieren te herkennen in dit schilderij. De zwaan (raadspensionaris Johan de Witt) staat voor de verdediging van de **Nederlandse onafhankelijkheid** en de **vrijheid** van het volk. Die betekenis kreeg het door de latere bijschriften bij de eieren (Holland) en de hond (de vijand). Deze interpretaties zijn een vorm van **persoonlijke meningsuiting**.

Welkom bij de Polaroid Quest!
Met dit nieuwe gidsspel in het Rijksmuseum bekijk je de collectie door een menselijke lens. Jouw thema lens is de menselijke behoefte aan:

PSGEOVOEL

genummerde zalen van de plattegrond behorende clue en ma in gedachten instwerk dat het best clue én het thema r dit kunstwerk! ebt in totaal 9 foto's twerken eer informatie bij de s

Welkom bij de Polaroid Quest!
Met dit nieuwe gidsspel in het Rijksmuseum bekijk je de collectie door een menselijke lens. Jouw thema lens is de menselijke behoefte aan:

ZELFSTANDIGHEID

1. **Bezoek** de genummerde zalen met behulp van de plattegrond
2. **Volg** de bijbehorende clue en houd je thema lens in gedachten
3. **Vind** het kunstwerk dat het best past bij de clue én het thema
4. **Fotografeer** dit kunstwerk!
Let op: je hebt in totaal 9 foto's voor 6 kunstwerken
5. **Ontvang** meer informatie bij de juiste foto's

Figure 5.13: Instruction cards for the Polaroid Quest, ejected when the players take the first photo in the Atrium after receiving the cameras. With these polaroids in their pocket players can always read back the steps and rules during their visit.

Figure 5.12: Rijksmuseum floorplan with highlighted artworks of the Polaroid Quest, corresponding information cards and clues (map by Marijn van Oosten)

Schutters van wijk VIII in Amsterdam onder leiding van kapitein Roelof Bicker
Bartholomeus van der Helst | 1643

Nederlandse Gouden Eeuw

portretkunst *schuttersstuk*

Dit schuttersstuk, een typisch Nederlands kunstgenre uit de 16e en 17e eeuw, portretteert een groep rijke mannen die zorg dragen voor de verdediging van Amsterdam. Net zoals in hedendaagse Rotary Clubs wilden de leden zich **verbinden met gelijkgezinden**, een **collectieve identiteit** uitstralen en hun **solidariteit** en trots voor de stad laten zien.

David Leeuw en Cornelia Hooft met hun kinderen

Abraham van den Tempel | 1671

Nederlandse Gouden Eeuw

portretkunst *barok*

Muziekinstrumenten en musiceren waren in de 17de eeuw een geliefd symbool om **eendracht en harmonie** in het huwelijk en het gezin aan te geven. Daarom lieten deze rijke lui zich als musici portretteren. Zelfs het hondje doet mee met de belletjes aan de halsband! Hun **groepsidentiteit** wordt extra benadrukt door de gelijke gezichten en verbonden handen.

Pieter Nnoll, Cornelia van Nijerode, hun dochters en twee tot slaaf gemaakte bedienden

Jacob Coeman | 1665

Nederlandse Gouden Eeuw

koloniale kunst *portretkunst*

De linker van de tot slaafgemaakte bedienden stapte **uit de schaduw** en ontvluchtte de slavernij. Na jaren van onderdrukking nam Surapati de **vrijheid van beslissing** over zijn eigen lot en werd een **individu**. Later streed hij voor de **zelfstandigheid** van zijn volk in Indonesië.

Diorama van een Du
Gerrit Schouten | 1830

koloniale kunst *kijkkast*

Een 'du' is zowel een **gezelschap** van tot slaafgemaakten als de voorstelling die ze opvoeren. Ondanks de menonterende omstandigheden waarin zij leefden kwamen deze mensen samen als gemeenschap om **rituelen** te organiseren. Meerdere keren per jaar gingen verschillende **verenigingen** de strijd aan om de mooiste voorstelling te geven, die wekenlang werd voorbereid.

Diorama van een Du
Gerrit Schouten | 1830

koloniale kunst *kijkkast*

De traditionele dansvoorstelling was een grote uiting van kritiek op het koloniaal regime en **verlangen naar zelfbeschikking**. De plantagehouder gaf toestemming voor dit georganiseerde en gekaderde verzet, om een echte opstand te voorkomen. De tot slaafgemaakten **drukten zich creatief en scherp uit** over de politiek-maatschappelijke actualiteit.

Portret van Mevrouw Marie Jeanette de Lange

Jan Toorop | 1900

pointillisme

De afgebeelde dame streed voor de **zelfstandigheid van vrouwen** door te pleiten voor de afschaffing van het korset, waarmee nauwelijks kon worden gewerkt, gefietst, etc. Als alternatief ontwierp ze een comfortabele, ruime japon voor **vrije beweging** – de reformjurk die ze zelf draagt. Ook de schilder gaf vorm aan eigen keuzes en nieuwe ideeën door te **experimenteren** met moderne kunststijlen.

Portret van Cornelia, Clara en Johanna Veth

Jan Veth | 1885

realisme

Deze zussen hebben elkaar stevig vast, maar veel warmte of blijheid straalt dit schilderij niet uit. Ze zijn zwaarmoedig en verdrietig omdat hun moeder 'melancholisch', of depressief was. Zo toont het werk de keerzijde van een **sterk groepsgevoel en naastenliefde** (*gedeelde smart...*). Opgroeien in een gezin waar een ouder lijdt aan psychische klachten kan heel zwaar zijn.

De zeven werken van barmhartigheid
Meester van Alkmaar | 1504

Noord-Nederlandse schilderkunst

late middeleeuwen

Het christelijk geloof schrijft 7 hulpacties voor die de **samenleving** goed laten werken. In de middeleeuwen stonden idealen van naastenliefde centraal, maar in praktijk was het voornamelijk de kerk die **liefdadigheidsactiviteiten** organiseerde. Individuele gelovigen namen deel aan deze werken van barmhartigheid afhankelijk van persoonlijke omstandigheden en middelen.

5.4 DIGITAL PRODUCT

The Polaroid Quest can also take the form of a digital product. It is reasonable if the Rijksmuseum does not want to invest in the detail design and manufacturing of a completely new device with integrated technologies. Yet, if they still wish to offer this thematic photography game to their visitors, a digital application can be a viable and feasible solution. This short chapter presents the final concept as an **app for smartphones and multi-media rental devices** (see fig. 5.13).

5.4.1 CONSIDERATIONS

The digital product is in some ways a weakened version of the final concept, but it also offers benefits.

PROS

The app will be easier, quicker and thus **cheaper to develop and maintain**. The Rijksmuseum's trusted partners for digital products and services, Fabrique and Q42, could take on this project and integrate it in the ecosystem.

Updates can be released and installed continuously, so design flaws can be fixed after launch of the product, and new thematic lenses can gradually be added to the game.

Digital interfaces theoretically have infinite space, so the **game content can be extended**. The polaroid pages could for example include links to other external information sources. Or the user can receive hints to the correct artwork after a few failed attempts to complete a challenge.

CONS

The digital Polaroid Quest will **lack the tactile interaction** of the physical device, and essentially **misses the core** of the concept: polaroids. With that, this app does not have the analogue appeal that makes the game attractive to Dutch Young adult Fun seeking Explorers.

Users of the smartphone app will continuously engage with a device full of **distractions**. Notifications and text messages divert the players' attention from the game, **lowering their engagement** with the challenges and information, and so compromising their connection with art and history.

Smartphones can be easily pocketed, and apps can be closed down, whereas the physical Polaroid Quest camera cannot be discarded during the visit. In a digital version of the game, chances are that players will **forget their thematic lens**, while that constantly present perspective is what determines the value of the experience.



Figure 5.13: The Polaroid Quest app running in the rental device's specially created test environment

5.4.2 COMPONENTS

The digital product, whether installed on a visitor's smartphone or Rijksmuseum's rental device, consists of **set of elements** that form the photography game. The app makes use of internal storage and environment-facing camera, and needs to run on an internet connection.

- User interface:
 - **Start screen** with the choice between thematic lenses, i.e. the fundamental human needs;
 - Instructions **walkthrough** to get the user started;
 - **Challenge overview** with 'remaining photo shots' counter and completion status indicators (see fig. 5.14);
 - **Camera view** including the selected challenge (gallery number and clue) and 'capture' button (see fig. 5.15);
 - **'Polaroid' screen** with the taken photo and information card or 'incorrect artwork' notice (see fig. 5.16);
 - **Finish pop-up** triggered by all completed challenges or photo shot limit reached;
- AI-powered **image recognition models** for all destination galleries, trained with hundreds of pictures of all artworks taken from various angles and distances. Google's TeachableMachine tool has proven to be quite reliable and useful and can be integrated in code programs.
- **Information card content**, i.e. art-historical metadata and explanation texts for all artworks.
- **Storage to save photos** taken by the user. At the end of the game, users can return to the multi-media service desk to transfer their photos to a computer and have a selection of them printed (possibly for an additional fee) onto a strip, as in a photobooth.

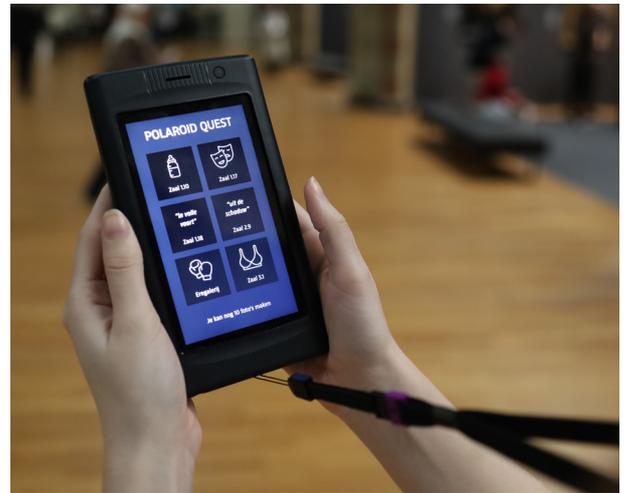


Figure 5.14: The challenge overview screen has clickable clue boxes that opens the camera view and activates the image recognition model for the selected gallery.

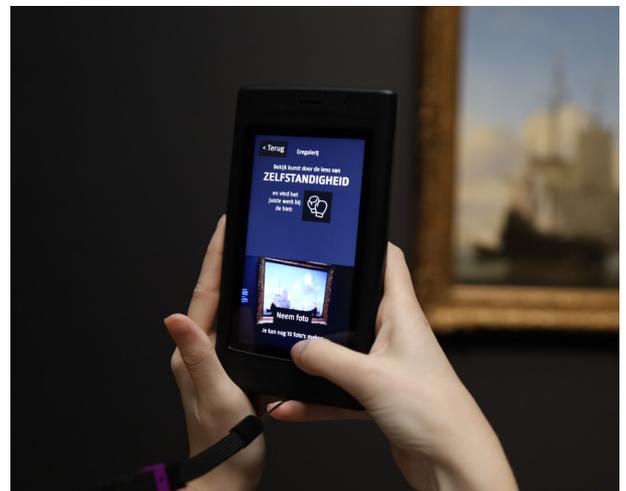


Figure 5.15: The camera view repeats the overarching thematic lens, and the gallery number and clue of the selected challenge.

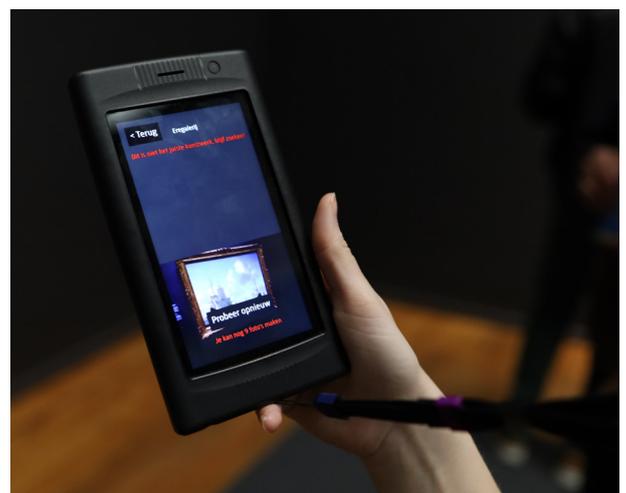


Figure 5.16: The 'polaroid' screen displays the taken photo and notice that the user did not find the correct artwork and must keep looking. The available shot counter is lowered.

PART 6 CONCLUSION

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6.1 REFLECTION ON THE PROCESS

The research and design process has been a success with many lessons. Overall, this graduation project delivers valuable results for the Rijksmuseum and TU Delft. I am proud of the final product concept and believe it would benefit visitors. More importantly, I have learned a lot about research, design, project management, and myself.

QUALITATIVE RESEARCH WITH USERS

The contextmapping study and prototype tests were executed without major problems or disturbances, and yielded very valuable results. The application of the Dixit deck as Metaphoric Associative Cards proved very effective for eliciting and expressing deeper values, dreams and needs from participants. I underestimated how much time is needed for the organisation and analysis of such research activities, so next time I will plan more days for recruiting participants, arranging invitations and rewards, correcting automatic audio transcriptions, and clustering quotes. Also, for future projects I intend to distance myself from the study topic and target user more, to guarantee the objectivity of results.

ALL BY MYSELF

This project has challenged me to work independently in unprecedented ways. I have shown to be capable of prototyping, sketching, interviewing, observing, analysing, organising, presenting and so many other skills that make a designer. Although I enjoy making my own design choices and having control over activities, I had some trouble keeping myself accountable and motivated. I disliked working alone for the majority of the time, and sought I sought distraction and companionship at IDE (see fig. 6.1). I enjoyed the conversations with colleagues and participants, and got a lot of inspiration and energy from collaborative activities. Next time I am embedded in a large organisation with a richness of resources, like the Rijksmuseum or TU Delft, I will involve more stakeholders in my project for the benefit of the process and the product.

MANAGING A LARGE-SCALE PROJECT

The wide brief of this graduation project allowed for broad exploration and big research questions. The extended scope of the contextmapping study led to a large variety of rich insights, but also made converging to a reviewed design goal harder. Therefore I would have benefitted from deliverable deadlines at an earlier stage of the process, so to progress through next phases faster. My productivity in the last month, under time pressure, is impressive, but it would have been more pleasant and effective to spread the workload over the six months.

Sometimes I lost track of the bigger picture and lacked direction in the project. I have spent too many hours working on things that seem irrelevant in hindsight. For example, I really enjoyed developing the digital app version of the Polaroid Quest and acquired new programming skills, but the result is not robust and complete enough to function as prototype, so it did not sufficiently progress the final design. In the future I must embed the habit of formulating assumptions, research questions and design goals for every step of the process so to ensure the activities I commit to are most meaningful. Such scopes also make reporting easier, in contrast to the retrospective writing had to undertake now.

Figure 6.1: In the last months of the project, the balustrada in the IDE hall was my working space.



6.2 DISCUSSION OF THE DESIGN GOAL

This chapter presents a reflection on the reviewed design goal (see chapter 3.5.1). The statement is dissected, and all parts are compared with the final concept product, to give an impression of how the Polaroid Quest achieves its goal. The assessment is made based on test results from the 3 iterations of the design (see Part 4).

TO DESIGN

AN INDEPENDENT PRODUCT

The Polaroid Quest can be used **autonomously** by visitors, without supervision of Rijksmuseum staff. Multi-media desk service employees are only involved in the experience at the hand-out of the device to explain the game and give instructions, and at the hand-in at the end of the visit.

FOR PAIRS OF DYFES

Dutch Young adult Fun seeking Explorers will enjoy using the Polaroid Quest, as it is tailored to them. The photography game offers a **surprising, active, fun and social experience** in the Rijksmuseum, in line with the needs of this target audience. The product is most fun and effective when **used by two or more visitors**, but could also serve individuals. While the game content is produced in Dutch, it can be easily translated into English or other languages to appeal to an international audience.

TO PROVIDE A DISCURSIVE MUSEUM EXPERIENCE

The experience with the Polaroid Quest is discursive in two ways. Firstly, players are presented with a narrative external to their personal lived world in the form of **stories on information cards**. The voices from different historical contexts are curated by the player **in relation to an overarching theme**, the fundamental human need of the lens. Secondly, different users playing the photography game in parallel **view the same collection from different perspectives**, and raise those **contrasting voices**. In cooperative search for their respective artworks the players engage in discussion and debate about the interpretations of the fundamental human need, the artworks and their historical context. While these **conversations** incited by the Polaroid Quest may not be highly philosophical or intellectual, they go deeper than the superficial assessments of beauty and craftsmanship that are common in museums.

ACROSS THE COLLECTION OF THE RIJKSMUSEUM

Each challenge overview in the Polaroid Quest includes artworks to be found and photographed on **3 out of 4 floors** in the Rijksmuseum, on one side of the building (east or west). Pairs of players are thus exploring all sections of the collection, and so get the **desired feeling of completeness**. Still, they are triggered to return for a visit with another focus theme in the game and see different parts of the museum.

ENHANCING THE AWARENESS OF TIME

The Polaroid Quest has the **potential to contribute to visitors' feeling for art history** by highlighting an overarching theme represented in objects throughout the centuries. For deeper understanding of different ages and refined insight on how a fundamental human need is expressed over time, the polaroid cards provide too little and too superficial information.

THROUGH NARRATIVES AND CONVERSATIONS THAT RELATE THE PAST WITH THE PRESENT

The stories on the information cards identify timeless themes like the fundamental human need for 'autonomy' or 'community' in the depicted historical characters and scenes. Users may recognise these universal desires in their personal modern lives, but they are not literally prompted to recall examples or reflect on their identity and behaviour. It is a deliberate design choice to not directly ask users introspective questions because they are hard to answer and tend to demotivate, but the experience now does not fully achieve its potential depth and connection between the past and present.

BY REVEALING UNIVERSAL HUMAN NATURE IN ART

Users of the Polaroid Quest see human nature in the collection of the Rijksmuseum. The thematic approach to viewing art is successful in raising empathy for people in and behind artworks. From the start of the game, players project their selected fundamental human need onto the collection and look beyond the initial assessment of beauty. In search of a match with the clue, they find that many artworks are created in response to or as expression of a universal desire. The information cards retrieved upon photographing the correct object confirm, deny or extend their interpretation and complete the reveal of universal human nature.

6.3 RECOMMENDATIONS FOR IMPLEMENTATION

The design of the Polaroid Quest is not finished yet. While the concept has been developed from an open brief to a solid game experience, many components and elements are of unsatisfactory quality and need to further developed. Also, some assumptions have not been tested and new research questions have come up. This chapter lists pieces of advice for the Rijksmuseum if they are to further develop and eventually implement the Polaroid Quest. The recommendations are organised to lead to an innovative value proposition (Gerber & IDEO CoLab, n.d.).

6.3.1 CONCEPT

Before taking serious steps towards realisation of the Polaroid Quest, the concept of this photography game must be evaluated with various stakeholders. I recommend organising qualitative prototype tests with at least 10 potential users with the DYFE profile. The focus must be on the transformative experience. Do users actually gain better awareness of time? Does the product significantly enhance their connection with art and history? The long-term effects must be studied with a thorough test design.

Also, the concept could be presented to a large set of target users in a quantitative study. With a scenario sketch, convincing video or polished mock-up visual people can get a good impression of the Polaroid Quest without the full experience with a prototype in the Rijksmuseum. The aim of the survey is to gauge the interest for the product among DYFEs, estimate a sensible pricing point for marketing and assess the overall viability for the Rijksmuseum.

6.3.2 DESIRABILITY

EXPAND THE RANGE OF THEMATIC LENSES

In this concept design, game content is created for the fundamental human needs of 'autonomy' and 'community'. To give players a choice of thematic lens in the real game, more sets of challenges and information cards must be developed for other fundamental human needs. As presented in the concept design, I suggest 'comfort', 'challenge', 'security' and 'freedom'.

REVIEW THE SELECTION AND SPREAD OF ARTWORKS IN THE GAME

The challenge overviews must be designed so that different players have a pleasant parallel game experience across the collection. Variety of activity is desirable, i.e. players should take turns looking for an artwork, or both at the same time in the same gallery. In the current design, the spread of destination galleries leads to one player having multiple challenges in a row, while the other player simply follows, which is less fun and engaging.

COMPILE THE POLAROID INFORMATION CARDS IN COLLABORATION WITH HISTORICAL ART EXPERTS

For the development of the concept design, five museum educators were consulted and gave feedback on the texts. For a full-scale implementation of the product the content for the information cards need to be co-created with more Museum Educators and Curators, in order to ensure historical accuracy and correct tone of voice. Players must receive new, surprising information from the perspective of a fundamental human need that elicit response and discussion. The voices must be grounded in historical context so that users curate a themed narrative and gain awareness of time.

6.3.3 FEASIBILITY

INTEGRATE AI- AND DUPLEX PRINTING TECHNOLOGY IN A CUSTOM HOUSING

The prototypes in this design project indicate that a tactile, analogue experience with the Polaroid Quest is desirable. To realise this in a functional and usable product, a completely new detail design should be created. I have found that AI-powered image recognition technology, such as Google's Teachable Machine, makes it possible to distinguish art objects in a gallery, and thermal printing technology has sufficient speed and quality to print the information cards. I have also learned that real analogue photography does not work in the Rijksmuseum because of the limitations in light exposure. So, it is up to a product engineer to shape an integration of digital photography, image recognition and instant duplex printing within a portable and sleek device, to facilitate the envisioned interaction and game experience.

DEVELOP A DIGITAL PRODUCT FOR THE RIJKSMUSEUM APP AND RENTAL TABLETS

The concept can be implemented as a digital product within reasonable logistical and financial limits of the Rijksmuseum. The prototype program, consisting of Teachable Machine models and JavaScript, HTML and CSS code, can be used as inspiration and starting point, but the real app must be developed from scratch professionally to achieve robustness. For this, AI-powered image recognition models must be trained with thousands of photos of artworks in the destination galleries of the game. These photos must be taken from all angles and varying distances in the gallery so that the model can accurately detect which artwork is photographed in the real context, and return the correct result.

6.3.4 VIABILITY

RENT OUT THE POLAROID QUEST AS AN INDEPENDENT PRODUCT FROM THE SERVICE DESK

Participants of the prototype tests expressed mixed willingness to pay for the photography game. For first-time visitors, it must be integrated in their general admission ticket. Museum subscription card holders could pay for it on location. A price between 5 and 10 euros, like the 7,50 EUR standard for guided tours and multi-media guide, would be reasonable. Getting personalised polaroid cards as tangible reminders of their visit make the experience worth the money for Dutch Young adult Fun seeking Explorers.

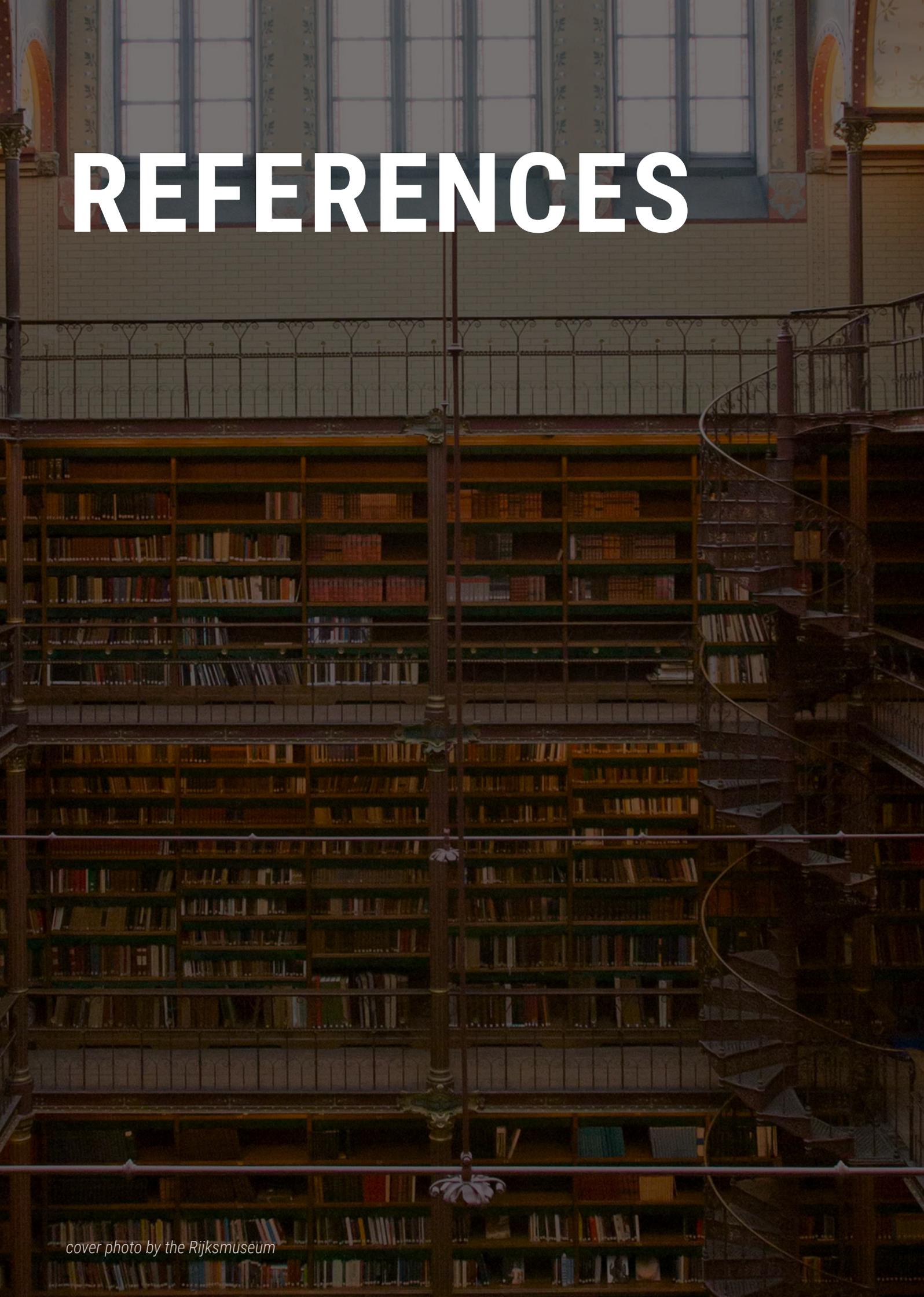
LEVERAGE THE POLAROID PHOTOS IN MARKETING

Due to its photographic nature, the Polaroid Quest is easy to promote. Photos that users take during their game experience can be employed in public advertisements and other external communications of the Rijksmuseum. Users can also become ambassadors of the product if they share their photos in social networks, either on online platforms like Instagram or in person, for example as home decoration. DYFEs have a habit to post about their visit experiences and the polaroid cards, with their nostalgic nature, are very shareable and trendy.

MAKE THE PRODUCT AVAILABLE IN ENGLISH

To increase its return on investment, the Rijksmuseum could expand the target user group of the Polaroid Quest to an international audience. Although the product was developed with Dutch visitors in mind and prototypes were tested with Dutch participants, the game is not exclusively playable by Dutch people. Prior knowledge of national history is not a requirement for the understanding the texts or completing the challenges. The only change in the product design needed to enter this larger market is correct translation of game content, i.e. instructions, clues and information maps. For this, the national museum has skilled copywriters in the Public & Education department.

REFERENCES

The image shows a vast, ornate library interior. The space is filled with multiple levels of dark wood bookshelves, each densely packed with books. A prominent feature is a central spiral staircase with a dark metal railing, winding upwards. The architecture is classical, with high ceilings and large windows at the top, some featuring decorative arches and floral patterns. The lighting is soft and even, highlighting the texture of the wood and the spines of the books.

cover photo by the Rijksmuseum

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IMAGE ATTRIBUTION

People illustrations by [Storyset](#)

Humans drawings by [Dimensions.com](#)

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APPENDIX A: ORIGINAL PROJECT BRIEF




IDE Master Graduation Project

Project team, procedural checks and Personal Project Brief

In this document the agreements made between student and supervisory team about the student's IDE Master Graduation Project are set out. This document may also include involvement of an external client, however does not cover any legal matters student and client (might) agree upon. Next to that, this document facilitates the required procedural checks:

- Student defines the team, what the student is going to do/deliver and how that will come about
- Chair of the supervisory team signs, to formally approve the project's setup / Project brief
- SSC E&SA (Shared Service Centre, Education & Student Affairs) report on the student's registration and study progress
- IDE's Board of Examiners confirms the proposed supervisory team on their eligibility, and whether the student is allowed to start the Graduation Project

STUDENT DATA & MASTER PROGRAMME

Complete all fields and indicate which master(s) you are in

Family name	<input type="text" value="Dietz"/>	<input type="text" value="7433"/>	IDE master(s)	<input type="checkbox"/> IPD	<input checked="" type="checkbox"/> Dfi	<input type="checkbox"/> SPD
Initials	<input type="text" value="J"/>		2nd non-IDE master	<input type="text"/>		
Given name	<input type="text" value="Joris"/>		Individual programme (date of approval)	<input type="text"/>		
Student number	<input type="text" value="4882563"/>		Medisign	<input type="checkbox"/>		
			HPM	<input type="checkbox"/>		

SUPERVISORY TEAM

Fill in the required information of supervisory team members. If applicable, company mentor is added as 2nd mentor

Chair	<input type="text" value="Arnold Vermeeren"/>	dept./section	<input type="text" value="HCD-HICD"/>
mentor	<input type="text" value="Aadjan van der Helm"/>	dept./section	<input type="text" value="HCD-DCC"/>
2nd mentor	<input type="text" value="Evita Goetssch"/>		
client:	<input type="text" value="Rijksmuseum"/>		
city:	<input type="text" value="Amsterdam"/>	country:	<input type="text" value="the Netherlands"/>
optional comments	<input type="text"/>		

! Ensure a heterogeneous team. In case you wish to include team members from the same section, explain why.

! Chair should request the IDE Board of Examiners for approval when a non-IDE mentor is proposed. Include CV and motivation letter.

! 2nd mentor only applies when a client is involved.

APPROVAL OF CHAIR on PROJECT PROPOSAL / PROJECT BRIEF -> to be filled in by the Chair of the supervisory team

Sign for approval (Chair)

Arnold Vermeeren

Digitally signed by Arnold Vermeeren
Date: 2024.10.10 17:07:49 +02'00'

Arnold Vermeeren

Name

Date

Signature

CHECK ON STUDY PROGRESS

To be filled in by SSC E&SA (Shared Service Centre, Education & Student Affairs), after approval of the project brief by the chair. The study progress will be checked for a 2nd time just before the green light meeting.

Master electives no. of EC accumulated in total EC

Of which, taking conditional requirements into account, can be part of the exam programme EC

<input checked="" type="checkbox"/>	YES	all 1 st year master courses passed
<input type="checkbox"/>	NO	missing 1 st year courses

Comments:

Sign for approval (SSC E&SA)

Robin den Braber
Digitaal ondertekend door Robin den Braber
Datum: 2024.10.16 10:42:16 +02'00'

Name

Date

Signature

APPROVAL OF BOARD OF EXAMINERS IDE on SUPERVISORY TEAM -> to be checked and filled in by IDE's Board of Examiners

Does the composition of the Supervisory Team comply with regulations?

YES	<input checked="" type="checkbox"/>	Supervisory Team approved
NO	<input type="checkbox"/>	Supervisory Team not approved

Comments:

Based on study progress, students is ...

<input checked="" type="checkbox"/>	ALLOWED to start the graduation project
<input type="checkbox"/>	NOT allowed to start the graduation project

Comments:

Sign for approval (BoEx)

Monique von Morgen
Digitally signed by Monique von Morgen
Date: 2024.10.16 11:08:11 +02'00'

Name

Date

Signature

Personal Project Brief – IDE Master Graduation Project

Name student Joris DietzStudent number 4,882,563

PROJECT TITLE, INTRODUCTION, PROBLEM DEFINITION and ASSIGNMENT

Complete all fields, keep information clear, specific and concise

Project title Reflecting on societal themes through a historical art experience in the Rijksmuseum

Please state the title of your graduation project (above). Keep the title compact and simple. Do not use abbreviations. The remainder of this document allows you to define and clarify your graduation project.

Introduction

Describe the context of your project here; What is the domain in which your project takes place? Who are the main stakeholders and what interests are at stake? Describe the opportunities (and limitations) in this domain to better serve the stakeholder interests. (max 250 words)

The Rijksmuseum in Amsterdam is the biggest, most visited and best-known museum in the Netherlands. Their collection of more than 1 million objects tells the story of 800 years of Dutch history, with the most prominent artworks in the Gallery of Honour displaying the "Golden Age" in the 17th century.

In the 21st century the Rijksmuseum faces several challenges that ask for innovative solutions from an interaction designer. Firstly, the Rijksmuseum has the ambition to grow to 3 million visitors annually while staying within physical limits and keeping up the average customer satisfaction score of 8,5. Secondly, in a rapidly evolving world and a digital age, the Rijksmuseum needs to respond to the trends and expectations of new technological experiences (as shaped by, for example, Artificial Intelligence and Virtual Reality). Thirdly, following the ICOM's definition^[1] and parallel to the growing polarization in society, the museum needs to offer varied experiences and foster diversity.

While taking up these challenges, the Rijksmuseum wants to preserve its art-centric identity, technology-free character and established reputation. Ultimately the museum aims to establish a connection between people and Dutch history and art, which is a symbiosis of watching and understanding (fig. 1). A strong connection can change and enrich the visitor's perspective on the world, because comprehension of the past fosters a grip on the future. Historical objects display topics that represent only a fraction of the full story and timeless themes that lie underneath (fig. 2).

[1] <https://icom.museum/en/resources/standards-guidelines/museum-definition/>

→ space available for images / figures on next page

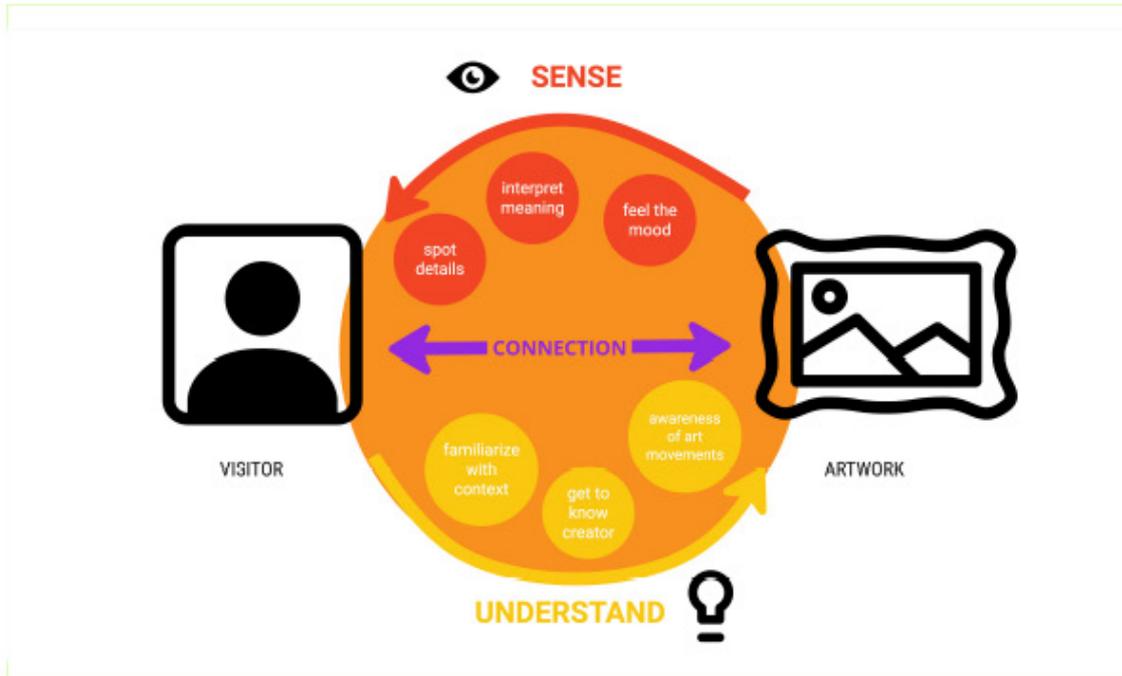


image / figure 1 Symbiosis of understanding and watching when visitors connect with artworks

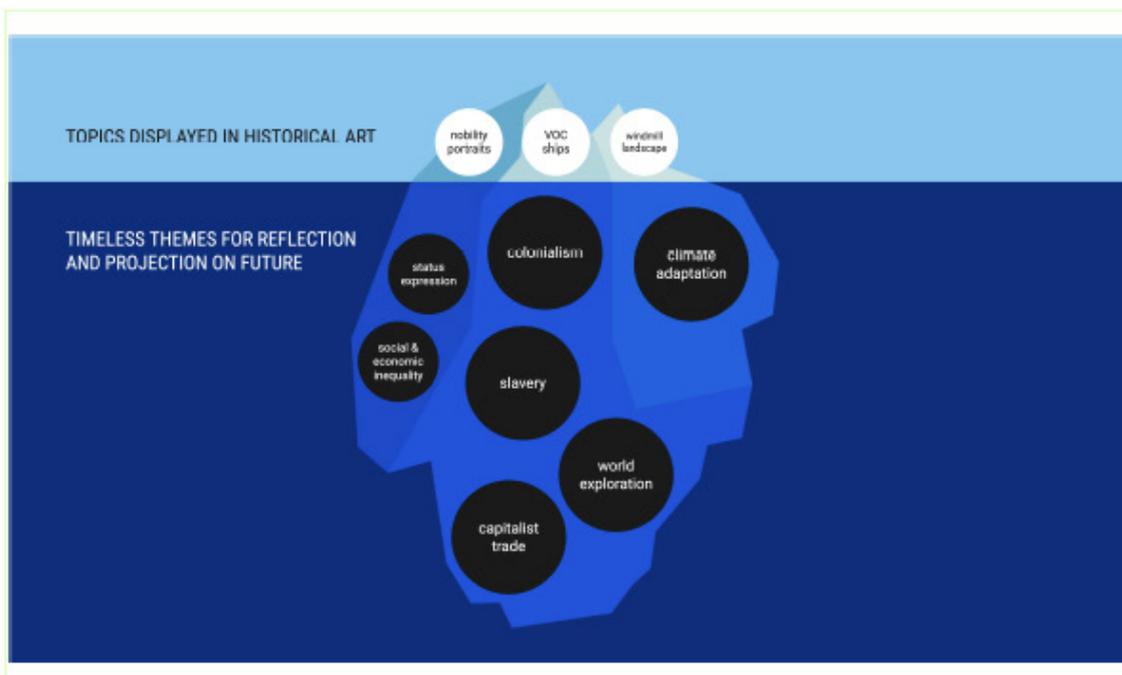


image / figure 2 Historical art is only the tip of the iceberg of important, timeless themes

Personal Project Brief – IDE Master Graduation Project

Problem Definition

*What problem do you want to solve in the context described in the introduction, and within the available time frame of 100 working days? (= Master Graduation Project of 30 EC). What opportunities do you see to create added value for the described stakeholders? Substantiate your choice.
(max 200 words)*

To stay relevant in the future and appeal to a bigger variety of people, the Rijksmuseum needs to explore new experiences. Visitors have difficulty forming connections with historical art because it is hard to relate the displayed topics and context of the increasingly distant past to their modern lives. They need support and guidance in translating and projecting the timeless societal themes on the present to reflect on the objects and their meaning.

Opportunities lie in novel technologies that engage visitors in new ways and bring the art and history to life. A conflict arises in joining this digital development with the classical identity of the Rijksmuseum. Physical and virtual artilleries are employed in a minimalistic and conservative manner to establish full focus on the authentic objects and leave room for interpretation. However, for many visitors this is not enough to form a strong connection.

While the Rijksmuseum wants to appeal to all people, for this project a focus group of users with a particular lack of connection will be selected through qualitative research building upon existing frameworks. Target groups are categorised according to their needs, such as the "Art Lover", "Pleasure Seeker", and "Occasional Visitor".

Assignment

This is the most important part of the project brief because it will give a clear direction of what you are heading for. Formulate an assignment to yourself regarding what you expect to deliver as result at the end of your project. (1 sentence) As you graduate as an industrial design engineer, your assignment will start with a verb (Design/Investigate/Validate/Create), and you may use the green text format:

Design a historical art experience in the digital future to help visitors of the Rijksmuseum reflect on societal themes.

Then explain your project approach to carrying out your graduation project and what research and design methods you plan to use to generate your design solution (max 150 words)

In the first half of the project, I will follow the steps of the Vision in Product Design methodology to deconstruct the present context, interactions and services at the Rijksmuseum, and consequently design a future vision. I will use and expand on the foundation of context factors and knowledge of the Innovation Lab, and take inspiration from successful transformative, immersive and reflective experiences in other museums. To investigate the needs of the Rijksmuseum employees and visitors I will conduct interviews and facilitate contextmapping and co-creation sessions with these stakeholders.

In the second half, the new service concept that follows from the interaction vision will be further developed in three design sprints with low-fidelity prototypes, Minimal Viable Products and user tests, potentially involving digital technologies or physical artefacts. The final design will be built in more detail and evaluated with stakeholders.

Project planning and key moments

To make visible how you plan to spend your time, you must make a planning for the full project. You are advised to use a Gantt chart format to show the different phases of your project, deliverables you have in mind, meetings and in-between deadlines. Keep in mind that all activities should fit within the given run time of 100 working days. Your planning should include a **kick-off meeting, mid-term evaluation meeting, green light meeting and graduation ceremony**. Please indicate periods of part-time activities and/or periods of not spending time on your graduation project, if any (for instance because of holidays or parallel course activities).

Make sure to attach the full plan to this project brief.
The four key moment dates must be filled in below

Kick off meeting	23 Sep 2024
Mid-term evaluation	17 Dec 2024
Green light meeting	12 Feb 2025
Graduation ceremony	13 Mar 2025

In exceptional cases (part of) the Graduation Project may need to be scheduled part-time. Indicate here if such applies to your project

Part of project scheduled part-time	✓
For how many project weeks	14
Number of project days per week	4,0

Comments:

to allow 8-hour/week side-job and volunteering work

Motivation and personal ambitions

Explain why you wish to start this project, what competencies you want to prove or develop (e.g. competencies acquired in your MSc programme, electives, extra-curricular activities or other).

Optionally, describe whether you have some personal learning ambitions which you explicitly want to address in this project, on top of the learning objectives of the Graduation Project itself. You might think of e.g. acquiring in depth knowledge on a specific subject, broadening your competencies or experimenting with a specific tool or methodology. Personal learning ambitions are limited to a maximum number of five.

(200 words max)

Since my childhood, I have a natural affinity with museums, history and art. In high school I took extra art (history) classes and during my studies in Delft I developed a particular interest in Dutch 17th century because of side job in tourism. When travelling to other countries or cities, I always visit at least one museum and look out for interactive exhibitions and immersive experiences.

During my design studies I greatly enjoyed course projects involving rapid prototyping, Minimal Viable Products and design sprints. In other courses and during my internship (Koos Service Design Amsterdam), I developed more interest and skill in qualitative user experience research and methods for uncovering latent needs. During my exchange in Copenhagen (Aalborg University Service Systems Design) I trialled the application of Metaphoric Associative Cards (like a Dixit deck) in contextmapping sessions and now wish to further use and improve this tool.

This project is very open-ended and allows for a very wide variety of design interventions, be it virtual or physical, on micro- or macroscale. While I enter the research phase open-minded, I have a mild preference for working with interactive technology, artificial intelligence and virtual/augmented reality.

APPENDIX B: CHECKLIST FOR HUMAN RESEARCH ETHICS

Delft University of Technology
HUMAN RESEARCH ETHICS
CHECKLIST FOR HUMAN RESEARCH
(Version January 2022)

IMPORTANT NOTES ON PREPARING THIS CHECKLIST

1. An HREC application should be submitted for every research study that involves human participants (as Research Subjects) carried out by TU Delft researchers
2. Your HREC application should be submitted and approved **before** potential participants are approached to take part in your study
3. All submissions from Master's Students for their research thesis need approval from the relevant Responsible Researcher
4. The Responsible Researcher must indicate their approval of the completeness and quality of the submission by signing and dating this form OR by providing approval to the corresponding researcher via email (included as a PDF with the full HREC submission)
5. There are various aspects of human research compliance which fall outside of the remit of the HREC, but which must be in place to obtain HREC approval. These often require input from internal or external experts such as [Faculty Data Stewards](#), [Faculty HSE advisors](#), the [TU Delft Privacy Team](#) or external [Medical research partners](#).
6. You can find detailed guidance on completing your HREC application [here](#)
7. Please note that incomplete submissions (whether in terms of documentation or the information provided therein) will be returned for completion **prior to any assessment**
8. If you have any feedback on any aspect of the HREC approval tools and/or process you can leave your comments [here](#)

I. Applicant Information

PROJECT TITLE:	Reflecting on societal themes through a historical art experience in the Rijksmuseum
Research period: <i>Over what period of time will this specific part of the research take place</i>	21/10/2024-03/03/2025
Faculty:	Industrial Design Engineering
Department:	Human-Centered Design
Type of the research project: <i>(Bachelor's, Master's, DreamTeam, PhD, PostDoc, Senior Researcher, Organisational etc.)</i>	Master's Thesis
Funder of research: <i>(EU, NWO, TUD, other – in which case please elaborate)</i>	
Name of Corresponding Researcher: <i>(If different from the Responsible Researcher)</i>	Joris Dietz
Position of Corresponding Researcher: <i>(Masters, DreamTeam, PhD, PostDoc, Assistant/ Associate/ Full Professor)</i>	Master student Design for Interaction
Name of Responsible Researcher: <i>Note: all student work must have a named Responsible Researcher to approve, sign and submit this application</i>	Arnold Vermeeren
	<hr/>
Position of Responsible Researcher : <i>(PhD, PostDoc, Associate/ Assistant/ Full Professor)</i>	Associate Professor

II. Research Overview

NOTE: You can find more guidance on completing this checklist [here](#)

a) Please summarise your research very briefly (100-200 words)

What are you looking into, who is involved, how many participants there will be, how they will be recruited and what are they expected to do?

Add your text here – (please avoid jargon and abbreviations)

For the purpose of designing a new historical art experience at the Rijksmuseum, I will conduct various quantitative and qualitative research activities to map the user needs and organisational possibilities. I will interview between 10 and 20 employees of the Rijksmuseum and 10-20 visitors, and facilitate contextmapping and co-creation sessions with 5-10 visitors. The researches focuses on the current programs and products offered by the museum, the desired visit experience and new interaction concepts.

b) If your application is an additional project related to an existing approved HREC submission, please provide a brief explanation including the existing relevant HREC submission number/s.

Add your text here – (please avoid jargon and abbreviations)

--

- c) **If your application is a simple extension of, or amendment to,** an existing approved HREC submission, you can simply submit an [HREC Amendment Form](#) as a submission through LabServant.

III. Risk Assessment and Mitigation Plan

NOTE: You can find more guidance on completing this checklist [here](#)

Please complete the following table in full for all points to which your answer is “yes”. Bear in mind that the vast majority of projects involving human participants as Research Subjects also involve the collection of **Personally Identifiable Information (PII)** and/or **Personally Identifiable Research Data (PIRD)** which may pose potential risks to participants as detailed in Section G: Data Processing and Privacy below.

To ensure alignment between your risk assessment, data management and what you agree with your Research Subjects you can use the last two columns in the table below to refer to specific points in your Data Management Plan (DMP) and Informed Consent Form (ICF) – **but this is not compulsory**.

It's worth noting that **you're much more likely to need to resubmit your application if you neglect to identify potential risks**, than if you identify a potential risk and demonstrate how you will mitigate it. If necessary, the HREC will always work with you and colleagues in the Privacy Team and Data Management Services to see how, if at all possible, your research can be conducted.

			<i>If YES please complete the Risk Assessment and Mitigation Plan columns below.</i>		<i>Please provide the relevant reference #</i>	
ISSUE	Yes	No	RISK ASSESSMENT – what risks could arise? <i>Please ensure that you list ALL of the actual risks that could potentially arise – do not simply state whether you consider any such risks are important!</i>	MITIGATION PLAN – what mitigating steps will you take? <i>Please ensure that you summarise what actual mitigation measures you will take for each potential risk identified – do not simply state that you will e.g. comply with regulations.</i>	DMP	ICF
A: Partners and collaboration						
1. Will the research be carried out in collaboration with additional organisational partners such as: <ul style="list-style-type: none"> One or more collaborating research and/or commercial organisations Either a research, or a work experience internship provider¹ <i>¹ If yes, please include the graduation agreement in this application</i>	YES		The graduation project will be carried out in collaboration with the Rijksmuseum Innovatielab. They are a department driving innovation through design experiments commissioned by other departments, and as such aiming to find valuable applications of novel technologies to enrich the visitors' experience or improve the employees' work.	The Graduation Contract (NL, appendix) as modelled by the IDE faculty has been signed by the researcher and partner (Rijksmuseum), the intellectual property rights to all graduating project results, with the exception of the copyright to the graduation report, belong to the company. Nevertheless, TU Delft retains the rights that the university may invoke under the university's duties and objective as set out in legislation for matters of use and publication, taking into account the interests of all parties involved. The researcher is responsible for the safe management, storage and deletion of research data using the online spaces managed by the TU Delft Rijksmuseum (Miro, Microsoft Office OneDrive).		

			<i>If YES please complete the Risk Assessment and Mitigation Plan columns below.</i>		<i>Please provide the relevant reference #</i>	
ISSUE	Yes	No	RISK ASSESSMENT – what risks could arise? <i>Please ensure that you list ALL of the actual risks that could potentially arise – do not simply state whether you consider any such risks are important!</i>	MITIGATION PLAN – what mitigating steps will you take? <i>Please ensure that you summarise what actual mitigation measures you will take for each potential risk identified – do not simply state that you will e.g. comply with regulations.</i>	DMP	ICF
2. Is this research dependent on a Data Transfer or Processing Agreement with a collaborating partner or third party supplier? <i>If yes please provide a copy of the signed DTA/DPA</i>		NO				
3. Has this research been approved by another (external) research ethics committee (e.g.: HREC and/or MREC/METC)? <i>If yes, please provide a copy of the approval (if possible) and summarise any key points in your Risk Management section below</i>		NO				
B: Location						
4. Will the research take place in a country or countries, other than the Netherlands, within the EU?		NO				
5. Will the research take place in a country or countries outside the EU?		NO				
6. Will the research take place in a place/region or of higher risk – including known dangerous locations (in any country) or locations with non-democratic regimes?		NO				
C: Participants						
7. Will the study involve participants who may be vulnerable and possibly (legally) unable to give informed consent? (e.g., children below the legal age for giving consent, people with learning difficulties, people living in care or nursing homes.)		NO				
8. Will the study involve participants who may be vulnerable under specific circumstances and in specific contexts, such as victims and witnesses of violence, including domestic violence; sex workers; members of minority groups, refugees, irregular migrants or dissidents?		NO				
9. Are the participants, outside the context of the research, in a dependent or subordinate position to the investigator (such as own children, own students or employees of either TU Delft and/or a collaborating partner organisation)? <i>It is essential that you safeguard against possible adverse consequences of this situation (such as allowing a student's failure to participate to your satisfaction to affect your evaluation of their coursework).</i>	YES		Participants in the study include employees of the Rijksmuseum, which is a collaborating partner in the project.	In research activities with employees, they are asked if they wish that (a selection of) the results must be anonymized and made untraceable for their superior managers when storing in the digital systems of the Rijksmuseum. If not, their name and position will be noted with the results.		
10. Is there a high possibility of re-identification for your participants? (e.g., do they have a very specialist job of which there are only a small number in a given country, are they members of a small community, or employees from a	YES		Participants in the study include employees of the Rijksmuseum, some of which have a specialized job, like Data & Insights Manager or Head of Education. This makes their research results, even without	See mitigation measure above.		

			<i>If YES please complete the Risk Assessment and Mitigation Plan columns below.</i>		<i>Please provide the relevant reference #</i>	
ISSUE	Yes	No	RISK ASSESSMENT – what risks could arise? <i>Please ensure that you list ALL of the actual risks that could potentially arise – do not simply state whether you consider any such risks are important!</i>	MITIGATION PLAN – what mitigating steps will you take? <i>Please ensure that you summarise what actual mitigation measures you will take for each potential risk identified – do not simply state that you will e.g. comply with regulations.</i>	DMP	ICF
partner company collaborating in the research? Or are they one of only a handful of (expert) participants in the study?			mention of name, gender or age, easier to connect to their identity.			
D: Recruiting Participants						
11. Will your participants be recruited through your own, professional, channels such as conference attendance lists, or through specific network/s such as self-help groups	YES		Participants will be recruited through a number of networks, including the internal directory of Rijksmuseum employees, the newsletter mailing list of the youth loyalty program (Rijksmuseum NEXT), and the informal Whatsapp groups for IDE students of the researcher.	Participants sign up for the study voluntarily. The members of said networks are aware of their inclusion in contact lists and accept the possibility of being recruited for participation in studies, hence they hold the responsibility to ignore or reject the invitation.		
12. Will the participants be recruited or accessed in the longer term by a (legal or customary) gatekeeper? (e.g., an adult professional working with children; a community leader or family member who has this customary role – within or outside the EU; the data producer of a long-term cohort study)		NO				
13. Will you be recruiting your participants through a crowd-sourcing service and/or involve a third party data-gathering service, such as a survey platform?		NO				
14. Will you be offering any financial, or other, remuneration to participants, and might this induce or bias participation?	YES		Study participants will be justly compensated for their efforts and time participating in the study. The remuneration will be in the form of snacks and drinks (in case of a physical session), and/or a gift voucher worth of 10-20 EUR.	The risk of induced bias is mitigated by the relative low value of remuneration, generally equaling minimum wage. Upon giving Informed Consent the participants are told no answers are correct or wrong, and encouraged to express their truthful thoughts and feelings.		
E: Subject Matter <i>Research related to medical questions/health may require special attention. See also the website of the CCMO before contacting the HREC</i>						
15. Will your research involve any of the following: • Medical research and/or clinical trials • Invasive sampling and/or medical imaging • Medical and In Vitro Diagnostic Medical Devices Research		NO				
16. Will drugs, placebos, or other substances (e.g., drinks, foods, food or drink constituents, dietary supplements) be administered to the study participants? <i>If yes see here to determine whether medical ethical approval is required</i>		NO				
17. Will blood or tissue samples be obtained from participants? <i>If yes see here to determine whether medical ethical approval is required</i>		NO				

			<i>If YES please complete the Risk Assessment and Mitigation Plan columns below.</i>		<i>Please provide the relevant reference #</i>	
ISSUE	Yes	No	RISK ASSESSMENT – what risks could arise? <i>Please ensure that you list ALL of the actual risks that could potentially arise – do not simply state whether you consider any such risks are important!</i>	MITIGATION PLAN – what mitigating steps will you take? <i>Please ensure that you summarise what actual mitigation measures you will take for each potential risk identified – do not simply state that you will e.g. comply with regulations.</i>	DMP	ICF
18. Does the study risk causing psychological stress or anxiety beyond that normally encountered by the participants in their life outside research?		NO				
19. Will the study involve discussion of personal sensitive data which could put participants at increased legal, financial, reputational, security or other risk? (e.g., financial data, location data, data relating to children or other vulnerable groups) <i>Definitions of sensitive personal data, and special cases are provided on the TUD Privacy Team website</i>		NO				
20. Will the study involve disclosing commercially or professionally sensitive, or confidential information? (e.g., relating to decision-making processes or business strategies which might, for example, be of interest to competitors)	YES		The study includes confidential information from internal reports, concerning among others visitor statistics and organisational strategy, of the Rijksmuseum. Open publication of this information may reduce the Rijksmuseum's competitiveness against other Dutch museums.	Confidential information provided by participants and indicated as such will be stored in a separate appendix and not be published as part of the complete study report.		
21. Has your study been identified by the TU Delft Privacy Team as requiring a Data Processing Impact Assessment (DPIA)? <i>If yes please attach the advice/approval from the Privacy Team to this application</i>		NO				
22. Does your research investigate causes or areas of conflict? <i>If yes please confirm that your fieldwork has been discussed with the appropriate safety/security advisors and approved by your Department/Faculty.</i>		NO				
23. Does your research involve observing illegal activities or data processed or provided by authorities responsible for preventing, investigating, detecting or prosecuting criminal offences? <i>If so please confirm that your work has been discussed with the appropriate legal advisors and approved by your Department/Faculty.</i>		NO				
F: Research Methods						
24. Will it be necessary for participants to take part in the study without their knowledge and consent at the time? (e.g., covert observation of people in non-public places).	YES		The research methods include observation in the Rijksmuseum, so visitors will be watched and recorded (in written text, photo and video) without their explicit consent to participate in the study. This is necessary for decent study of the natural behaviour. They may object to the recording.	All observation data will be anonymized before storage, namely by blurring or covering the faces on photos. If participants on site instantly object to being photographed, this footage will be deleted immediately.		

			<i>If YES please complete the Risk Assessment and Mitigation Plan columns below.</i>		<i>Please provide the relevant reference #</i>	
ISSUE	Yes	No	RISK ASSESSMENT – what risks could arise? <i>Please ensure that you list ALL of the actual risks that could potentially arise – do not simply state whether you consider any such risks are important!</i>	MITIGATION PLAN – what mitigating steps will you take? <i>Please ensure that you summarise what actual mitigation measures you will take for each potential risk identified – do not simply state that you will e.g. comply with regulations.</i>	DMP	ICF
25. Will the study involve actively deceiving the participants? (For example, will participants be deliberately falsely informed, will information be withheld from them or will they be misled in such a way that they are likely to object or show unease when debriefed about the study).		NO				
26. Is pain or more than mild discomfort likely to result from the study? And/or could your research activity cause an accident involving (non-) participants?		NO				
27. Will the experiment involve the use of devices that are not 'CE' certified? <i>Only, if 'yes': continue with the following questions:</i>		NO				
• Was the device built in-house?		NO				
• Was it inspected by a safety expert at TU Delft? <i>If yes, please provide a signed device report</i>		NO				
• If it was not built in-house and not CE-certified, was it inspected by some other, qualified authority in safety and approved? <i>If yes, please provide records of the inspection</i>		NO				
28. Will your research involve face-to-face encounters with your participants and if so how will you assess and address Covid considerations?	YES		At the time of writing, the Covid-19 pandemic has ended and for the planned duration of the study the virus is not expected to pose a risk to public health.	If a participant requests extra safety measures to prevent potential Covid-19 potential, like wearing a face mask or keeping physical distance, these requests will be taken seriously and granted by the researcher.		
29. Will your research involve either: a) "big data", combined datasets, new data-gathering or new data-merging techniques which might lead to re-identification of your participants and/or b) artificial intelligence or algorithm training where, for example biased datasets could lead to biased outcomes?		NO				
G: Data Processing and Privacy						
30. Will the research involve collecting, processing and/or storing any directly identifiable PII (Personally Identifiable Information) including name or email address that will be used for administrative purposes only? (eg: obtaining Informed Consent or disbursing remuneration)	YES		Directly Personally Identifiable Information of research participants will be asked and recorded only if necessary for the practical arrangement of the study activity, e.g. for scheduling a video meeting for an interview or sending a gift voucher as remuneration.	PII of Rijksmuseum employees will only be stored on digital platforms managed by the Rijksmuseum (e.g. Miro, Microsoft Office). PII of other participants will be saved physically written in the researcher's notebook and digitally stored in Microsoft OneDrive managed by the TU Delft with limited access. When pages of the notebook are scanned or photographed for digital storage and inclusion in the report appendices, the PII will be made unreadable with covering shapes.		

			<i>If YES please complete the Risk Assessment and Mitigation Plan columns below.</i>		<i>Please provide the relevant reference #</i>	
ISSUE	Yes	No	RISK ASSESSMENT – what risks could arise? <i>Please ensure that you list ALL of the actual risks that could potentially arise – do not simply state whether you consider any such risks are important!</i>	MITIGATION PLAN – what mitigating steps will you take? <i>Please ensure that you summarise what actual mitigation measures you will take for each potential risk identified – do not simply state that you will e.g. comply with regulations.</i>	DMP	ICF
31. Will the research involve collecting, processing and/or storing any directly or indirectly identifiable PIRD (Personally Identifiable Research Data) including videos, pictures, IP address, gender, age etc and what other Personal Research Data (including personal or professional views) will you be collecting?	YES		Study results include personal metrics (age, gender) and (audio/visual) recordings of voice, face and body and will be collected, processed and stored digitally in the online systems of TU Delft (Microsoft Office OneDrive).	In the Informed Consent Form, participants can opt for identifiable or anonymized storage of research data. In case of the latter, the metrics will only be registered in the physical notebook and the audio(visual) recordings will be modified with voice distortion and/or covering shapes.		
32. Will this research involve collecting data from the internet, social media and/or publicly available datasets which have been originally contributed by human participants	YES		The research involves studies into publications of the Rijksmuseum, advertisements and offerings of other museums, and blogposts about cultural engagement of youth, among others.	The researcher assumes that publicly available online data complies with GDPR policies, so that no further measures have to be taken to mitigate risks of the contributors.		
33. Will your research findings be published in one or more forms in the public domain, as e.g., Masters thesis, journal publication, conference presentation or wider public dissemination?	YES		The research findings and conclusions will be published in a Masters thesis openly available in the TU Delft research repository, as well as distributed in the internal communication channels of the Rijksmuseum and professional social network of the researcher. The researcher does not aspire to submit the report to a scientific journal or conference.	If confidential information, like PII and PIRD and internal reports, needs to be published, it will only be documented in a separate appendix that will not be shared in the public domain.		
34. Will your research data be archived for re-use and/or teaching in an open, private or semi-open archive?		NO				

H: More on Informed Consent and Data Management

NOTE: You can find guidance and templates for preparing your Informed Consent materials) [here](#)

Your research involves human participants as Research Subjects if you are recruiting them or actively involving or influencing, manipulating or directing them in any way in your research activities. This means you must seek informed consent and agree/ implement appropriate safeguards regardless of whether you are collecting any PIRD.

Where you are also collecting PIRD, and using Informed Consent as the legal basis for your research, you need to also make sure that your IC materials are clear on any related risks and the mitigating measures you will take – including through responsible data management.

Got a comment on this checklist or the HREC process? You can leave your comments [here](#)

IV. Signature/s

Please note that by signing this checklist list as the sole, or Responsible, researcher you are providing approval of the completeness and quality of the submission, as well as confirming alignment between GDPR, Data Management and Informed Consent requirements.

Name of Corresponding Researcher (if different from the Responsible Researcher) (print)

Signature of Corresponding Researcher:

Date: 14/01/2025

Name of Responsible Researcher (print)

Signature (or upload consent by mail) Responsible Researcher:

Date: 24/01/2025

V. Completing your HREC application

Please use the following list to check that you have provided all relevant documentation

Required:

- **Always:** This completed HREC checklist
- **Always:** A data management plan (reviewed, where necessary, by a data-steward)
- **Usually:** A complete Informed Consent form (including Participant Information) and/or Opening Statement (for online consent)

Please also attach any of the following, if relevant to your research:

Document or approval	Contact/s
Full Research Ethics Application	After the assessment of your initial application HREC will let you know if and when you need to submit additional information
Signed, valid Device Report	Your Faculty HSE advisor
Ethics approval from an external Medical Committee	TU Delft Policy Advisor, Medical (Devices) Research
Ethics approval from an external Research Ethics Committee	Please append, if possible, with your submission
Approved Data Transfer or Data Processing Agreement	Your Faculty Data Steward and/or TU Delft Privacy Team
Approved Graduation Agreement	Your Master's thesis supervisor
Data Processing Impact Assessment (DPIA)	TU Delft Privacy Team
Other specific requirement	Please reference/explain in your checklist and append with your submission

APPENDIX C: DATA MANAGEMENT PLAN

Plan Overview

A Data Management Plan created using DMPonline

Title: Reflecting on societal themes through a historical art experience in the Rijksmuseum

Creator: Joris Dietz

Principal Investigator: Joris Dietz

Data Manager: Joris Dietz

Project Administrator: Joris Dietz

Affiliation: Delft University of Technology

Template: TU Delft Data Management Plan template (2021)

Project abstract:

This research is part of my masters thesis for Design for Interaction, under supervision of dr. ir. Arnold Vermeeren within the Museum Futures Lab. For the purpose of designing a new historical art experience at the Rijksmuseum, I will conduct various quantitative and qualitative research activities to map the user needs and organisational possibilities. I will interview 10-20 employees of the Rijksmuseum and facilitate contextmapping sessions and user tests with 10-20 visitors. Qualitative and quantitative data will be collected through recordings, notes and self-reporting booklets. The research focuses on the current programs and products offered by the museum, the desired visit experience and new interaction concepts.

ID: 162155

Start date: 21-10-2024

End date: 03-03-2025

Last modified: 04-11-2024

Reflecting on societal themes through a historical art experience in the Rijksmuseum

0. Administrative questions

I. Data description and collection or re-use of existing data

Type of data	File format(s)	How will data be collected (for re-used data: source and terms of use)?	Purpose of processing	Storage location	Who will have access to the data
interview notes from Rijksmuseum employees	paper	interviews	to map the organisation structure and current product/ program offering of the Rijksmuseum	physical notebook	primary researcher (Joris Dietz)
digital scans of drawings and notes	.jpeg .png	self-reporting booklets	to uncover the interests, thoughts and opinions of visitors	Miro, Onedrive (TU Delft)	primary researcher (Joris Dietz), responsible researcher (Arnold Vermeeren) supervisor (Evita Goettsch)
anonymised photos of visitors in the Rijksmuseum	.jpeg .png	observation	to find remarkabilities and patterns in visitor behaviour	Miro, Onedrive (TU Delft)	primary researcher (Joris Dietz), supervisor (Evita Goettsch)
audio recording	.wav .mp3	interviews and workshops	to uncover interests, thoughts, needs and values of target audience	Onedrive (TU Delft)	primary researcher (Joris Dietz)
anonymised audio transcription	.docx	interviews and workshops	to uncover interests, thoughts, needs and values of target audience	Miro, Onedrive (TU Delft)	primary researcher (Joris Dietz), responsible researcher (Arnold Vermeeren)
anonymised photos of visitors in the Rijksmuseum	.jpeg .png	workshops	to analyse the artefacts created by participants in relation to their spoken stories	Onedrive (TU Delft)	primary researcher (Joris Dietz)
audio recording	.wav .mp3	user tests	to analyse feedback and response on interaction concept prototypes	Onedrive (TU Delft)	primary researcher (Joris Dietz)
anonymised audio transcription	.docx	user tests	to analyse feedback and response on interaction concept prototypes	Miro, Onedrive (TU Delft)	primary researcher (Joris Dietz), responsible researcher (Arnold Vermeeren)
name, email address, function, department of Rijksmuseum employees	Miro notes	interviews, Rijksmuseum intranet	to ensure relevance of data (authority, expertise) and facilitate further contact	Sharepoint Intranet, Miro (Rijksmuseum)	primary researcher (Joris Dietz), supervisor (Evita Goettsch)
name, email address, age, gender of participants	.csv	Datumprikker workshop registration, prototype test form	to ensure relevance of data (target audience) and facilitate further contact	Onedrive (TU Delft)	Datumprikker, primary researcher (Joris Dietz)

- < 250 GB

II. Documentation and data quality

III. Storage and backup during research process

- Another storage system - please explain below, including provided security measures
- OneDrive

I use the Onedrive in the TU Delft Office system that is SSO-secured.

Some qualitative data (interview quotes and observation notes) will be initially captured/registered by hand in a physical notebook in sole possession of the primary researcher (Joris Dietz). Pages of the notebook will be scanned for digital storage in the Onedrive.

The main digital project workspace is Miro, an online whiteboard tool for collaboration. The Miro board that includes personal or confidential information is secured within the Miro dashboard of the TU Delft, which is SSO-secured with the Office system

IV. Legal and ethical requirements, codes of conduct

- Yes

- Yes

- Yes, confidential data received from commercial, or other external partners

In the IDE graduation contract signed by the primary researcher and client (Rijksmuseum), data and IP ownership is agreed upon in Article 13 as follows

Confidentiality of background information from the Company

1. The obligation of confidentiality applies only to background information provided by the Company to the Student. The research conducted by Graduate and the results generated by Graduate are foreground information.

2. All background information from the Company that has come to the attention of the Graduate during his/her graduation project and where it is expressly stated that confidentiality is necessary, shall be kept confidential by the Graduate for 5 years. This duty of confidentiality does not apply to information that is in the Graduating Student's possession at the time when the Graduating Student is informed of the information; information that is generally known on the day when the Graduating Student is informed of the information; information that the Graduating Student has lawfully obtained from third parties; information that has become generally known after the date when the Graduating Student is informed of the information, other than through wrongful act or negligence of the Graduating Student.

3. The Graduate shall include background information designated as confidential in a confidential annex of the graduation report. The Company may check the graduation report for confidential background information. Background information shall not be included by Graduate in the confidential attachment and may not be omitted from the graduation report. Graduating may share confidential information with the supervisors of TU Delft who are bound to secrecy under the Collective Labour Agreement of Dutch Universities.

- Other types of personal data - please explain below
- Data collected in Informed Consent form (names and email addresses)
- Signed consent forms
- Photographs, video materials, performance appraisals or student results
- Gender, date of birth and/or age
- Email addresses and/or other addresses for digital communication
- Telephone numbers
- Names and addresses

professional function/role of Rijksmuseum employees, possibly including the duration of employment

Rijksmuseum employees from various departments, primarily the Public & Education and Marketing teams

young adults (aged 18-30)
external museum experts

- No
- Informed consent

All study participants, with exception of Rijksmuseum employees, will be asked for their written consent for taking part in the study and for data processing before the start of the interview/workshop/user test. Rijksmuseum employees are considered as direct colleagues of the primary researcher and interviews with them are regarded as natural conversations in a working context, hence consent for participation and data processing is implied.

- Other - please explain below
- Same storage solutions as explained in question 6

Printed and hand-signed consent forms will be stored in a physical folder in sole possession of the primary researcher (Joris Dietz). Photocopies of the forms will be saved in the TU Delft Onedrive.

- None of the above applies
- Personal research data will be destroyed after the end of the research project

Anonymised data can be uploaded to the 4TU Research Data Repository at the end of the research project.

V. Data sharing and long-term preservation

- No other data can be publicly shared - please explain below why data cannot be publicly shared
- < 100 GB

VI. Data management responsibilities and resources

- Yes, leading the collaboration - please provide details of the type of collaboration and the involved parties below

The Rijksmuseum is the external client partner in this Masters graduation project.

Director of the Museum Futures Lab: dr. ir. Arnold Vermeeren

APPENDIX D: OVERVIEW OF RIJKSMUSEUM'S INDEPENDENT PRODUCTS

name	format	focus	target audience	type
Pim & Pom	speaking stuffed animals	young kids exploring the museum, animals in artworks	family	linear
Family Route	challenge cards	exciting and fun mini-quests	family	non-linear
Family Game	App on rental device	quest with quiz questions and challenges	family	linear
Snappguide	App on smartphone	teenager influencer ambassadors	family, secondary school, intermediate vocational education	non-linear
Wild Looking	Game tiles and notebooks	quest	primary school	non-linear
Soundtracks	app on rental device, app on smartphone	music	adults	non-linear

APPENDIX E: OVERVIEW OF RIJKSMUSEUM'S STAFF-GUIDED PROGRAMS

Name	Format	Focus	Target audience
Expedition Rijksmuseum	tour and theatre	characters, events and perspectives from the 17th century	primary school, family, secondary school
The Best of the Rijksmuseum	tour	highlights in the collection	family, adults
Mission Masterpiece	workshop	scientific art research	family, primary school
Clay-Painting	workshop	clay	family, primary school
The Best Present Ever	tour and theatre	special objects and festivity	family, primary school
Drawing Lab	workshop	sketching	family
Art in sign language	tour	visitors who are deaf or hard of hearing	family, adults
With other senses	tour	visitors who are blind or have low vision	family, adults
Extra attention	tour	visitors with special needs	family, primary school teachers
Search for tracks	workshop and tour	historical art research	primary school
Study day Museum Square	tour	art and nature in class	primary school teachers
Explorers and Travelers	workshop and tour	17th century maritime exploration	primary school
Taste the history	tour	food depicted in art	primary school
Amsterdam school gardens	workshop and tour	museum garden, plants and insects	primary school
Behind the Gold	tour	active looking and critical thinking about the 17th century and the present	secondary school
Study day Colonial history	tour	colonial history and multi-perspectivity	secondary school teachers
Dutch Design	workshop	creative process and digital design	secondary school, intermediate vocational education
Lemon Back Then (Citroen van Toen)	workshop	painting with hand-made paint, learning about trade, food and craftsmanship	secondary school
Exam training history	training and tour	putting authentic objects in historical perspective	secondary school

Name	Format	Focus	Target audience
Exam training art	training and tour	analysing artworks	secondary school
Introduction to the Dutch	tour	exchange students	secondary school
Check it like a historian	tour	using artworks as historical source	secondary school
The Ideal Citizen	tour	life stories of people in and behind the collection, in relation to contemporary themes	intermediate vocational education
clay modelling	workshop	Asian bronze sculptures	adults
flowers in blueprint	workshop	introduction to photography	adults
model drawing	workshop and tour	sketching with a model	adults
Always that same old love	tour	love depicted in the collection	adults
Amsterdam 750 years	tour	history of Amsterdam	adults
Who was Rembrandt?	tour	Rembrandt van Rijn	adults
Art and dementia	tour	visitors with dementia	adults
a pink history	tour	queer history in the netherlands represented in the collection	adults
Through the eyes of the restorer	tour	artworks as physical, material objects	adults
Rijksmuseum & slavery	tour	critical reflection on slavery and national history	adults
... but where were the women?	tour	important female artists in the collection	adults
Tabula Rasa	tour	medicine students and professionals	adults

APPENDIX F: OBSERVATIONS AND ANALYSIS OF RIJKSMUSEUM'S SERVICES

Expedition Rijksmuseum

“Expeditie Rijksmuseum” is a program for primary school classes with students aged 6 to 12 that lasts 2 hours. Through research and theatre, the students experience three key historical stories from the Dutch 17th century, about Hugo de Groot, Rembrandt and Nova Zembla. An educational syllabus helps the teacher prepare the class in four sessions, assigning the students to groups and studying the performance script. A trained educator/actor leads each group through the activities: a 30-minute tour through the museum, an immersive experience in a secret room, and scene rehearsals. In the last 45 minutes the groups perform their play in a theatre with set pieces and props.



The students were given a printed jacket that indicated their belonging to a group, not only to the actors and teachers, but also to other visitors in the museum.



During the museum tour, the actor related paintings to the information that the students had already learned in their lessons at school.



The rehearsal studio was decorated like a historical research lab with questions and notes marked on the wall and old artefacts standing around, to create the atmosphere of a special experience for the students.



The stage was filled by many moving set pieces that were operated by the actors and students and strongly contributed to the sense of a ‘real’ theatre performance.

Interesting observations from the program:

- The actor asked a critical question about the “Golden Age” and explained how the Dutch 17th century was not so ‘gold’ for everyone.
- The students had a fair amount of background knowledge and asked questions out of interest.
- The house rules for behaviour were set by the actor through a quiz, instead of simply stating them to the group: “Do we run through the museum, or walk slowly? Do we touch the artworks, or just look at them? What does a good audience do?”

“Expeditie Rijksmuseum” has the following product qualities:

- **Playful:** the program’s focus lies on kids having fun dressing up, playing a character and making a performance together.
- **Focused:** each of the groups took a tour that was planned for their theme story, only paying attention to relevant artworks.
- **Rigid:** the theatre script was very elaborate and precise in lines and instructions, and the stage with moving set pieces was custom built for these scenes.
- **Flexible:** at the same time, the actors took freedom to adjust their route through the museum to suit the circumstances, and encouraged improvisation in the rehearsals.

After the final performance, the teachers said to be very impressed by the whole program, and the students liked the acting and performing most.

Introduction to the Dutch

“Introduction to the Dutch” is an introductory tour aimed at international tourists and Dutch secondary school students. With a high pace the museum educator guides the visitors through multiple galleries, telling stories at 15 (groups of) artworks. For some stories, the focus lies on the context of art, for others the details and beauty are more important. To increase the engagement the educator invites the students to step forward to study the artwork up close, and asks questions like “What do you Germans think is typically Dutch?” and “What do you know of Van Gogh? Did he die rich?” Jokes and direct personal interactions seem not to be very much appreciated by the students.

Perspective of Teachers

The teachers accompanying the two classes in the observed tours both expressed a strong need for a guided tour. They are afraid that “the students would just run through the museum” if they only had a regular ticket, or even just sit down and wait until the hour is over: “Students need someone to tell them about the art and history. I want strict control of the activities.”

Interesting observations

- Not everyone in the group of 13 visitors could hear and understand the educator at all points, due to noisy gallery halls. At these points the interest fades and boredom kicks in.
- When the educator stopped asking questions to the group, many students stopped engaging. They sat down on benches at every opportunity, started wandering off to take pictures of other artworks.
- Students start to show signs of boredom 35 minutes into the tour: they lean onto each other, ask no more questions, say no more answers, dance around impatiently, and yawn.
- With a high pace, the educator did not wait for all students to arrive at the artwork before telling his story, and so it was hard for students catching up to tune in, so they do not make an effort to listen.
- Some students carry photo cameras and take pictures throughout the tour, also of artworks that are not highlighted in stories by the educator. They stayed behind the hall

for a moment while the group moved on, so that there was more free space to take a better picture.

- One student uses an old-fashioned point-and-shoot digital camera because it has more options than a phone.
- One student intends to show the pictures of the whole trip to Amsterdam to his parents at home.
- The museum educator purposefully avoids mentioning names and years/dates, because it doesn't stick in the students' memories.
- The educator makes a few links between artworks and artworks, for example referencing the self-portrait of Vincent van Gogh when seeing a self-portrait of Rembrandt.

Perspective of Educator

Every guided tour must cover:

- The museum building and architect Pierre Cuypers
- The Nightwatch (Nachtwacht)
- Johannes Vermeer
- Glory and slavery of the 17th century

At the start of each tour, the educators try to gauge interest and collect special requests, so to adapt their tour to the visitor's needs.

One educator (E14) afterwards says that later during the day, the energy of teenagers is even lower, so they don't offer any guided tours for schools in the afternoon. She also complained that teenagers are forced by school to visit the museum, while (foreign) tourists choose to take the tour, and are intrinsically more interested.

Perspective of the Student

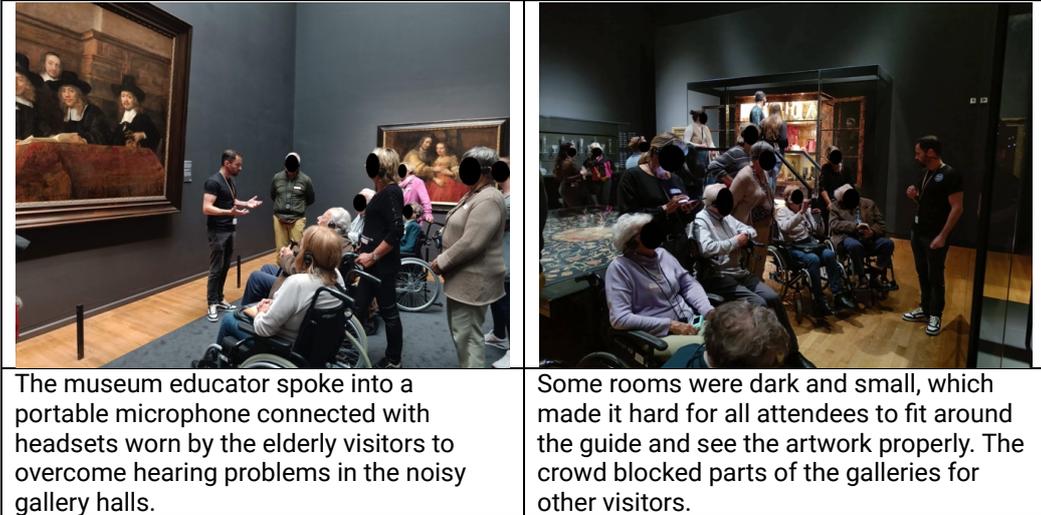
When asked for their feedback on the tour, the students answered a bit reluctantly. Most felt neutral or indifferent about the experience, some were positive but dared not explicitly say that, and some expressed critique: "We just saw 3 paintings. He should talk about just 1 or 2 paintings per room, and give us free time to see other paintings on our own." This demonstrates a desire for independence and self-determination in the museum.

Product qualities:

- **High-paced:** the tour covers many artworks spread around the building, and participants struggle to keep up and attend all stories by the educator.
- **Wide:** the educator welcomes the audience to the Rijksmuseum, introducing the most famous works from a range of ages, so the audience gets a broad impression of the collection.

PlusBus

"PlusBus" is a guided tour for elderly, commissioned by a volunteer-run foundation that organizes the bus rides from nursing homes to various museums. In one hour, a museum educator guides a group of 15 visitors, some of them in wheelchairs, past a dozen artworks. An audio systems with microphone and headsets is employed to ensure intelligibility, which is a challenge for elderly with hearing problems in crowded halls. By asking many questions to the visitors, the educator stimulated active art watching and recalling knowledge of history.



The museum educator spoke into a portable microphone connected with headsets worn by the elderly visitors to overcome hearing problems in the noisy gallery halls.

Some rooms were dark and small, which made it hard for all attendees to fit around the guide and see the artwork properly. The crowd blocked parts of the galleries for other visitors.

“PlusBus” has the following product qualities:

- **Easy:** the tour was slow-paced, the stories for each artwork were rather basic and the main goal of giving the elderly a fun outing was simply achieved.

The Best of the Rijksmuseum

A few times per day an educator gives the tour “Het Beste van het Rijksmuseum”, for which visitors can sign up to sporadically by paying 7,50 at the welcome desk. This audience is usually above-average interested in art and history and have explicit wishes. At the start of the tour, the educator asks the group about their preferences. “Are there things you want to see inserted?” - E9

This program focuses on the absolute highlights of the collection, but not by explaining individual works of art in detail, but by covering a selection of groups of objects belonging to a particular artist, time or theme, for 10 minutes each. The sequence runs from the end of the 19th century (2 works of Breitner) and Vincent van Gogh (4 works) to the Great Hall and its history. The Gallery of Honour is introduced as a whole, Jan Steen (2 works) is highlighted and Rembrandt is only briefly tipped to view at rest later. Of course, the Nightwatch forms the splendid finale of the tour.

Interesting observations:

- To illustrate the character of the artist George Hendrik Breitner (19th century), the educator compared him with Herman Brood (20th century). Similarly, he said “Amsterdam in the ‘golden age’ was like modern-day Dubai or New York City”.
- The educator employed a tablet with pictures to show hidden details and background information, like the original version of a painting and photographs of the depicted environment.
- The participants of the tour ask questions at every stop, which lead the educator to expand on points of interest and wrapping his preconceived story in an answer.
- In the Gallery of Honour, the educator talked about everything that was not visible: “You only get to see half of the 17th century.” Only the rich bourgeoisie could afford to order custom artworks, and so became the standard client for painters after the Catholic church was banned in the iconoclasm. They had paintings made of themselves and their lives, and so the poverty-stricken people of the Netherlands from that time are barely recorded, if at all.

“The Best of the Rijksmuseum” has the following product qualities:

- **In-depth:** the educator favoured quality over quantity, as he touched upon only half a dozen topics, but dove deep into the historical context.
- **Revealing:** the participants learned about things that were not obviously visible in the galleries.
- **Relatable:** information about the distant history was made comprehensible through comparisons with the recent past and the present.

The Ideal Citizen

In “De Ideale Burger” students explore the works of art and learn the life stories of famous and less famous people from the Rijksmuseum. With the museum educator they discuss one of a selection of societal themes, such as emancipation, sexual revolution, religion and colonial past.

For an all-female class of a beauty specialist school, the educators chose a series of artworks connected to the concept of beauty and emancipation. Historical beauty ideals and fashion trends were introduced by studying portraits of wealthy ladies. The educator asked a lot of questions to the students, like “what do you notice?”, “do you think this dress fits comfortably?”, “what would you change?”. A part of the group attentively listened and answered the questions throughout the tour, the other part quickly lost focus and dragged behind, turning attention to each other and their phones.

References

References from the past to the present seemed to catch on with the target audience because they could imagine something about the story. For example, at a 18th century painting of a lady breastfeeding her baby, the educator mentioned modern pop artist Rihannah breastfeeding her baby during a modelling photoshoot. Also, she classified a 17th portrait of a noble lady as a Tinder profile. Here, the students were asked to assess if she complies with the beauty standards of that time, therefore reproducing the information they learned earlier in the tour.

Assignment

Twice during the tour, the students were given a small assignment to execute in a few minutes in a particular gallery hall. The educator thus gave students the freedom to view more objects than he discussed himself, and to form and express a personal opinion about the art. “Pick an item of silverware that you would show off at a dinner party,” and “Sketch or describe the make-up that you would recommend to a painted figure in the Gallery of Honour.”

The Ideal Citizen can be described by the following product qualities:

- **Tailored:** the program is highly customizable, with a wide variety of social themes relevant for different audiences.
- **Informal:** the educator spoke in a rather casual tone and related the material to the personal lives of the young audience.
- **Inviting:** the participants are challenged to study artworks, collect information themselves and project their personal views in the museum.

Behind the Gold

For secondary school classes at havo/vwo level, the tour "Achter het Goud" aims to address the flip side of the 17th century wealth in the Dutch Republic. As advertised, "this interactive tour focuses on active viewing, critical thinking and action."

In practice, the impact heavily depends on the preparation and punctuality of the class. The educator said afterwards that she had to cut a whole chunk of the program because the start was delayed. Therefore, there was little time for the 'debate' part in the colonial hall. Still, the students brought up some arguments that demonstrate the thinking of teenagers: "Slavery still has effect now, so the portrait [of Jan Pieterszoon Coen] needs to be removed from the museum. White people look differently at people with a tint."

A few other interesting remarks were made about the portrait of the colonial nutmeg-trader. One student commented that "his story is not there," and the educator acknowledged that "the story is not completely well told in the museum, because you easily walk past the object information sign."

Other interesting observations:

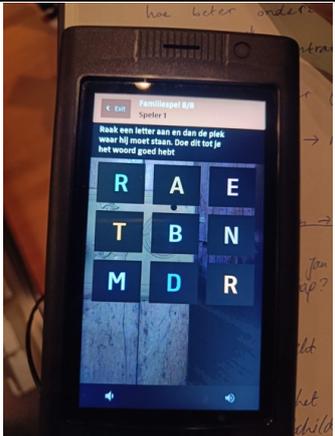
- The educator invites the group to contribute to the program: "We make the tour together."
- E12
- In 40 minutes, the group visits only 4 gallery halls. Apart from the colonial hall, the Nightwatch gets a lot of attention and time.
- The educator keeps asking questions to the group, with varying response.
- Still at the end of the tour, most students are attentively listening. After hearing about a vandalist attack on the Nightwatch, two students grabbed their smartphone to search online articles, rather than asking the educator for more information.
- After the tour the educator sighs that this teenage audience doesn't like it too personal either. "They just want to be taken by the hand."

"Behind the Gold" has the following product qualities:

- **Confronting:** the program aims to present the underexposed side of national history and challenges the visitors to form and express critical views on that.
- **Inviting:** the educator actively requests the participant to contribute to the tour and asks questions to engage them.

Family game

This digital product is aimed at kids aged 7 to 12. Families can rent tablet devices for 7,50 EUR at the multi-media desk to play a scavenger hunt game through the museum. In one hour, a series of videos, photo instructions and puzzles guides the players along 8 artworks in various parts of the collection. For each object, the kids and parents collect a code letter by collaborating and studying the history and art.

		
The game challenges the players to look at the displayed objects critically and answer a quiz question.	The players need to each look at different artworks in the same area and come to a mutual conclusion and decision.	The letters collected at each challenge need to be rearranged to form the word 'Rembrandt'.

While the experience is designed so that it feels interactive, there are no actual game, quiz or competition elements in the application. Whatever the players enter in the tablet, eventually they will receive all correct code answers and find their way through the museum to the end. Still, the gamified tour format is successful in giving the kids a sense of adventure and purpose. At various moments, the kids were quicker in following instructions or answering questions, and led the way for their parents. The parents made an effort to stimulate and guard the learning process of their children, by pausing at some objects to read the texts out loud, instead of purely completing the challenge.

The family game can be described by the following product qualities:

- **Staged:** the videos and puzzles are designed to give young users a sense of interaction and control but form a rigid sequence of activities, independent of user input.
- **Fun:** throughout the experience the actor tells jokes and the questions and answers about the objects highlight the entertaining and surprising elements of art and history, so the game is really aimed at letting families enjoy their time in the museum.

The family game was developed in collaboration with a panel of kids. The degree of co-creation is unclear.

APPENDIX G: INTERVIEWED RIJKSMUSEUM EMPLOYEES

no.	name	role	reason for interviewing
L1	Evita Goetssch	Innovation Coach	knowledge on innovation and Rijksmuseum organisation, experience as Dutch young adult
L2	Sander Aalbers	Innovation Assistant	knowledge on innovation, experience as Dutch young adult
E1	Ardjuna Candoitti	Educator Second-ary Education	knowledge on teenager visitors and service offering
E2	Frederique van Reij	Manager for young adult visitors	knowledge on young adult visitors
E3	Fleur Howes Smith	Data & Insights Manager	knowledge on all visitor audience segments
E4	Mariëlle Portier	Junior Educator	knowledge on service offering, perspective of young adult
E5	Marijke Smallegange	Head of Marketing	knowledge on all visitor audience segments, overall strategy and marketing goals
E6	Marijke Westerveen	Museum Educator / Actor	Knowledge on program offering and visitor interaction
E7	Wouter Brouwers	Museum Educator / Actor	Knowledge on program offering and visitor interaction
E8	Fedor van Rossem	Museum Educator	Knowledge on program offering and visitor interaction
E9	Arnout van Krimpen	Museum Educator	Knowledge on program offering and visitor interaction
E10	Sara Kuhne	Assistant for young adult sponsors (Rijksmuseum Next)	Knowledge on young adult visitors, partnerships and event offering
E11	Jody Dongor	Manager of young adult sponsors (Rijksmuseum Next)	Knowledge on young adult visitors, partnerships and event offering
E12	Renske Ger-stel	Museum Educator	Knowledge on program offering and visitor interaction
E13	Kim Muller	Head of Public	Knowledge on service offering, overall strategy and public goals
E14	Elle Tat	Museum Educator	Knowledge on program offering and visitor interaction
E15	Maartje van Peijpe	Museum Educator	Knowledge on program offering and visitor interaction
E16	Rob Hendriks	Head of IT (Automtisation)	Knowledge on digital services and systems

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APPENDIX H: SET-UP OF CONTEXTMAPPING STUDY

PARTICIPANT RECRUITMENT

After the target users were defined as Dutch Young adult Fun Seeking Explorers the researcher applied three recruitment approaches.

First, the researcher went on site in the Entrance Atrium of the Rijksmuseum for a full morning to approach potential participants. Instead of directly asking for participation in a study at another moment in another place, he asked them to do a task they could instantly fulfil. He handed them logbooks (figure X) to fill in during their museum visit, including drawing assignments, multiple choice questions and review prompts. As such, this recruitment approach was combined with a small qualitative study of self-reporting. The logbook had two objectives: 1) to collect impressions of the motivations, interests, behaviour and experience of the target users, and 2) to sensitize the participants for the contextmapping sessions as a follow-up study. For the latter, the last page featured an invitation with a QR-code for direct registration.

Unfortunately, this first approach failed miserably for several reasons. Firstly, there were much fewer Dutch visitors aged 18-30 than expected. The crowd was dominated by international tourists and Dutch families with younger kids. Therefore, the target audience for this small qualitative study was expanded to also address foreign visitors. These people however were not able to participate in the follow-up session later, as they had already left the Netherlands by then. Also, the Dutch participants seemed reluctant to accept the invitation. It seemed that the logbook asked too much of them, and further engagement with the research was not desirable. Many participants had answered questions only partially or not at all. The usable results are summarised in table X.

Secondly, the researcher attended the Rijksmuseum NEXT Night, an exclusive event organised for individual sponsors aged 18 to 40. This group of people initially appeared useful and interesting for the research project as they could provide insight in what makes the Rijksmuseum already attractive and engaging for young adults. Since the night was advertised as an informal and fun event, the researcher hoped and expected to casually approach and speak with attendees about their experiences with the Rijksmuseum, and invite them to the contextmapping study. However, the crowd had a rather haughty and inaccessible attitude in the formal occasion: they were there to see and be seen, not to participate in a study. The few attempts for conversation were quickly turned down. Also, the researcher realised that these young sponsors would not be suitable participants for the contextmapping study because they already have a strong connection with art and history in the Rijksmuseum, and could probably not provide new ideas on how the museum could facilitate more connection.

Finally, the researcher resorted to his own personal network of emerging adults. He composed an attractive invitation (see next page) and shared it in various Whatsapp group chats with a total of hundreds of members. The response was surprisingly positive, as already within 3 days 30 people were registered.

The invitation succeeded in attracting the correct target group. Emerging adults usually have small budgets and are easily drawn to activities with free food. Also the promise of a free entry to a museum that charges 25 EUR per ticket is a good deal to this group. The advertisement appeals to people who are generally interested in the Rijksmuseum, but who wouldn't pay to go there voluntarily. This matches the target group of Fun Seekers/Explorers who see the value of a museum visit but are not art lovers.

Do you want to...



visit the
Rijksmuseum
for free?



improve your
art experience?



have free lunch?

Take part in an **input workshop** in an exclusive tower of the Rijksmuseum in Amsterdam!



Wil jij...



gratis het
Rijksmuseum
bezoeken?



jouw kunst ervaring
verbeteren?



gratis lunch?

Doe mee aan een **input workshop** in een exclusieve toren van het Rijksmuseum!



SENSITISING MATERIAL: VISIT LOGBOOK

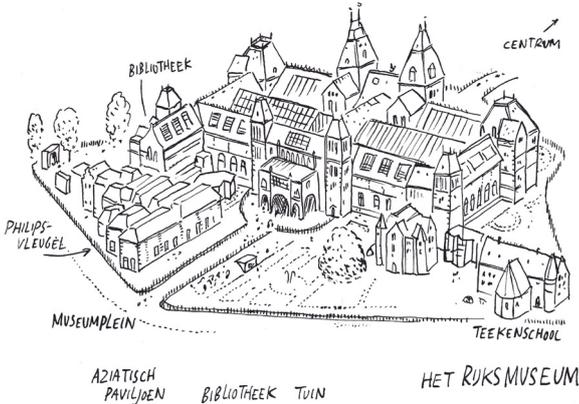
Participants were asked to fill in an 8-page A6-sized logbook during their 1,5-visit before the session.

DEELNAME NUMMER:



MIJN BELEVING VAN HET RIJKSMUSEUM

bezoek logboek



DEEL 1: VOOR MIJN BEZOEK

Heb je het Rijksmuseum al eens bezocht?

- nee, dit was de eerste keer
- ja, minder dan 1 jaar geleden
- ja, 1 tot 3 jaar geleden
- ja, 3 tot 5 jaar geleden
- ja, 5 jaar of langer geleden

samen met [vrienden / familie / school]

WAT VIND IK VAN MUSEA?

PLAATS stickers om de stellingen te beantwoorden

Een bezoek aan een museum zie ik als een verrijking NEE _____ JA _____

Ik vind het leuk om musea te bezoeken NEE _____ JA _____

Bij een nieuwe tentoonstelling begint het meteen te kriebelen om het museum te bezoeken NEE _____ JA _____

Ik heb helemaal niets met kunst NEE _____ JA _____

Ik ga liever naar een attractiepark dan naar een museum NEE _____ JA _____

DEEL 1: VOOR MIJN BEZOEK

WAAROM BEN IK HIER?

SCHRUF op wat je in het Rijksmuseum wil doen

- ik wil [kunstwerk] graag zien
- ik wil [kunstenaar] graag zien
- ik wil [kunstperiode] graag zien
- ik wil...
- ik wil...

WAT IS HET RIJKSMUSEUM?

TEKEN jouw beeld van het Rijksmuseum.
SCHRUF eigenschappen op.



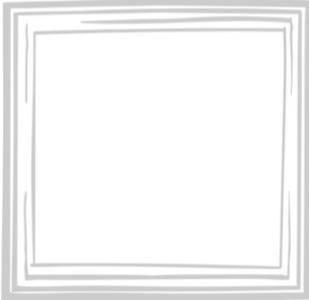
DEEL 2: TJDENS MIJN BEZOEK

WAT VIND IK SLECHT?

SCHRUF op wat je niet leuk en lelijk vindt aan het Rijksmuseum

FOTOGRAFEER je minst favoriete kunstwerken en Whatsapp ze naar +31 6 11278932

TEKEN het lelijkste kunstwerk na



DEEL 2: TIJDENS MIJN BEZOEK

WAT VIND IK GOED?

SCHRIJF op wat je leuk en mooi vindt aan het Rijksmuseum

FOTOGRAFEER je favoriete kunstwerken en Whatsapp ze naar +31 6 11278932



TEKEN het mooiste kunstwerk na

DEEL 2: TIJDENS MIJN BEZOEK

WAT ZIE IK?

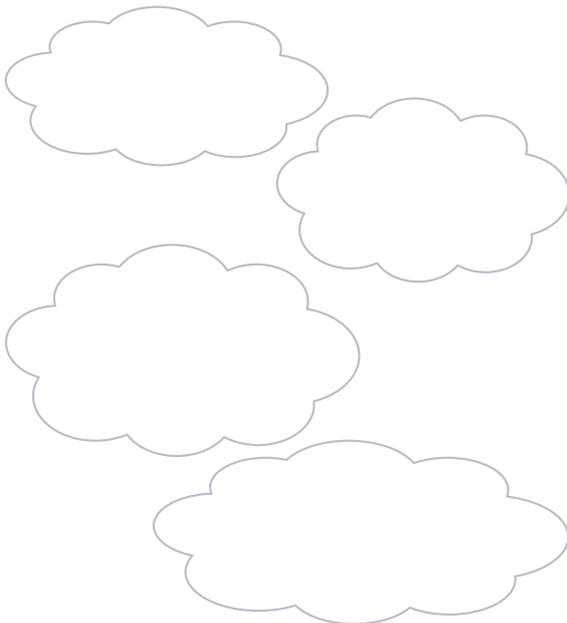
OMCIRKEL de thema's die je herkent in de kunstwerken. Zet een KRUISJE bij de thema's die jou interesseren

- | | | | |
|--------------|-----------------|---------------------|---------------|
| liefde | macht | oorlog | schoonheid |
| rijkdom | klimaat | tijd | religie |
| identiteit | politiek | relaties | |
| vrede | sociale klassen | rechtvaardigheid | |
| slavernij | reizen | dood | ontdekking |
| kolonialisme | technologie | milieu | |
| ontwikkeling | mythologie | arbeid | natuur |
| gelijkheid | emancipatie | spiritualiteit | |
| verzet | revolutie | wetenschap | globalisering |
| familie | gemeenschap | cultuuruitwisseling | |
| [thema] | [thema] | [thema] | |

DEEL 2: TIJDENS MIJN BEZOEK

WAT WIL IK WETEN?

SCHRIJF op welke vragen bij je op komen bij het zien van de kunstwerken



DEEL 3: NA MIJN BEZOEK

WAT VOND IK ERVAN?

PLAATS stickers om je bezoek te beoordelen

- Ik heb tijdens mijn bezoek inspiratie opgedaan NEE _____ JA _____
- Het museumbezoek heeft mij aan het denken gezet NEE _____ JA _____
- Er was veel te beleven in het Rijksmuseum NEE _____ JA _____
- Het museumbezoek heeft mij geraakt NEE _____ JA _____
- Het Rijksmuseum heeft mijn verwachtingen overtroffen NEE _____ JA _____
- Tijdens mijn bezoek ben ik positief verrast NEE _____ JA _____

WAT GA IK ONTHOUDEN?

SCHRIJF op of TEKEN wat je het meest bij blijft van je bezoek

SESSION SCHEDULE

begintijd	eindtijd	duur	stap	activiteit	beschrijving
10:00	10:10	00:10		verzamelen in tuin	
10:10	10:20	00:10		betreden medewerkers ingang	
10:20	11:50	01:30	1. present	zelfstandig bezoeken museum	
11:50	12:00	00:10		verzamelen in atrium	
12:00	12:05	00:05		ontvangst in toren	welkom, d
12:05	12:10	00:05		introducties	
12:10	12:30	00:20	2. past: make	reflecteren op waardevol museum bezoek	Wat is een museumbezoek
12:30	12:55	00:25	2. past: say		4 min. p.p.
12:55	13:05	00:10		pauze	toilet; foto
13:05	13:20	00:15	3. dream: make	dromen over verbinding met kunst of geschiedenis	Hoe maak je kunst of geschiedenis
13:20	13:40	00:20	3. dream: say		3 min. p.p.
13:40	13:50	00:10	4. future: make	nieuwe ervaring bedenken	Hoe kan het zijn die verbinding
13:50	13:55	00:05	4. future: say		1 min. p.p.
13:55	14:00	00:05		afsluiting	dank voor voor vervoer
14:00	17:00	03:00		vrij bezoek museum	

oog	materiaal	aanwijzing
doel, regels	eten en drinken	
	Dixit kaarten (gesloten stapel)	1. pak een willekeurige kaart; 2. stel jezelf kort voor; 3. vertel een anekdote als toerist aan de hand van de kaart
waardevol bezoek?	Dixit kaarten (verdeeld over tafel); sticky notes; stiften; sheets met tijdlijn; prints van kunstwerken; bezoek logboek	1. maak een illustratie van een waardevol museumbezoek (van het RM vanmorgen of een ander museum eerder); 2. je mag alle materialen gebruiken; 3. je mag aantekeningen in je bezoek logboek gebruiken
	gemaakte illustraties	1. presenteer je illustratie aan de groep; 2. wat maakte dit bezoek waardevol? waarom?
s van illustraties	eten en drinken	
je verbinding met geschiedenis?	Dixit kaarten (verdeeld over tafel); sticky notes; stiften; sheets met tijdlijn; prints van kunstwerken;	1. bedenk wat, binnen of buiten een museum, je relatie is met kunst of geschiedenis; 2. kies een focus (kunst of geschiedenis); 3. maak een illustratie van jouw verbinding met kunst of geschiedenis; 4. je mag alle materialen gebruiken
	gemaakte illustraties	1. presenteer je illustratie aan de groep; 2. hoe maak jij verbinding met kunst of geschiedenis? waar? wanneer? hoe? waarom?
et Rijksmuseum ding maken?	Dixit kaarten (verdeeld over tafel); sticky notes; stiften; sheets met tijdlijn; prints van kunstwerken;	1. het Rijksmuseum is innovatief en persoonlijk, en heeft veel ruimte, tijd en geld beschikbaar voor nieuwe ervaringen; 2. hoe kunnen ze jouw ideale verbinding met kunst of geschiedenis vormgeven? 3. illustreer je idee; 4. je mag alle materialen gebruiken
	gemaakte illustraties	1. pitch je idee aan de groep
deelname; contact		
lg		

DIXIT DECK AS METAPHORIC ASSOCIATIVE CARDS

One of the available materials in the contextmapping session for participants to create artefacts in response to the questions with, is a collection of Dixit cards. These have magical illustrations that can be interpreted in many ways. I wrote an essay about this card deck as a tool for design research, during my minor exchange at the Aalborg University in Copenhagen, Denmark.

An image says more than a thousand words: “Dixit” Metaphoric Associative Cards as contextmapping tool for qualitative User Experience research

Essay by Joris Dietz (20231732) for User Experience Design for Service Interaction in MSc. Service Systems Design at Aalborg University Copenhagen

Introduction

The field of User Experience (UX) design is concerned with creating products and services to enhance the complete experience of users throughout a series of interactions. This requires thorough understanding of the user's thoughts and feelings on the topic of study and their deeper needs, fears and wishes for future solutions. Only with this acquired knowledge, designers can craft products and services that are truly relevant and effective.

For this purpose, designers have developed and applied a wide variety of quantitative and qualitative research methods and tools, from questionnaires to interviews, from usability observation to focus groups. In the past decades, the User Experience design industry has seen a rapid growth of new theoretical frameworks and practical approaches, often borrowed from other disciplines like sociology and psychology.

This essay aims to outline the background theory and application of Metaphoric Associative Cards (MACs), and in particular suggest the use of Dixit cards for in qualitative User Experience research. The new tool has been trialled as MACs in two quasi-experiments, from which tentative conclusions and suggestions for successful application can be derived. The primary research question is how participants of contextmapping sessions refer to the cards and to what extent they express themselves with visual metaphors.

Background

The essay first introduces the ground concepts of cards as design tools, the field of contextmapping and generative toolkits in qualitative UX research, and then continues to introduce Metaphorical Associative Cards in general and Dixit cards in particular.

Cards as design tools

Cards are not an unknown phenomenon in UX design. In information architecture, *card sorting* generates an overall structure for information, as well as suggestions for navigation, menus, and possible taxonomies (Spencer & Warfel, 2004). AT-ONE *touch-point cards* have been developed to assist cross-functional teams during the first phases of the New Service Development process (Clatworthy, 2011). And the *Design for Happiness cards* are used to break down the seemingly overwhelming phenomenon of happiness into manageable components (Desmet et al., 2017).

Lodler et al. (2018) summarise that cards introduce information and sources of inspiration in compact, tangible, and easily recognizable forms. As a genre of design toolkits, cards serve as shared objects among diverse participants, allowing for playful and collaborative exploration of ideas. Clatworthy (2011) found cards

particularly helpful in forging team collaboration towards a common goal. They afford embodied interactions at the individual and group level and thus support the cognitive and social processes involved when carrying out tasks within teams. The physical form of the cards, together with physical position and movement, assist the workshop process.

The field of contextmapping and generative toolkits

Contextmapping is a field of generative studies formed by Sleeswijk Visser et al. (2005) and describes a range of techniques that involve users intensively in creating an understanding of the contexts of product use, and therefore can be regarded as a form of Participatory Design.

Generative techniques were introduced by Sanders (1992) to gain knowledge about what people know, feel and dream. The use of these projective techniques provides a view to reveal future states of people, can reveal tacit knowledge, and expose latent needs (Sanders, 2001). Tacit knowledge is knowledge that people can act upon, but cannot readily express in words (Polanyi, 1959). Latent needs are those that people are not yet aware of and can only become realised in the future. Those needs are to be elicited by designers using the suggested Metaphoric Associative Cards.

The Convivial Toolbox prescribes that future users carry out 'make' activities with generative toolkits consisting of trigger sets and backdrops, and possibly supplemented by default crafting tools (Sanders & Stappers, 2013). It is the subsequent narratives told by the participants about the made artefacts that uncover deeper information about their attitudes towards the topic of study. A basic mechanism in generative techniques is to let people construct a view on the context, by 1) observing the present, 2) recalling up memories, 3) reflecting on the past and 4) imagining their dreams of the future. This sequence forms the 'path of expression' for effective narration and access to deep levels of knowledge (Sleeswijk Visser et al., 2005). The question arises whether the use of Metaphoric Associative Cards can be considered a 'make' activity, and hence if Dixit cards can be classified as a generative toolkit.

Introducing Metaphoric Associative Cards

Metaphoric cards were introduced and first published in 1982 by E. Raman. He explored a different use of two-deck interactivity with a pair of decks called Persona, one of portraits, the other of abstract designs that can symbolize possible social interactions or personal relationships.

These cards include a series of images that represent situations and occurrences in various aspects of life (Ayalon & Siso-Ayalon, 2006). There are different visual types of MAC decks – organised by colours, topics, ideas, words. The main idea is that all cards in deck relate to something similar and many different scenarios can be played with them (Bickovska, 2021).

Principles

Specialists working with metaphorical cards emphasize that the MAC has a deep theoretical basis. MACs are based on principles of Freud projection, gestalt-therapy,

humanistic psychology, Jung archetypes and Campbell myths (Hrinchenko, 2018; Raman, 1995; Jung, 1991; Campbell, Moyers, 1991; Gatineau, 2010), which will not be further elaborated on in this essay by lack of space and relevance to the question of metaphorical references in use.

The main principle of using cards in counselling and supervision is that there are no ground rules. The most effective use depends on the purpose of the session, the context, and the creativity of the facilitator (cf. Ping, 2012). The principle of joint communication creates an atmosphere of harmony and support which encourages self-exploration and change (Gorobchenko & Evmenchik, 2011). Using MAC might seem like a game, however one of co-operation and sharing rather than competition and achievement. It is essential that “playing the game” gives freedom to participants. There is no right or wrong answer or explanation of cards. Using of MAC gives an excellent feeling of ownership to participants; they are ruling the cards, they are giving them life and telling the story, allowing them to find their own course (Atkinson, Wells, 2000). That said, working with cards does require the privacy, integrity, individuality, intelligence, and imagination of participants to be respected, and that means there should be no interruptions, correcting, or reinterpretation of response to the cards and how the participants express themselves (Gorobchenko & Evmenchik, 2011; Popova & Miloradova, 2014).

Metaphors

Dissecting the term Metaphorical Associative Cards brings us to an understanding of metaphors. In *A How-to-Guide for Making and Using a Generative Metaphorical Design Toolkit*, a metaphor is defined as a way of conceiving one thing in terms of another, and its primary function is understanding (Richards, 1965). It consists of a tenor – the underlying idea or principal subject – and a vehicle – the secondary subject which provides a figurative description of the tenor (Logler et al., 2018).

Among others, metaphors have a diagnostic function, which is widely used in projective techniques: the client’s image choices are determined by conscious and unconscious motives. In transactional analysis, a favourite child’s fairy tale is interpreted as a metaphor to help reveal the life scenario of the participant (Berne, 2016).

Advantages

MAC is a widespread type of projective techniques that can quickly and clearly get information about the person, his inner state and experience, identify issues that need to be addressed, and see the correlation of internal associative images with external life realities (Hrinchenko, 2018). Metaphoric cards open a window to a person’s inner world; associative reactions to the illustrated cards make it possible to reflect upon childhood memories, to recall repressed experiences, and to release blocked feelings. Since the interpretations of metaphors featured in the cards are completely in the eyes of the beholder, the same card can trigger different reactions in different participants (Ayalon, 2007). Flexibility and adaptability is a helpful benefit of MACs, as they can be used in individual work and in group settings, with participants of all ages (Hrinchenko, 2018). Popova & Miloradova (2015) found that MACs stimulate the associative thinking and encourage the participant’s story. The cards are the external mechanism for structuring the self perception of the particular

situation. The metaphoric nature of the pictures lets a client to perceive the problems in a dissociated manner. This reduces the resistance and allows to overcome the psychological defence.

Applications

Today, MAC is a very popular kind of projective techniques that can quickly and clearly get information about the person, his inner state and experience, identify issues that need to be addressed, and also see the correlation of internal associative images with external life realities. This versatile tool is also suitable for use in professional activities by professionals working with people (Hrinchenko, 2018), possible including user experience design researchers.

Therapeutic associative cards have consequently been used in various disciplines, such as psychotherapy, education, art therapy, gestalt therapy, transactional analysis, business, and social work as a tool for personal growth, the relief of trauma and violence, interpersonal work, conflict resolution, and team building (Gorobchenko & Evmenchik, 2011; Jimenéz, 2011). The cards can also be used in individual counselling and group work, supervision, or for counselling, with various age groups ranging from children to adults.

Karnieli-Miller et al. (2016) suggest using Metaphorical Associative Cards as a research tool, which can allow the participants to provide a richer description of their experience, thoughts, and emotions. The MACs assist both the participant (interviewee) and the researcher (interviewer) through collection of richer data about participants' personal values, experiences, and personal interpretations. The cards were not a substitute for the narrative interview itself but offered an additional way to bridge, clarify, and present the personal experience and meaning, thereby opening the door to integrating creative ways of collecting data. Karnieli-Miller et al. (2016) think it might be worthwhile in future studies to explore the use of the cards as the initial invitation to share the story, in order to enhance the full potential use of the metaphorical cards.

Introducing Dixit cards

This essay is not the first to suggest Dixit cards as Metaphorical Associative Cards. Dixit is an image interpretation game with 84 dreamlike illustrations on large text-free cards in every deck, developed by Roubira (2008). The card game revolves around interpreting those mysterious images and telling stories based on them, which is a fun way to get to know peers from another perspective.

In collaboration with illustrators, the cards were designed to have "a strong symbolism as well as a dose of onirism and surrealism" on themes that overlap and complement each other: love, death, freedom, imprisonment, etc. The game calls on the imagination and intuition, on communication and sharing. It soon led to the creation of workshops, particularly with teenagers with learning difficulties, personality disorders and behavioural problems, at a centre run by Roubira, who is also a child psychiatrist. The workshops will highlight the therapeutic value of games, which will be used in medical, legal, educational and psycho-socio-educational setting (Mousnier et al., 2016).

Dixit in debriefing

The author has experience with using Dixit in debriefing conversations after group discussions in the European Youth Parliament, or in reflection meetings at the end of a conference in the same organisation. He and two other volunteers have identified several key strengths in the use of Dixit cards as conversation tools.

One volunteer found one of the challenges in debriefing, and discussion in time limited environments in general, to keep people focused on the specific subjects that are the subject of the debrief. When asked a vague question openly, like “describe your day”, oftentimes people talk on an endless number of subjects of mixed relevance. This not only wastes limited debriefing time, but also makes it incredibly difficult for the team leader (the ‘interviewer’ or ‘facilitator’ in this context) to provide specific advice or support. When given a visual tool to represent their response, people will focus on limited elements they can find within one card, so they are more selective with what they speak about.

Another volunteer pointed out the wonderful aspect that the illustrations encourage creative and abstract thinking. Especially when challenged to speak about cards they did not select consciously, users need to find ways to make connections and saying as much as possible with few words. It offers a fascinating way to do collaborative storytelling and uncover how people think and feel about something without starting a rant.

Dixit in therapy

Mousnier et al. (2016) have used Dixit cards in individual and group interviews, to support work that focuses on both the individual and their system. Based on questions about their representations (of events, relationships, affects, etc.) people choose symbolic images that open up metaphorical language. This facilitates expression and enunciation, the emergence of relational third parties and access to beliefs – through an exchange that is co-constructed between the participants and the researchers.

This application confirms the earlier set ground principle of free interpretation in the eye of the beholder, as Mousnier et al. (2016) state that a representation, being eminently subjective, may be nuanced and discussed, but it is never false, which is essential with the people they see and in the dynamics of family interviews. Freed from the weight of veracity and appealing to the imagery as well as the sensitive, metaphors constitute an appropriate language through which it is possible to talk about oneself without really talking about oneself.

Method

The author wants to validate findings about Metaphorical Associative Cards from literature review and hypothesises that the Dixit contextmapping tool helps to get rich but well-framed answers to the prompts, and that participants of the sessions find it fun and easy to express their feelings visually without requiring any creative skill. Of additional interest are the questions how participants refer to the cards and the extent to which they speak in metaphors.

Two trial sessions were conducted with the Dixit cards as Metaphorical Associative Cards to answer above question and test the hypotheses. As the sessions involved the author's close family members and housemates, and as the experiment did not include a formal hypothesis or baseline measurement, this investigation must be called a quasi-experiment. The topic of study, in order words the context to be mapped, was different for both participant groups. With such a low number of participants and fluid test set-up, the results cannot be found to be significant a priori, and so the subsequent conclusions cannot be understood as the truth. However, the findings are still interesting confirmations or contradictions of previously outlined theory and will lead to questions for further research.

Each session was opened with a brief introduction of the investigation, without giving to many technical or theoretical details of the approach. The participants were asked for consent to record their activities and answers for later transcription and analysis. Then the 84 Dixit cards from the *Odyssee* deck were spread out facing upwards over the kitchen table, so that at least half were visible to the participants. Every activity was introduced by posing a prompt, sometimes repeated and rephrased as question and the instruction to take a few minutes in silence to browse through the cards and pick a number of cards. Then the facilitator invited the participants to explain their choice, i.e. to comment on their associations with the card. Activity 2.2 was an exception where the participants were asked to work together on selecting cards and placing them in a structure. Each of the sessions was followed up by a discussion of the experience and review of the tool.



Figure 1 Participants of session 1 pick up cards from the kitchen table for further inspection

The sessions took place in the participants' domestic environment, at the kitchen table (Figure 1), and lasted around one hour each, split in 3 activities following the path of expression of Sanders (2001). The topics of study were determined in consultation with the participants and could be real contexts for user experience research, and thus clearly linkable to an existing market of services and products. Both topics aimed to strike a balance between macro (philosophical, theoretical) and micro (tangible, practical) level on one hand, and private or formal at/detachment to the participants on the other. Exact specifications of both sessions are outlined in Table 1.

	Session 1	Session 2
Date		
Location	Copenhagen, Denmark	Leersum, the Netherlands
Language	English	Dutch (transcript translated to English)
Participants	R. (m, 33)	G. (m, 57)
	K. (f, 29)	A. (f, 56)
		S. (m, 21)

Topic of study	Parenthood	Winter vacation
Activity 1: Present	describe what it is like to be a parent now, with 1-3 cards (individual)	describe your most recent vacation, with 1-3 cards (individual)
Activity 2: Past	describe what it was like when your daughter came into your life 3 years ago, with 1-3 cards (individual)	build a timeline scenario of cards for an average winter vacation, with as many cards as you need (together)
		divide the elements of the journey into pains and gains (together)
Activity 3: Future	describe a hope and a fear for the future of your parenthood, 3 years from now, with 2 cards (individual)	describe a hope and a fear for a future winter vacation, with 2 cards (individual)

It should be said that, as befits a good designer, the author worked iteratively and made some changes to the experiment approach between sessions. For instance, the topic of 'parenthood' turned out to be too personal, making the session almost unwantedly therapeutic, and the results of these activities lead to limited concrete leads for new service development. The topic of winter holidays was therefore chosen as being at a more appropriate emotional distance from the participants, yet sufficiently rich in experience and knowledge for new context insights.

Results

Both trial sessions with Dixit cards as MACs were completely recorded and transcribed using Microsoft Word's built-in language recognition algorithm. After correcting transcription errors and dividing the text in sections per activity, including the post-session reflections, data analysis began.

In a regular user experience research or contextmapping process, this analysis phase would consist of open and/or closed coding, clustering and finding patterns in the quotes and observations. The synthesis of findings would result into insights, i.e. new knowledge on needs, feelings and dreams of the participants about the context on a deeper level.

For this quasi-experiment however, there was no need for thorough data synthesis, as only questions about the Dixit MAC tool had to be answered by the observations. To this end, all references to the cards were studied and classified by type of description, observations on the activities were analysed and processed into conclusions together with the reflections.

Quantity of associations

This section regards the quantitative results of the experiment, i.e. the time of activities and number of cards. For the first session, about parenthood, the time it took the participants to browse and select the cards around 2,5 minutes for the latter two rounds. In the first activity the participants logically needed a bit more time to get an impression of the cards they were presented with for the first time, while in

the last activity they seemed to be quite familiar with the options and needed less time to make their decision.

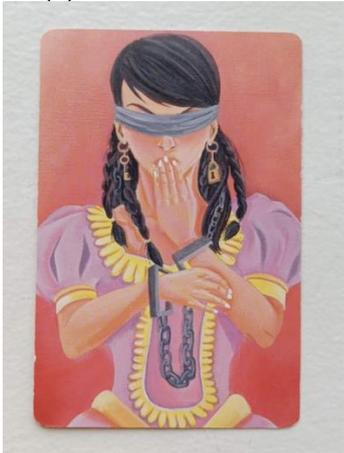
In the second session, about winter vacations, participant A. had selected 3 cards after 3,5 minutes, while G. was still looking for a third card, which he temporarily gave up but later continued during the discussion. A. commented that she does not see the point of taking more time to see and really grasp all the cards, as that would take a lot of time and would not be needed, as she had arrived at a sufficiently representative image and would never be able to find a perfect match in the limited number of cards. The group activity took 8,5 minutes, in which they selected 12 cards. By then, also these participants had familiarised themselves with the variety of cards and succeeded in selecting 2 cards individually within 4 minutes.

Quality of associations

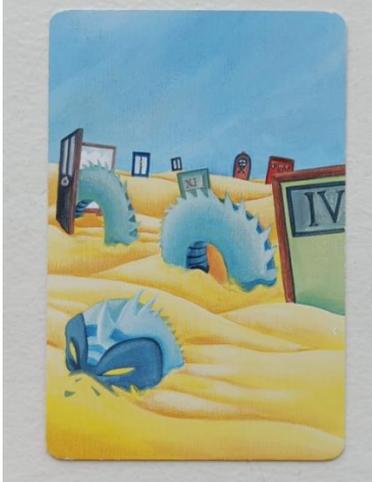
When speaking about the cards, participants refer to specific visual elements and the overall mood of the image. Since these are Metaphorical Associative Cards, it is of interest to study the qualitative association of visual metaphors, which falls within the field of semiotics. In this systematic study of depicted signs, three different types of signs are identified by Peirce: icons, indices and symbols (Atkin, 2022). An icon directly resembles its referent, an index is causally and/or physically associated with its referent, and a symbol is related to its referent only by convention. Peirce also demonstrated that a sign can never have a definite meaning, for the meaning must be continuously qualified. (Editors of Encyclopaedia, 2024). Metaphors, after all a key term in this study, are related to all three types of signs as the vehicle corresponds with the sign (the depiction, the visual element) and the tenor to the referent (the meaning being signified).

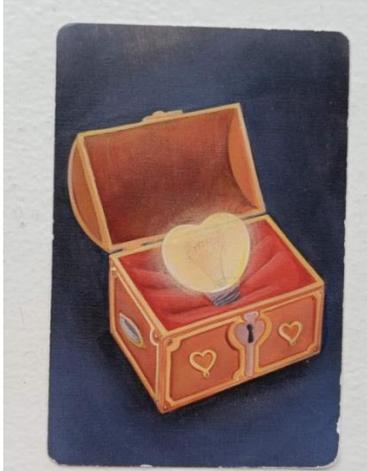
In total, 25 cards were discussed by the participants of the two sessions, and almost 50 references were made. Of those, the majority of signs was symbolic (24), a section was iconic (8) and a fraction was indexical (3). Table 2 illustrates several symbols, icons and indices as referred to by the participants.

Table 2: Examples of metaphors as presented by the participants

Card	Type of sign	Sign (vehicle)	Referent (tenor)
35 (K) 	Symbol	Chains on hands	Feeling caught, not being able to move out of your home

<p>57 (R)</p> 	<p>Index</p>	<p>Half-naked human figure</p>	<p>Not having time to dress when getting out of bed</p>
<p>60 (R)</p> 	<p>Symbol</p>	<p>Blindfolds</p>	<p>Involuntary blindness (failing to foresee what is happening)</p> <p>Voluntary blindness (ignoring the external chaos and trying to love)</p>
<p>40 (R)</p> 	<p>Symbol</p>	<p>Remote control</p>	<p>Kid's precise instructions for playing a game with parent</p>

<p>50 (K)</p> 	<p>Symbol</p>	<p>Body of dragon curved through surface</p>	<p>Wheels of time (theme)</p>
<p>59 (A)</p> 	<p>Icon</p>	<p>Sea</p>	<p>Lazing around the sea, pools and baths; wellness</p>
<p>6 (G)</p> 	<p>Icon</p>	<p>City skyline silhouette</p>	<p>Visiting cities</p>

<p>12 (G)</p> 	<p>Symbol</p>	<p>Box with hearts and light</p>	<p>Something new and positive</p>
<p>27 (S)</p> 	<p>Index</p>	<p>Many hands</p>	<p>Many people (big crowd)</p>
<p>36 (A)</p> 	<p>Icon</p>	<p>Boat in the sky</p>	<p>Gondola</p>
	<p>Symbol</p>	<p>Gondola</p>	<p>Venice</p>

Another common type of association was personal identification with the main character or subject on the card (12). For instance, participant K. related to one of the human-like figures (Fig. 3): "I thought about myself as the troll. It could be happy troll, but the child is very trusting, going with this giant person into the cave with the club in the hand." This observation aligns with findings of Popova & Miloradova (2014): the participant identifies themselves with the "hero" or an object on the card; this identification is the assimilation with anyone or anything on a personal level, which is also manifested in recognising images according to their own view of the world.

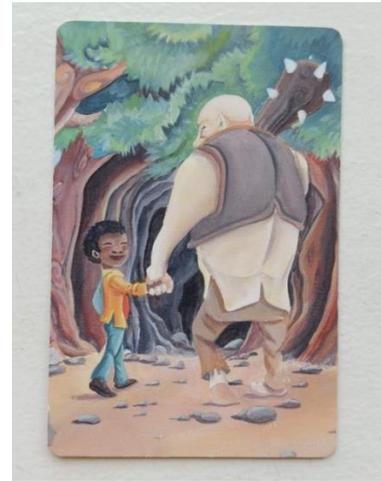


Figure 2 Card 66: "There were also these very prominent feelings of having to protect the child from all dangers."

In 5 occasions, participants revealed they primarily picked a card for their visual mood and the feeling it generated in them. For example, R. describes a sense of isolation: "the propeller lifting some Earth, and perhaps some buildings or something like that, away, is sort of like the same feeling of being afloat. Also being quite isolated" (Fig. 4).



Figure 3 Card 54: "Being uprooted from the previous life, but also just this world going at its own trajectory."

Above observations and quotes were interesting and concrete enough to be named independently. Other observations build on each other and in synthesis form valuable conclusions that are set out in the next section, without listing the separate qualitative results here.

Conclusions

Above results and other observations and quotes lead to several key conclusions about the application of Dixit Metaphorical Associative Cards for contextmapping in qualitative user experience research. They help answer the research question and form a preliminary assessment of the new proposed tool. The first two conclusions expose certain contradictions or tensions between modes of interaction with the cards, while the latter are independent insights on the setup of the session.

Interpretation limited by card or selective by participant

Firstly, there seem to be two ways in which participants can arrive at an interpretation of a card. On one hand, they can only talk about what is in the image. The number of possible associations is limited by the visual elements on the card, for example by the number of characters: "I say what's in the card and I don't say other things. So, you could probably make a systematic scientific evaluation of the different types of moods my kid could be in, and you'd probably need more categories than three, but those were the three I sort of zeroed in on, because of the card," said participant R about card 1 (Fig. 5). He found it helpful to have that very clear framework of the card, "instead of going off thinking about all sorts of situations." Also A. acknowledged that she needed to accept an image of a flying boat (card 36 in table 2) as sufficiently representative for the gondolas in Venice: "At one point I thought, 'I am not going to look further, this is enough, indeed this is a picture of my vacation.'"



Figure 4 Card 1: "A big part of your world when you're a parent of a three-year old is playing these types of games and also all these three registers of feelings."



Figure 5 Card 43: "That's just a bit of a scary card. Yeah, I think it's a pretty dark card. This is all grim. I did more of a search on anxiety and fear."

On the other hand, the participants choose what elements in the image to talk about. Participant A. acknowledged that something positive about the cards is the fact that you can see all sorts of things in them, and "it doesn't matter if the character is a troll or a child." In one instance, G. picked a card with balloons (Fig. 6) because of the grim mood, which he attributed to the angry looking face on one of the balloons. He did not notice that the other balloons showed different, more positive emotions. With this, his perception was unconsciously selective, which was necessary to express what was important to him, namely the risk of getting grumpy on vacation. Something similar happened to K., who did not realise that the flowers on the card she picked were looking sad: "That's not why I picked it, but because of the perspective, of a very small person in a big world where everything goes above their head."

This tension between involuntarily limited or conscious selective interpretation is illustrated by the judgement that the activities were hard because a card never fits exactly. When participant S. had a good association with the sense of being overwhelmed in one image (card 27 in Table 2), he was missing an element of a need for a safe space (which was a limitation he had to deal with) and could not relate to the fact that the character was a little prince (which he needed to selectively ignore).

Inspiration for answer or connection with preset response

Secondly, there also seem to be two ways for participants to select a card. Either, the cards inspire the answer to a prompt and one that has a strongest association is selected. In one activity, participant G. instantly picked a card (card 12 in Table 2) that caught his eye: "I actually saw it right away, and that's because I don't ski anymore. And so have a kind of box that opens and something new comes out of it. Then I thought, 'yes, that's it!'"

Or the participant is actively searching for a card for which the association matches the answer they had formulated to the question upon hearing it. For example, participant S reviewed that he had very specifically the fear and hope in his mind: "So, I was more looking for what image fits best with that, than thinking about what else I fear or hope. So, these cards did not help very much per se." He also proceeded to directly share his hope and fear through an anecdote, without referring to the chosen cards. Also A. says she first answers the question and then starts looking for an image to go with that. Her card (Fig. 7) to represent the joy of nature and panorama views, was selected for its form rather than content: "Then it was the vastness actually that attracted me in that image." It is difficult to define concrete criteria for selection, because it is hard for the participants to express in words how they assess the visual perception. As mentioned, they roughly relate to three types of signs and the general mood of the card.



Figure 6 Card 10: "What I still miss in our story is that it is just so beautiful there, from the highest ski lift for example, looking into the distance. Magnificent views. The vastness. This one maybe."

This tension between finding inspiration with an open mind and searching connection with a determined vision is expressed by participant K.'s statement: "In the first round I didn't quite know what I was going to answer, so I tried to let the cards inspire me. But then later, I think the last round, I had like a specific idea of what I wanted to say and then I search for a card that could match that." This also indicates that participants continuously switch between the two ways, modes of selection, depending on the prompt.

Group effects

The contextmapping sessions with Dixit cards were conducted in two families, so the participants were in a close and trusting relationship in which they felt free to talk about feelings. The topics of study were not only relatable to everyone in the group, but they also share experiences with it – R. and K. are parents together, and G. A. and S. went on family winter vacations together for years. They listened to each other's explanations on the card choices and influenced each other consciously and subconsciously.

Participant R. notes that "you say different things when you're together in an interview situation. You can't help being inspired." This mutual influence remained difficult to grasp from the interactions due to the focus on personal interpretations

but was explicitly surfaced once. In the last activity, K. picked a card that R. had picked in an earlier round, because she felt like “we all already established what this girl (the character in the image) is feeling,” so she could use it to represent someone who is brave and build on further.

The opposite also occurred, when A. suggested a card to S. while she had chosen that card herself earlier with a different meaning. She confirms that notion that participants can see anything in the cards, and that makes it fun.

The interdependence also became apparent in the group activity in the second session (Fig. 8). Participant A reviewed that she liked the joint assignment a lot: “That also helped us all a bit, because then one person comes up with this and brings that, and one person brings the others to a certain thought. That’s the power of associating together and coming up with something together.” G. agrees that they arrived at a ‘nice story’ much quicker and very smooth, in contrast with the struggle to associate deeply he had in the first, individual activity.



Figure 7 Participants of session 2 create a structure of Dixit cards to represent past winter vacations

Prompts and answer structures

Finally, the sessions yielded some learnings on the setup of the application of Dixit cards as a MAC tool. The prompts or questions for each activity need to be carefully developed and formulated. The facilitator found himself elaborating on the original prompt or rephrasing it into a question. Also, he improvised the request for an assessment in general positive and negative terms, i.e. the identification of pains and gains. In the moment it seemed like a smooth transition to a starting point for a user experience journey, and that assignment could have been considered in advance.

Meanwhile, when introducing a structure like a ‘scenario timeline’ in activity 2.2, the participant should have the freedom to adapt the structure as it suits them. The facilitator must keep in mind that the goal is to elicit latent needs and uncover tacit knowledge, and that any structure that is deemed as helpful is legitimate, so all suggested modifications or rejections must be accepted. This conviction is derived from the instructions on backdrops in Convivial Toolbox. The backdrop of a generative toolkit may be blank or carry a suggestive structure to guide or to focus the participant’s efforts. Whether the participant actually uses the structure provided can often be left to the participant’s discretion (Sanders & Stappers, 2013).

For example, participant A. noted that many things they included are not at all chronological, like the theme of ‘fun’, after which she divided the cards in two groups very quickly without much discussion with the others, who seem to agree in silence. Afterwards, G. said he found the scenario building exercise easier than just describing his experience with a few cards, because he could go through the whole experience point by point diachronically.

INFORMED CONSENT FORM FOR PARTICIPANTS

This information sheet and consent form were signed by each participant and the researcher before the start of the study.

INFORMATIE VOOR DEELNEMERS

CONTEXTMAPPING & CO-CREATIE WORKSHOP RIJKSMUSEUM

U wordt uitgenodigd om deel te nemen aan het onderzoek *Contextmapping & Co-creatie Workshop in het Rijksmuseum*. Deze activiteit is onderdeel van de studie *Reflecting on societal themes through a historical art experience in the Rijksmuseum*. Deze studie wordt uitgevoerd door Joris Dietz van de TU Delft en het Rijksmuseum Innovatielab en staat onder toezicht van dr. ir. Arnold Vermeeren en ir. Aadjan van der Helm.

doel

Het doel van dit onderzoek is om de bezoekersbehoeften voor een nieuwe historische kunstervaring in het Rijksmuseum in kaart te brengen en zal ongeveer 4 uur in beslag nemen. De data zal gebruikt worden voor de analyse van bezoekersbehoeften, het vaststellen van ontwerpdoelen en het evalueren van concepten in de ontwikkeling van een nieuw product.

activiteiten

U wordt gevraagd om de volgende taken uit te voeren:

- Zelfstandig de vaste collectie van het Rijksmuseum bezoeken (90 minuten):
 - o tijdens het bezoek vragen beantwoorden en aantekeningen maken in een 'bezoek logboek';
 - o tijdens het bezoek foto's van interessante kunstwerken te nemen en te sturen naar de onderzoeker;
- Deelnemen aan een workshop met 4-6 andere deelnemers (120 minuten):
 - o thema's in de collectie van het Rijksmuseum vaststellen door kunstwerken te koppelen aan illustratiekaarten;
 - o reflecteren op het bezoek aan het Rijksmuseum door een tekening te maken en daarover te vertellen;
 - o reflecteren op uw verhouding tot historische kunst door een illustratiekaart te kiezen en daarover te vertellen;
 - o fantaseren over een nieuwe interactieve ervaring met historische kunst in een museum door een artefact samen te stellen met illustratiekaarten en knutselmateriaal.

verzameling van resultaten en persoonlijke gegevens

Tijdens het onderzoek zullen persoonlijke gegevens en resultaten worden verzameld. Als deelnemer produceert u de volgende resultaten:

- geschreven notities en tekeningen in 'bezoek logboek';
- foto-opnames van het bezoek (d.w.z. foto's van interessante kunstwerken);
- geschreven notities en tekeningen in de workshop;
- geknutselde artefacten in de workshop;

De onderzoeker produceert de volgende resultaten:

- audio-opnames van de workshop;
- video-opnames van de workshop;
- foto-opnames van de workshop;
- geschreven notities van de workshop;

U kunt op het formulier volledige, gedeeltelijke of geen toestemming geven voor het produceren en verwerken van opnames waarbij u herkenbaar bent.

De onderzoeker verzamelt daarnaast op het volgende formulier enkele van uw persoonlijke gegevens ter validatie en rapportage van de samenstelling en relevantie van de deelnemersgroep.

Alle resultaten worden, indien gewenst onherkenbaar gemaakt (zonder vermelding van naam, met kleurvlak over gezicht), voor onbepaalde tijd opgeslagen op beveiligde online platforms van het Rijksmuseum Innovatielab, d.w.z. Miro en Microsoft Office (incl. Onedrive, Excel, Word). Uw persoonlijke gegevens worden enkel offline opgeslagen op de persoonlijke computer en in het fysieke logboek van de onderzoeker.

De resultaten worden verwerkt in een rapport, d.w.z. het masterproefschrift van de onderzoeker. Dit rapport wordt openbaar gepubliceerd in de repository van de Technische Universiteit Delft en gedeeld in het Rijksmuseum Innovatielab.

deelnamerechten

Uw deelname aan dit onderzoek is volledig vrijwillig, en u kunt zich elk moment terugtrekken zonder reden op te geven. U bent vrij om vragen niet te beantwoorden. U kunt de onderzoeker gebieden om uw persoonlijke gegevens te verwijderen en niet te verwerken in het onderzoeksrapport.

onderzoekers en contactgegevens

De uitvoerende onderzoeker is Joris Dietz, masterstudent *Design for Interaction* aan de Technische Universiteit Delft.

Joris wordt zo mogelijk bijgestaan door medewerkers van het Rijksmuseum Innovatielab, Sander Aalbers en/of Evita Goetssch.

De verantwoordelijke onderzoeker is dr. ir. Arnold Vermeeren, universitair hoogleraar aan de faculteit Industrieel Ontwerpen van de Technische Universiteit Delft.

TOESTEMMING VOOR DEELNAME EN DATAVERWERKING

CONTEXTMAPPING & CO-CREATIE WORKSHOP RIJKSMUSEUM

1. Ik heb de informatie over het onderzoek op ___ / ___ / _____ gelezen en begrepen, of deze is aan mij voorgelezen. Ik heb de mogelijkheid gehad om vragen te stellen over het onderzoek en mijn vragen zijn naar tevredenheid beantwoord.	<input type="checkbox"/>	<input type="checkbox"/>	JA	NEE
2. Ik doe vrijwillig mee aan dit onderzoek, en ik begrijp dat ik kan weigeren vragen te beantwoorden en mij op elk moment kan terugtrekken uit de studie, zonder een reden op te hoeven geven.	<input type="checkbox"/>	<input type="checkbox"/>	JA	NEE
3. Ik begrijp dat mijn deelname aan het onderzoek de volgende activiteiten omvat: a. zelfstandig bezoek aan het Rijksmuseum met logboek; b. workshop met tekeningen, illustratiekaarten, en knutselmateriaal.	<input type="checkbox"/>	<input type="checkbox"/>	JA	NEE
4. Ik geef toestemming voor het maken van foto-opnames van mijn deelname, voor gebruik in analyse, publicaties en presentaties van het onderzoek.	<input type="checkbox"/>	<input type="checkbox"/>	JA, HERKENBAAR	NEE ONHERKENBAAR
5. Ik geef toestemming voor het maken van video-opnames van mijn deelname, voor gebruik in analyse, publicaties en presentaties van het onderzoek.	<input type="checkbox"/>	<input type="checkbox"/>	JA, HERKENBAAR	NEE ONHERKENBAAR
6. Ik geef toestemming voor het maken van audio-opnames van mijn deelname, voor gebruik in analyse van het onderzoek.	<input type="checkbox"/>	<input type="checkbox"/>	JA	NEE
7. Ik begrijp dat mijn deelname aan het onderzoek wordt gecompenseerd met een gratis bezoek aan het Rijksmuseum en gratis lunch tijdens de workshop.	<input type="checkbox"/>	<input type="checkbox"/>	JA	NEE
8. Ik begrijp dat mijn deelname betekent dat er persoonlijke gegevens en onderzoeksresultaten worden verzameld, met het risico dat ik hieruit geïdentificeerd kan worden.	<input type="checkbox"/>	<input type="checkbox"/>	JA	NEE
9. Ik begrijp dat na het onderzoek de geanonimiseerde informatie gebruikt zal worden voor publicatie van een masterthesis, met eventueel uitingen op de LinkedIn-pagina's van de onderzoeker en het Rijksmuseum.	<input type="checkbox"/>	<input type="checkbox"/>	JA	NEE

10. Ik geef toestemming om mijn antwoorden, ideeën of andere bijdrages te quoten in resulterende producten.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	JA, HERKENBAAR	JA, ONHERKENBAAR	NEE
11. Ik heb een kopie van dit formulier op dezelfde manier ingevuld en bewaard voor eigen administratie.		<input type="checkbox"/>	<input type="checkbox"/>
		JA	NEE

AKKOORD DEELNEMER

DEELNAMENUMMER	
VOORNAAM	
ACHTERNAAM	
LEEFTIJD	
GENDERIDENTITEIT	M / F / X / zeg ik liever niet
DATUM	
PLAATS	
HANDTEKENING	

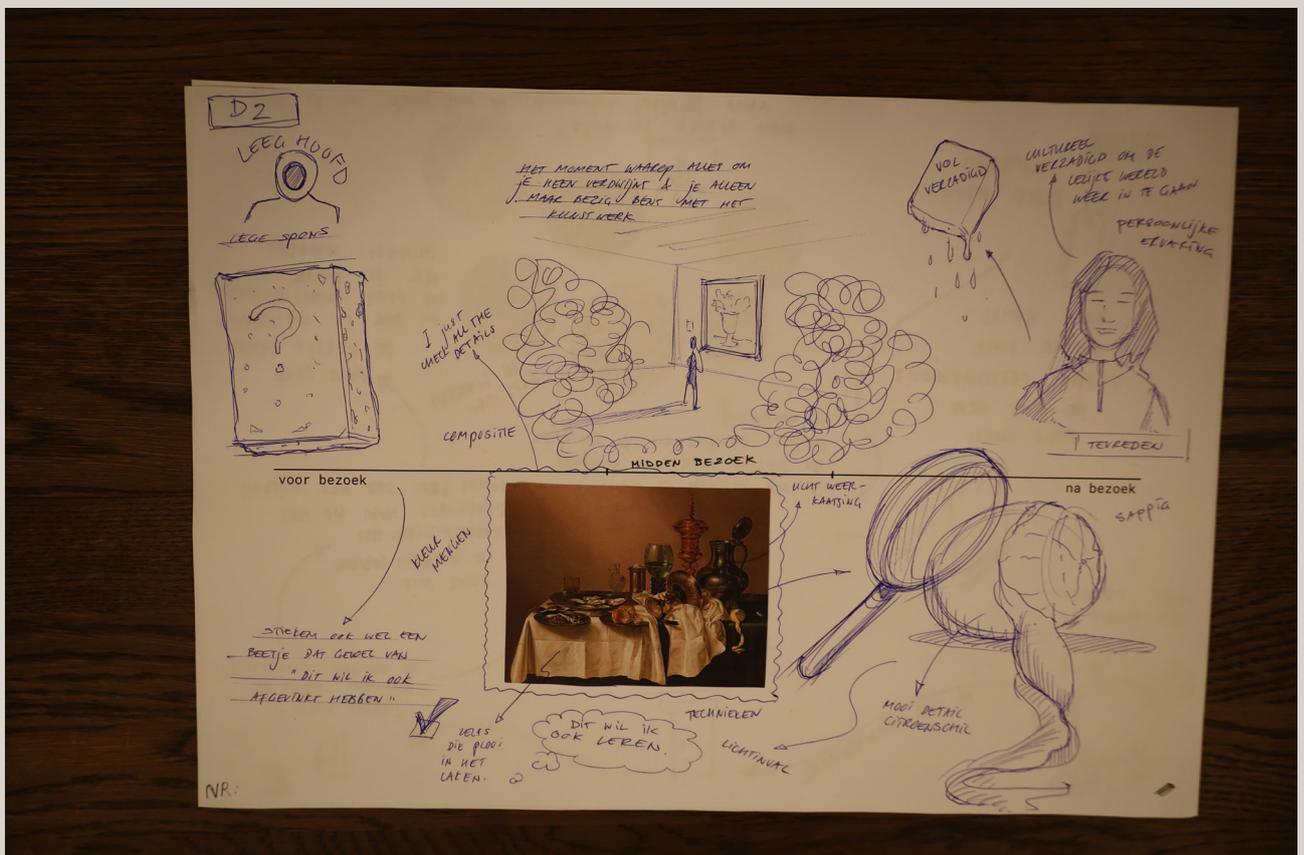
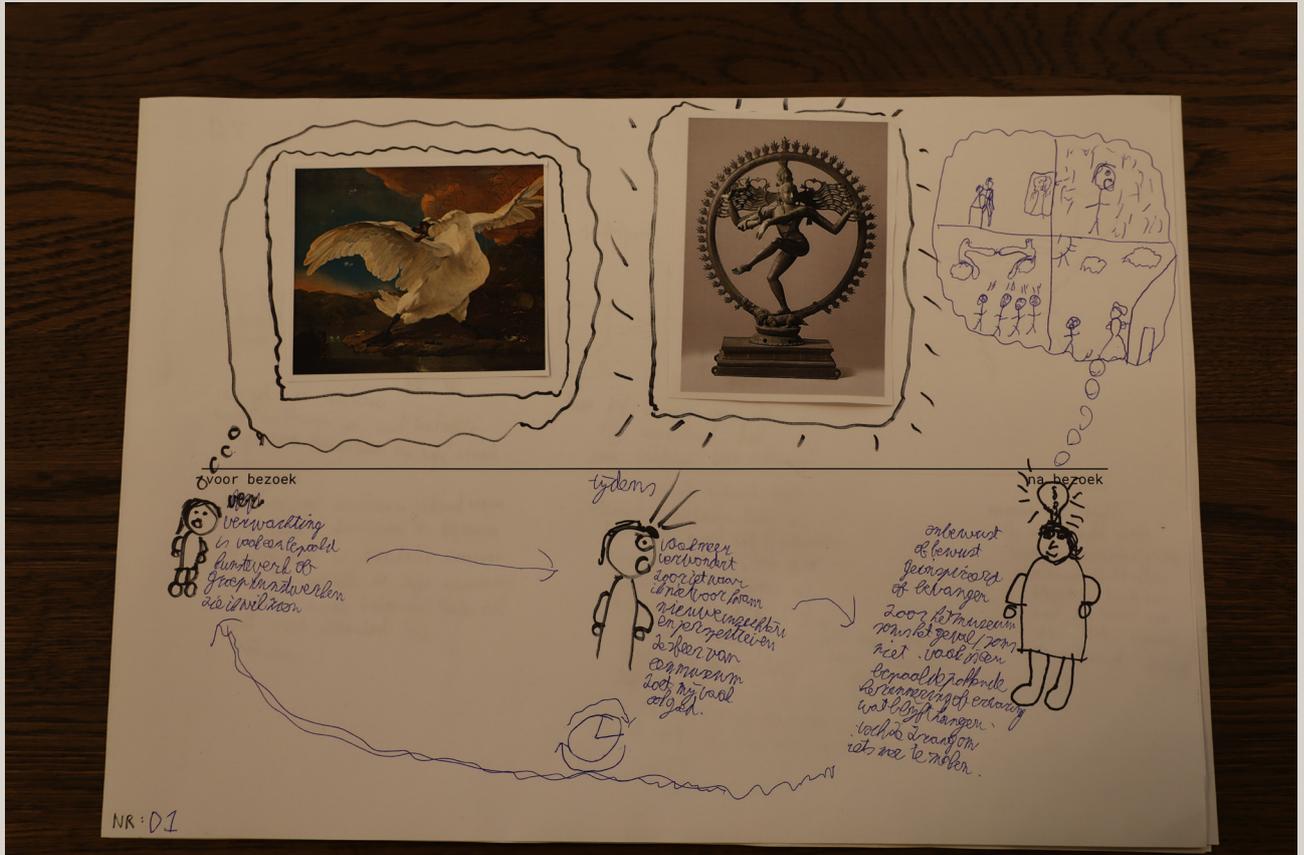
AKKOORD ONDERZOEKER

Ik, de onderzoeker, verklaar dat ik de informatie en het instemmingsformulier correct aan de potentiële deelnemer heb voorgelezen en, naar het beste van mijn vermogen, heb verzekerd dat de deelnemer begrijpt waar hij/zij vrijwillig mee instemt.

NAAM
DATUM
PLAATS
HANDTEKENING

APPENDIX I: RESULTS OF CONTEXTMAPPING STUDY

CREATIVE RESPONSES TO 'WHAT MAKES A MUSEUM VISIT VALUABLE?'





HET LEVEN IS
IN CHAOS...

DE REIS ERVAARDE



EEN INGANG DIE
JE VAN DE WERELD
SHEED



"EVEN RUST"
EEN HAL WAAR JE
JE SPULLEN ACHTERLAAT

SOMS WIL
IK ALLEEN MAAR
KONDWALEN EN
GENETEN VAN AL HET
MODIS (EN OOK HET LEIJKE)

SOMS WIL
IK LEREN MAAR
DAN MOET:
• ik zin hebben in leren
• de teksten voldoende diepgang
hebben zonder een te complexe
formulering

SOMS NEEM
IK OOK EEN
KLEIN GESCHIEDENIS
BOEKJE MEE
OVER KUNST



EXTRA ZINEN
OPDOEKEN



ZIJN OM
TE MAKEN

DAN LOOP
IK RUSTIG ROND
EN DOE IK INSPIRATIE
OP VOOR KUNSTWERKEN
DIE IK ZELF ZOU
WILLEN MAKEN

DAN MAAK IK FOTO'S
VAN DETAILS

ik wil nich in de weg staan

24

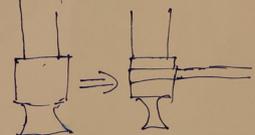
N

op basis van nieuwe
beeldje. Weet niet helemaal
waar ik het gezien had.



Inzicht in verloop
van culturen en wat het afle
blijft. ~~ook~~ ~~hier~~ ~~aan~~ nu nog steeds

tafelpoot



deze dit inzicht vond ik
zo waardevol. deel
van tafelpoot was helemaal



voor bezoek

worden en nieuwsbaar gebouwd voor
maximale doeleinden en blijkbaar
4 dat echt al toentalle eeuwen
zo. Om eerlijk te zijn waardevol
inzicht maar helemaal ~~duik~~ dat
dat niet veranderd is.

glad aan de zijkant met
hout zichtbaar. Ding is
dat blok moet uit 3 planken
zijn gemaakt en toch is ie
glad. Hoe? Volgens mij
door een hout heel dun
gemalen houten plank ~~dit heeft au~~
doe erop en geplakt. ~~naam, maar ben~~
~~vergeten~~
Het als dat zo is is dat
echt meesterlijk verwerkt en ga
ik zelf nog een keer proberen

na bezoek

waarom ~~a~~ blijft
in m'n hoofd zitten
waaromromeins/grieks
olielampje in thalass
terzitat. Leek het
veel op kunst van
daan. Was iemand
er helemaal verliet
op?

NR:

v1



121



122



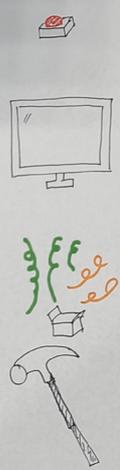
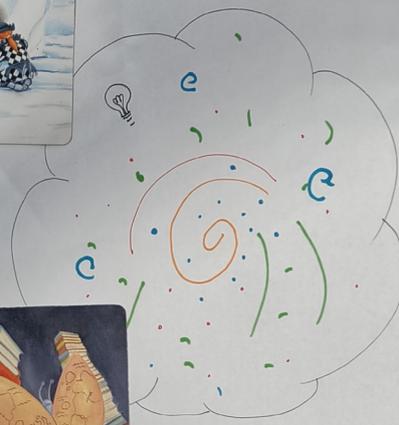
123



nieuw

verwerken

statische oude kennis & cultuur



v2

U3

Snel door schilderen de bloemen vervallen en die zijn also duur. Heb ik alle betekenis erop geplaatst in de zijkant

ook maria kon dit zien ze kijken wel erg verbeeld

Heb ik al heel zwaar en dat is nog maar mijn onsterfelijkheid

Ik ben rijk en word later jouw baas

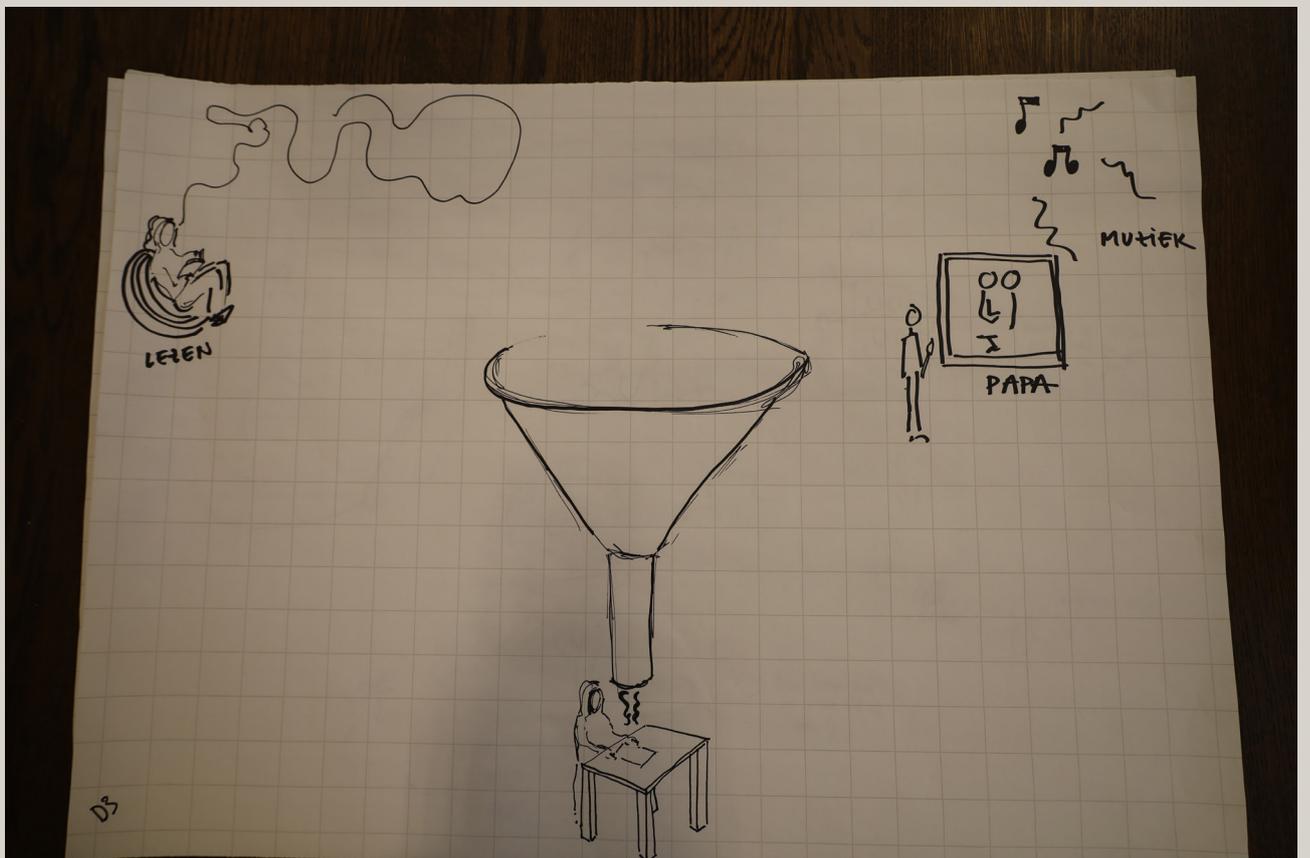
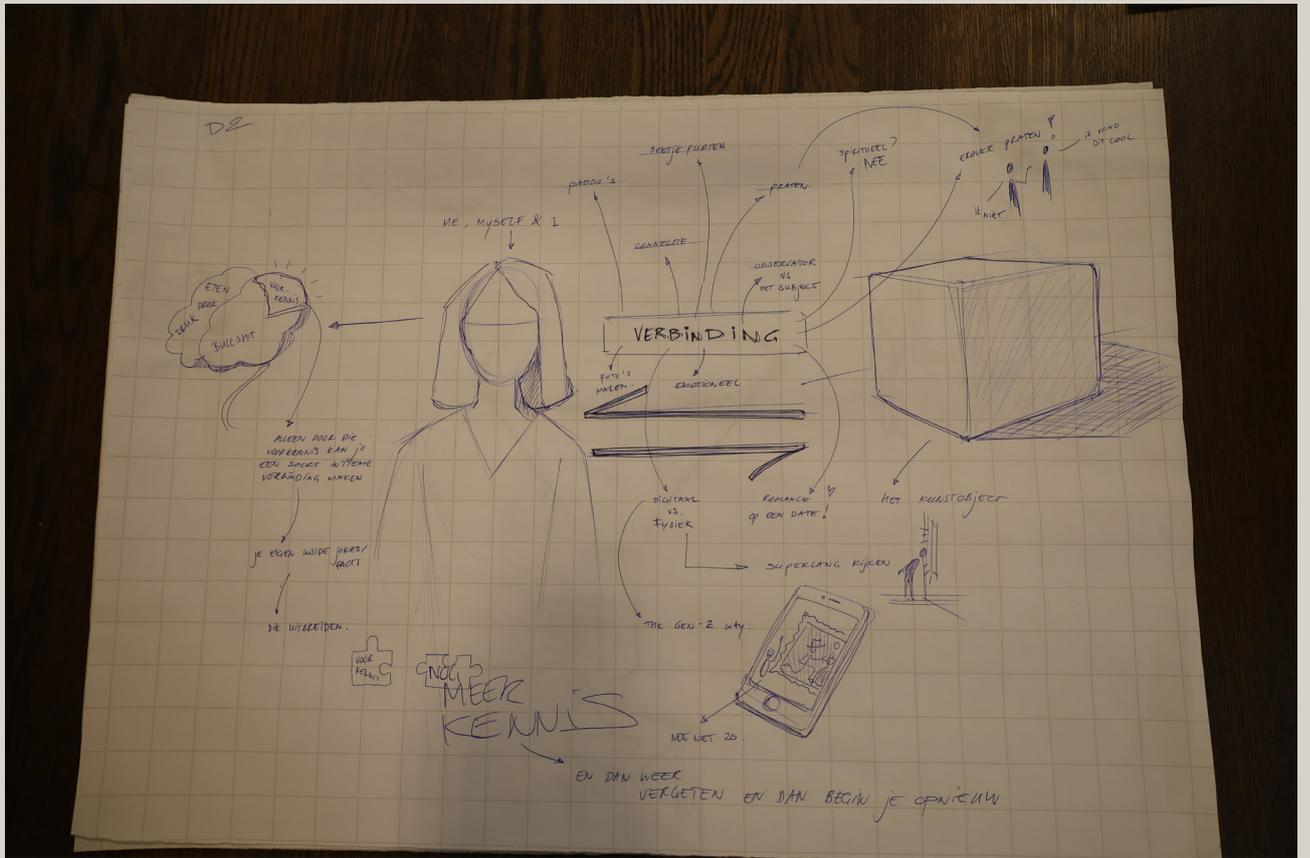
Meest waar de volk is de in zicht dat er veel verschillende kijken zijn op de wereld en je even de kans hebt om je er zelf in te betrekken

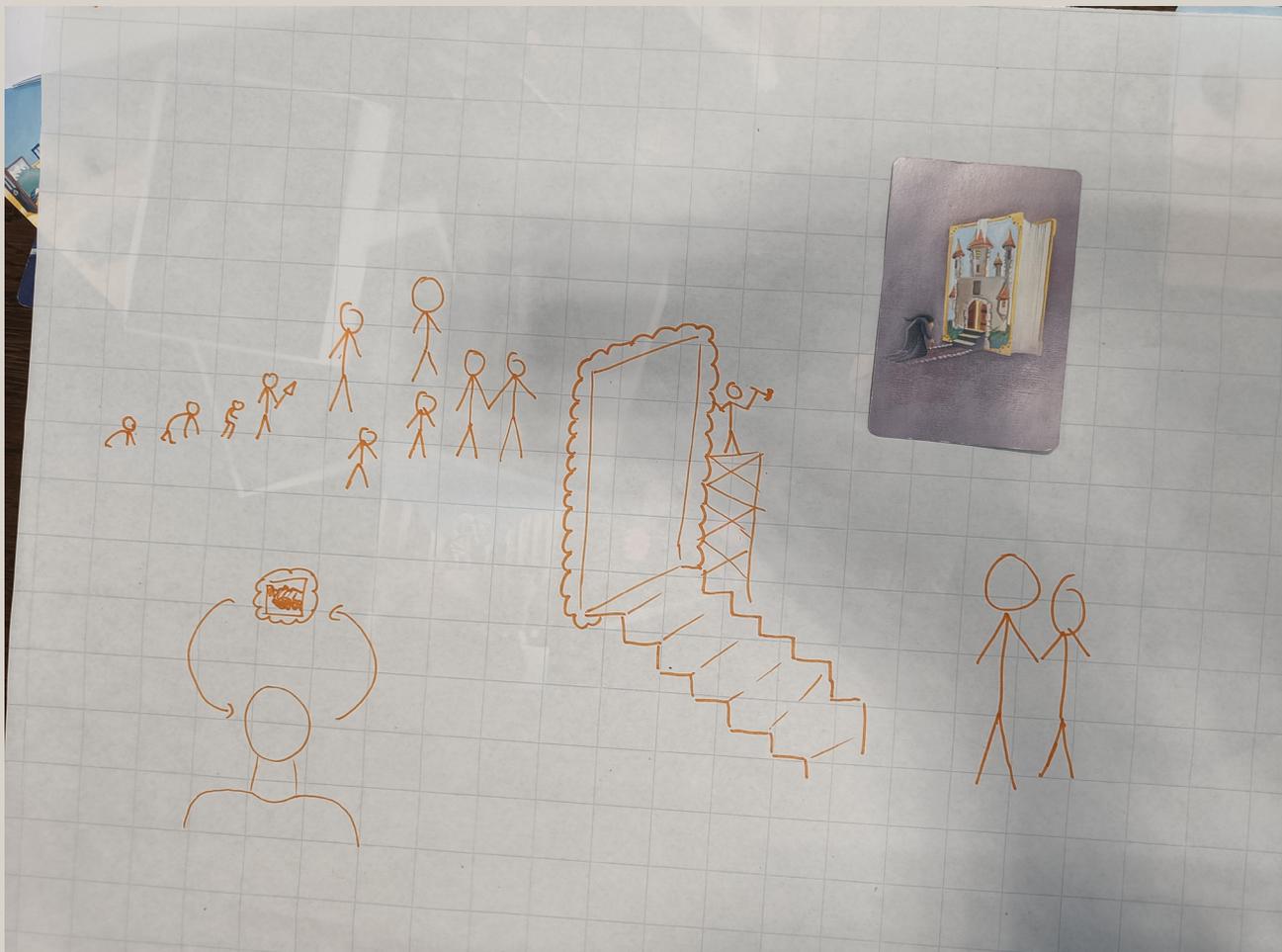
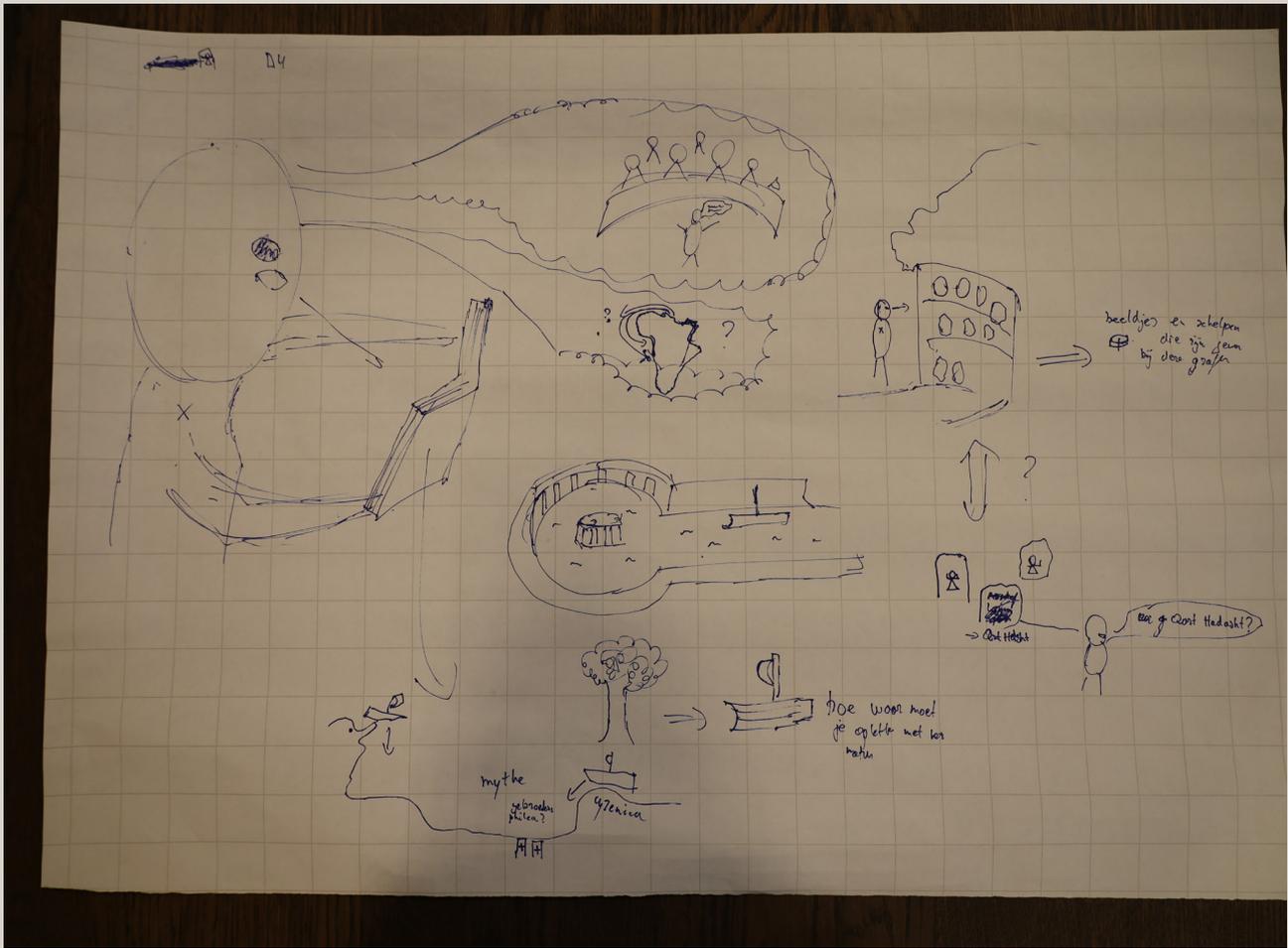
CREATIVE RESPONSES TO 'HOW DO YOU CONNECT WITH ART OR HISTORY?'

B1

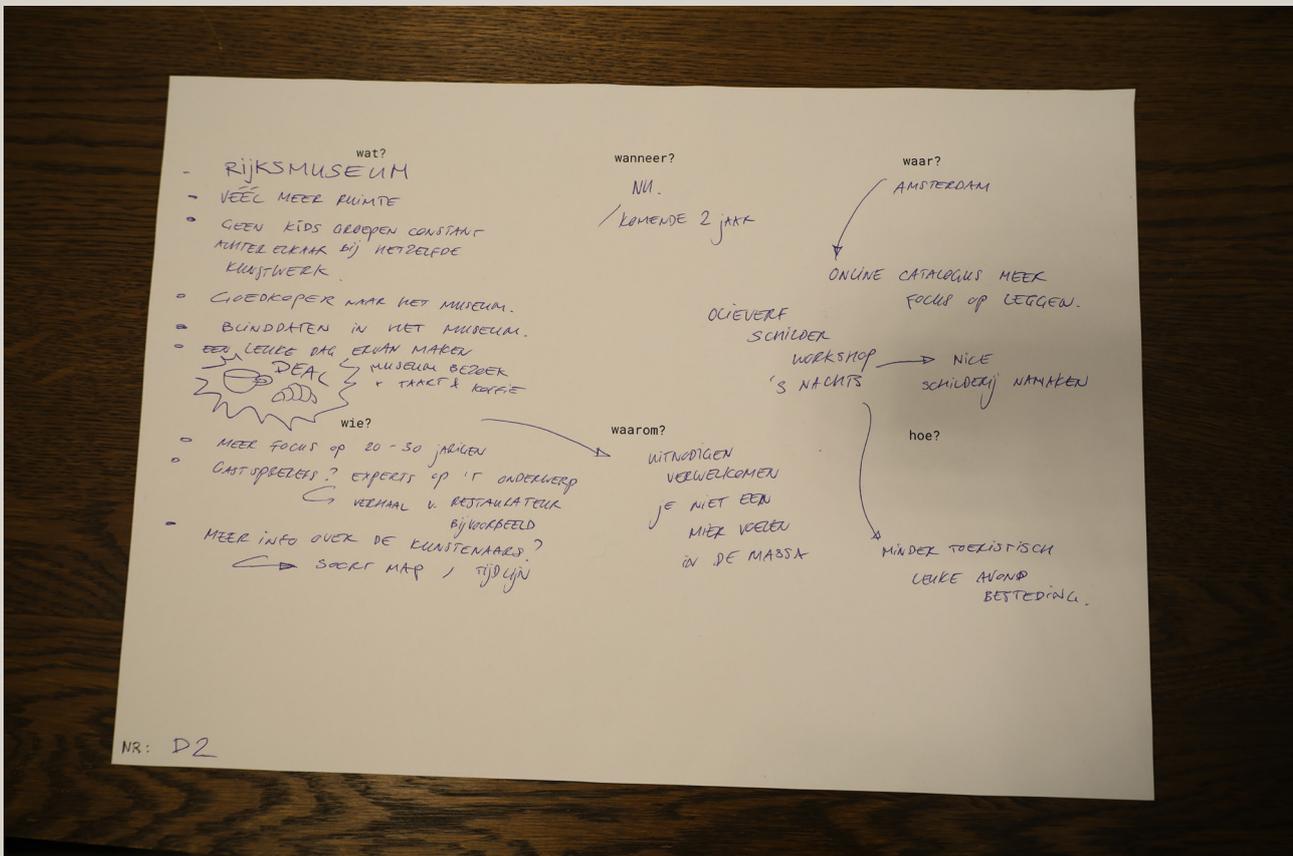
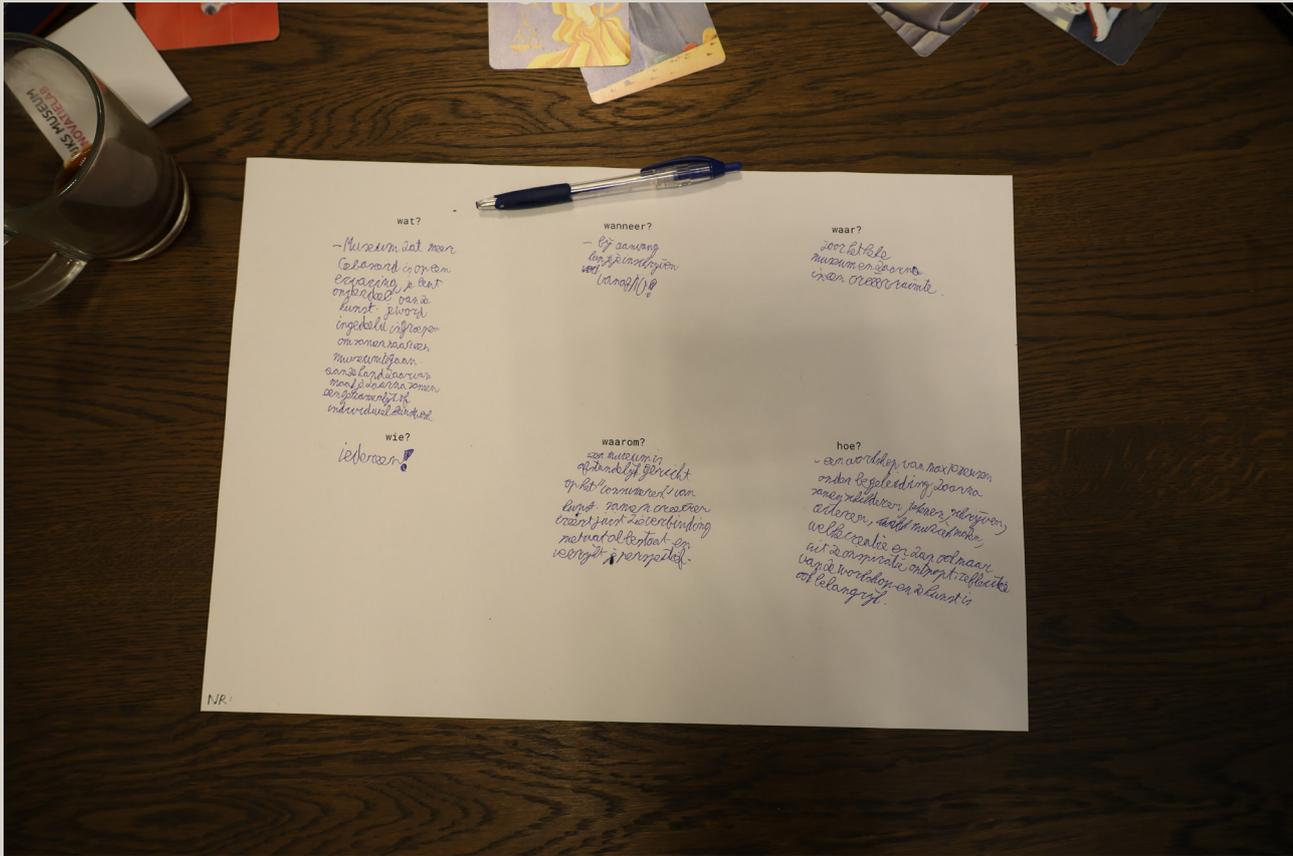
- Emotie !!!
- Machteloosheid, macht
- Ervaring
- Inspiratie
- Betrokkenheid
- Diversiteit
- Menselijke connectie
- Zinnen
- Ritmes
- Koppeling
- Wiskunde

Handwritten mind map centered on "Emotie" with branches to: "menselijk, emotioneel", "muziek", "verhalen", "gemeenschap", "psychologie", "compositie", "nieuw karakter", and "tegenwoordig".





CREATIVE RESPONSES TO 'HOW CAN THE RIJKSMUSEUM ESTABLISH THAT CONNECTION WITH ART OR HISTORY?'



V1

wat?



Een lezing/panel. Groeps discussie mogelijk maar heeft geen ~~aanbod~~ verplichting te zijn. Het moet zich natuurlijk voort doen.

wanneer?

Tijdens / na bezoek

De tijden kunnen van te voren afgesproken worden. Ik denk dat het belangrijk is dat mensen tegelijkertijd / kort na elkaar de kunst ervaren.

waar?

In het museum / eventueel aparte ruimte

wie?

Andere gasten, vrienden en familie ook erg nice. Informatie door 'kenner'.

waarom?

Ik denk door samen na te denken over kunst, en erover te praten kom je het dichtst bij je 'echte' ervaring van het werk.

hoe?

Door een tijd en locatie aan te duiden waar geïnteresseerden naar toe kunnen. De focus ligt op kennis, maar ~~ke~~ er moet ruimte zijn voor discussie. Het moet goed genoeg worden gebracht dat mensen met veel en mensen met weinig kennis een goede tijd hebben.

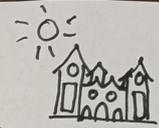
wat?

inspiratie 
tijd & rust 

wanneer?

op een doordeweekse dag

waar?

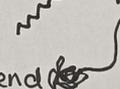


oud, statig & ruim gebouw met veel licht natuurlijk

wie?

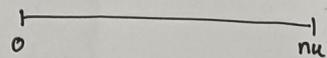
ik en anderen

waarom?

- zelfontplooiing 
- probleem oplossend 
- meer cultuur &  geschiedenis begrip

hoe?

- studeren 
- Vragen met kindergids
- meer context per kamer 
- algehele geschiedenis verhaal



- colleegetour

v2

Frieden
Night
Live

De pade
BNers vertellen
Manni's huis
Vanaggh

Delt De
Porse leynthes

Corona
Mini tentoonstelling
steekt

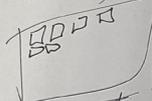
Prinkel Arme
randes

DDW

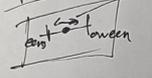
Bier bron weiden

wat?

Een duidelijke
verhaal van A tot
Z in categorie net
(Interactie of Analoge
stukken)



Postit
manier
wat mensen
omniets
vanen



wie?

Gericht opleten Das
echt goed uitgelegen

wanneer?

Breit niet
waer op tentoonstelling
basis niet vast

waar?

voor Rijk in de tentoonstelling
hal

waarom?

hoe?

Duidelijk & Beschikbaar
↳ Kunst hal / voor linde
↳ Frans hals tentoon stelling

~~Heer style~~

13

APPENDIX J: FALK'S IDENTITY-RELATED MOTIVATION ROLES

sources: Falk (2006) and Lundgaard (2013)

FACILITATORS

Visitors who are socially motivated. Their visit is focused on primarily enabling the experience and learning of others in their accompanying social group. Facilitators are focused on what their significant others see and find interesting, and satisfying their needs and desires. This category includes a large group of 'committed parents' who believe science, art and history are important to learn for children. Individuals that want to please their sibling, partner or friend by taking them to a museum are also identified as Facilitators.

PROFESSIONALS/HOBBYISTS

Visitors who feel a close tie between the museum content and their professional or hobbyist passions. Their visits are typically motivated by a desire to satisfy a specific content-related objective. Professionals or Hobbyists tend to enter with very specific, content-orientated interests and use the museum as a vehicle for facilitating those interests. They are quite knowledgeable and expect the museum to resolve questions others cannot answer. Therefore, they sign up for special lectures or courses rather than the general tour. Professionals or Hobbyists are more interested in learning how information is conveyed in the museum, rather than the information per se.

EXPERIENCE SEEKERS

Visitors who are motivated to visit because they perceive the museum as an important destination. Their satisfaction primarily derives from the mere fact of having "been there and done that." Experience Seekers are prone to reflect upon the configuration of the day, particularly how enjoyable the visit is. They want to have a good time and see the best of what the museum has to offer. Tourists who want to 'collect' an experience and look at the museum through a lens of recreation and entertainment fall within this category.

RECHARGERS/SPIRITUAL PILGRIMS

Visitors who are primarily seeking to have a contemplative, spiritual and/or restorative experience. They see the museum as a refuge from the work-a-day world or as a confirmation of their religious beliefs. Rechargers are more focused on the configuration of the day but are not so much interested in having fun as they are interested in having a peaceful or inspiring experience. They visit in order to reflect, rejuvenate or respect; completely surrounding themselves by art, history and/or science.

APPENDIX K: OTHER INSIGHTS FROM CONTEXTMAPPING STUDY

People visit museums to learn or relax

From the contextmapping study, two contrasting modes of engaging with art seem to exist for museum visitors. On one hand, they come to learn new things about art and history. On the other hand, they want to relax and take a spiritual break from daily life. Here an interesting tension arises.

Museums facilitate learning experiences

"I rather seek knowledge and things that I don't instantly see in the artwork" - participant D1

Related to the conditions mentioned before is the insight that museums facilitate learning. Some contextmapping study participants even indicate that getting insights is a primary motivation for a museum visit.

Visitors like additional sources to acquire new information, on top of their prior knowledge and things they see in the artworks. Of course, this need is nearly impossible this need is almost impossible to satisfy for all visitors, as prior knowledge and interests vary widely and the museum cannot present a book of information with every object on display.

"Art objects should have texts with interesting things, that make you think about it, and get a new insight." - participant D4

"I want only the things that you don't see or know instantly. I want that as new information." - participant D3

Visitors use prior knowledge as a foundation for their learning experience in two ways. On one hand, they showcase and test the things they already know.

"The only reason for me to read the object text is to verify what I already know. ... That's a fun exercise." - participant V3

"In daily life my pile of art knowledge never occurs, but at the moment I am in a museum, I suddenly have the chance to take it out and make use of it." - participant D2

On the other hand, they expand their existing knowledge with new information. This prior knowledge also functions as a filter view for absorbing new information.

"I liked getting extra information [from fellow participant during the visit] while watching the artwork, so that the bubble [of knowledge] in my head grew." - participant V3

"Connection [with art or history] is an extension of prior knowledge in which you're interested. So you filter new information based on that prior knowledge, and you unpack and expand that." - participant D2

Of course, the Rijksmuseum offers many services to facilitate learning, from free multi-media guides to staff-guided programs. The Family app challenges young kids to investigate 10 objects and stories in the museum. As introduced by the actor in the videos, the main objective is to teach kids a curious and inquiring attitude: "the better we do research, the more secrets we unravel, the more we know about history and ourselves." Again, learning is at the core of the museum experience.

Museum academic Sitzia (2016) confirms that learning takes place in the museum, and is lifelong, free-choice and multiform. "Learning in the museum is a combination of learning cognitive, affective and psychomotor information."

Museums facilitate spiritual breaks

"Walking through a museum on my own can also be just very therapeutic in a way." - participant D1

In contrast to the learning experience, visitors can also have a spiritual break in the museum. In the modern world, people feel overwhelmed by busy, urban life. The trip towards and entrance into the museum form an exit from that world. Contextmapping study participants say to be relaxed and enjoy the majesty, magic and peace in the atmosphere. This is how Spiritual Pilgrims (see chapter 2.5) experience a museum visit.

"I like the atmosphere in a museum." - participant D1

"The entrance of the museum makes me feel relaxed and reset before starting with the story." - participant D3

The museum is a place parallel to the real world of daily life, so natural habits are also paused. Visitors adopt new behaviour that fits the museum context and their art experience:

"I don't want to use my smartphone, I just want to give my attention to the art, which makes me calm." - participant D1

"The stigma in museums is: you're quiet, you have to look at it, you need to unwind by yourself." - participant V1

When facing an artwork, participant D2 can have "a special feeling of noise around me when I have a short moment alone with the artwork." Participant D3 highlights that we can watch art in a very simple way. "You can be totally amazed by colours and colour combinations ... I can experience it very spiritually." The need for learning new information about the artwork or artist is not always felt. "Sometimes I just want to watch and appreciate, and then I don't give a shit about the story or who the artist is." - D3

Participants suggest that the spiritual experience of art can be further enhanced by interior design and programming in the museum. D3 suggests that the museum opens at night for a limited number of visitors. The lights in the big galleries must be dimmed, spotlights create focus on particular artworks, people silently and slowly walk over a red carpet. "So that you can just stroll and watch the artworks very quietly."

Artworks are artefacts for self-reflection

"Art can open a treasure chest within yourself with an insight that you didn't have before." - participant V3

Viewing art and learning about the people inside, behind and around the object leads to empathy. This empathy for other people can lead to self-reflection and understanding of self.

"The more you try to connect with people and get empathy for the people around you, the more you can understand yourself." - participant V3

But also without empathy for the people behind, in or around artworks, art can uncover feelings and thoughts inside people. These latent internalities are brought to the surface by artworks as an artefact for externalisation.

Visitors are confronted with insights that they knew deep down, but didn't realise before. Such insights vary from latent viewpoints to personal principles. Art makes people think about those things they don't usually think about, for example contextmapping study participant V1's stance towards colonialism and nationalism that followed from viewing the painting of Isaac Israëls.

"Such feelings are not directly visible, without self-reflection. And for me art is a very effective way to do that." - participant V1

The contextmapping study found that museum visitors project prior knowledge and established thoughts onto an artwork. The artwork resonates with that or not; it confirms or disputes the initial attitude. This feedback leads to new insight, and possibly empathy, in the viewer.

Multi-sensory experiences and activities that require action from the visitor accelerate the self-reflection process (see insights in the chapter 3.3). Participant V2 expresses the need to experience this feedback loop within the museum visit, and requires time and rest for this.

"Self-reflection is thinking 'oh, I really recognize myself in that,' and 'I also run into that problem, how do they fix it?'" - participant V2

The Rijksmuseum wants to bring attention to various topics

To make the product to be designed more relevant to and viable in the context of the Rijksmuseum, its content can be aligned to topics that are of interest to the Rijksmuseum.

Creation, mobility, sustainability and identity

The collection plan for 2023-2028 (Rijksmuseum, 2023) sets out four 'lines' to be represented in all aspects of the museum. They must be recognisable and meaningful for the audience and connect history with the present and future. The Rijksmuseum makes connections between these themes, looks for expressive images and personal inspiring stories about art and history.

- Creation
- Mobility
- Sustainability
- Identity

Design opportunity: The product can represent one or multiple of the Rijksmuseum focus themes – creation, mobility, sustainability and identity.

Social movements in the 20th century

The collection plan (Rijksmuseum) further mentions that the presentation of major 20th century social movements, such as decolonisation and liberation movements and emancipation movements of workers and women, could contribute to the plurality of the Rijksmuseum's collection and presentation. All these topics are poorly visible in the current presentation.

One argument to highlight this theme does not hold for the product to be designed for Dutch young adults. The collection plan namely mentions that the 20th century is the only century that Rijksmuseum visitors consciously experienced, but that is not true for the selected target user group of 18 to 30 year olds. It will be hard to make a connection between that era and the present, although not as hard as with the distant past of the 16th or 17th century. "Recognisability must be explicitly taken as an objective of the presentation in order to make this theme work."

Design opportunity: The product can focus on the collection and stories of social movements in the 20th century, which may be more recognizable than stories from the distant past, and relate them to the future.

Universal and connecting themes

The Rijksmuseum aims to make a connection between the past and the present, between the art and history in the collection with the diversity of visitors in the museum. According to the collection plan the presentation "should be redesigned with the aim of actively involving and touching visitors on the basis of universal and connecting themes."

The collection plan further states the museum will be a safe place in the centre of society that makes current issues visible and discussable through the museum collection and stimulates an open conversation.

Societal themes for young adults

One existing program of the Rijksmuseum is already targeted at young adults and revolves around a set of societal themes that are deemed particularly interesting. "The Ideal Citizen" (appendix X) is a tour that relates the collection to the topics of the MBO course 'Citizenship' by highlighting some famous and lesser-known key figures in or around the artworks. Dependent on the background of the group (e.g. a class of beauty specialists) one of the following themes is chosen as common thread in the tour: own identity, governance, (un)healthy lifestyle, money, gender, and colonial history (Publiek & Educatie, 2024).

Besides, several employees have suggested topics of interest that could be highlighted in future programs and products.

"I see a lot of potential in themes like craftsmanship and crafts. This is also important to the government, which wants to encourage practical training among youth. We have many interesting objects from technical professions; the Special Collections hold antique locks, ceramics, miniature ships and all kinds of mechanical tools." - E4

"Young adults are interested in themes such as climate and environment, individual identity, livelihood and housing, community building. How can we make the objects we already have interesting to them?" - E2

APPENDIX L: DESIGN IDEAS GENERATED IN THE CONTEXTMAPPING STUDY

The participants of contextmapping sessions came up with a variety of ideas to improve their experience in the Rijksmuseum, and particularly support their connection with art and history. The insights to which they refer are marked. The design ideas are more concrete than design opportunities as they take a particular form and/or focus on specific content.

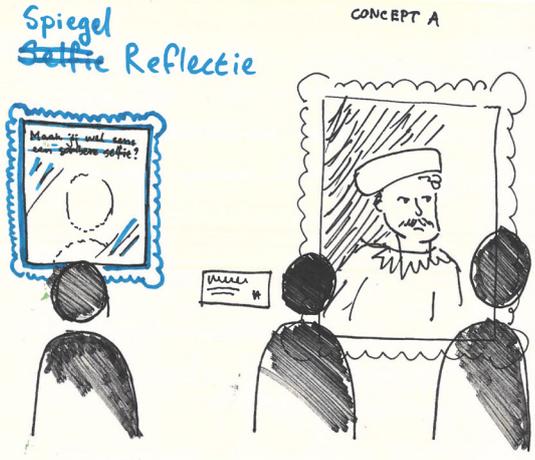
- Visitors can attend a short lecture by an art expert (museum educator or conservator) for free and spontaneously. Discussions may naturally arise if attendees start asking questions in response to an inspiring speaker.
- A workshop for personal creation. Possible forms include:
 - all participants engage with one single artwork.
 - participants make artworks individually or collectively, and share it with each other.
 - participants can do anything that pops up: painting, drawing, writing, acting, making music.
 - participants all copy a painting from the collection with real oil paint.
- Music paths allow users to listen to particular songs matched with artworks.
- Baroque room is decorated in classical fashion and filled with baroque paintings, and baroque music is playing.
- Escape room give users the feeling of being locked up in a medieval prison, to bring the story depicted in an artwork to life (e.g. Hugo de Groot in Slot Loevestein).
- Costume hologram lets users try on old fashion items, like an underskirt, with a projection mirror.
- Storycast let users hear a story that characters depicted in artworks may have heard in the past (e.g. old fairytales of Grimm).
- An interactive statement wall offers visitors to exchange thoughts about art, albeit asynchronous. At the exit of an exhibition or collection gallery, a board with statements and sticky notes is set up. Visitors can write their response to the main statement, or other people's input, and add it to the wall.
- Fictional stories about artworks written by (famous) authors who came up with personal interpretations of the object. When reading this, visitors will start thinking and discussing what else could have happened to the artwork, or what it has meant to someone.

APPENDIX M: CONCEPT SKETCHES FROM EXPLORATIVE DESIGN SPRINT

Sketches made on 07/10/2024

CONCEPT A: MIRROR REFLECTION

Spiegel Reflectie



CONCEPT A

Maak jij wel eens een zelfreflectie?

Naast portretschilderijen hangt een spiegel met zelf-reflectievragen

- + spiegel valt op in zaal vol schilderijen, trekt bezoekers
- + zeer laag technologisch gehalte
- + stil / niet verstorend
- aanwezig voor iedereen
- stimuleert misschien ook ongewenst gedrag
 - ↳ spiegelsellies
 - ↳ aandacht weg van kunst

reflectie - instructie/begeleiding is heel beperkt

"wat zou jij doen als koning(in)?"

"hoe beeld jij jezelf het liefst af?"

"waar droom jij over?"

vragen kaartjes bij schilderijen

pick wick thee zakje oespreks/vraag

Spiegel naast portret

Wie is de eigenaar van dit werk?

Wat is de waarde?

Wat zou je kled in de 17e eeuw

Smart mirror technologie om tekst te wisselen

CONCEPT B: ARTTOK

CONCEPT B

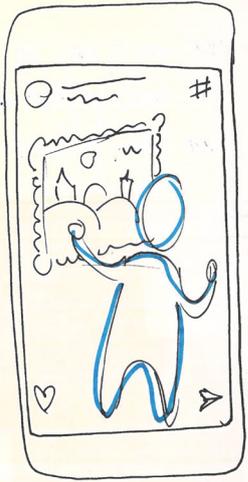
Art Tok

Reels verbonden aan objecten in route / op app plattegrond:

Influencers praken in korte filmpjes over het kunstwerk. Mening en relativering aan modern maatschappelijk onderwerp

"Dit prachtige schilderij van Vermeer is het beroemde melmeisje. Ze is een baksel met bier aan het maken. Dat lijkt me echt goor, maar vroeger was bier gezonder dan water. Wat ben ik blij dat ik gewoon drinkwater uit de kraan krijg en lekkere cake kan bakken. Er zijn nog steeds landen en gemeenschappen waar geen drinkwater is, het zoals bij ons in de 17e eeuw!..."

"Dit poppenhuis kostte evenveel als het grachtenpaard dat het nabootst. En dat is fucking duur. De huizenmarkt is geëxplodeerd door investeerders en huisjesmelkers."



- + individueel en niet-stoerend/disruptief
- + herkenning & promotie van bekende mensen
- aandacht naar telefoonscherm ipv kunst
- zelf reflectie is minder direct aangemoedigd
 - ↳ begrip en verbinding is zwakker

stelling / antwoord / kader

↓

vraag voor zelfreflectie

book tok

10 influencers

op een video zuil of tel. app

connectie zoeken met hun dagelijks leven

connectie aan relevant nieuws

thema's vermaak

↳ schouwspel → bioscoop

CONCEPT C: ASSOCIATION PROJECTION

CONCEPT D: POLAROID CHALLENGE

CONCEPT D

POLAROID CHALLENGE

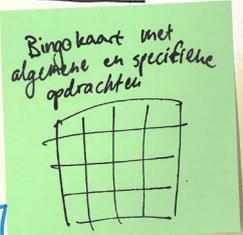
Speurtocht met een ~~analoge~~ instant camera door meerdere verdiepingen/zalen



VIND

- portret van een zoon en moeder
- schutterstuk
- zelfportret
- zeeslag bij Vlissingen
- zilveren haarshandlor
- wist van Hype de Groot

Bingo kaart met algemene en specifieke opdrachten



instant camera om foto objecten "te verzamelen"



Maal er een spel van

- memoris
- kennis (Slimste mens app)
- de 6??

Gamification

Reclame met "vrije plekken" met de 6??

EXTRA

Aansluitend quiz met juiste beschrijvingen. Team dat als beste heeft gekleken en gelezen weet het meeste.

- + ~~ondergeleide~~ ~~onderbeschrijft~~
- + geen permanente installatie op zaal
- + geen scherm/bewegende content die afleidt
- + meer oog voor details en visueel beeld
- + polaroid cams zijn hip & nostalgisch (aansluiting Gen 4)

- minder oog voor verhaal/geschiedenis
- lange ~~interacties~~ reeks interacties, verplichte reis
- begeleiding begin en eind vereist.

CONCEPT E: QUIZ TIME TOUR

CONCEPT E
Quiz door de Tijd Tour

Quiz over een thema door de jaren heen, dus een tour langs alle verdiepingen in APP

- oorlog/strijd
- recht
- liefs & huwelijk
- natuur
- dagelijks leven

Vanaf: koppel de objecten aan het juiste tijdperk

Route langs ±10 objecten, in alle zalen, op chronologische volgorde

Quiz vragen bij elk werk: multiple choice A/B en benaderingsvraag / open vraag.

Individueel in grotere groep of individueel tegen leaderboard

beantwoorden met algemene kennis en info op bordje en goede observaties

Antwoord met toelichting, links naar meer info / podcast tour

15^e
 16^e
 17^e
 18^e

quiz competitie vereist
 + beter lezen & kijken
 + speelt element
 + focus op thema naar keuze, eigen interesse
 ↳ gebruiker wordt gegidat.

- app vereist veel aandacht
 - lange reeks interacties, verplicht volledige reis is vermoeiend
 - kan te moeilijk zijn

alle spelers samen van oud naar nieuw, of tegengestelde / gemixte richtingen?

HOOR DE KUNST

quiz door de jaren heen, ~~van vroeger~~ van vroeger naar nu.

CONCEPT F: HEAR THE ART

CONCEPT F

HOOR DE KUNST

"Immersive Experience"

Noise cancelling headphones + app met locatie tracking

individuele bezoekers

Geluid verandert met ~~beweging~~ verplaatsing door het museum.

Elke zaal heeft een grondgeluid (tijdperk) ↳ muziek

Elk object heeft geluids details ↳ gewezemoes van mensen ↳ golven ↳ gewerschoten

Muziek: tracks gekozen voor emotie

+ aanspraak op andere zintzinnen dan zicht

+ niet afhankelijk van gekoppeld aan 2 objecten

+ vloeiende ervaring

+ "gevoel" krijgen bij de geschiedenis.

- sound design is intensief

- locatie tracking is factueel en privacy gevoelig

rolle audiotour dat wel heeft

individuele losstaande

Noise cancelling headphones uitdelen en ontvangers geluiden uit de oude tijd opzetten.

↳ Hoe blikt ons Nederland? ↳ waar hadden mensen het dagelijks over?

lek.sfm.com

proximity experience

fade soundtrack wisselt als je rondloopt

gesprekken & geluiden ambient noise

Muziek gekozen voor emotie

Vandertijd emotie

intens / romantisch / zelig passend bij

CONCEPT G: STEP INTO HISTORY

CONCEPT G



STAP IN DE 17^E EEUW

Stap in de geschiedenis.

Voorruimte is verlicht met projecties / bedekt met LED panelen. AI/film beelden van straat in Amsterdam in 17^e eeuw.

Surround sound, schreeuwende mannen, spelende kinderen, paardenwagens, muziek.

Geuren, wind en temperatuur.

Continue, loop, kleine interacties/gebeurtenissen.

video Bezoekers lopen er doorheen voor zaal

- + echt immersive
- + gevoel voor de geschiedenis
- + flexibiliteit om meer content te projecteren

- volledige aparte ruimte nodig
- overvloedig voor bepaalde bezoekers (hoog-sensitief)

Americanen hebben geen idee

Het is zo leuk als je een intro krijgt voor de Ere-gallerij

cont'ert schets

kleine referenties naar schilderijen (melisetsje ~~voor~~ het randschitterig NBWB om de hoek) Rembrandt loopt langs

Meer scènes:

- Zeeslag van de kust (zoute lucht)
- Handelsbeurs
- Vergadering lakenhandel / VOC lui

die een ruimte delicten bij de vangs in een heel setting aan

Geuren
Zeeleucht bij een zeeslag

muur projecties surround image 360° straatbeeld

CONCEPT H: IMMERSIVE BOOTH

CONCEPT H

IMMERSIVE BOOTH



1-3 bezoekers stappen in een afgesloten cocon in een galeriezaal.

Beeld, geluid en geur drukken sfeer en emotie van geselecteerd object uit

- ↳ snelle/hoge beweging
- ↳ hoog/laag contrast
- ↳ warme/koude kleuren
- ↳ hoge/lage geluidstonen

Gebruiker beïnvloed booth door variabelen te sturen

Control Panel

Op basis van keyword associaties bij objecten.

AI genereert ervaring: zo voelt het werk.

met elementen uit het object als basis

- ↳ kleur
- ↳ patronen
- ↳ karakters

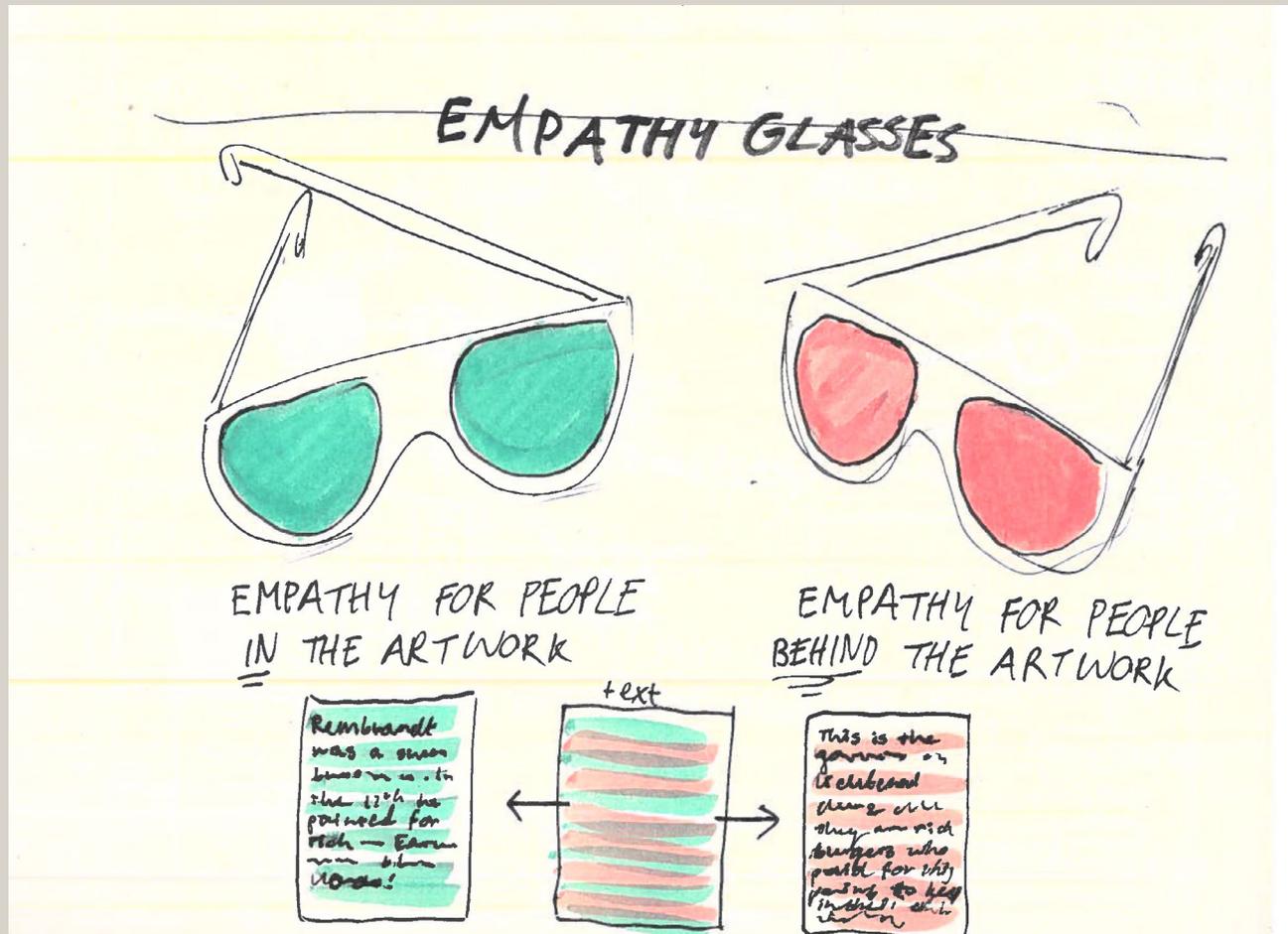
- + "voel" de kunst voor betere verbinding
- + persoonlijke beleving
- + nieuwe kunst spreekt jonge doelgroep aan, spreekt stoffig imago tegen

- niet meer begrip/kennis
- technologie aanwezig
- risico op drukte
- risico dat men geen oog heeft voor originele werk maar 'nieuwe kunst' alle aandacht trekt

controle over variabelen (gevoelens) vertaald naar experience signalen in zaal booth

APPENDIX M: 'EMPATHY GLASSES' CONCEPT AND PROTOTYPE

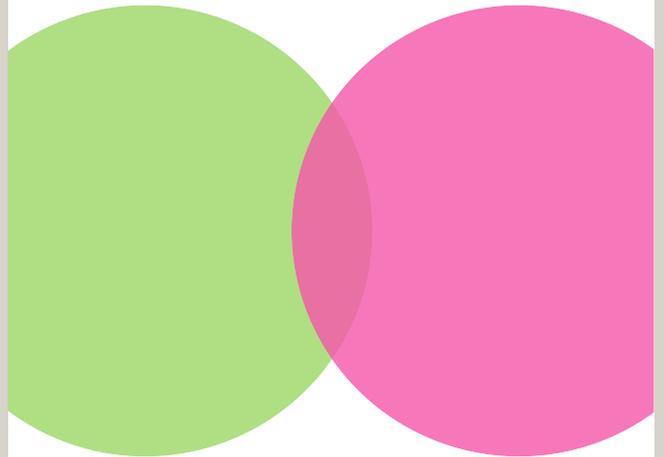
ORIGINAL SKETCH



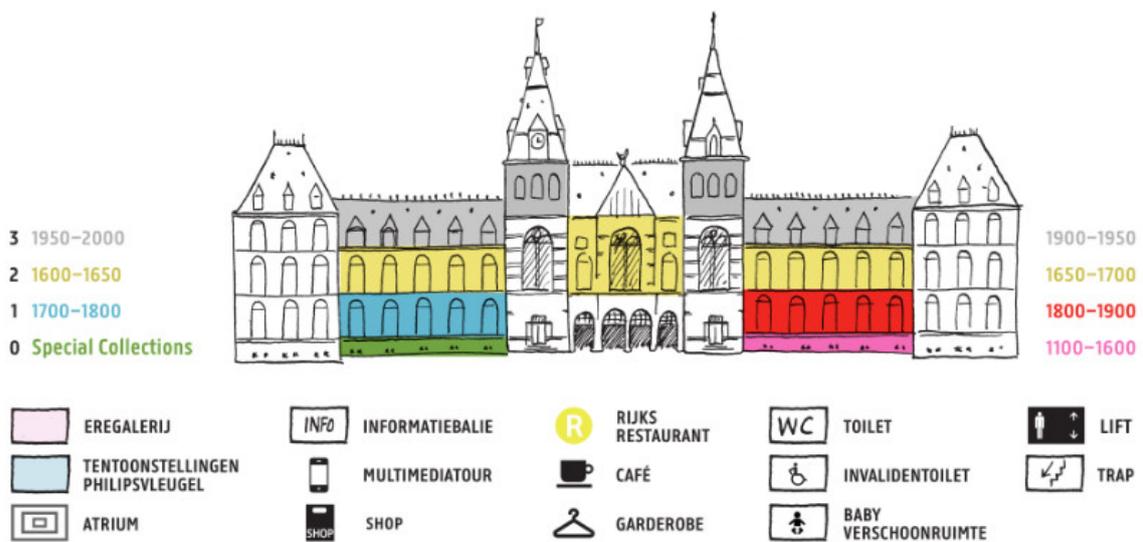
PROTOTYPE



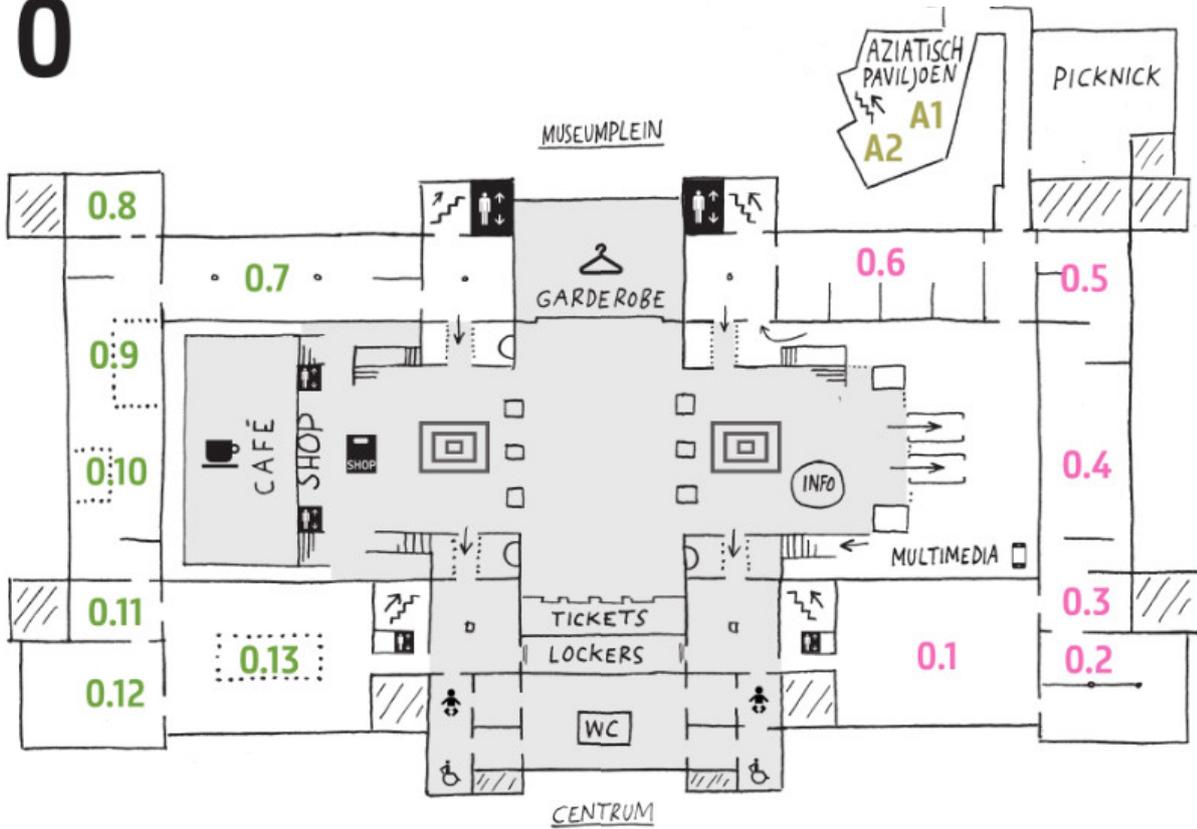
ONTDEK DE MENSEN IN / ACHTER HET RIJKSMUSEUM



RIJKS MUSEUM



0

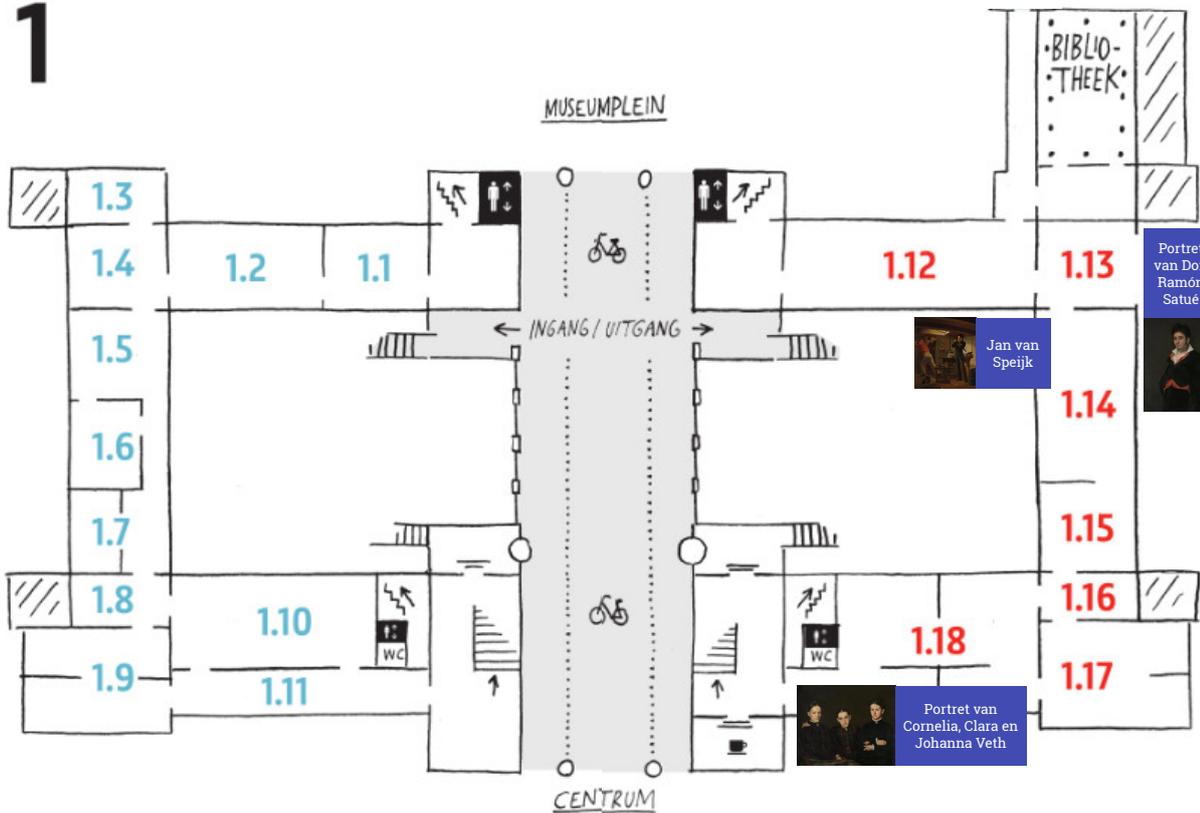


SPECIAL COLLECTIONS

0

1100-1600

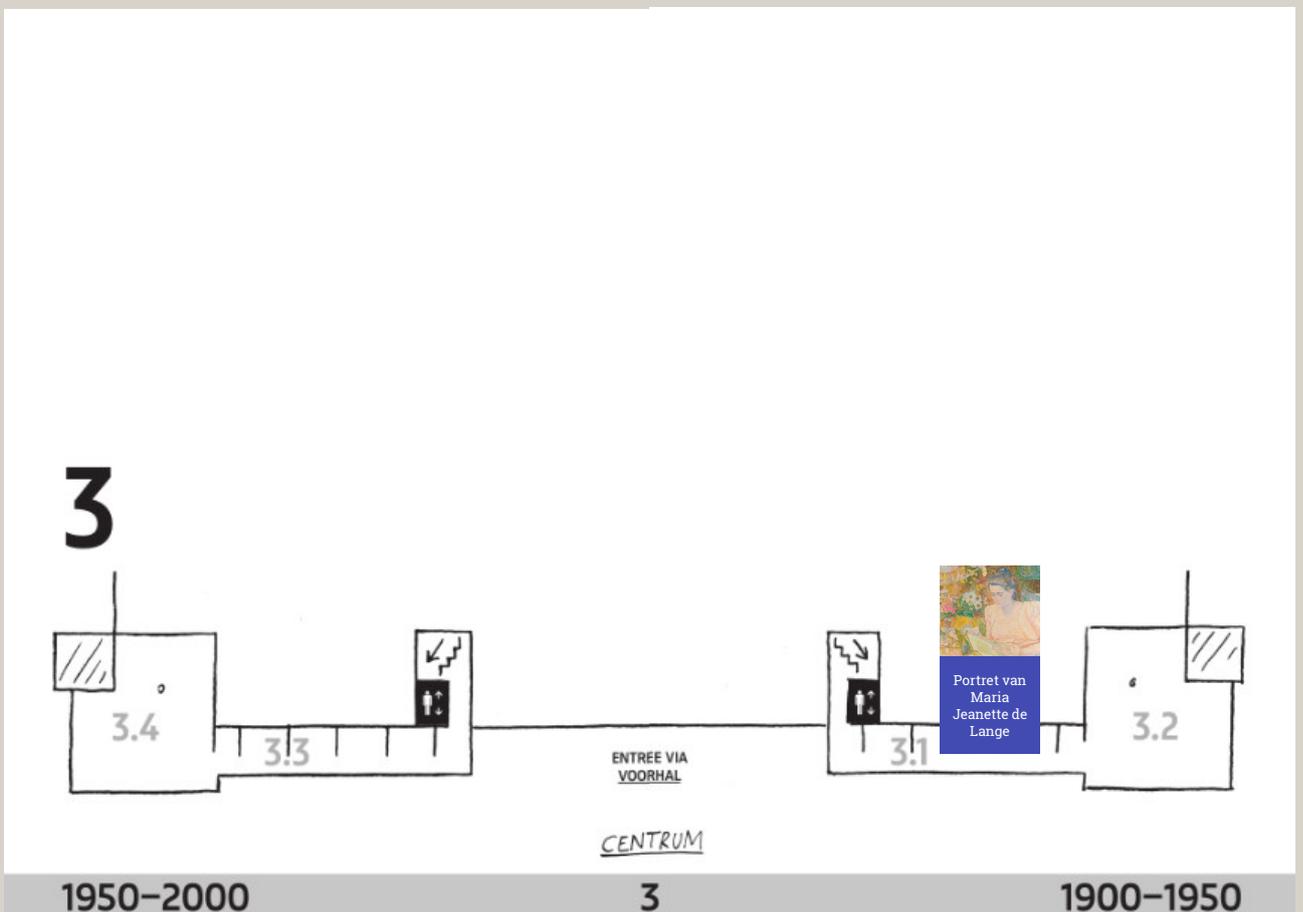
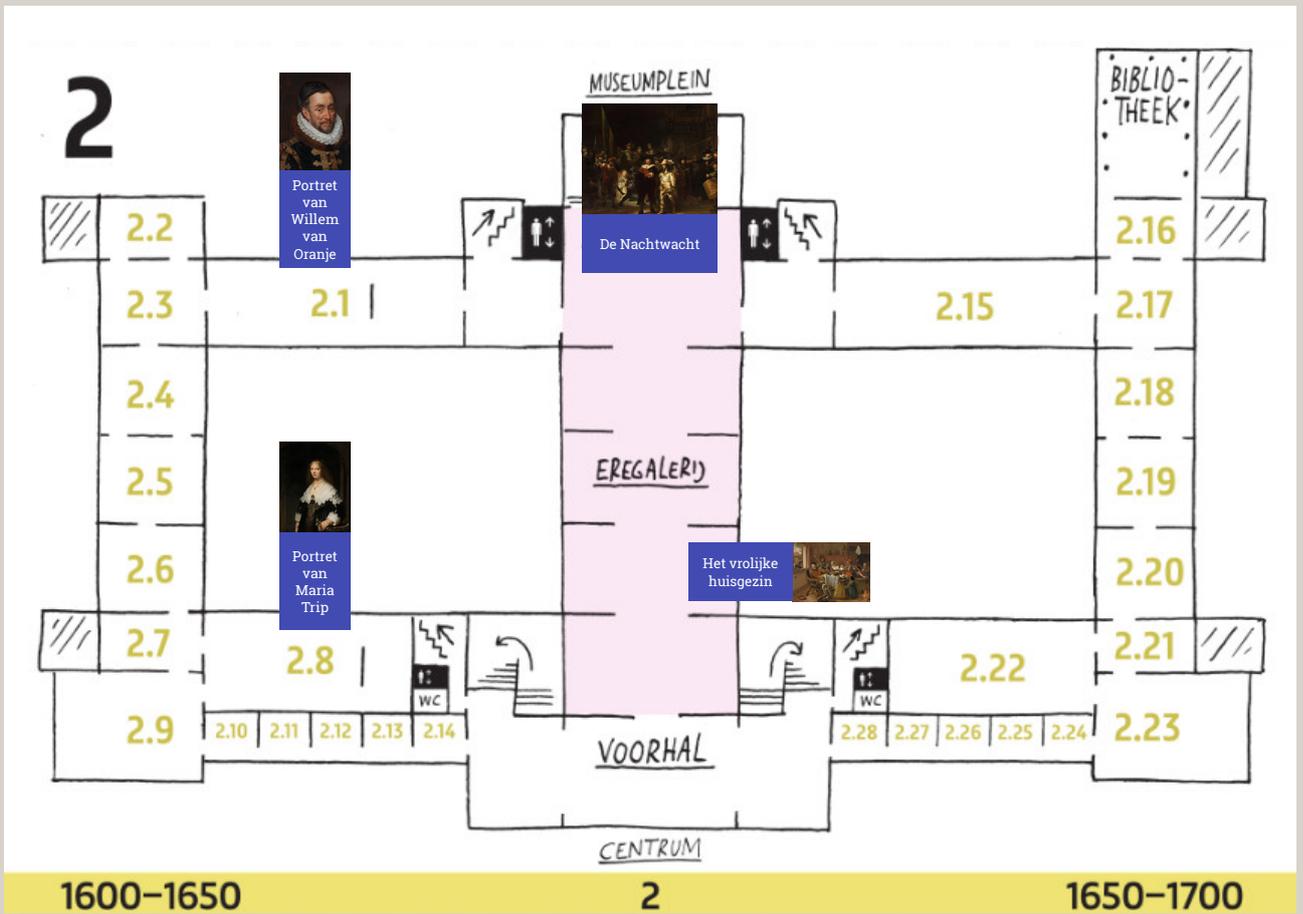
1



1700-1800

1

1800-1900



DE MENS IN ACHTER PORTRET VAN DON RAMÓN SATUÉ

zaal
1.13

Francisco de Goya (1746-1828) was hofschilder aan het Spaanse hof, maar zijn kunst was ook buiten Spanje erg populair. Aan het einde van zijn leven lijdt Goya aan melancholie, iets wat we nu als depressie zouden omschrijven. Deze depressie kwam voort uit de gruwelen die hij zag tijdens de oorlogen, de verschillende juridische systemen van Spanje in het begin van de 19e eeuw die hij had gehad en de angst voor ziek te worden. De schilderijen die hij in deze periode schildert zijn somber van inhoud. Goyas portretten van zijn meest intieme vrienden.

DE MENS IN ACHTER JAN VAN SPEIJK OVERWEEGT OF HIJ DE LONT IN HET KRUIT ZAL STEKEN

zaal
1.14

De schilder Jacobus Schoemaker koos niet voor het moment van ontferming, maar voor een bepaald moment in zijn naamloze portret van de scène die naderhand de beslissing van de Antwerpse kade geklazen, typische elementen van de 19e-eeuwse kunststroming de Romantiek evenals de nadruk op het persoonlijke en de emotie. De gebeurtenis groeide uit tot een nationale mythe, allerlei resten van de kanonneerboot werden als relikwieën gebruikt voor een eergericte van echtheid, zie de rozentak en stuk hout van de kanonneerboot in de vitrine, verderop in deze zaal. In 1833 overgevoerde de Nederlandse overheid de afbeelding van de bestaande vuurtoren in Edmond aan Zee omgebouwd tot hebben in de gaten waar gebeurtenis gaaf. Aan de wand maar dan veranderde de koning in een woerdt heeft kijkt niet meer zo prominente rol in de geschiedenisboeken.

DE MENS IN ACHTER PORTRET VAN CORNELIA CLARA EN JOHANNA VETH

zaal
1.18

Jan Veth heeft in 1885 heeft een onrustig jaar. Hij verlaat de Rijksakademie van Beeldende Kunsten in Amsterdam en gaat naar de Ardennen om landschappen te (leren) schilderen; dit blijkt een te grote opdracht en hij slaagt niet. Verslagen gaat hij terug naar zijn geboorteland naar zijn familie in Dordrecht. Hier schildert hij het portret van zijn drie zussen. Veth is zelf niet tevreden. Veth is zoekende wat wil hij in zijn leven? Zijn drie zussen, de zacht had, ' (en geert) waarvan hij zich eenzaam voelt? Wil hij terug naar de bruisende stad Amsterdam of toch terug naar zijn familie in Dordrecht? Volgens zijn kunstenaar, met in het midden de depressie van het moederlijk waarvoor hij ziet schilders om zich heen die volgens hem hierin beter lagen, zoals George Hendrik Beelder en Jaac Tsagels, in 1887.

DE MENS IN ACHTER PORTRET VAN WILLEM VAN ORANJE

zaal
2.1

Adriaen Thomasz Key was een Vlaamse schilder actief in Antwerpen in de tweede helft van de 16e eeuw. Hij stond bekend om zijn portretten en religieuze schilderijen van de opstand tegen het Spaanse bewind deachtlig jaar en aandacht voor detail. Key werd beïnvloed door de stijl van de Nederlandse gewesten (provincies) die zich van de Spaanse Antwerpse wist af te bevrijden en zelfstandig veroveringen. Weer geven van de sociale status en het karakter van zijn even oververge Nederlanden, zonder koning, officieel erkend.

Van dit paneel van Prins Willem van Oranje zijn nog twee versies bekend. Alle drie worden ze geacht afkomstig te zijn van een nu verloren gespaan. De drie van de drie van opmerkelijk hoge kwaliteit worden beschouwd als afzonderlijk zijner die in 1659 werd hij door Karel's opvolger verschilderd. Het detail van de afbeelding van bevinden zich in het Thyssen-Bornemisza Nationaal Museum in Madrid en het Mauritshuis in Den Haag. Van de drie bevindt het huidige paneel in de Madrileense versie elkaar het voor meer het feit dat er drie versies van dit portret bestaan, alle veld en op zijn veld kan de afbeelding in zijn eigen politieke betekenis van de afbeelding.

lever dit boekje en de brillen a.u.b.
na gebruik in bij de multi-media balie

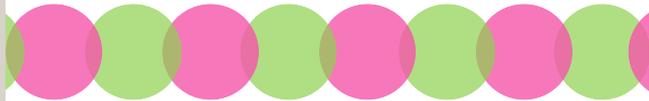


PHOTO IMPRESSIONS FROM USER TESTS





KEY QUOTES AND OBSERVATIONS FROM USER TESTS

Upon finding the target artwork, the participants put on their glasses and read the text in silence. They then summarise their learning to each other.

Participants keep their own glasses, do not have the need to read the other text themselves. They enjoy listening to their companion explain it to them.

The texts raise more questions. "Why did he paint his sisters? Why was he not happy with the final work?" "What made him a beloved painter, and famous?" The participants speculate about their answers: this is the intended discussion!

A4 size is too big for the booklet, makes it hard to handle.

Reading pink text with the green glasses is easier than vice versa.

Some participants already read the object text signs on the wall before reading the booklet text. Not all booklet texts succeeded in bringing new information. Some did not give enough information about the artist, so there was no empathy raised.

"I find Rembrandt himself almost more interesting than his artworks."

September 2024 - March 2025