

Engaging Visitors at DEPOT BOIJMANS VAN BEUNINGEN

The design of an interactive guided experience which invites visitors to contribute and feel a sense of ownership of the collection stored in Depot Boijmans Van Beuningen.

Master thesis
Design for Interaction

Cato Nitsche
May 2022



Master Thesis Design for Interaction

ENGAGING VISITORS AT DEPOT BOIJMANS VAN BEUNINGEN

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May 2022
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In collaboration with Museum Boijmans Van Beuningen

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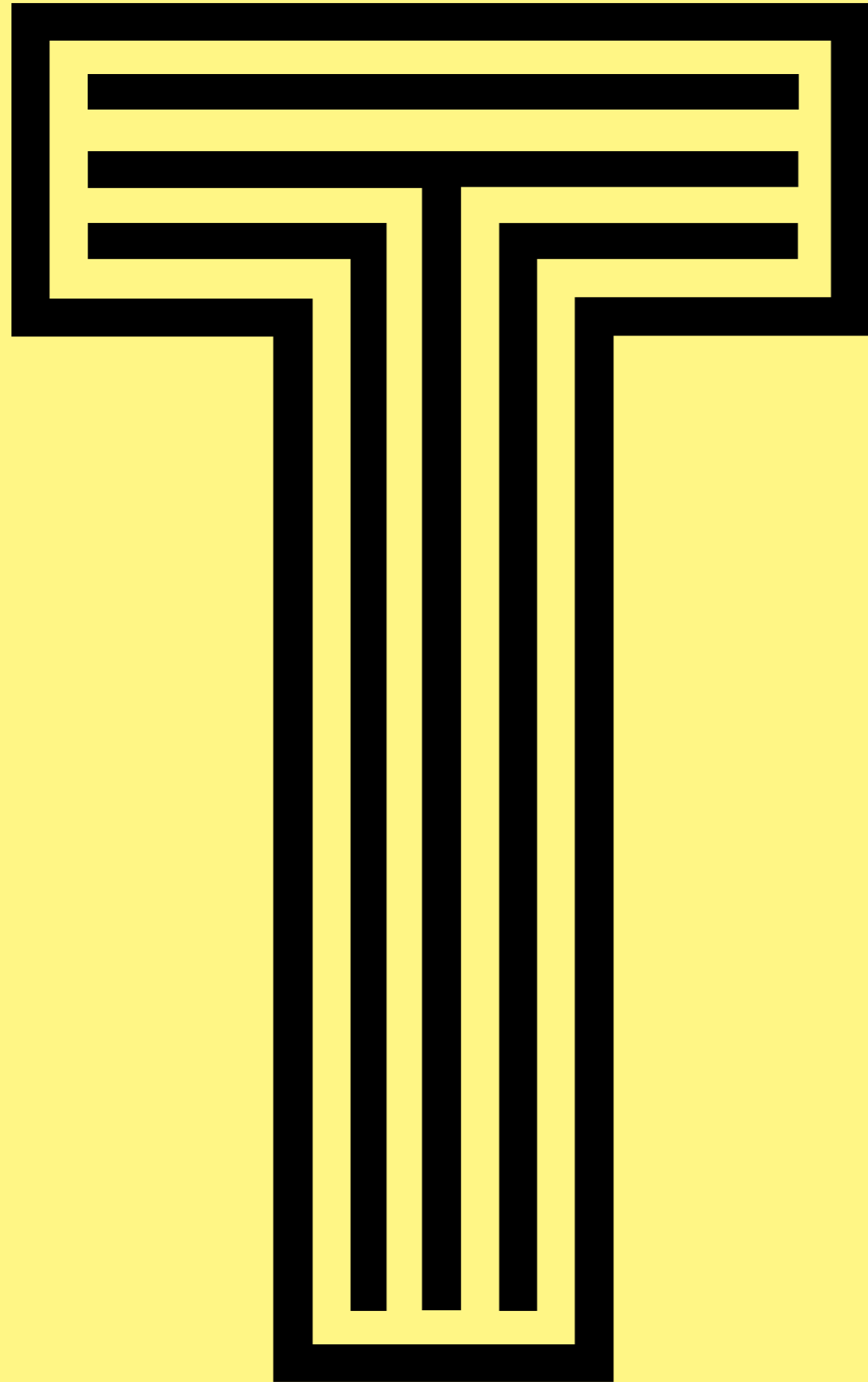
museum
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ABSTRACT

A design was developed to introduce and invite visitors to take ownership of the collection stored in Depot Boijmans Van Beuningen. The Double Diamond process formed the basis of the design methodology. This iterative process resulted into the design of an interactive guided experience.

Extensive research resulted in the selection of four overarching themes defining the needs of visitors, staff and scientists: perspectives, belonging, recognition and relevance. The final design is based on these overarching themes. It was first prototyped and tested online and after on site in the depot. The results of the tests were positive, the design made visitors aware of the function of the depot: the storing, preserving and collecting activities. It also personalized the visitors' journey. Once interaction was established, it was found that visitors are also willing to add personal information to the collection. It is suggested that this system can be applied in other museum depots in general, but for that more needs to be done.





THANK YOU!!

Those are the first words I want to write down. Thank you supervisors Els, Maarten and Sam! For all the Monday meetings, where we alligned our thinking. I showed you a lot of materials, thank you for your tips and guidance. I am very happy how my project tured out, I hope you are too. Thank you for giving me the opportunity to excecute this project.

Thank you people working at Museum Boijmans Van Beuningen and team E&P for including me in the processes of the museum, for participating in interviews and inviting me to your meetings. I leared a lot, just by talking to you.

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I want to thank Martijn for all your support. You helped me to write proper English. Nadiye, we were graduating in the same time frame, we had lots of fun. Meike, thanks for your visual comments, it brought me back to our time making Turn The Page Magazine. My house mates assisted me to shift my thoughts to other subjects, to relax.

Enjoy reading!

*Cato
Nitsche*

p.s. If you have any questions or comments please to not hesitate to reach out to me.

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READING GUIDE & CREDITS

Colour guide



Blue: discover phase



Green: define & develop phase



Red: deliver phase

Abbreviations & names

- In this research the user of the service is called 'visitor'.
- Depot Boijmans Van Beuningen is abbreviated to: DBVB or depot.
- Museum Boijmans Van Beuningen is abbreviated to: MBVB or museum.
- The Education and Participation department of MBVB is abbreviated to: E&P department.

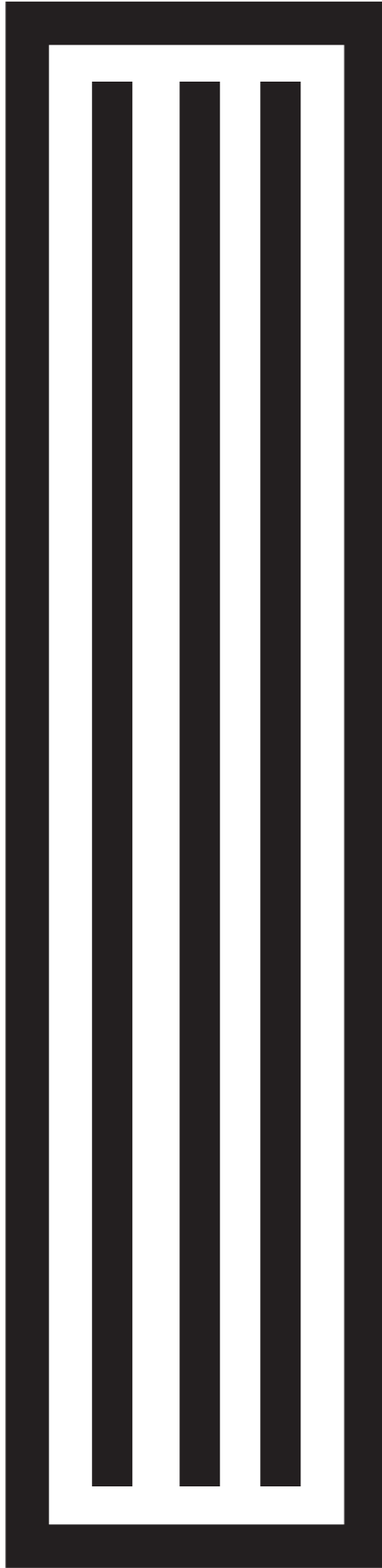
Credits

- All pictures are taken by the researcher unless stated otherwise.
- The brand of MBVB and DBVB was used to visualise this thesis in InDesign.

Key insights

- Look out for the pages with large pictures, there you can find the key insights of all research.





INTRODUCTION

In this chapter the initiation of this project, the design brief, the project process and approach are discussed.

- 1.1 Initiation of the project
- 1.2 Design brief
- 1.3 Project Process and approach

1.1 INITIATION OF THE PROJECT

Museums are struggling to store all their objects, in 2011 ICCROM conducted a survey among 1500 museums in 136 countries. Two out of three museums reported lack of space; one out of two museums had overcrowded storage facilities. (ICCROM-UNESCO, 2011). In the Netherlands the number of objects grew from 69 million in 2015 to 78 million in 2019, the percentage in storage remained more or less the same, around 50% of all these objects can be found in depots of museums (Rijksdienst voor Cultureel Erfgoed, 2021). At the same time, only a tiny percentage of most collections are on view at any given time. In recent years more museums have looked for ways to make these hidden collections more visible to the public, either through online digital collections or through partial “open storage.”

Depot Boijmans Van Beuningen (DBVB or depot) is the world’s first publicly accessible storage facility delivered in 2021. The depot is a striking building; its facade is made of 1,664 mirrored panels; it is located next to Museum Boijmans Van Beuningen (Museum Boijmans), the main stake holder, in Museumpark in Rotterdam. The Depot and Museum Boijmans are managed by the same staff.

Museum Boijmans is under construction until 2026 (Veelgestelde Vragen over de Renovatie, 2021). By placing the Depot in the Museumpark, the ‘backstage’ of the museum receives equal attention as does the ‘frontstage’ of the museum. This will change the whole museum concept of Museum Boijmans.

Inside the depot visitors can see the result of 172 years of collecting. The depot building houses more than 151.000 objects, depending on the material the object is made of arranged in fourteen storage compartments with five different climate control sections. Next to the objects, all the activities that go into preserving and managing a collection are on open view in the building.

According to Kisters (2021) the depot represents a return to the origins of museum in the 18th and 19th centuries, when collections were densely displayed in museum galleries, back in time museums were there to educate and inspire the general mostly bourgeois public. In the 20th century art exhibitions were curated in a more spacious way, so visitors might appreciate each painting individually, the reserve collections were moved into storage resulting in exhibitions invented by curators in which visitors mostly did not have any participation. The depot inverts this model by making the storage facility an attractive place to visit, but without placing all the artefacts behind glass or carrying out a qualitative preselection.

The museum’s aim is to reach out to a more inclusive, diverse group of people by entering into a dialogue with the public, e.g. connecting to new publics by relating to their lives and drawing attention to the storage and care of art. In this way Kisters (2021) writes that ‘visitors can contribute to our collective knowledge’.

1.2 DESIGN BRIEF

The collection of the Museum Boijmans was originally amassed from the private collections of Rotterdammers, and the museum still feels its collection belongs to all Rotterdammers. Yet many Rotterdammers do not know about the collection. The Depot’s mission is to try to fix this by letting the public in to what is normally an exclusive space. Yet how to make it interesting and engaging?

A couple of museums have established small open stage facilities next to closed storage and their exhibit space. These open storage facilities have been established over the past three decades to address a longstanding problem; a lack of gallery spaces, because not every piece of art can be exhibited. On the one hand this availability of seeing the objects is a great improvement, on the other hand it raises questions: how best to convey information about these objects? And how to bridge the gap between collections care and visitor access in the digital age? (Orcutt, 2011).

Museums struggle to change their communication ways: it is common to use the Transmission Model of Communication: of a sender (museum) and receiving (visitor) party (figure 1). This is a one-way communication, in which the visitor can feel disempowered (Carbonell & Hooper-Greenhill, 2012, pp. 520–523). Another problem is that the decision to visit a museum is formed on earlier experience, or the anticipation of a former museum visit. For people who have not been successful learners, the

educational part of a museum visit is not attractive and for those who do not feel comfortable with formal social structures the authoritative style of museum buildings and spaces do not offer the comfortable leisure pastime they seek (Carbonell & Hooper-Greenhill, 2012, pp. 520–523).

Simon (2010) identifies lots of improvement gaps. She writes that some people do not feel part of the museum and they have the idea that museums never change. Apart from that they feel that the authoritative voice of the institution doesn’t include their views. Museums do not give the visitor context for understanding what’s presented. Some people also indicate that not all museums are a creative place, where they can express themselves and contribute to history, science and art. Other people say that a museum is elitist, they cannot connect with the objects shown. This counts especially for art museums. They also feel that a museum is not always a comfortable social place where ideas are welcome and people can openly talk. So, what is a good way to connect to visitors in the future?

In this master thesis Depot Boijmans Van Beuningen can be considered a case study for designing a visitor’s participation that guides and explains the storage, preserving and collecting process of a museum.

See appendix 1 for the formal Design Brief.

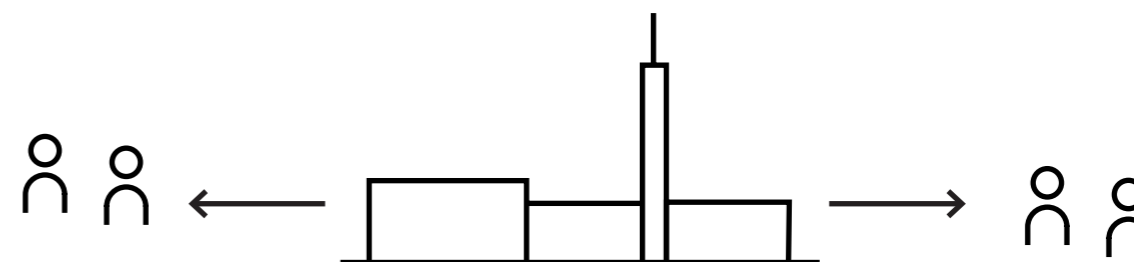


Figure 1. The museum sends information to visitors

1.3 PROJECT PROCESS AND APPROACH

The Double Dimond Model gives insight in the process to entangle the assignment (Design Council, 2019). This process is built up in four stages, discover, define, develop and deliver, see figure 2. At the start of the project a challenge is formulated:

Design a future audience participation for the Depot of Museum Boijmans Van Beuningen that allows young visitors from Rotterdammer to contribute to the collection.

The full overview of the project is shown in figure 2. With the initial assignment as starting point, the discovery phase is described in chapter 2. Context and 3. Research. Both chapters end with a conclusion of the most important insights. The definition of the design goal is formulated in chapter 4. Focus. This goal is established by reserach findings, a creatives session in DBVB and emperical research through design at Zadkine school in Rotterdam.

Here the research outcomes are validated by a creative session. From there the design process started (chapter 5 Ideation and design), by using the how-to's-method (Delft Design Guide, 2020). Using rapid prototyping, first ideas were developed into tangible proposals. These were in their turn evaluated and optimised resulting in a final design which is discussed in Chapter 6 Final design. After the concept was evaluated, this is discussed in chapter 7 Validation. Out of the test came multiple recommendations that can be found in chapter 8.

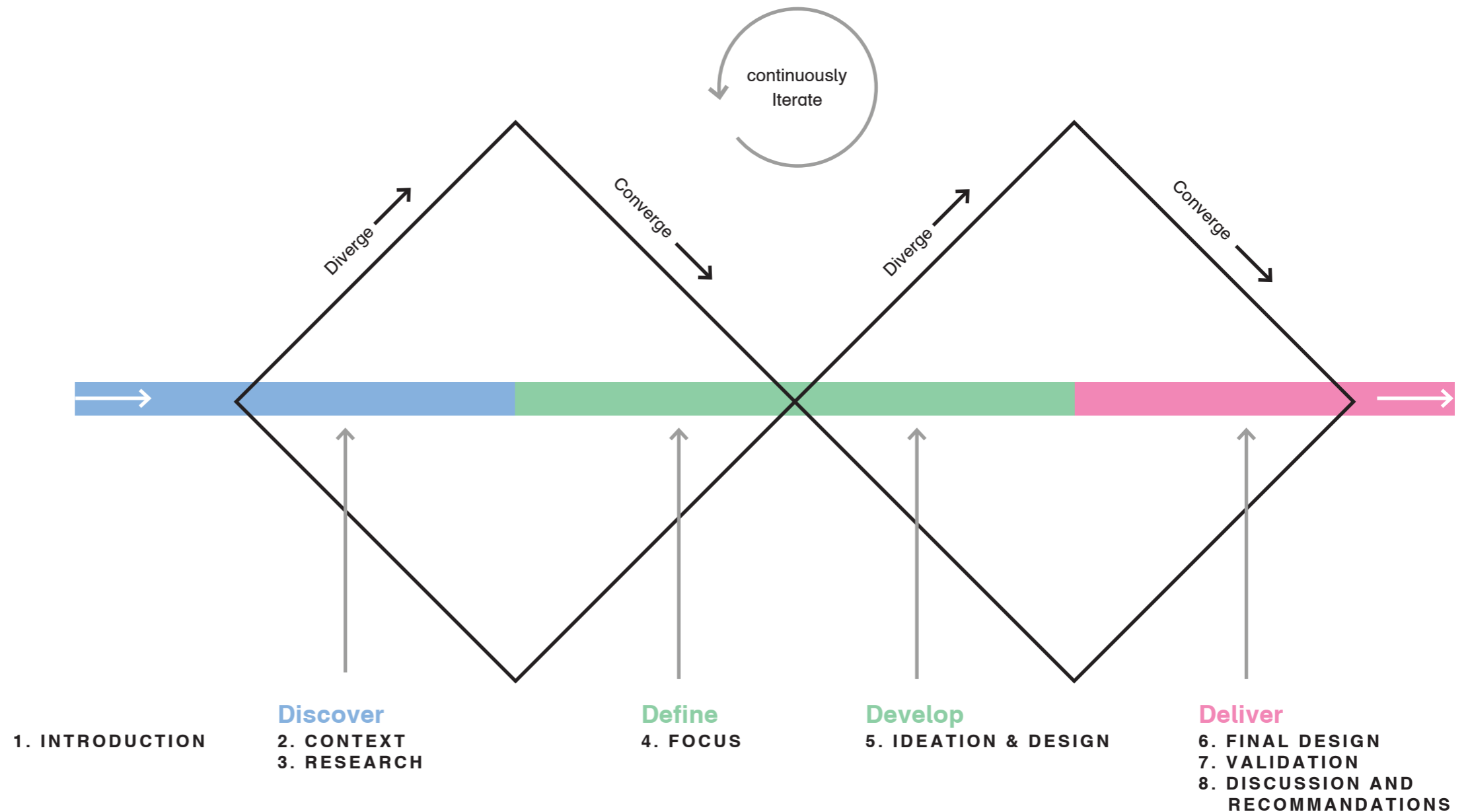





Figure 2. Project Process, the Double Dimond.


Design and Research Activities


Throughout this thesis the following design and research activities were performed. At the start of each chapter the activities that are applicable are listed.


 **Theoretical framework**, state of the art scientific papers and books are presented on the topic of museum visitors, their contribution and digital museum collections.

 **Desk research** after digital museum collections, and digital interactions between visitors and museums is executed.


 **Interviews** with most important stakeholders and interviews with experts in the museum field are held.

 **Observations** to understand how visitors interact with each other and with the spaces in the depot observations are performed in situ.


 **Visits** of expert meetings e.g. Network digital heritage and 'ergoed arena' about social media accounts of museums.


 Mapping visitors needs in a **visitor journey**.


 **Clustering insights** out of different types of research into themes is done.


 **Creative session** with stakeholders is held.

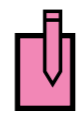
 **Emperical research** through design.


 **Design guidelines** and a design goal is formulated.


 **Ideation** is done to generate ideas, based on which a list of attributes for the final design is formulated.

 **Prototyping** is used to develop promising ideas into a final design.

 A small **usertest** with students is organised to easily validate the concept and the final design.

 **Designing** the final concept with the help of the **design goal**, the **design guidelines** and the list of attributes out of the ideation phase.

 A **scenario** and **flowchart** is made to explain the final design.

 **Evaluating** the user test.

Design principles

The following principles are used throughout the whole timeline of this thesis, the four principles are based on the principles advised by the Design Council (2019).



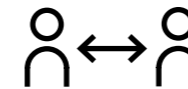
Be people centered

Always look at the human side of the project, talk with many stakeholders and empathize with them, this involves human centered design.



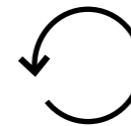
Communicate visually and inclusively

Visualize possible outcomes and insights.



Collaborate & Co-create

Work together with many different stakeholders and experts.



Iterate, iterate, iterate

Keep iterating, try constantly to optimize the solution by thinking back and forth.



CONTEXT

In this chapter background information is given about Museum Boijmans Van Beuningen and the Depot Boijmans Van Beuningen and the stakeholders of the project are mapped.

- 2.1 Research approach
- 2.2 Museum Boijmans Van Beuningen
- 2.3 Stakeholders of Depot Boijmans Van Beuningen

2.1 RESEARCH APPROACH

In this phase of the process Museum Boijmans Van Beuningen and Depot Boijmans Van Beuningen is analysed. How did these institutions come about? A stakeholder analysis is made to understand all actors that play a role in this project.

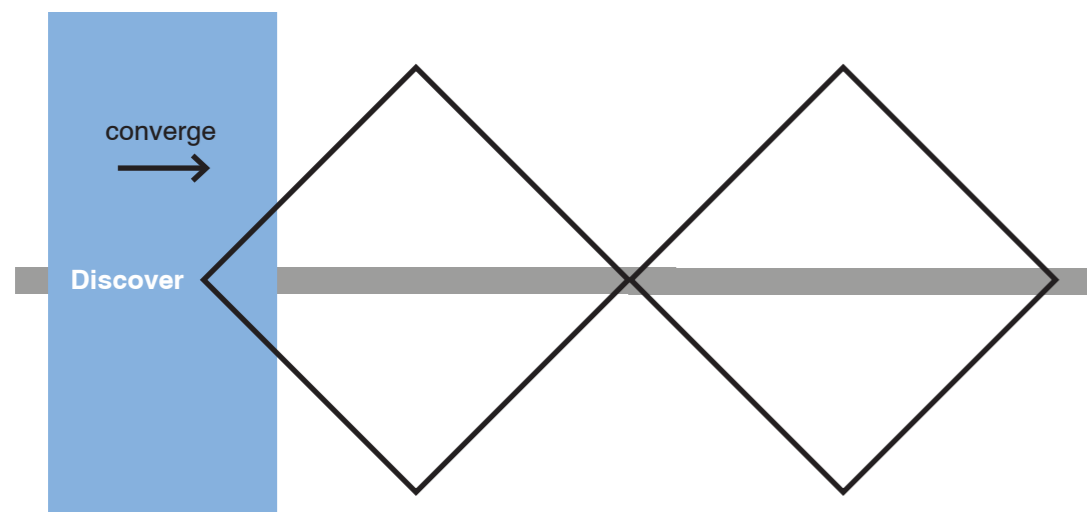


Figure 3. Discover phase

Research question

What are MBVB and DBVB, how do these institutions operate and which actors play a role in this project?

The following activities were carried out in this part of the define phase:



Desk research, to understand the museum foundations and background of MBVB and the newly built depot desk research was performed.

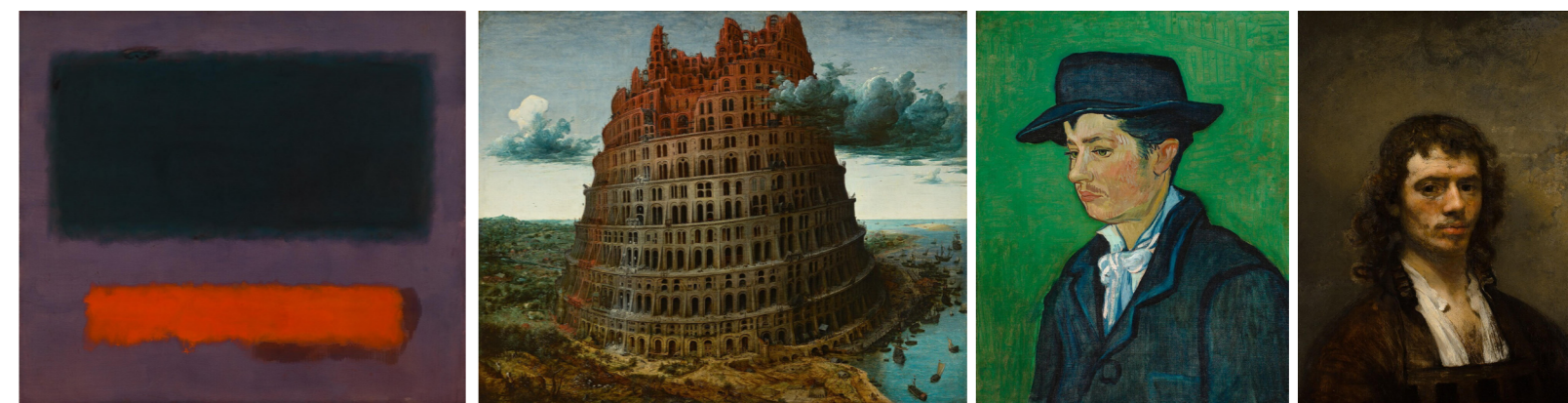
2.2 MUSEUM BOIJMANS VAN BEUNINGEN

Museum Boijmans Van Beuningen (MBVB) is a museum in Rotterdam, The Netherlands. The museum manages about 151.000 objects: from ancient to modern and contemporary art, from crafts to design. To name some of their most famous works: Portrait of Armand Roulin by Vincent Van Gogh; a self-portrait of Carel Fabritius; Grey, Orange on Maroon by Mark Rothko; The Tower of Babel by Pieter Bruegel (I) (figure 4-7). The museum is best known because of its collection of Surrealist art with masterpieces by Salvador Dalí and René Magritte.

In addition to the permanent presentation, the museum organizes around 25 temporary exhibitions and different public activities annually. Every year, 300.000 visitors from all over the world visit the museum in the center of Rotterdam. The museum is together with the Rijksmuseum (Amsterdam), Stedelijk museum (Amsterdam), Kunstmuseum (The Hague), Mauritshuis (The Hague) and Kröller-Müller Museum (Otterlo) one of the largest in The Netherlands.

Why was Depot Boijmans Van Beuningen built?

Part of the art depot was housed in the cellars of MBVB. In 1999 this part of the collection was flooded. This happened again in the summer of 2007, three times in the summer of 2010 and also in 2013 (Het Parool, 2010; Friso, 2010; "Depot blank van museum Boijmans Van Beuningen", 2013; NOS, 2013;). Especially the artworks that are made before 1600 are very delicate and sensitive to humidity. The water drainage system of the museum building is very old, pipe breaks in the many water pipes and heating pipes that hang in the storage rooms are not a crazy scenario. In 2010 valuable pieces are placed on wooden pallets a few centimeters from the floor. To quote the director of the museum Sjarel Ex: "the only real solution is that we build a new collection-building." (Friso, 2010). In 2013 the flood was extreme high: six centimeters of water, books and the archeology collection museum inventory were damaged. Ex said in these hard times: 'We have been asking for a new depot for twelve years. Every time, all hands have to be on deck to save something of the heritage.' (NOS, 2013).



Figures 4-7. Grey, Orange on Maroon by Mark Rothko, The Tower of Babel by Pieter Bruegel (I), Portrait of Armand Roulin by Vincent Van Gogh & a self-portrait of Carel Fabritius. (Boijmans Van Beuningen, 2022).

So, clearly there had to come a solution for the flooding of the museum-depot-cellars. The solution is DBVB, an iconic building next to the main museum building. The building was delivered to the public on the 6th of November 2022.

Regarding museum storage in general, over the past century collections worldwide have grown immensely, just like the collection of MBVB. In 1935 a storage of 60 square meters was necessary, but in 2003 this needed to grow to 4,500 square meters, see image 8 (Kisters, 2021). This storage is mostly hidden from view. Even though it is not possible to see the whole collection in one visit, important reasons for building the depot are: being able to discover works that a visitor has never seen before or finding new kinds of stories about the collection (Kruyt, 2016). By addressing the public as owners of the collection the museum hopes that they become more profoundly involved with its heritage (Kisters, 2021).

Storage space needed by Museum Boijmans Van Beuningen

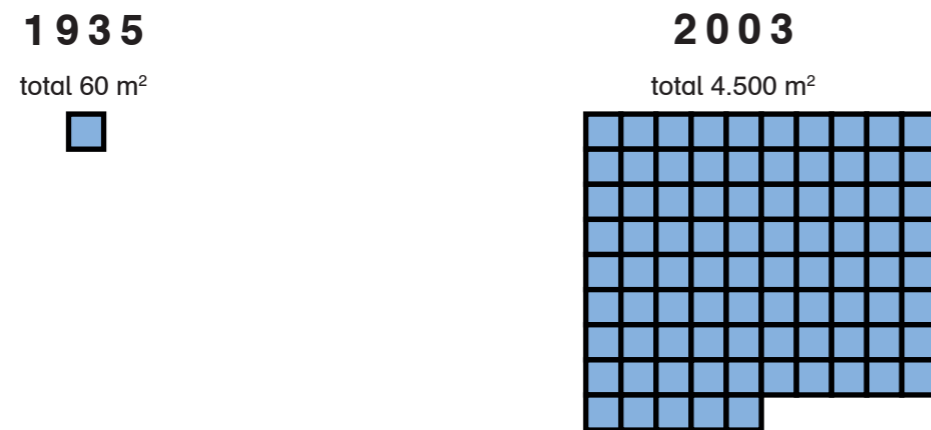


Figure 8. Storage of MBVM over time (Kisters, 2021). One square represents 60 m².

The building and use: Depot Boijmans Van Beuningen

The depot is a publicly accessible storage facility of MBVB in the city center of Rotterdam, the Netherlands. The building is iconic, it is 39,5 meters high and its façade is made out of 1.664 mirrors in which the skyline of the city of Rotterdam is seen. The building has six floors apart from the ground floor. The building has five types of climate zones and four professional restoration ateliers. The design for the depot is made by the famous Rotterdam architects office MVRDV.

The building hosts more than 151.000 artworks. These artworks came from different storage places in The Netherlands are brought together for the first time. Following four strategies DBVB ensures that the whole collection of the museum is accessible: visible and visitable, the depot hosts presentations and there are study rooms (Kisters, 2021).

Visible storage: the visibility of the collection begins in the entrance hall of the depot. Here a large glass wall separates the entrance area from the packaging and acclimatization rooms. Visitors can see crates filled with objects and staff working to (un)pack artworks. Upon entering the atrium section of the building and ascending the large staircase visitors will see enormous glass vitrines (figure 9), these are filled with objects from the collection chosen by one of the various curators. Once visitors arrive at the first floor, visitors are able to view inside the storerooms through glass windows (figure 10). This method of opening a collection is usually referred to as visible storage (Griesser-Sternschesg 2013).

In the storage rooms of the depot, objects are organized according to material, size and scale and sometimes loosely based on chronology. Usually, functionality and the optimization of space is essential in a museum storage. In the DBVB, transparency is an important criterium for making storage space more accessible. None of the racks and stands are closed off from view, e.g. the control panels for the dynamic system are designed to be as slim as possible (figure 11).

In some cases, more transparency is achievable. The front side of crates will be replaced with transparent foil attached with magnets, e.g. to make fashion design by Viktor&Rolf visible. For conservation reasons, only the ceramics and glass collections are stored in static glass vitrines. The daylight-quality artificial light will only switch on section-by section, when someone enters the storeroom, therefore limiting the collection's exposure to light. As a precaution, the storeroom for prints, drawings and photography has no windows.

Visitable storage: physical visits to the storage rooms; can be labelled as visitable storage (Griesser-Sternschesg, 2013). Visitors are directed by means of a tour by a guide and guard. The visitors are not allowed to move the racks or open drawers, nor touch the artworks. Groups of max. 15 people wearing special depot jackets, offered by DBVB, including the guide and guard, may enter

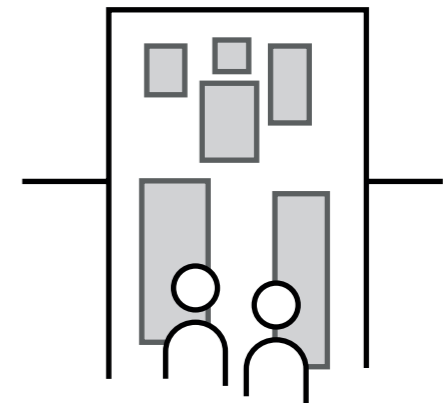


Figure 9. Visitors looking at vitrine in the depot.

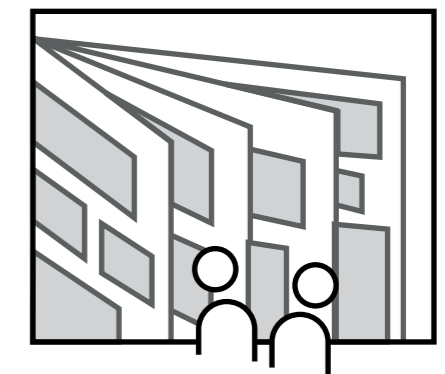


Figure 10. Depot visitors looking through window to depot compartment.

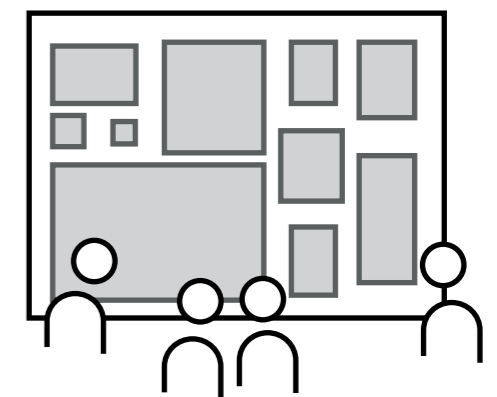


Figure 11. Depot visitors looking at a rack inside a compartment.

the depository for 11 minutes each hour, in order to maintain stable climate conditions. In addition to the storage spaces the guided tours will also pass by other areas, such as the climate installation rooms and photography studio. Staff that happens to be working a storeroom when the tour passes continue their activities.

Presentations: on the third and fourth floor of the DBVB presentation rooms are situated (figure 12). They are not exhibition spaces in the usual sense. The presentation rooms are related to the so-called 'backstage' aspects of the museum profession. The aim is to make visible what is normally hidden from view. During presentations, staff members working on conditioning reports, restoration, or registration or are open to questions from the public, who are offered insights in used techniques, processes and methods. MBVB experimented with this concept in an exhibition (making space for lace). Visitors were very interested in the project, bringing their own examples of lace for consultation. They had the opportunity to meet a lace collection and expert. This is an example of a meaningful contribution of visitors to the collection, see also subtitle chapter 3.2, subtitle: Why contribution in a museum?.

Study rooms: These rooms are open for a specialized public of scholars, museum professionals, students and artists (figure 13). The objective of the DBVB is to open these spaces up to a more general audience, comparable to how Clothworld's Centre at the V&A Museum in London operates (Kisters, 2021). General visitors can hand in a request to visit these spaces for study purposes.

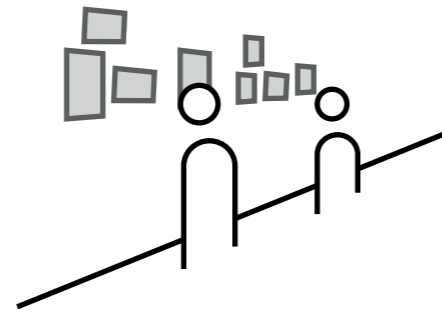


Figure 12. Visitors looking in a presentation in the depot.

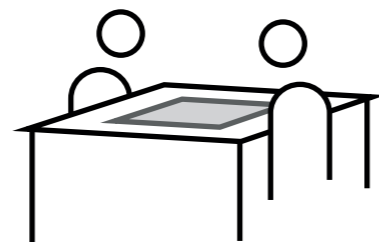


Figure 13. Visitors in a study room in the depot.

Audience participation in the depot

Information screens: next to almost every depot compartment and restoration studios a large touch screen is placed (figure 14). The screens are the gallery texts and provide general information about works that are grouped together in a storage room. They provide information about the materials that the works in this particular storage room are made of, about ways of preservation, restoration, packing and transport. The screens also give facts and figures. At the opening of the depot there were three types of video clips available, but the staff is continuously adding videos. At the end of 2022 there will probably be 6 to 10 videos per screen. The three types of silent movies are: 1) Portraits: these are about depot employees (e.g. a registrar, art handler, curator, depot-guide, etc.) 2) Videos about the battle against decay. These are about the preservation of vulnerable materials, e.g. how to deal with the climate settings of a certain compartment, the types of material that are stored inside and why a material should be kept in a certain way. The movie also shows how the compartment looks from the inside (this is in particular relevant for closed compartments without a window e.g. photography and works on paper) 3) Facts and figure-movies. These movies tell us how many items are stored inside the compartment, e.g. from which period of time the art is stored, how many works of male versus female artists are kept and so forth.

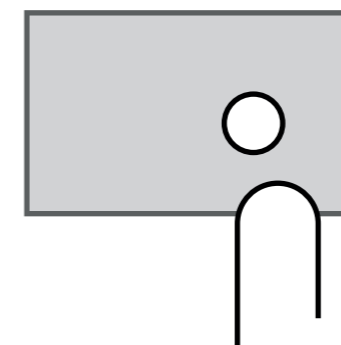


Figure 14. Visitor looking at presentation screen.

Depot application: beside the silent screens there is a depot app (figure 15). This app can be downloaded for free on the visitors' personal device. The app scans a QR code which act as a kind of key to the different storage rooms and showcases. The QR codes can be found next to compartments and vitrines. You get small thumbnails of the works that are showed on your device and when you click on them all basic information is delivered. The depot app provides information about individual objects and could be apprehended as a replacement for the museum's caption cards. The app provides information about single artworks, mostly general data, such as: name of the artist, title, materials, dimensions, credit line. The objects with a 'story' have more information, like a small multi-media guide. The 'stories' are a bit like 'stories' on Instagram, you can tab quickly through them. The information that visitors see in the stories is mainly about: how the work came into the collection, background information about the artist, information about the material(s) used and how to store the object. If a depot app story is seen by a visitor, the story and work ends up in their 'online collection' in their application on their phone. Only if an object is in the 'online collection' of the visitor, he/she is able to see it again e.g. at home.

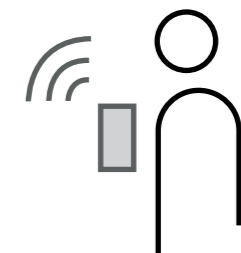


Figure 15. Visitor interacting with ddepot app.

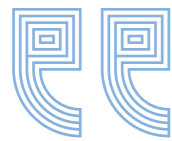


Mission statements Museum Boijmans Van Beuningen

It is important to understand the values from which the museum operates, because only then a design can be made that fits the mission of the museum (Museum Boijmans Van Beuningen, 2022).

The mission statement of the museum is:

- By nurturing, supporting and celebrating the freedom of expression by artists and having respect for old, new and controversial ideas, we aim to offer everyone a challenging perspective on the world.
- We collect, research, document, conserve and restore, alone and with others, seven centuries of visual art and design. We add knowledge and new insights and program progressively with our the collection as starting point.
- We offer everyone a range of opportunities to browse through art history from the Middle Ages to the present. We connect, stimulate imagination, provide inspiration and boost creativity.



We collect, research, document, conserve and restore, alone and with others, seven centuries of visual art and design. We add knowledge and new insights and program progressively with our collection as starting point.

Mission statement MBVB



Annual goals of Education and Participation Department

A visitor participation is designed by the Education and Participation department (E&P department) of MBVB. That is why it is interesting to consider their specific goals.

The E&P department has a statement that focuses on three areas: 1) museum and society, 2) Art and public and 3) culture and school. The latter will not be stated here, because it is less relevant when designing for visitors.

Goals: Museum and Society

- Goal 1A: to develop an art education program in the depot with an active role for the public. We facilitate meetings and conversations between depot employees and the public, keep the public actively thinking about the future of the depot, the museum, the city and the world.
- Goal 1B: we make the depot (and future) museum more inclusive, by giving new target groups the space to develop and organize activities in the depot. We offer space for different, new perspectives, angles and facilitate the discussion about developments in the cultural sector and society.

Goals: Art and Public

- Goal 2A: getting to know the (future) public of the DBVB and museum by experimenting with public guidance in situ, digital public guidance (online + depot app) and with the interaction between physical and digital. This applies to all projects in the depot and specifically to the public participation program 'Family of Objects' developed in 2021.
- Goal 2B: to further develop the information screens, depot app and online collection into a digital knowledge base, in co-creation with the public. In time, each work of art must have an image, basic information and a short substantive text available and in time all works will have a story in the depot app.



We want to get to know the (future) public of the DBVB and the museum by experimenting with public guidance in situ, digital public guidance (online + depot app) and with the interaction between physical and digital.

Annual goal of E&P Department

2.3 STAKEHOLDERS OF DEPOT BOIJMANS VAN BEUNINGEN

The stakeholders in this project range from directly involved: the museum staff, the municipality of Rotterdam, the neighbors (e.g. residents, Netherlands Architecture Institute, Erasmus Medical Centre) and (online) visitors to further away: fellow museums in the Netherlands and abroad, scientists and researchers around the world etc. For this research three different stakeholders are identified that have a different view on the needs of visitors: the MBVB museum staff, residents of

Rotterdam and scientists (see yellow elipses, figure 17). In the creative session (chapter 4.3) these needs were further defined.

The MBVB organogram is shown in figure 16. At a first glance the structure of the museum looks quite hierarchical, in practice this is not the case. The museum operates in teams that are self-managing, they formulate their own goals apart from the mission statement of the museum itself.

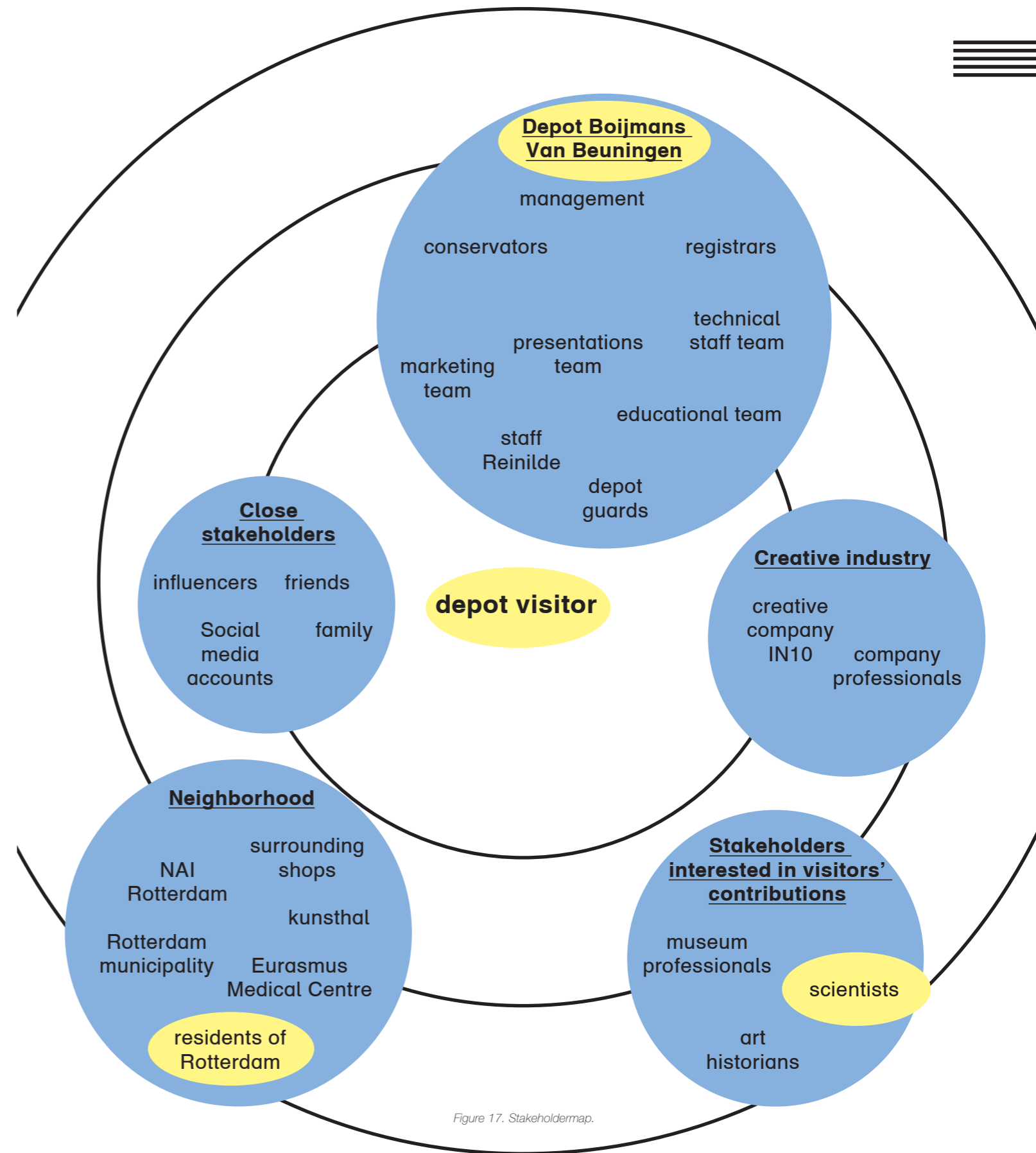
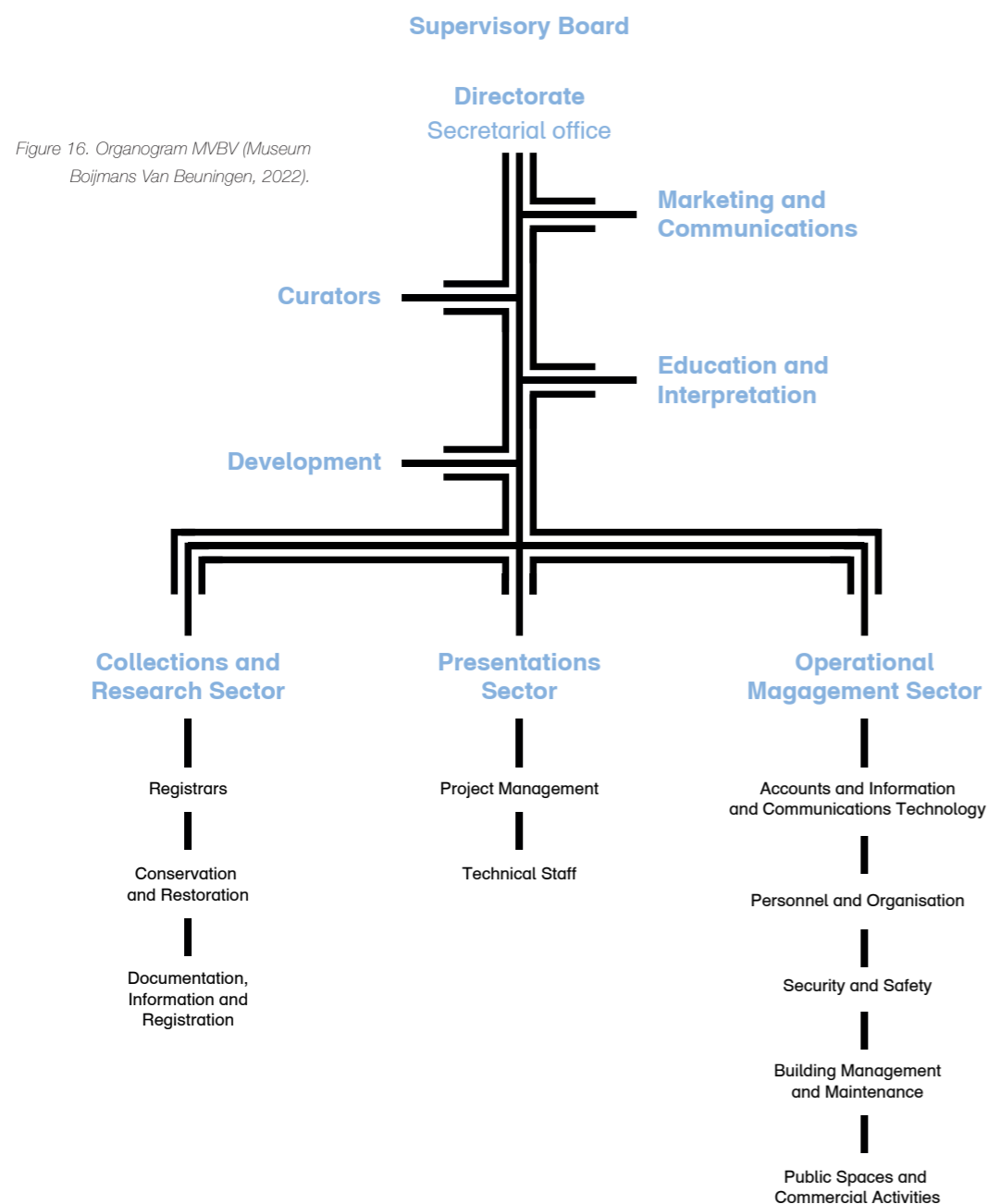
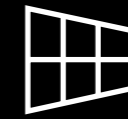


Figure 17. Stakeholdermap.



Key insights context



perspectives

- MBVB wants to offer everyone a challenging perspective on the world, offer educational programs, work together with the public and learn from them (p).



belonging

- The E&P department wants to facilitate meetings and conversations.



relevance

- The E&P department wants actively cooperate with the public and think about the future of the depot, the museum, the city and the world.

Other

- The most important stakeholders for this project are: visitors, museum staff and scientists.



RESEARCH

This chapter describes all research of this thesis in the following chapters:

- 3.1 Research approach
- 3.2 Theoretical framework
- 3.3 Desk research
- 3.4 Observations, interviews and input notes from depot visitors
- 3.5 Interviews with Professionals MBVB
- 3.6 Expert interviews Digital Museum Professionals
- 3.7 Visitor Journey

3.1 RESEARCH APPROACH

The Design Brief (chapter 1.2) describes the design goal. The context of the project is described in chapter 2 Context. Here DBVB and the MBVB are introduced and the stakeholders of this project. This part of the process focusses on understanding the status quo around museum depots and visitor participation in museums. This phase has a diverging character. The following sub-research question was composed.

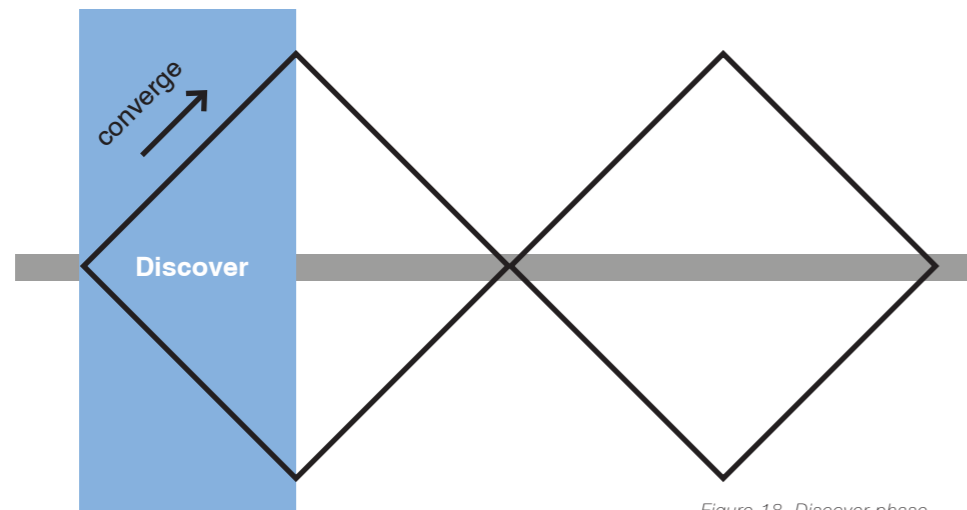


Figure 18. Discover phase

Research question

What is currently known about opening up museum storage, and how are visitors involved in a museum (and the depot) on- and offline?

The following activities were carried out in the discover phase:



Theoretical framework, to establish a clear view on what is happening in the current museum world. The following topics were investigated: opening up a museum storage, participation in the museum by visitors, contribution of visitors, personalization in the museum, citizens science and digital collections relevant literature was investigated.



Desk research, to find out what museums offer digitally. Digital museum collections are quite new in the museum world, the same is true for how visitors interact with them. The current types of participation are investigated.



Interviews with depot visitors, staff of MBVB, and digital museum experts were held. Also input notes of depot visitors were analysed.



Observations to understand how visitors interact with each other and with the spaces in the depot observations were performed in situ.



Visits e.g. attending an 'erfgoed arena' in the Reinwardt Academie about Instagram. Online meeting with 'Netwerk Digitaal Erfgoed': 'You can learn to digitize'. Visits to other museums collecting insight in their visitor's participation.



Mapping visitors needs by identifying touchpoints in a visitor journey

3.2 THEORETICAL FRAMEWORK

DBVB represents a “new typology” in museums (Kisters, 2020) 151.000 items that in theory can be seen by anyone, which is something extraordinary. In this thesis the question is: How to guide visitors through a publicly accessible museum depot, by actively listening and collaborating?

In this theoretical framework the presence of museums are evaluated and the current way of visitor participation is reviewed. Trends in the museum world such as open storage, digital collections, digital participation and the personalization of the museums visit are discussed.

Where museums as we know them today ‘begin’ is hard to say. The word museum originates from the Greek word *museion*, it has the meaning “place of study, library or museum, school of art or poetry”. This Greek word originally comes from the word *Mousa* (muse) which means “temple or shrine of the Muses” (Etymonline, 2022).

Allegaert et al. (2020) writes that at the start of the 21st century museums are more likely to distance themselves from their dusty and often elitist image. They no longer want to be seen as mere repositories of objects. Cultural heritage organizations are moving strongly towards society: their role therefore does not (any longer) lie exclusively in preserving and protecting the heritage of the past. It is just as important that they use their collections and histories to bridge the gap between past, present and future.

Perspectives on the museum visit

Museums have been challenged to rethink their relationship with visitors for some time already. A famous definition of the purpose of a museum was given by Alfred H. Barr, Jr., the director of the Museum of Modern Art in New York. He wrote in 1944: “the primary purpose of the Museum is to help people enjoy, understand and use the visual arts of our time.” to educate themselves or merely to enjoy.

In the late 80s Vergo (1989) introduced a “New Museology” concept. Stressing the social role of museums by focusing on visitor engagement, outreach and representation. The concept of participation was popular at the start of the 21st century.

The Faro Convention in 2005 of the Council of Europe plays an important role in the museum world. The agreement, ratified by 20 members and signed by 7 states of the Council of Europe, ‘encourages to recognize that objects and places are not, in themselves, what is important about cultural heritage. They are important because of the meanings and uses that people attach to them and the values they represent.’ Article 12 of the Faro Convention states that parties should encourage public and democratic access to cultural heritage. It also highlights how public involvement in the process of cultural heritage evaluation is important and that all views should be considered before any decisions are taken. Simon (2010), among others, is an advocate of a ‘participatory cultural institution as a place where visitors can create, share, and connect with each other around content’ presented by curators.

For unsuccessful learners, the educational image of museums is unattractive. The decision to visit a museum is determined by the meaning constructed from an experience or the anticipation of such meaning (Hooper-Greenhill, 2012). Also, the formal

social structure can be a reason to retain oneself; the authoritative style of museum buildings and spaces just do not offer the comfortable leisure pastime they seek.

Sandra Jackson-Dumont, Director and CEO of the Lucas Museum of Narrative Art tells Szántó that a museum must address a sense of belonging. Winesmith and Anderson (2020) indicate that connecting with communities is very important; learning and understanding them. Opening up to learning, cultural protocols and traditions, because it is not desirable to fit them into the Western way of doing and behaving. The collections aren’t anything without its people, the people in Auckland for instance feel that they are the guardians of the Tamaki Paenga Hira (Auckland War Memorial Museum) in New Zealand.

There is clearly a trend in the museum world that has to do with social change and social justice and decolonization. So, museums are actively broadening their view and adding perspectives. For instance, museum conferences nowadays have gravitated toward these themes and the sector is asking itself hard questions about these subjects. Within these questions, there is a growing awareness to decolonize themselves – to cast off their colonialist and imperialist origins (Winesmith and Anderson, 2020).

In 2021, during the coronona pandemic, Szántó interviewed 28 museum professionals. During the pandemic, museums were closed and there was time for reflection. The outcome of the interviews, Szántó (2021) writes, is that a museum should be a more open and demographic place, more satisfying and engaged, “more community-minded and welcoming, more participatory and inclusive, more pluralistic and diverse, more porous and polyphonic”. He also asked his interviewees: what should museums unlearn to stay relevant? The professionals answered that museums sometimes

see themselves as institutions that ‘know it all’, in their eyes they became too institutionally cautious. “Museums need to let go of this obnoxious idea that they are an authority on all things.” (Szántó, 2021, p.14). He has the idea that museums put themselves on pedestals from which he thinks they have to get off.

Museum directors nowadays ask museum professionals to unlearn the orthodoxies of the Western intellectual tradition. They strongly advise to open up the museum and listen more to visitors and artists. To get there, Szántó (2021) writes that this means that museums should go beyond the idea that everything should happen in architectural structures and behind walls, in ever-growing buildings and with an ever-growing staff.

While the Depot is not necessarily giving visitors actual input into heritage decisions, by making the process visible, the institution invites visitors to think critically about how heritage is “made”. These ideas of a changing role for museums and their collections were used during the plans and construction of the conception of a new device to engage visitors in the DBVB.

Opening up storage

In line with the idea that museums should be more democratic and transparent, some of them are not only opening up their front doors, but also their storage rooms, the depots. Another reason to do so is that a lot of items are not on show, e.g. due to space limitations most institutions only show a fraction of the objects they preserve, leaving the public curious about the vast troves of fascinating objects that are not available for viewing (Orcutt, 2011).

Orcutt (2012) writes that it is desirable that a museum opens up its storage, but it does not make it more practical for museum employees and visitors. There is a constant dilemma between the practical arrangements for the staff and the goal of enhanced access and information for visitors. The dilemma increases, because twentieth- and twenty-first-century gallery installations usually allow considerable space around each object.

Groskoph (2016) surveyed 20 museums in 7 countries in 2016, focusing on the work of 13 major artists, data of about 2,087 pieces of art was collected. He found that for example, from the 218 paintings of Claude Monet 155 are not on display (see image 19), so more than 70% of these paintings in the collections of these 20 museums are not on display.

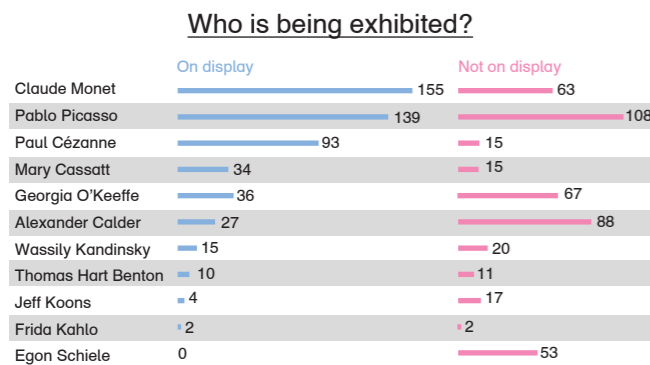


Figure 19. Who is being exhibited? (Groskoph, 2016)

Translating these findings to the Depot, which is open to the public, results in a lot of extra work for employees. They have to interact with visitors who desire further information, explain the depot duties, visions, artwork, etc.

Opportunities/challenges in working together with the public

Soeterbroek (2021) is a Dutch sociologist, adviser of the Dutch National Office for Cultural Heritage. He writes: 'Let heritage participate in society' and 'show objects on the streets and tell the personal story'. He indicates challenges for the future, one is formulated like this: moving along towards the neighborhood and living environment. This is an opportunity for museums. It is not just about including people in the story making, it's including people who are the subjects and the experts in the process of developing the plan to start generating and creating the stories, that is something our sector struggles with (Winesmith and Anderson, 2020).

Another challenge indicated by Soeterbroek (2021) is the recognition of the indispensable role of active citizens. It starts with the process of heritage making and adding a new (meaning) layer to heritage history. This concerns practical support for citizens' initiatives. To do this, the heritage sector has to build a relationship that starts at a local level.

Despite many museums' intentions of working with the public, staff priorities and attitudes may be at odds with such initiatives (Soeterbroek 2021). At the depot, for example, the focus on access and transparency must be balanced against the need to conserve and protect objects.

Participation in a museum context

Simon (2010) indicated the following conditions necessary for a cultural institution to become a place for participation: the desire for input and involvement of outside visitors, confidence in visitors' abilities and responsiveness to visitors' actions and contributions. Cruickshanks & Van der Vaart (2019) of the Stedelijk Museum in Amsterdam indicates that

such values are not easily institutionalized, because they are fundamental about the way individual people interact with each other. Institutions they say, exert influence on individual members of staff, but they are more than the organization they work for. Individual values as well as the position they hold, influence the values they carry out. Ng et al. (2017) stress that museum professionals' identities and positionality, how they see others and themselves, influences their work with visitors. The person who is leading the participation work plays a great role in shaping the process. Soeterbroek (2021) brings to light that heritage institutions must step out of the comfort zone to enable participation.

Why contribution in a museum?

According to Orcutt (2011) the reason for the contribution of visitors is their reactions adding meaning to an object. Until recently, this was only possible in a limited way. The way a visitor is seen by museum professionals changed: a visitor is no longer viewed as a passive recipient of authoritative curatorial knowledge, but invited to be an active participant, making their own meaning from the museum's offerings (Winesmith and Anderson, 2020). This interesting result can be used in some way to make a device for DBVB.

Examples of engaging visitor (museum) tours Gallimore & Wilkinson (2019) found that behind the scene tours in the storage of a museum changes how visitors experience a museum and change their view about what a museum is. Through gathering staff and visitor opinions in a snapshot of a behind-the-scenes tour, a high level of engagement was generated, for both the museum operations and artifacts. The tour can ensure more advanced learning and engagement since the activity combines participatory learning modes, novelty in objects and guided inquiry supported by in-group dialogue. Gallimore & Wilkinson's (2019) results also suggest that participants in the tours can play an advocate of different stories about the museum's content and its role in the society.

Simon (2016) discusses in her book *The Art of Relevance* an example of a way to make a museum experience personal and relevant. The human level is important when designing for everyone, making it one to one, with individual learning about the people who matter most in their lives. Simon advises to ask museum staff: 'What do our visitors most desire? How could tour guides start by getting to know them, and then build an experience based on that?'. Simon writes about the tours of Vi Mar, a tour guide at the Wing Luke Asian Museum in Seattle. Vi personalizes her tours whenever possible. At the start of her tour, she draws the participants of the tour into the stories again and again, asking them to compare their own and their ancestor's experiences to the stories she told. She goes back and forth between empathizing with the group asking to empathize with the historic Chinese people she was describing. The result was an enjoyable and unforgettable tour (Simon, 2016). This suggests interactive, personalized tours may be a promising way to create meaningful connections with visitors who might otherwise be disengaged.

A study at the Hebrew University in Jerusalem found the same. When tour guides conducted a tour in the nature park, they started off with a few minutes' introduction. Asking participants questions and getting to know them enhanced visitors' experience significantly (Tsybulskaya & Camhi, 2022). It just took three minutes to understand where people were coming from, their context, the stories and memories they held dear. These stories would be lightly woven into the story of the tour, the relevance grew from there.

Simon writes that relevance was built when 'we learn about people and connect with them on their terms'. Simon even writes that the outcome of this study was 'dramatic' positive, the entrance narratives made the tours more interesting, educational and memorable. The researcher found that the participants were also much more engaged, they asked more questions, discussed the content more often and made notes.

Many institutions take the first step introducing a museum tour, but not the second step engaging the tour participants. Many times museums forget to build on their relevance narratives, so an opportunity to be more relevant is missed.

Personalization of the museum visit

Around 2015 a lot of personalization was already happening in museums in the USA. Museums moved away from project focused visitor engagement and focused more and more on global audiences; personalized experiences delivered by means of smartphones and customized devices available on-site at a museum (Winesmith and Anderson, 2020).

Contemporary thinking about a museum visit starts with getting visitors to know the museum, one way is to get in contact with a museum is marketing. Rodney (2019) is of the opinion that the 'consumerist' aspects of the museum visit have to be taken into consideration to get a better hold on the visitor. Marketing as a principal method of audience development or principal model of visitor interface has not always had its status among museums he writes. According to Boswijk et al. (2007) the current economic status of the 'experience economy', businesses must look towards the various market or target groups they desire to serve and then develop products and services for these desired groups through collaboration with them. It will be about constructing a context, together with the customer, one he lives in, experiences and gives meaning to his life. So, this model requests the customer to take the marketer by the hand, share vital information of experience desired, and then the two agents work together collaboratively.

Rodney (2019) identifies that start of the new museology and marketing as a means of audience development, mutually reinforces the idea of the visitor as possessing agency. Real world examples of collaborative activity follow, with campaigns in which visitors develop their own 'collections'. The

popular platform of the Rijksmuseum, Rijksstudio, is an example of visitors making an online collection of all the digital artworks that are available on the website of the Rijksmuseum. Rodney also suggests that these 'collections' can be considered curation schemes that invite visitors to contribute their own content.

It can be concluded that personalization in museums is nowadays a common feature, a number of museums is using personalization as a marketing tool. Marketing alone is a one-way direction (from museum to visitor) whereas collaboration and participation, leads to a more thorough connection between the two.

Citizen science

Citizen science is a form of research where the analyzing power of a large group of people is used for science. If a museum is developing a tool that collects data of visitors, it can be interesting to look at citizen science projects to understand what type of data is interesting for all three actors: visitor, museum and science.

There are multiple online platforms that have open projects where anyone who wishes can contribute to science. Examples are:

- Zooniverse.org – this is an online citizen science platform that uses the active participation of human volunteers to complete projects requiring more subtle reasoning or perception than electronic computer networks. It began as a single astronomy project called Galaxy Zoo, which was launched in 2007 and invited volunteers to classify images of galaxies.
- cambridge.dlconsulting.com – this is a project where the Historic Cambridge Newspaper Collection is being digitalized. When issues are prepared for display online, Optical Character Recognition (OCR) software is used to generate searchable text. OCR enables searching of large quantities of full-text data, but it is never 100% accurate. That is why the library allows members of the public to help improve the searchability of this collection by correcting

errors in the text of the digitized newspapers. Saving these corrections to the collection database improves the accuracy of the text, which enables better search results and a richer experience for all users.

- fold.it invites the general public to play protein folding games to discover folding strategies.
- velehanden.nl - This is a website where negatives, audio, slides and microforms are digitalized to e.g. a book, map or photo. From small to large size. From a natural history collection to municipal archives. All kinds of collections participate. Because 'indexing' is extremely time-consuming, volunteers who enjoy working with historical documents are called upon to do this.
- hetvolk.org - This platform enhances the digital infrastructure for cultural heritage. They create data used by heritage institutions and scientists to describe and connect the past.

Citizen science with digitalized art data has become more and more popular. Bonacchi et al. (2019) indicates that crowdsourcing helps expand public engagement with activities at Galleries, Libraries, Archives, and Museums. They also argue that heritage crowdsourcing cannot straightforwardly be considered a democratizing form of cultural participation. This is foremost because the involved public cohort is not radically different in socio-demographic make-up to the one that physically visits the institutions, being for example financially better-off with high levels of formal education.

Citizen science should play a role in this thesis, it can deliver interesting and important information for science about depot visitors and art of MBVB. Also, it can increase the participation with visitors, when well-integrated and presented in an engaging way. Target groups that are not yet addressed can be involved and start to contribute.

History of digital collections

For almost two decades, museums around the world are working on digitalization. They make their collection accessible through the internet for public in general, art historians, museum staff etc. Digitalization costs a lot of time, because of the manual work, taking pictures, scanning documents, checking information, etc. It enhances the democratic and open sphere of the museum world; anybody from anywhere can access any artwork and information.

To make a comparison between large museums in the Netherlands and the US:

- The Rijksmuseum in Amsterdam has digital information about 650.000 collection pieces, and high-resolution images about 400.000. They started in 2002 with the Research Library that made the catalogue accessible online. In 2011 a large piece of the picture collection and the object information was released under an open license (Rijksmuseum, 2022).
- The Met in New York has a collection of 470.000 artworks in total. In 2013 the Met started the digital media department with the purpose of increasing access of the museum's collections and resources using digital media and website services. Now the Met has more than 400.00 hi-res images in the public domain. (The Metropolitan Museum of Art, 2022)
- MoMA in New York has almost 200.000 objects and around 90.000 of these works can be found online in their database. (The Museum of Modern Art, 2022)
- MBVB has 151.000 objects, of which over 48.000 are digitalized. They started digitalizing the collection in 1995 (Museum Boijmans Van Beuningen, 2022).

Over time these four museums have made large digitalization steps. In four years' time their open access images and data and other platforms have been viewed over 1.2 billion times and downloaded over 7 million times (the Met, 2022). In 2020 the Rijksmuseum website received 5.5 million unique visitors.

From these numbers, it can be concluded that visiting a museum online is here to stay and is an important asset of any museum.

Digital landscape of museums

A large shift, in the museum world is that tech-developments ensure easy to use and unlimited amounts of information systems. This allows visitors to enter a large amount of information of objects in a portable format (Orcutt, 2011).

Gallimore & Wilkinson (2019) wrote about how learning happens in museums is changing, because of the big shift in the availability of full collections online. This will plausibly also change how museums and curators engage with participatory programs. In 2013, Bertacchini & Morando already saw the same. They stated that this digitization of cultural collections, combined with the increasing capacity of storage and internet access to digital information, is causing a rapid change in the traditional models of using, managing and accessing knowledge and information related to cultural heritage and artworks.

In the early stages of the internet, it was really a two-way system, where 'ordinary' people could contribute content as easily as they accessed it (Winesmith and Anderson, 2020).

Should the digital museum experience also be a platform where visitor contribution is easy as it used to be at the start of the internet? According to Orcutt (2011), one of the most important responsibilities for museums is to provide information that stimulates viewers dialogue. So, does there lie an opportunity in combining both views; in accessing information, contributing and discussing in an online environment?

Working in a museum context with digital products

When making digital contact with visitors it is important to understand how to do so. Technologies were imaged to make the museum more democratic and open to everybody, but there are barriers to enter a collection online. Winesmith and Anderson (2020) stress for instance that digital doesn't only mean technology, it is a language. The developments are rapid and go hand in hand with contemporary museum thinking. According to Orcutt (2011) consideration is the level of personal contact that each visitor desires, this varies from an entirely independent experience with a handheld device, to an audio tour that conveys the personal nuances of the speaker in a less formal, more intimate tone; to a lecturer tour which allows for dialogue between a visitor and a trained, knowledgeable guide.

Orcutt (2011) also stresses that the needs and comfort of all visitors should always be taken into consideration, new methods of engagement can help attract younger visitors. Winesmith and Anderson (2020) indicate that there are large changes in how people consume content nowadays; devices are ever-present and popular culture is pushed to smartphones.

By digitalizing museum collections, it was imagined that networked technologies would offer new kinds of access, effectively democratizing the museum and its collections and making them open to all, regardless of class, location, education or economic power. However, just as there are hurdles for visitors to come into the museum, there are explicit and implicit barriers to enter an online collection, including barriers related to orientations and navigation of online collections, their use of language, their categorization of objects and limited rich information. It is often the case that an online collection further embeds institutional biases. A recent study of online data of more than 40.000 works by over 10.000 artists from 18 major U.S. museums found that 85% of the artists in these

collections online are white and 87% are male (Winesmith and Anderson, 2020).

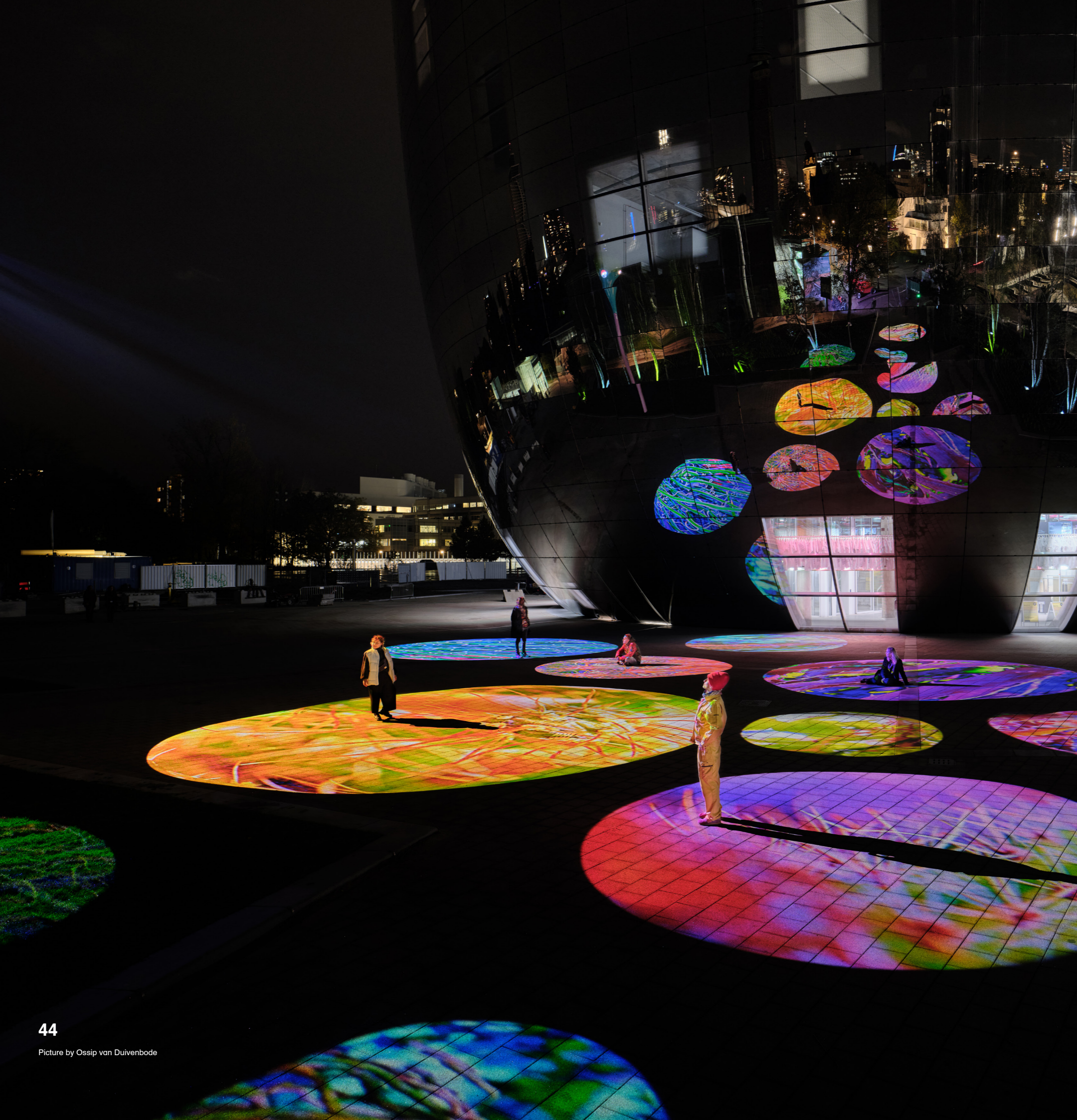
Thus in creating a digital museum platform the tone of voice, nuance between formal and informal and inclusiveness play an important role.

Experiencing digital versus physical art: phygital

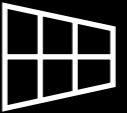
The museum experience takes place more and more between the physical and digital interactions; in the 'phygital' space. The final goal is to take the best of both worlds to simplify and make the overall experience more interesting (De Marco, Dibari & Scalera, 2021). Netwerk digital erfgoed (2021) writes that there is a clear interaction between digital and physical visits to heritage. One thing evokes the other, which is why – when heritage institutions organise physical exhibitions or events – it is important to encourage interaction between both worlds. For example, by giving visitors the opportunity to register for physical activities through the website. Or through reports and photos from events on the website.

De Marco, Dibari & Scalera (2021) stress that phygital marketing, is the type of approach that can exist and function simultaneously in each of the two "worlds": the physical, real one, alongside the digital and virtual one. They indicate three fundamental elements to define this concept: 1) Immediacy: ensuring the occurrence of precise actions at a precise moment; 2) Immersion: the visitor must be made part of the experience in a pervasive manner; 3) Interaction: the emotional part of the user must be activated through an exchange. They write that technology is the right tool to ensure the existence of these elements and provide the user with a unique interactive experience.

Museums are part of the phygital world and should act accordingly.



Key insights theoretical framework



perspectives

- Contribution of visitors add meaning to an object (Orcutt, 2011).
- Objects are important because of the meaning that visitors give to them (Faro convention, 2005).



belonging

- Take some time at the start of a tour to get to know your visitors, so that you can personalize later on during the tour (Tsybulska & Camhi 2022; Simon 2016).
- Show heritage objects on the streets and tell the personal story of these objects. Soeterbroek (2021).



relevance

- Most important for cultural institutions is to actively stimulate dialogue (Orcutt 2011).



recognition

- A visitor wants to be an active participant, and wants to make his/her own story (Winesmith and Anderson, 2020).
- Cultural institutions should step out of their comfort zone to enable visitors to participate actively (Soeterbroek, 2021) (r1, r2).

Other

- DBVB is a new type of cultural institution (Kisters, 2020).
- Technology is the right tool to connect the physical and digital, if immediacy, immersion and interaction are taken into account (De Marco, Dibari & Scalera, 2021)

(see chapter 4.2 for the explanation of the themes)

3.3 DESK RESEARCH

Engaging digitally with museums

There are many ways in which visitors can digitally interact with art nowadays. There are many examples:

Multimedia or audio tours to explain more about an artwork and the artist or a whole exhibition. These tours are sometimes on devices provided by the museum, or accessible on visitors' own phones. GuidelD is a company that makes the hard- and software of the product, they have 200 customers in 16 countries (GuidelD, 2022).

The Cooper Hewitt Smithsonian Design Museum in New York made a device of their own, in the form of a pen. Visitors can collect the pen at the entrance bring the pen with them inside the museum and collect artworks on it (see figure 20). Using the large screens on tables, visitors may explore and manipulate the objects they have collected, discover

related objects in Cooper Hewitt's collection, retrieve contextual information, learn more about designers, design processes and materials, watch and share videos and even sketch their own designs.

Museum applications. A lot of museums made an application that can support visitors both inside and outside the museum (figure 21). There is a category (multimedia) 'tour' apps that have pre-designed tours. Most of the time the applications have a route explanation and a part where the art is explained, in text or audio. The app designed for 'at home' e.g. searching in the collection or making your own collection of artworks of the collection of a museum (Rijksstudio). When in the Rijksmuseum, this app offers tours that consist of different types of information; textual explanation is the most basic format, the next type is audio (around one minute) and sometimes the option to 'learn more'. For

some works there is the option 'see more': where a video can be found. In this app there is always the option to see the spoken audio in a text format (Rijksmuseum, 2022).

The Städel Museum in Frankfurt am Main published an application: Städel Highlights. In this app visitors can retrieve audio stories about the most famous artworks in their collection. Around 40 works are highlighted by three types of audio stories: one about the artwork, one with the focus on art history and one about the used material. Also, a little paragraph about the artists is shown (Städel Museum, 2021).

Other examples of museum apps are the L@kenhal app (Google Commerce Ltd., 2019) which is an application where visitors can scan an artwork and receive an audio tour. The last one to mention is De Chirico e la Metafisica (Orpheogroup, 2021) which is an app specially designed for the exhibition of De Chirico in Palazzo Blue, Pisa.



Figure 20. The Pen. (Cooper Hewitt Smithsonian Design Museum, 2016)

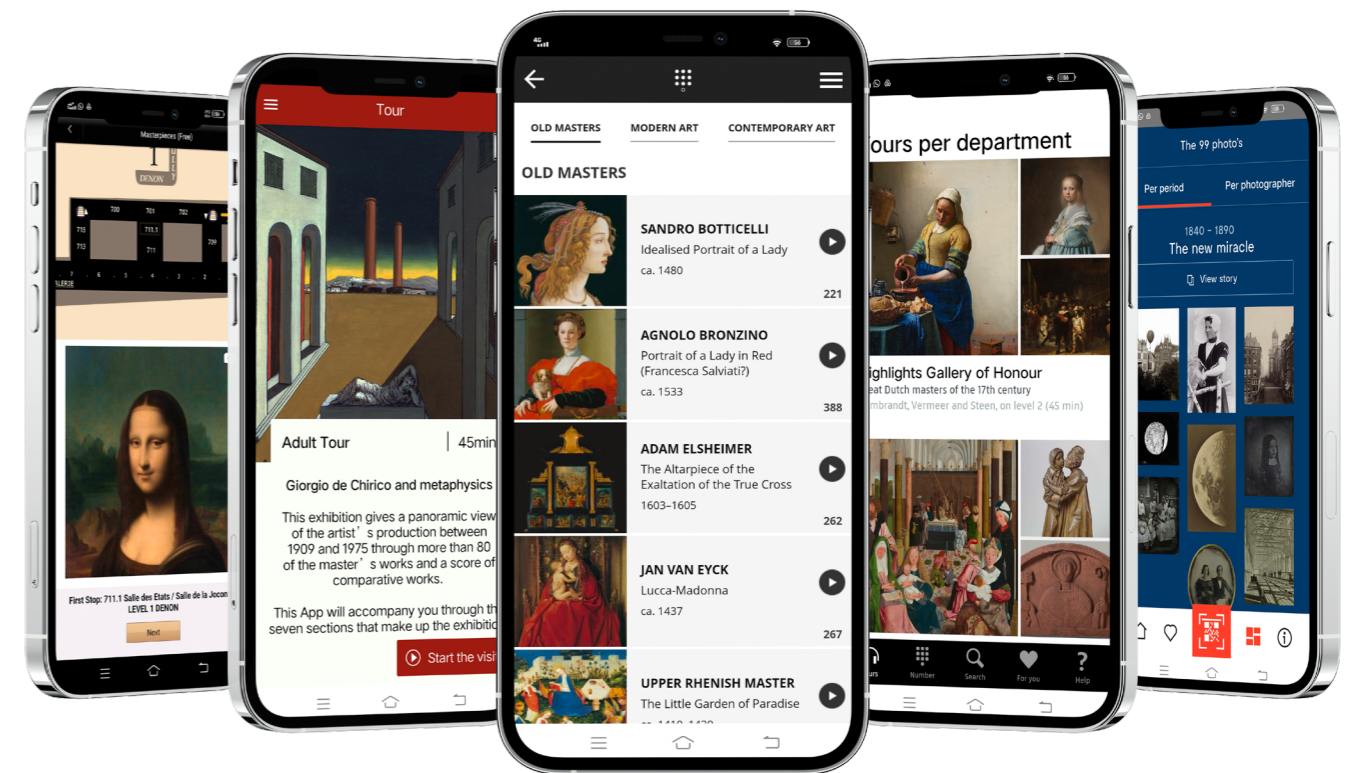


Figure 21. Museum apps overview, from left to right (Louvre app, De Chirico e la Metafisica (2022), Städel highlights (2022), Rijksmuseum (2022), Fotomuseum (2022)).

Museum websites. There are many examples of websites that offer art online, almost every museum around the world has their own collection-website e.g. The MET, Brooklyn Museum, Tate Modern, Mauritshuis, Kroller-Müller, etc. Most of the time meta-data about the artwork can be found on these websites, but some museums have even more info or advanced search options.

For example figure 22, the Städel Museum has the option to search for artworks that are similar in terms of motif, picture elements, associate, atmosphere and emotion (Städel Museum, 2022). The collection website of Cooper Hewitt has the option to search for e.g. color in the artwork, date of purchase, and dimensions. The Städel Museum also has an art and mediation space on site and a digital application that is called 'Close Up'. It takes a closer look on a core theme in the Städel's collection of contemporary art. The use of various analogue and digital media to explore a tight selection of original works of art, allows viewers to formulate their own response to a burning issue in contemporary art.

The famous painting 'the Night Watch' by Rembrandt has its own website 'experience the Night Watch'. Here you can zoom in online on a lot of details of the painting, an audio story accompanies the visitor (Rijksmuseum, 2022).

Do (online) visitors want to contribute?

The research of the Network digital heritage (2021) shows that around 1 in 10 users of a heritage website want to be active online, by adding an opinion or creating something. The same research explains that visitors like to ask questions online, about what they have found on internet or what they are searching. However this could provide valuable information about the collection and how the museum presentation is experienced, but reading and responding to these questions requires significant resources of organizations. Using co-creation is a possibility to let visitors contribute, this is a form of citizen science, also mentioned in the Theoretical framework, see chapter 3.2.

Started in 2008 visitors can easily contribute to the Museum collection website of the Brooklyn Museum, they can add tags to an artwork with just one click without having a user profile (Brooklyn Museum, 2022).

"By the name of: 'Click!' A Crowd-Curated Exhibition. 'Click!' began in March 2008, with an open call for photographs depicting the "changing faces of Brooklyn". The public assessed the 389 photographs on the site, using a sliding scale from most to least effective, and taking into consideration aesthetics, the photographic techniques, and the work's relevance to the exhibition's theme. 3,344 people participated in the evaluation process by casting 410,089 evaluations. Each of the 389 works was viewed approximately 1,054 times. The top 20 percent of the 389 submitted works, which were displayed by size according to their relative ranking.

Another example which is not digital, but where the community had a say in what was on show is the exhibition of the Brooklyn Museum GO: a community-curated open studio project (2013). Here 1,708 Brooklyn-based artists joined in order to nominate artists. An estimated 18,000 people made approximately 147,000 studio visits in order to nominate ten community-nominated artists, Museum curators selected five artists to be featured in the exhibition.

Centraal Museum in Utrecht, The Netherlands, had the same function on their website, but they took it down because it turned out to be too costly. The website needed too many changes to work well (see expert interview Centraal Museum chapter 3.6).

On most collection websites there is the option for visitors to ask questions or to contribute. This is usually a link to a generic email address, see a screenshot of such a screen in image 23.

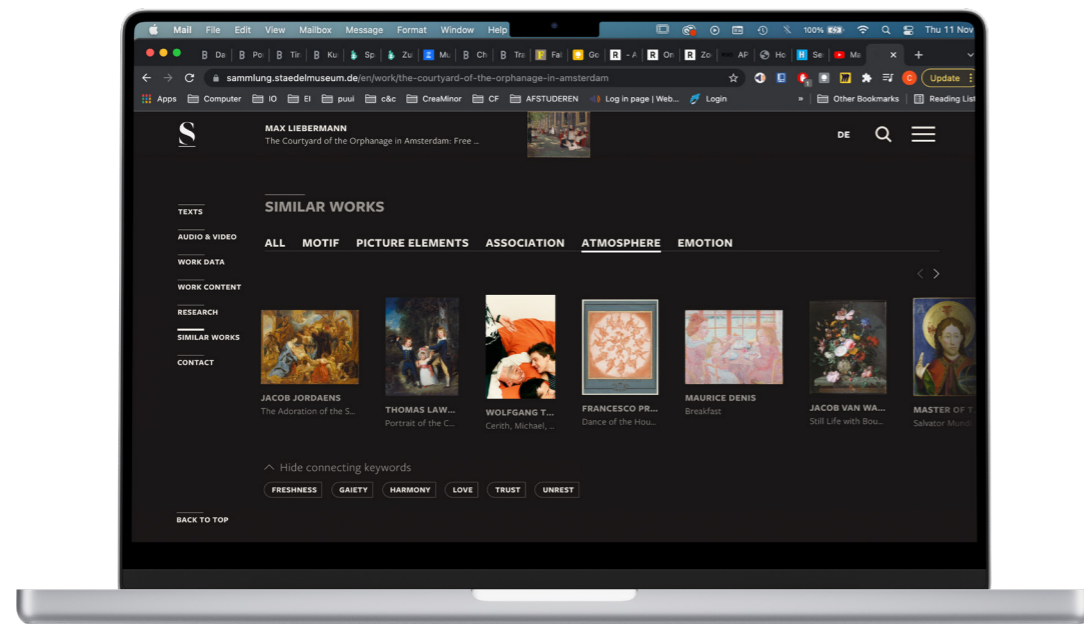


Figure 22. Städel Museum (2022) searching on similar works is possible, in terms of: motif, picture elements, associations, atmosphere and emotion.

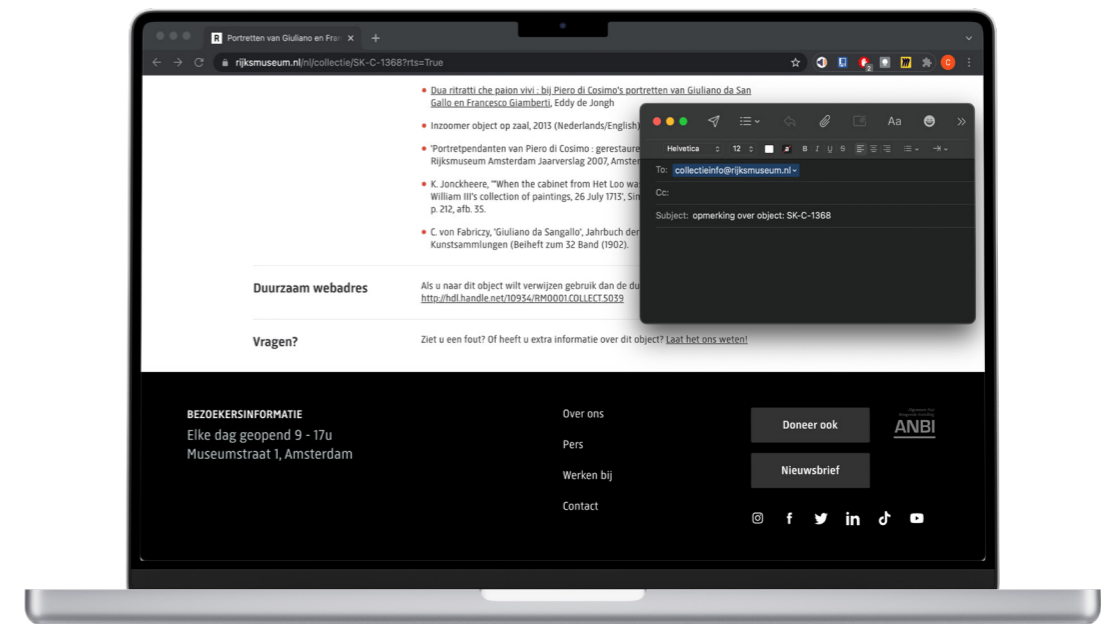


Figure 23. Rijksmuseum (2022) Questions about an artwork? Link to an email.

Social media and museums

There are a lot of museums and heritage institutions active on social media e.g Instagram, Facebook, Tictok, etc. In this research, multiple social media platforms and accounts were analyzed and their strategy distilled.

When looking at posts and the accompanying text of pictures on Instagram, some institutions weave pieces of art into the 'season' or type of day on which it was posted. For example: "Happy birthday to Elisabeth Louise Vigeé Le Brun. Born in Paris on #thisday in 1755." National Gallery on Instagram (Facebook Inc, 2022), see image 24. This text accompanies a painting of Elisabeth. Christies the famous action house, posted on Instagram a Chinese painting of a cat (see image 24) together with the following text and hashtags: "Saturday #Caturday this cat painting, a highlight of our Exquisite Eye: "Chinese Paintings Online auction,

has been in the same family since 1982... #cat #cats #catsofinstagram #art #artwork #artist #chineseart #chinesepainting." (Facebook Inc, 2022).

Institutions also post pictures or signs of understanding the 'hard' times that potential visitors go through, and by doing so, they show pieces of their collection. They also ask visitors questions and activate them to think about the topic discussed in the pictures of their collection. An example: in the the winter of 2021, which was a period with little daylight and also the aftermath of the Corona pandemic, the Rijksmuseum Posted on Instagram: "Today we are sending a virtual hug 🤗 Spread the love and affection. Can you tell from which paintings they are? Share your answers in the comments! ❤️". Details of their collection concerning love or hearts (see image 24) were supported by this text.

Figure 24. Examples of instagram posts of museums and heritage institutions



In figure 25 the number of followers on Instagram (Facebook, Inc, 2022) of various heritage institutions around the world are shown. This number of followers is not static, but it can of course indicate the amount of followers at a given moment in time (in this case the data was retrieved on April 8th 2022). The amount of followers shows the range of people that are potentially reached with an Instagram post or story, but it is not one-on-one comparable to the amount of people that see the story or really interact with it.

'Heritage Arena' about social media

When attending an 'erfgoed arena' in the Reinwardt Academy on March 23rd 2022, about social media, there were four people from four different Dutch

museums, who held talks about Instagram and Facebook for marketing purposes. The Van Gogh Museum had the most likes on Instagram, but they also had the most personnel (two) working constantly making posts.

Communication with visitors, is according to these Instagram experts, not only sending information, but looking for connections with your audience, so it is important to react on Instagram and Facebook comments from potential visitors. They also stressed that the text presented next to a posts on Instagram is different from gallery texts, which always have to be checked by curators. Instagram is a fast changing medium, it's a place of memes, funny videos, etc. Go with the 'Insta-flow', so post about the day-to-day topics and use the language of the platform.

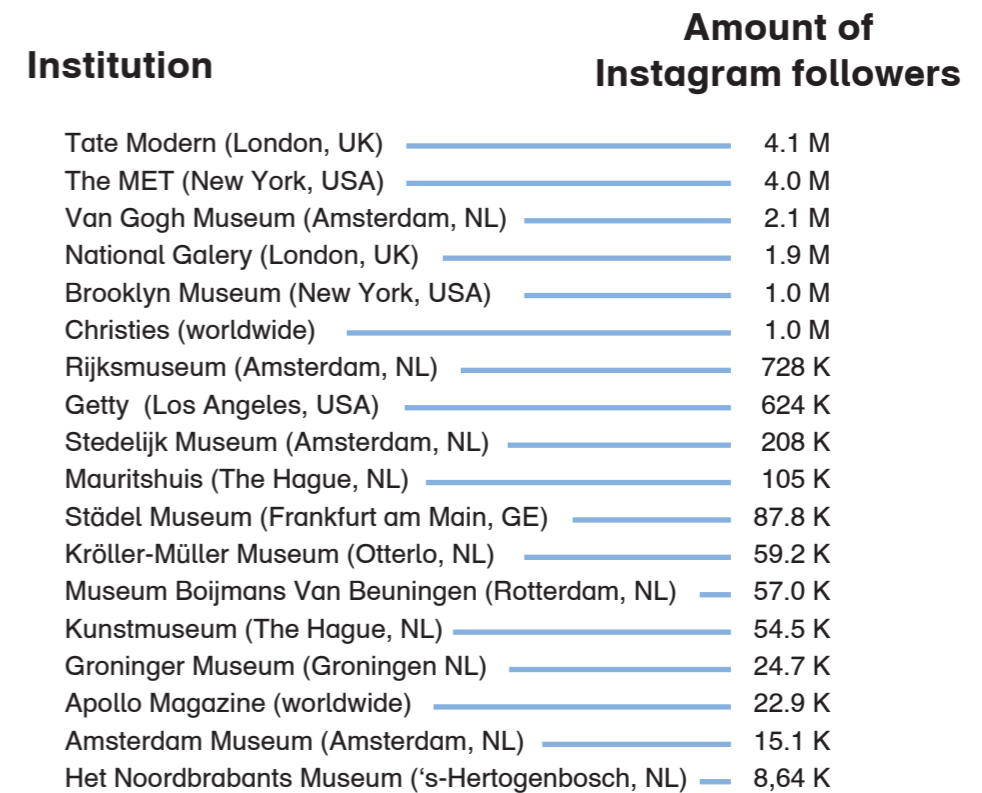


Figure 25. Insittutions ranked on amount of instgram followers (data retrieved on 8th of April 2022).



Key insights desk research



perspectives

- Almost every museum has the option to contribute online to the museum collection, but visitors don't use this option much.



belonging

- Many large museums in the Netherlands made an application to support visitors during their visit.



relevance

- One in ten online visitors also wants to contribute online (Network Digital Heritage, 2021).



recognition

- The Brooklyn Museum is a pioneer in asking the public to contribute by online presence, foremost in curating exhibitions.

3.4 OBSERVATIONS, INTERVIEWS AND INPUT NOTES FROM DEPOT VISITORS

First the observations of depot visitors are discussed, after which the interviews and input notes from depot visitors are looked into.

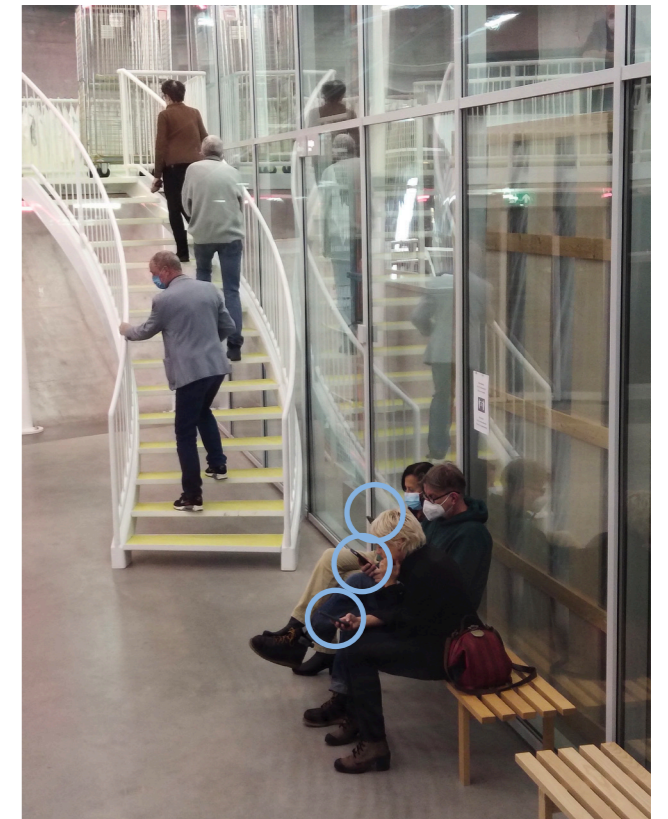
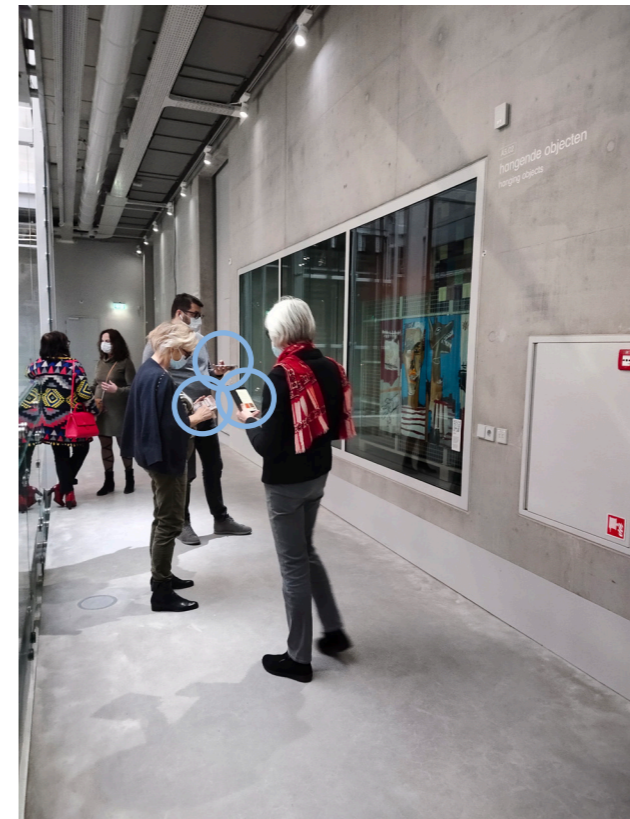
Observations depot visitors

- People walk around with only their smartphone and use it to make pictures or to search information on what they see.
- Visitors seemd a bit lost sometimes, they were asking the researcher were to go, maybe because she was wearing a DBVB key cord. So, visitors expect guidance in their visit.

(see figure 26-30)



Figure 26-30. Pictures of depot visitors interacting with their smart phone of different places inside the depot.



Interviews visitors of the Depot Boijmans Van Beuningen

Around twenty-five random visitors walking around in DBVB were interviewed. There were asked questions about three subjects: the depot app, their overall depot visit and their experience seeing art digitally versus in real life, see appendix 2 for the interview questions and for all the quotes. Below the outcome of the interviews are explained.

About the depot in general

Visitors stressed that the building is extraordinary, the outside of course, with the mirroring skyline of Rotterdam in it. The entrance hall with a lot of pink lights and the impressive mezzanine with a yellow floor. After the large steps that immediately show you the hall and a very high ceiling with lots of glass and lots of art! Vitalis (2022) researched the depot and explains that the attention of visitors was grabbed by the building: 'It is wonderful to walk through this building, it is a kind of futuristic place, which continues to surprise'. The participants praised the architecture; the roof with the panoramic view and the garden. People described it as: 'the vitrines in the central hall with the many stairs and glass connections look like a work of Escher', 'The whole building is a work of art inside and out' (Vitalis, 2022).

I immediately sent a message to my parents when I was walking here, I really like the building so much!

Boy in his early 20ties

The restauration process and normally hidden parts of a museum were admired by the depot visitors and were indicated as special. Three interviewees were a bit concerned for the well-being of art restorers: "Is it okay for the art restorers to be watched all day? I would not like to be watched all day." said a woman around 25. Vitalis (2022) found that it was of added value to take a look behind the scenes of a museum (33 respondents). One respondent said 'It feels a bit exclusive to see something that not everyone gets to see. I always find it interesting to learn more about 'the backside' of a museum/cultural institution' and 'Interesting what is involved in making an exhibition. Actually, it is not so logical that you can only see the end result. Nice to see the curator at work'.

It is really nice to see people working on restoring the art. Seeing it is really interesting! Not only seeing the finished parts.

Woman around 25

Two of the twenty-five people interviewed explicitly told the researcher they thought the depot was really something unlike a museum: "The context is really different, compared to a museum, we are not used to this. All types of art are hanging next to each other, it is a futuristic collection! It is really nice!": A Dutch couple around 30 answered. One visitor indicated he even wanted to know what other people think about the art of MBVB: "I would like to see stories of other people next to an artwork. I think these stories open up the discussion about the art work." Dutch boy in his early twenties. **About the depot application**

A lot of visitors liked the depot application because: 1) it made them study the art more precisely, 2) it made them recognize objects, 3) visitors were happy they could revisit the information at home. The application makes the depot visit more

The app is real fun; I have my own depot at home! I am pressing on a lot, so I can watch everything back at home.

Boy around 20

interactive for visitors, and they like that. Some visitors explained they did not find the time to look at the app: "we are now mainly busy with exploring the building, maybe on my next visit I will use the app." The building was so impressive and takes some time to process. Two Dutch women around their fifties explained.

The reason for some people to use the application is to check their knowledge e.g who made an object or in what era the art is made or does the object belong

At first I did not notice this work, but because of the story [in the app] I was looking for it. Now I have noticed it, without the app I probably wouldn't have.

Dutch couple around 60

to a certain type of art movement?

The information about the application on the website before visitors come to the depot is quite limited. Some visitors reported they would have wanted to download it before they came to the depot. The staff of the depot said they had to make visitors aware at the entrance of the depot that the application exists.

When interviewing a DBVB security guard he told the researcher: "Elderly people do want to use the app, and also try but, they do not always succeed in downloading the app, that is a hard thing to do it yourself." Four visitors reported that they could not find the artworks they wanted to visit.

A lot of visitors told the researcher that the QR codes hanging on vitrines and next to the compartments are not always understandable.

Four visitors reported they missed the QR-codes,

I would have liked to download the app before my visit.

Dutch woman around 50

and they did not understand that one code would retrieve multiple artworks. Visitors think they are doing something wrong if they do not understand how the application works.

Visitors are very visually focused, when a story in the app does not have a clear picture, visitors are not able to find the artwork between all the objects. 8 of the 15 interviewed visitors agreed that they could not find everything they saw in real life in the depot in the application.

About seeing art in real life and online

We want to know what that is (tower of Babylon out of lego blocks) and if we scan the QR we can't find it. Can we search for it in the app as well?

two couples around 60

Seeing art in real life is something the depot visitors really liked: "We really like to see the works in real life, compared to seeing them in the app." Dutch couple around 30. "To see the artwork in real life, that is really a different and richer experience compared to what I see on my phone." Dutch couple around 30. "Seeing art in real life makes me see the texture and more detail. The App is 2D on the phone the color etc. is more superficial." Woman around 25. Furthermore, when seeing art in real life it evokes more intense feelings compared to seeing art on a screen.

The artwork becomes a part of you in real life, on a screen you click away so fast. In real life you are exposed to the art. I had this once with a picture, I felt so much when seeing it for the first time in real life!

two women around 60

Input Notes from Depot Visitors

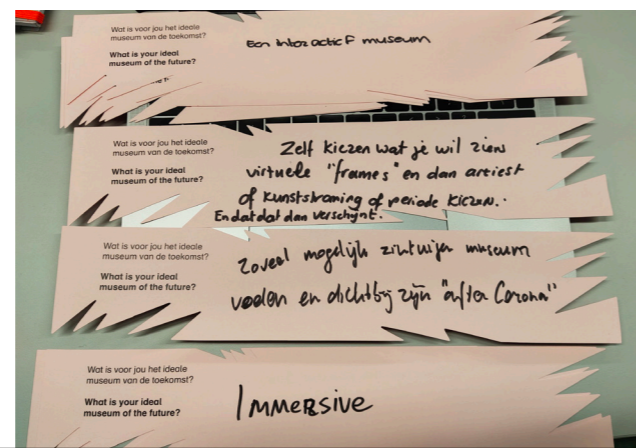
In the DBVB presentation hall a large wall is allocated to ask input from visitors. They may write their thoughts on the available pink pieces of paper and hang them on the wall (see picture 31-34). Two questions were analyzed, the most interesting one for this research is summarized ('What is the ideal museum of the future for you?'). The notes of visitors were grouped together on subject and all groups were given a cluster name. All answers of visitors can be found in appendix 3.

A museum should be inclusive:

Visitors wrote that there should be 'room for own interpretation' and 'lots of styles and lots of variety'. Or 'a museum where the history section is highlighted 'without shame''. A museum 'one diversity celebrating, equality and sustainability' and 'a museum with equal representation of everyone regardless of gender, ethics, etc'. And a museum that is 'accessible to everyone and made for ordinary citizens' was noted down as well as this sentence: 'for everybody, not just the rich'.

Love for the interaction museum

A museum of the future should be one 'where all senses are stimulated' or one 'with VR glasses so people can explore the painting from the inside'. Or one where you can 'feel the museum and be close to as many senses as possible 'after corona''. Just an 'interactive museum with new media' was also desired as well as 'a museum where you are taken through VR into the past', all in all, one that is immersive.



Show the present and future in the museum

People wrote down that they would like to see content 'about what the future looks like in household and work life so that children can prepare for it too' or 'a museum where you can look into the future'. Or a museum where the 'history of the 21st century and our new generation' would be shown'

Work together with the museum

Visitors expressed multiple words to express a future museum: "modern, stimulating, interactive, co-creation". They would like a museum where you can do things yourself: 'where you can make a work of art from recycled waste'. Expressed in a metaphor it becomes: 'a lazy river where the art is the river, and you swim and watch.'

There are a few limitations of this research 1) the questions were formulated by the museum and not by the researcher 2) the people who already decided to visit the museum answered the questions, so were probably already interested to go to a museum 3) the answers were retrieved in the weeks just after the opening of the depot, possibly this created a buzz around it and gives the reason for people to visit it e.g. 'it is a new, exciting and impressive building.'

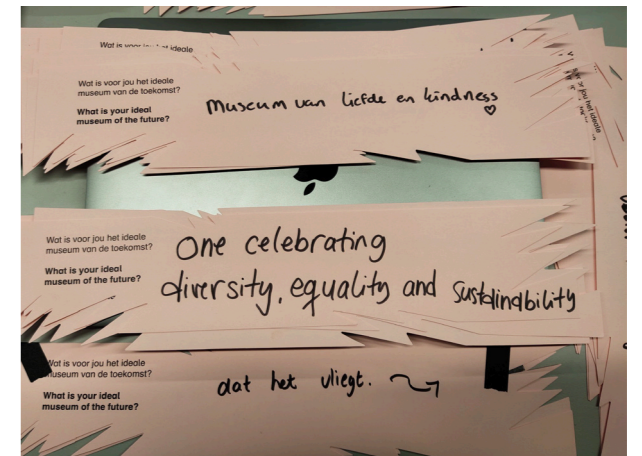


Figure 31-34. Input notes from depot visitors.





Key insights observations, interviews and input notes depot visitors



perspectives

- Visitors stressed that the depot building is extraordinary, and it took them some time to fully comprehend it.
- The restoration process and normally hidden parts of a museum were liked by the depot visitors and were indicated as special.
- Visitors think that a museum in the future should be a place for everyone, it should be inclusive.



belonging

- Visitors expect guidance in their visit.
- Visitors think that the present and future should be visible in the museum of the future.



relevance

- Visitors would like to work together with the museum in the future.
- A lot of visitors liked the depot application because: 1) it made them study the art more, 2) it made them recognize objects, 3) visitors were happy that they could look back at the information at home.
- 8 of the 15 interviewed visitors said that they could not find everything they saw in the DBVB in the application.



recognition

- One visitor indicated that he wanted to know what other people think about the MBVB art.

Other insights

- Two of the twenty-five people explicitly told the researcher they thought the depot was really something unlike a museum.
- Seeing art in real life was really appreciated by the depot visitors, because you see different things and see clearer, and seeing art in real life evokes more intense feelings.

(see chapter 4.2 for the explanation of the themes)

3.5 INTERVIEWS WITH PROFESSIONALS OF MUSEUM BOIJMANS VAN BEUNINGEN

Within MBVB several employees were interviewed, for instance Els (Curator Education), Sara (Collection Data Manager), Some individually, and some together in an online meeting. See appendix 4 for an elaborate version of all interviews and all quotes.

With the Education and Participation department (E&P department) of MBVB an online interview was organized in order to understand their way of working, motives and values. The reason for this is that at the end of this project, the delivered design has to align with and fit into the already existing system.

Why connect with visitors?

The E&P department wants to connect visitors to the museum, one reason can be that 'they sometimes have an extreme expertise, one our own curators might never have, we need them'. They want to get visitors really involved: 'If people will feel that we are listening to them, is a very good thing. Instead of asking, listen.' They also said: 'we want to know the people for whom you do it.' In the interviews employees also expressed their concern about how to connect to visitors, the drive and willingness is certainly there, but the tool or way to connect misses: 'how do we address these people to leave their stories behind?' and 'how do we address

If people will feel that we are listening to them, that is a very good thing. Instead of asking, listen.

Els Curator Education
E&P Department MBVB

people on their expertise?'. And 'how can we in a nice way collect these stories? And how do we store them easily.' Lisa (Curator Education) expressed that she 'really would like to spend more time with visitors.'

How employees of MBVB see their own involvement

Employees of the E&P department talk about their involvement with visitors as follows: 'As an art mediator in the depot I can start a conversation about the collection'. The E&P department would like to perform pilots and 'approaching students via culture coaches' (These coaches are also employees of MBVB).

During the walk-in workshops in the depot, we ask visitors about their own collections and treasured possessions.

Team member
E&P department

Another type of participation is to 'create content sessions' with any type of visitor group. In the interview with the E&P department, the question also arose whether asking 'people about their own collection and starting from their perspective' would be an interesting approach. Actually, this is already happening: 'during the walk-in workshops in the depot, we ask visitors about their own collections and treasured possessions'.

Tips about setting up participation with visitors?

The researcher also asked what the department learned through the years of doing projects together with visitors. They said that implementation steps are hard. When a small project is delivered and does not fit into the established systems, it is difficult to keep restarting it. Employees of Boijmans are generally very busy and they do not have time for extra tasks. For instance, the questions visitors ask online on the MBVB website are answered by the museum staff, this cost a lot of men-power and time. And it has to costs 'not too much manual work' it should be 'a sustainable platform'. Also content sessions that are organized with visitors or museum staff of another department have proven to be quite time consuming, but also insightful.

Lisa (Curator Education) explained that during 'the development of the depot application, the content sessions were really inspiring and useful, it made the stories about an artwork a lot more intense. On topics such as: technique, material, period. There is so much information and expertise, for instance by former owners of galleries in Rotterdam. The museum would love to collect these stories. It is just that we do not have the time to do so'. She also

There is so much expertise, also by for instance former owners of galleries in Rotterdam. The museum would love to collect these stories. It is just that we do not have the time to do so.

Lisa Curator Education
E&P Department MBVB

said: 'how do we address people on their expertise? It is literally not feasible to find the time'.

Another insight given by Lisa is that 'the guides know a lot, and have direct contact with the visitors. They have important information based from which the depot can benefit'. There lies interesting data for the museum that could be digitalized or gathered in order to present it or start a participation from.

The collection is public and kept for visitors.

Team member
E&P department

What kind of contribution from visitors?

New perspectives on the collections of MBVB could be interesting: 'I personally really enjoy reading people's interpretations of a work, especially from people who don't normally look at art.' said Sara (Collection Data Manager). 'Historical art data is very interesting, but if there is someone who has come up with a whole story for example this lady (points to an artwork), that is super nice.' Sara also mentioned an example, 'in the hermitage in Sint Petersburg children were asked to curate an exhibition, there was a work of art and just a sign with a child saying why they liked it, or not, super funny!'

'The collection is public and kept for visitors' said the Boijmans staff of the E&P department. They also know that 'there is a lot more knowledge that visitors could contribute'. They would also like to connect to young people, all together these different views will result in new insights and stories about the collection.

3.6 EXPERT INTERVIEWS DIGITAL MUSEUM PROFESSIONALS

Several museum professionals were interviewed through online meetings, to understand how other institutes set up digital interactions with visitors. Professionals of the following institutions were interviewed: the Director of Digital Engagement at Pérez Art Museum Miami, The Data manager at Zuiderzee Museum, Program Manager at Netherlands Architecture Institute (NAI) and the Manager of Internet and Digital Media at Centraal Museum Utrecht. See appendix 5 for all interview insights.

How to reach visitors?


To reach visitors of the San Francisco Modern Art Museum (SFMOMA) they designed a very promising example: the Send-me Project. It works like this: anyone could text the museum using their smartphone: 'Send me...'. On the dot an emoji could be fitted in or a word or emotion. Next the visitor would receive a picture of an artwork of the collection related to their Send me text. This project was a success because it was such a low-key way to interact with the museum asking for a Send-me something from any place in the world. People found new 'favorite' artists just by randomizing the art that was shown. In offering visitors a single piece, there is something powerful about the juxtaposition of a single piece. In the context of not just a museum, but the depot, of a place where it's just an overwhelming proliferation of art. This project is also used in the chapter 4.5 design guidelines.

How can a visitor contribute at your institution?

On many museum websites it is quite hard for visitors to easily contribute. In a lot of cases the only option is to write the museum an email addressed to a staff member, but most of the time an impersonal info-email address is used. This is not a low-threshold way to ask people to add information or thoughts. And this is a pity, because visitors sometimes have very interesting information to add to a collection.

The Netherlands Architecture Institute is building a new platform where visitors will be able to contribute a lot of data (end of 2021). This is why the program manager of the NAI was interviewed. A platform should be built for the visitors, so not only conservators will use it: 'In my eyes online heritage means democratization, where not only conservators are using your online tools'. Also, the platform should be inclusive: 'there is a culture change going on, we want to show all perspectives and diversity on our new platform'.

The addition of an amateur should get a different place in a platform from the information of a curator: 'we stumbled upon the problem that curators know a lot and feel a bit offended when their contribution is made equally important as the contribution of an amateur'. So, the contribution of amateur is wanted, 'but we will show the contribution of conservators differently and more prominent, for instance with the text: this part of the website is curated'.

 **In my eyes online heritage means democratization, where not only conservators are using your online tools.**

Program Manager
Netherlands Architecture Institute (NAI)

What can be learned from former online contribution projects?

At Centraal Museum Utrecht a project of online visitor contribution was implemented, but it was not a success: "technically it worked fine. But we noticed that the function was hardly used. Our conclusion was that most users of online collections are in fact specialized users, and do not see the usefulness of tags, they themselves can handle museum search structures well."



For an online game to succeed, more is needed than just putting it on the website. People aren't actively looking for it, apparently.

Digital Media employee
Centraal Museum Utrecht

In this online website project, tags were added to the collection, the museum 'wanted to collect tags in order to create new search entries. Visitors simply look at works of art differently from the way in which they are catalogued and classified by museum employees. Each added tag was automatically an entry point for a subsequent user'.

The museum offered tagging in two ways. One in the form of a game (you were presented with a few random works of art and asked to tag them. You couldn't win anything, just a mention in the top 5).

Second individual tags could be added to objects and it was visible which tags other users had already added. The whole concept was slightly copied from the Brooklyn Museum, which at the time did a lot of digital visitor experiments.

'For an online game to succeed, more is needed than just putting it on the website. People aren't actively looking for it, apparently'. Understandably, there was not much to gain and the museum had no budget for promotion. That is why they decided not to include the tags in the next version of the current website. The outcome of the development was too expensive.



Key insights professionals of MBVB and digital museum professionals



perspectives

- Employees of MBVB want to listen to the public and involve them in their working processes.



belonging

- Employees of MBVB want to spread the message to the public that the collection belongs to society. The museum is there to collect, store and preserve art.
- Museum professionals are opening their heritage platforms in a way that not only conservators are using your online tools.



relevance

- Some visitors have expert knowledge about objects in the collection. It is relevant to add this information to the database.
- Creating awareness among visitors that they, similar to the depot, collect, store and preserve objects, greatly increases the understanding for the function of the depot as a new type of heritage institution.



recognition

- Visitor interaction will become easier and more frequent if the barriers of communicating with a museum are taken down. Communicating works well in a friendly, open and non expert manner.

Other insights

- Employees of MBVB want to involve visitors, mostly they are already very busy with their day-to-day tasks.
- Employees of MBVB learned a lot by former projects, a new project has to be low in maintenance work hours and cannot add many tasks.

3.8 DEPOT VISITOR JOURNEY

To understand the journey a visitor goes through when visiting the depot, all touchpoints between the service of the depot, online and in person are identified. This mapping of visitors needs through time; a customer journey (in this case a visitor journey) is a method that is often used when designing services (Van Boeijen, Daalhuizen & Zijlstra, 2020). Appendix 6 shows the visitor journey more in depth.

1. Discovery of the depot

Discovery can occur in many ways, here are just a few possibilities: friends have visited the depot and talk about their visit, you walk/ride/cycle past the depot building, you have seen you have seen banners/flags/advertisements of the depot in Rotterdam in a newspaper or online.

2. Buying a ticket

After the discovery of the depot, people might be curious to see the depot from the inside. Sometimes they ask friends or family to join. Next step is to buy a ticket. This can be done online through the website of DBVB (figure 35).

3. Anticipation of the visit

After buying tickets, some visitors imagine how their visit will be. Vitalis (2022) found that the majority of her respondents were particularly curious about the in- and outside of the building before their visit.

4. Seeing the depot from the outside

Walking towards the building makes a deep impression on visitors (figure 36). The building is round and 6 floors high, and it has a facade of only mirrors, in which you see the skyline of Rotterdam, a lot of people take a selfie of themselves in the mirrored facade.

5. Enter the depot

Just after entering the depot the visitor's ticket is scanned, after that they can hang their coats on the mezzanine. Everything is new for visitors in the depot, especially when it is their first visit. When observing the visitors, they looked at bit lost, because the inside experience is so overwhelming, they ask guards to show them the way.

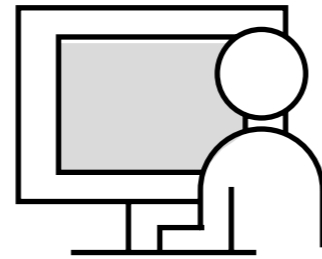


Figure 35. Buying a ticket online.

Study rooms:

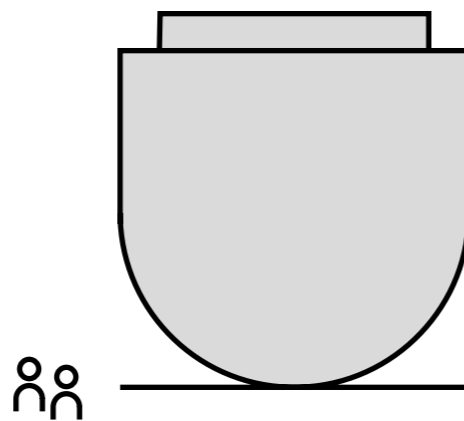


Figure 36. Seeing the depot from the outside is an experience in itself.

6. Downloading the depot app

Some visitors only notice there is an application available once they are inside the depot. They try to download it on site, but the mobile network is not very strong, likely because of all the concrete walls. When downloading takes a while, visitors experience a drawback in their journey. Especially for elderly visitors the downloading of the application is quite a task in itself.

7. Walking around in the depot

There is a lot to see in the depot, vitrines and compartments with art pieces of the collection, the restoration process, etc. Visitors are in awe most of the time, because they are impressed by the building and large open spaces. Visitors are interested to know more about the art they see (figure 37), they sometimes recognise a certain artwork and they want to know if their knowledge is right. Sometimes visitors are a bit confused, because they are not fully sure where to access more information about the art presented.

8. Using the depot application

Visitors who use the depot app like the extra information, it helped them to understand the art better (figure 38). There is a lot of information in the app, some people say that there is not enough peace and quiet inside the depot to read everything. Some like to read the texts at home. But not all visitors use the app. The building itself is already very impressive so some visitors, do not use the application during their first visit.

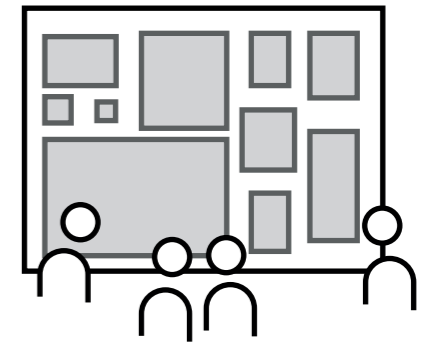


Figure 37. Visitors looking at art in the depot.

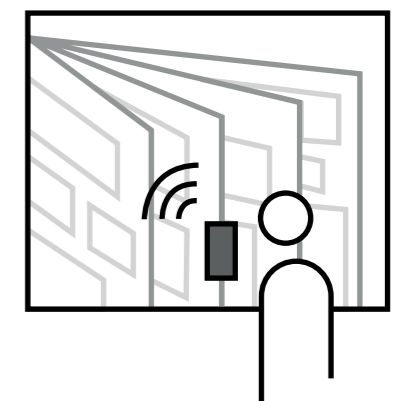


Figure 38. Visitor using the depot app in front of a depot compartment



Key insights visitor journey



perspectives

- The depot journey begins at home, when a visitor takes the decision to buy tickets for the depot.



belonging

- Before a visitor has seen the depot from the inside, he or she makes a certain impression of how the visit will be. This image is determined by a lot of factors.



relevance

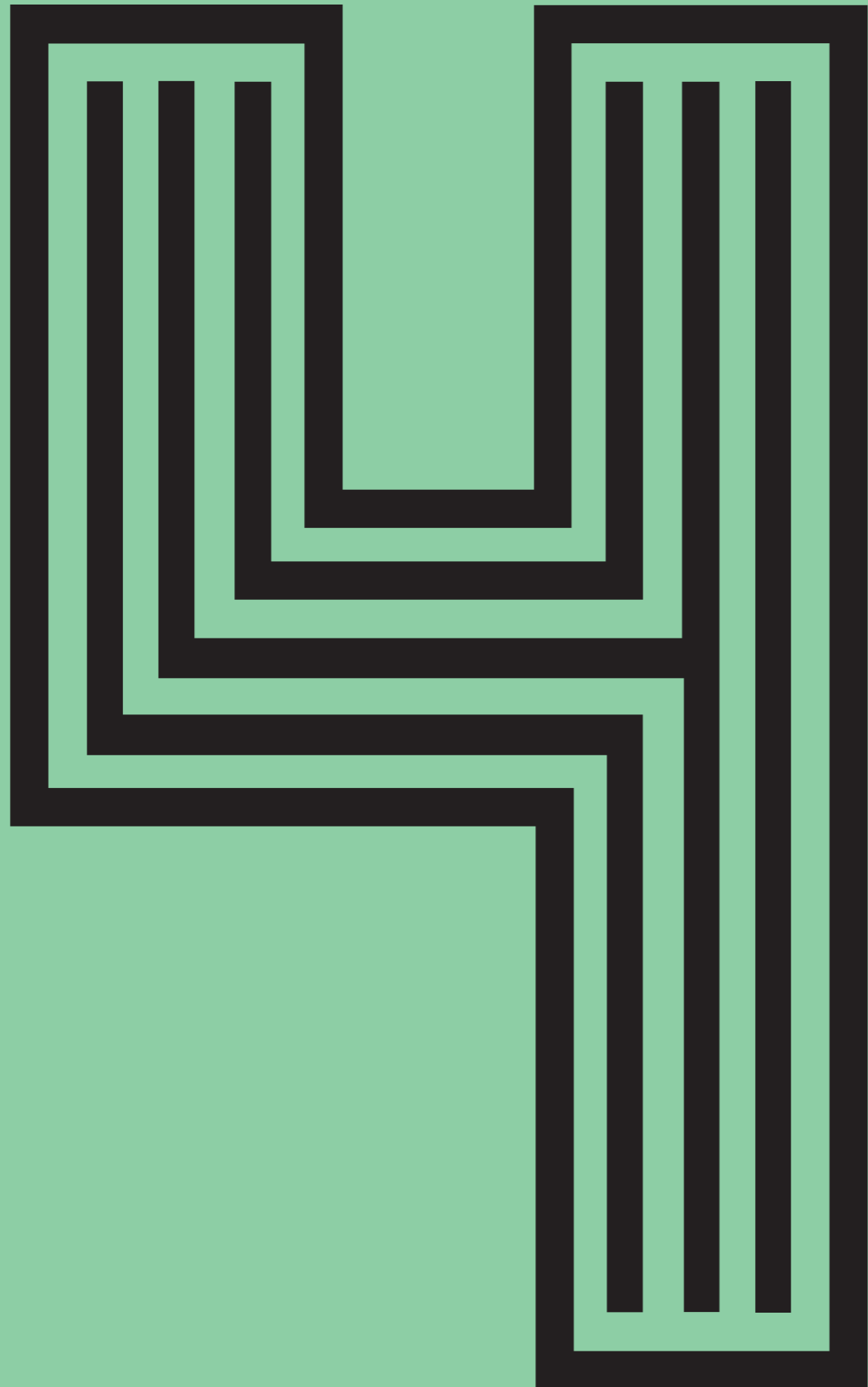
- After entering the depot, a lot of visitors are a bit overwhelmed by the bulding.
- Visitors are impressed and in awe of the architecture.



recognition

- Some visitors download the depot application during their depot visit, this takes quite some time and can disctract them from their visit.

(see chapter 4.2 for the explanation of the themes)



FOCUS

In this chapter the focus of the design is determined. The outcome of a creative session is explained and visits to 3 Classes at the Zadine College in Rotterdam. Afterwards, the design focus and design goal is presented.

- 4.1 Research approach
- 4.2 Overarching themes and needs
- 4.3 Creative session with design students and MBVB staff
- 4.4 Empirical research through design with Zadkine students
- 4.5 Design focus
- 4.6 Design guidelines
- 4.7 Design goal

4.1 RESEARCH APPROACH

In this chapter focus, the insights of chapter 2 context and chapter 3 research are combined to find a suitable solution space to create a final design. Overarching themes are found by clustering all key insights. A creative session and empirical research through design ensure even more guidance to form the design guidelines and the final design goal. The research question in this chapter is:

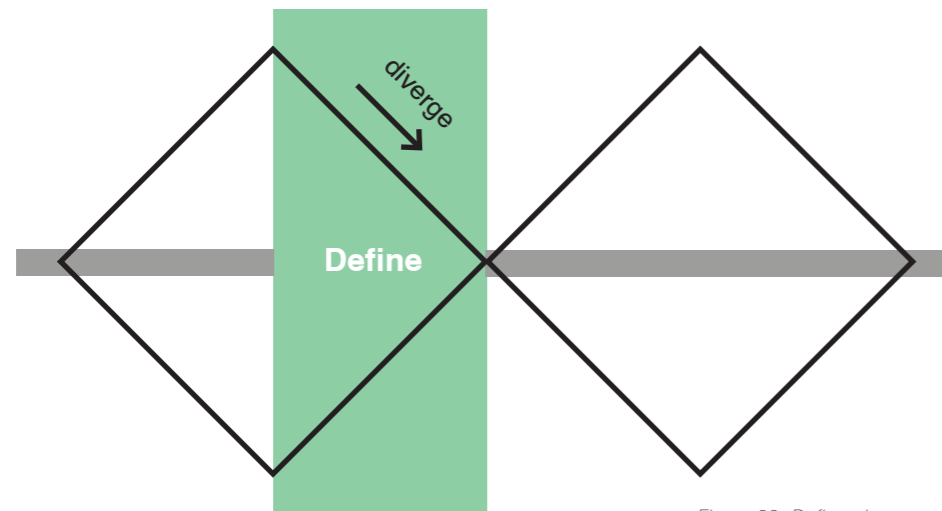


Figure 39. Define phase

Research question

What is the purpose of the depot for different stakeholders and how can we reformulate the problem statement to find a suitable solution space?

The following activities were carried out in the define phase:



By **clustering insights** from all types of research, overarching themes and needs of stakeholders are found.



Creative session with multiple stakeholders is held.



Empirical research through design was used to engage students of the Zadkine school in Rotterdam.



Design guidelines and a **design goal** is formulated.

4.2 OVERARCHING THEMES & NEEDS

In this chapter all key insights from chapter 2 Context and chapter 3 Research are brought together in themes. This is done by clustering the insights, in the program Miro. This is an infinitely zoomable canvas and web whiteboard. All insights from different types of research are combined to find overarching themes and needs. Dorst (2015) describes in his book *Frame Innovation* this method of finding overarching needs. Dorst introduces in his book these themes and calls them 'universals', those are relevant for the problem situation on a deeper level at which players in the field have a lot in common. In everyday lives these 'universals' are hidden beneath the surface. See figure 40, for the iterations on these themes.

The four universal themes that were found are: perspectives, belonging, relevance and recognition. See figure 41 for an explanation per theme. Appendix 7 shows an overview of all insights grouped by each theme can be found. By iterating on the themes and clusters the final model came forward, see figure 42.

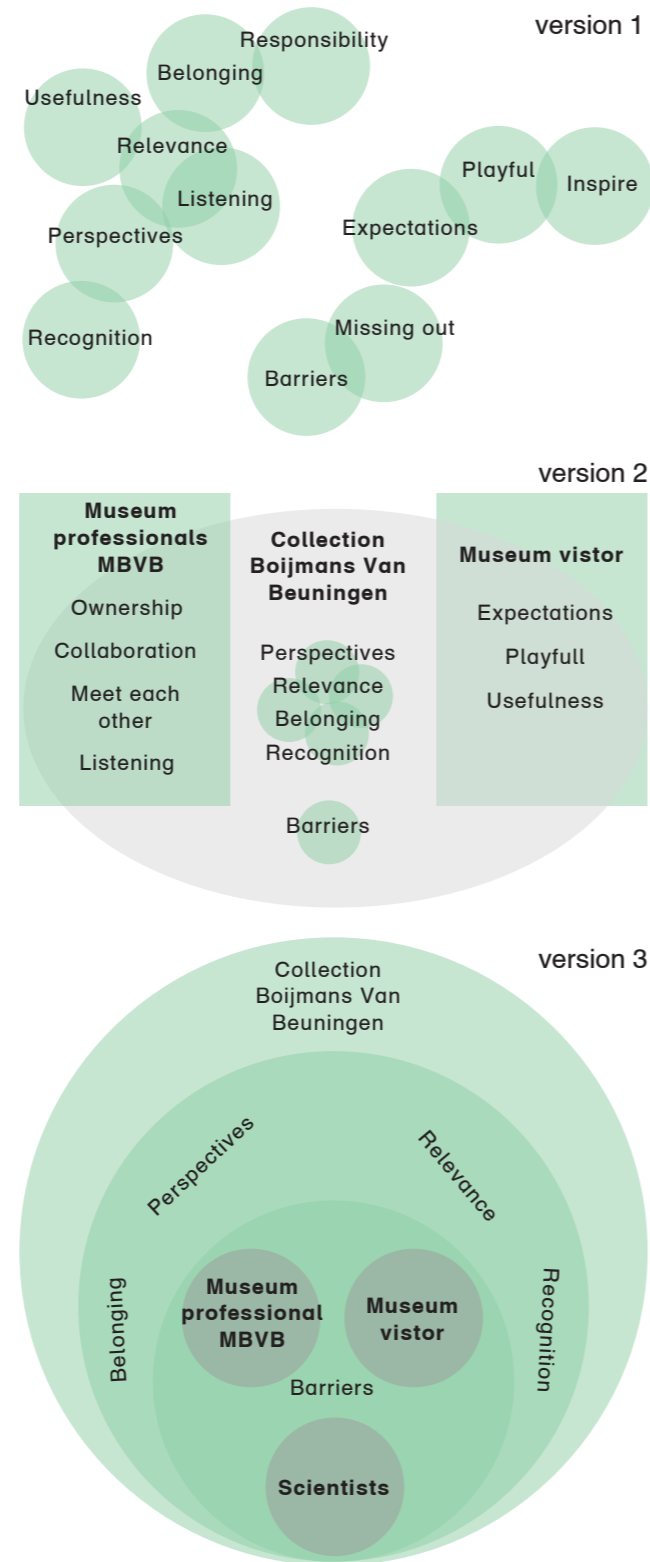
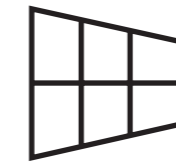


Figure 40. Three models that show the iterative process of finding the overarching needs, motivations and themes per stakeholder.

These 'universals' are important for all stakeholders:



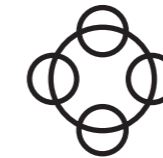
Perspectives

Visitors, staff and scientists are interested to hear new and different perspectives at the depot. In all types of ways, but certainly also in the form of visitor contributions.



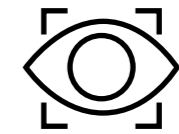
Belonging

Visitors, staff and scientists want to feel that their contribution belongs at the depot. In a sense they want to feel at home, understood, and welcomed by the other stakeholders. They want to be respected for their attendance.



Relevance

Visitors, staff and scientists want to make a relevant contribution. They want their depot visit to have meaning or in the case of staff, their contribution in the form of work, should be valued.



Recognition

Visitors, staff and scientists want to feel recognised and acknowledged for the work they do or for the contribution they give to the depot.

Figure 41. Four universals that were found by clustering all insights of chapter 2. Context and 3. Research.

Oxford definitions of the themes used in this thesis:

Perspective: a view or prospect.

Belonging: an affinity for a place or situation.

Relevance: the quality or state of being closely connected or appropriate.

Recognition: identification of someone or something or person from previous encounters or knowledge and acknowledgement of the existence, validity, or legality of something.

(Oxford Languages, 2022).

**THEMES PER
STAKEHOLDER**

Collection in depot

**Museum Professionals
Museum Boijmans**

Collaboration
Listening
Giving ownership

Barriers

Not all visitors
are the same, this
results in many
different needs

Visitors depot

Playful
Expect guidance
Seek a challenge
Low-key

Research
questions have to
be alligned, this
costs a lot of effort

Hard to make
visitors cooperate
in science

Scientists

Collect data
Show
impact of
work

Figure 42. Themes per stakeholder and barriers.

Themes per stakeholder

Next to these 'universals', themes regarding the needs, motivations and experiences were found, per stakeholder. These are shown in figure 42.

The underlying connection between the stakeholders is the large art collection of MBVB. In this field the three largest stakeholders are indicated: museum professionals of MBVB, visitors of the depot and scientists (figure 43 a&b).

Museum staff MBVB

From the interviews with museum staff, their mission statement and the theoretical framework, the following is deduced.

Ownership: museum staff wants to give ownership of the collection to visitors, residents of Rotterdam and society as a whole.

Collaboration: the museum staff wants to collaborate, with lots of different visitors, citizens of Rotterdam, new target groups e.g. young students or people who do not go to museums a lot or at all.

Especially from the interviews the understanding grew that staff does not have a lot of time to collaborate with visitors due to lack of time issues.

Listening: the museum staff wants to listen to people outside of the organisation, because by understanding what is going on in society, it is easier to stay relevant. See appendix 7 for an in-depth overview

Visitors of DBVB

From the desk research, theoretical framework, observations-, interviews- and input notes from depot visitors the following is deduced.

Playfulness: visitors in the depot are looking for a playful, fun and exciting visit, something that surprises them and addresses several senses.

Guidance: visitors expect that they are guided during their depot visit. They want to be introduced to the objects and items they see in the depot.

Challenge: visitors want to be challenged in their depot visit, they want to be stimulated and some want to even be intellectually challenged.

Low-key: visitors want a worry free and fun visit, where they can enjoy themselves low-key. See appendix 7 for an in-depth overview.

Scientists

From the meetings with the supervisory team of this thesis and the theoretical framework the following is concluded.

Collect usable data: scientists want to collect interesting data about art, e.g. what people see in a painting, what they think about it and how they experience it, online and digital. This is interesting information for many disciplines.

Show impact of work: scientists want to publish papers to show and share their findings with the world, ultimately, they want their work to be picked up by newspapers or other media, so that their findings can be used in practice.

Barriers

Between the three stakeholders there are barriers that obstruct the process of connecting around the collection of MBVB. Between the museum professionals and the visitors, the barriers are found in the hard task for the museum to give all types of visitors the same attention. They all have different needs and wishes that just can't all be granted.

Between the museum professionals and the scientists there is the barrier of time and effort. There is the willingness to work together but in practice it turns out to be hard.

The scientists want to research fundamental theories, for normal visitors to join this type of research, it is less interesting and entertaining than a normal depot visit. It is hard to make visitors enthusiastic for example annotating art. Not all types of visitors would like to do this. And both have a different value system about: e.g. what is art and what is interesting about it?

Figure 43a. The entrance hall, where visitors of the depot meet MBVB staff.



Figure 43b. Visitors with a guide in a depot compartement.



4.3 CREATIVES SESSION WITH DESIGN STUDENTS AND MBVB STAFF

A creative session was held to find new input and perspectives on the depot as institution. The focus was on understanding the different views of people on the depot and on finding possible ways in which visitors can contribute.

The group for the session consisted of:

- The facilitator of the session (Jan Lelie, a professional facilitator).
- The problem owner, the design student of this thesis (Cato Nitzsche).
- A resource group of 9 people consisting of two design students, a writer and an entrepreneur; MBVB staff members: two depot guides, two education conservators and a registrar.

See appendix 8 for the agenda of the session and figure 44 - 57 for pictures of the session. The results of the creative session were used as validation for the outcomes of chapter 4.2 Overarching themes and needs. The results of the session were used for ideation in chapter 5.

Purpose of existence depot

The resource group indicated the purpose of the depot, below the statements were as follows:

The depot is as...

- ... a magical mirror where you are sucked into, because of its magnetic power, to see how the visual arts are cut open like a fish on a 16th century painting.
- ...a collection kept safe, cared for and managed in a mysterious treasury. This is a place where art meets care takers, visitors and museum staff.
- ...a distribution centre where you can playfully pick up and find yourself.
- ...a playground where you can bump into all sorts of things, including yourself.



Figures 45-49. Creative session setup, participants discussing.

Perspectives on the depot

In the end three groups were formed who came up with a statements from different stakeholder perspectives, Rotterdammers, care-takers and scientists. The following statements were presented to the problem owner:

- Care-takers want to provide information about collection management; preservation and restauration make it possible to let visitors meet and experience each other.
- Rotterdammers want to make themselves care-taker/curator of the depot. They want to break open together; share ownership, personalization, create your own tour/ remembrance. And they want to bring Rotterdam inside the depot.
- Scientists want to make things visible that are often invisible. For instance by following researchers for one day and showing their working life. They want to share research results with the public and show how care-takers/curators work.

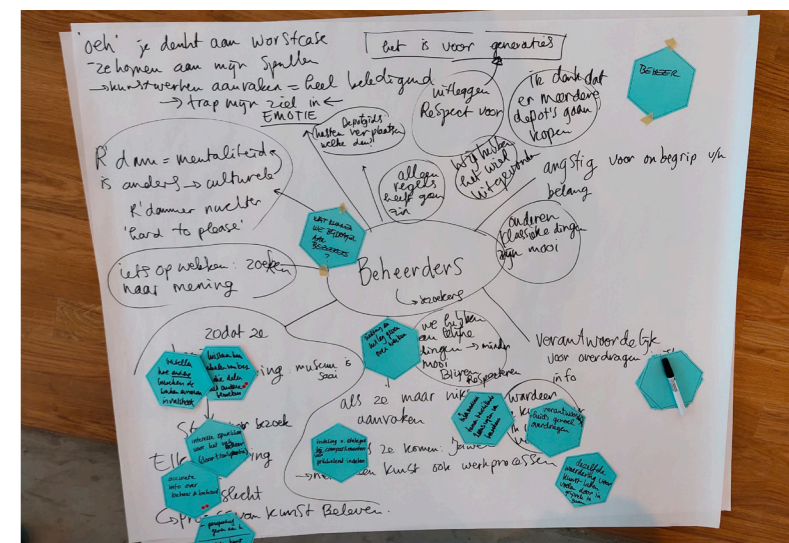
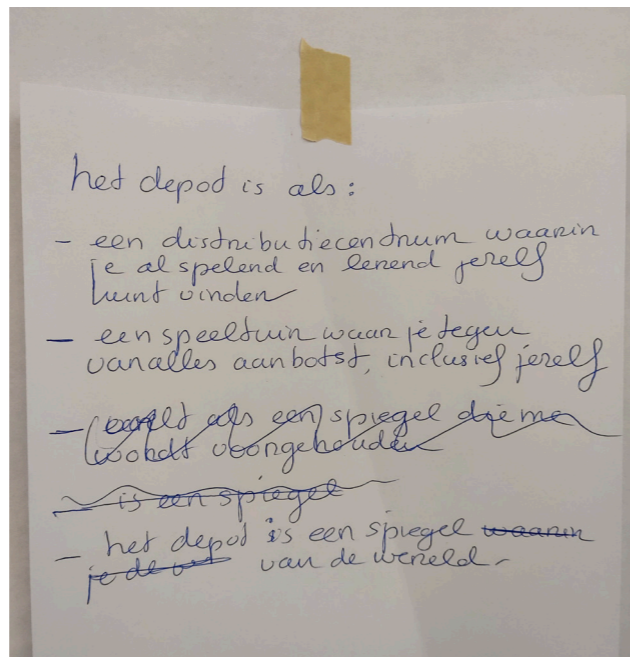
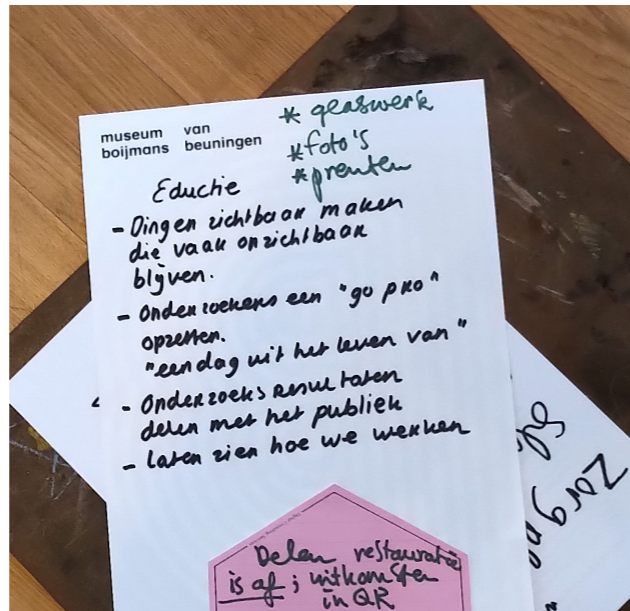
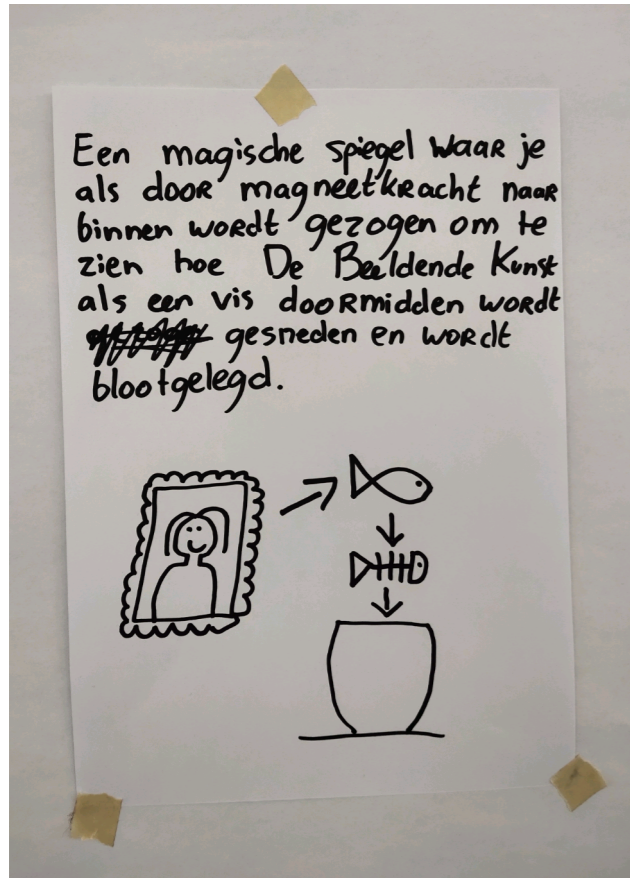


Figure 44. Creative session setup.





4.4 EMPIRICAL RESEARCH THROUGH DESIGN WITH ZADKINE STUDENTS

With three classes of the Zadkine school in Rotterdam of intermediate vocational education, three short lessons were conducted, during three weeks. The purpose of teaching lessons with this group of students was to investigate if it was plausible to design a DBVB intervention tool especially for this group of young Rotterdammers. Every lesson the students were presented with a different set of stimulus materials, such as pictures of depot art or art movie clips. These materials play a central role in the knowledge-generating process, they can retrieve latent needs of people (Stappers & Giaccardi, 2017).

Making things provokes a particular cognitive activity, as Stappers (2013) indicates, this makes the designer better understand the tacit values and latent needs of users (young visitors). In the lessons the students were asked to think freely and note down their thoughts on post-its, see figure 58 - 60 for pictures of the lesson materials and appendix 9 for an extensive summary of the results.

It is found that this group of students is really difficult to get enthusiastic about participating in research, but also in art projects in general. They followed the lessons with resistance, and when asked if they would like to visit the depot only three of the thirty-five students were inclined to go. It was observed that during the lessons only half of the students was present to follow the lessons. It took a lot of time, effort and skill to involve the students and to make them enthusiastic about interacting with art in the depot. Based on this the target group for this thesis was enlarged. See the following chapters for more explanation.

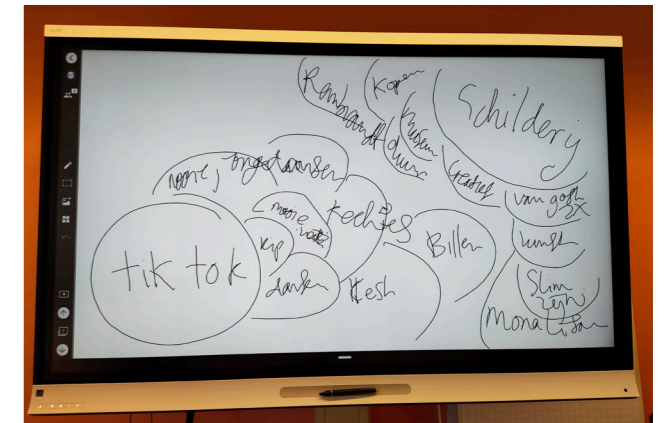


Figure 58. Flower association on the words: tik tok & painting, with Zadkine students.

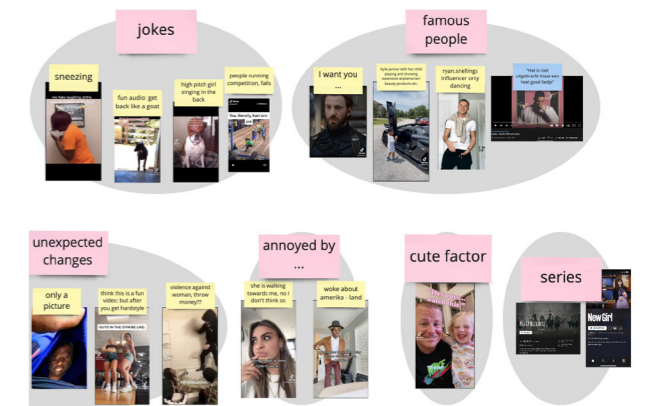


Figure 59. Clustering of movies that students liked.

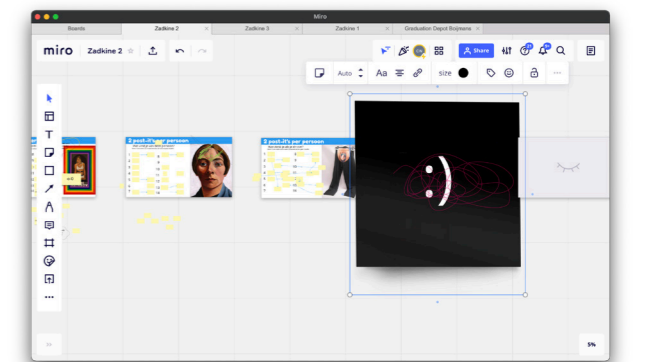
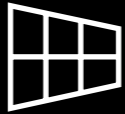


Figure 60. Screenshot of miro-stimulus when students were working with the program.



Key insights creative session and empirical research through design



perspectives

- The depot is a place where people meet each other: care-takers, visitors, museum staff, etc. Interaction between them should be encouraged.
- Make visitors aware of the storing, preserving and collecting processes by providing information about the depot as a new type of heritage institution.



belonging

- Give the visitor autonomy of their visit, make them the curator, personalize the visit.



relevance

- The depot shows how art is managed, cared for and stored by museum staff, the building is keeping treasures.
- The depot is a distribution centre in the sense that art goes in, it is packed, restored, checked on damages, and packed again for shipping to the next exhibition.



recognition

- The depot is a place where you can play and by playing you learn about yourself, artists and other people. *The depot is so*

Other

- The depot is something magical, it has a magnetic power to draw people inside.
- It is hard to make Zadkine students enthusiastic and motivated for art class.
- Zadkine students are not attending classes.
- It is hard to mobilise Zadkine students to come to the depot.

(see chapter 4.2 for the explanation of the themes)

4.5 DESIGN FOCUS

The initial assignment was to design a future audience participation for young visitors of the depot, in which these visitors can contribute to the collection. However, it was found in chapter 3 Research and 4.3 Creative session, that visitors also had to understand the purpose of the depot to be able to usefully contribute. It was found by empirical research (chapter 4.4) that it is hard to attract, enthuse and mobilize young visitors. This implicates a change of the design goal. On the one hand it became more specific (show visitors the collection and explain the storing, preserving and collecting process & listen and collaborate with visitors and give them ownership) and on the other hand the target group became broader, the focus is not only on young Rotterdam visitors anymore.

In the end the focus of the design is reformulated as follows:

“Depot Boijmans van Beuningen needs to actively show visitors their collection and give them ownership of it. They need to explain the collecting, storing and preserving process, while at the same time listening to and collaborating with visitors.”

Why actively show the collection of MBVB and give visitors ownership of it?

As described in chapter 3.2 Theoretical Framework, there are multiple reasons for opening up museum storage. The depot makes MBVB more democratic and transparent. Items that are normally not on view can be seen by the public and the working processes around the collection are shown: the collecting, storing and preserving practices. In the interviews with museum staff of MBVB (chapter 3.5) came forward that the art of the museum is particularly not theirs, but from society, the best way to show this view, is to act on it and to open up the collection facility, the depot.

Why explaining the storing, preserving and collecting process of the depot to visitors?

It is important to show visitors that the depot is not a museum. The depot is a place for storing, preserving and collecting. These tasks require expertise and commitment of staff, and were until now rarely visible for the museum visitor. The depot is a special place, and first in its kind (see chapter context and research). So, logically this also asks for a new type of visitor participation. This visitor guidance does not need to explain the art or artist that is seen, but it should explain: the material that is used to make a certain object, how these types of materials should be stored and which steps need to be taken to ensure a perpetual life of the object. These questions can be related to every object that is stored in the depot. This shows visitors a new view on art objects stored in the depot.

Why listen and collaborate with visitors?

The employees of MBVB stressed in the interviews (chapter 3.5 and mission statement) that they want to listen to and collaborate with visitors. Foremost because they are aware that 1) they have to stay relevant for future generations and society by anticipating current social changes e.g. diversity and inclusivity, 2) they want to get to know the future visitors of the depot (listen) and create new visitor engagement installations together (ownership), 3) they know that visitors have a lot of expert knowledge and they do not want to miss out on this data (collaborate). Out of the theoretical framework (chapter 3.2) followed that participation with visitors will lead to a lot more involvement resulting in making the institution more relevant for all involved.

4.6 DESIGN GUIDELINES

Research approach

Here is described which existing designs in the commercial and museum world inspired the final design of this thesis, the examples are made into tangible guidelines. First the following research question and sub questions are defined.

Research question:

How are current strategies and tools used to guide visitors through a museum and which elements are useful in the design of services?

Sub questions:

- How are current strategies and tools used to guide visitors in a museum?
- How are current strategies and tools used to make a museum visit personal?
- How are current strategies and tools used to give visitors the feeling of recognition and relevance?
- How are current strategies and tools used to give visitors the feeling of belonging and how are their perspectives valued?



How to make a museum visit personal?

Keep visitors' attention

The attention of visitors can be kept by personalizing the content that they see. If the content matches their interests, it is far more likely that they are motivated and interested in continuing with the task. See figure 61 for example the NOS application, users can choose themselves in which order they receive the news.

Respect the input of visitors

Treat the answers of visitors with the utmost respect, their input is as valuable as an artwork that can be found in the depot. See figure 62 for an example of a respectful conversation between an IKEA employee and a customer.

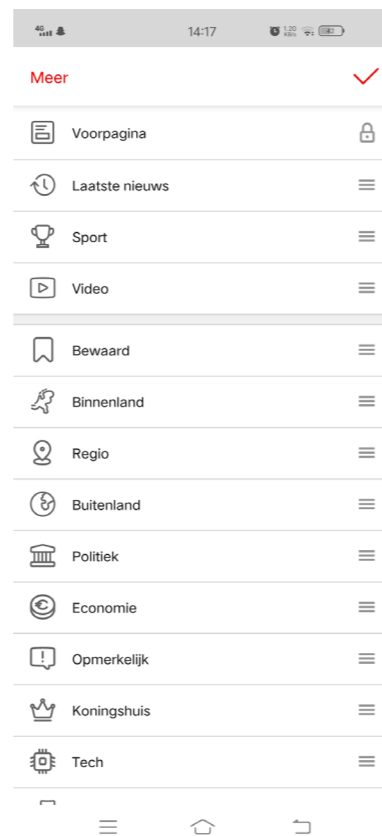


Figure 61. NOS app (NOS, 2022), a user can choose his personal order of content.



How to guide visitors in a museum?

Present one message at a time

Guide visitors' attention actively to the presented information. Confusion and searching for information is reduced, if only a key message is shown. An example in the artworld is the Send-Me project, where visitors received a text message from the MOMA in San Francisco (see figure 63). Only one picture of a work was shown at a time, the project was well received by visitors: in six weeks time millions of texts were requested. (Mollica, 2017)

Disentangle the art

Bring the presented art down to basic materials to which the visitors can relate. Materials that they understand and have at home. Tate Modern has a Materials Coursework Guide that can be found online, where artworks are described from their materials. In figure 64 you can find an example: cubist 'artists added scraps of newspaper or labels from bottles to their paintings.'

Guide the visitor

Take the visitors by the hand, but don't patronize them. Give clear and short instructions that are easy to follow, show the route, see figure 65 for an example of the Rijksmuseum app.

Alternate content

Vary in the presented content to keep visitors' attention and motivation. Alternate between easier (yes/no questions) and difficult content (open question on a personal topic). The website from the Städel Museum, Close-up is a good example of alternating content. In this sequence of questions, first a visitor chooses a painting that 'speaks' most, secondly the visitor can show his opinion with a scale input, thirdly a video of the artist is shown (figures 66 - 68).



Figure 62. Conversation that shows that IKEA respects the input from a customer (Twitter, 2022).



Figure 63. Send-me project, where the SFMOMA sends a text back that is in this case based on an emoji (SFMOMA, 2017).



How to give visitors the feeling of belonging and value their perspective?

Show sincere interest

Make the story not only about the art that can be seen, but about the visitor as well, relate the art story to their life. This makes a visit far more personal. An example can be found in figure 70, where a resident of the neighborhood Hillevliet tells a story about his rice spoon and why it is important for him. Another example is the application from the Brooklyn museum 'Ask'. Visitors can ask curators any question about the art presented. Figure 69 shows interest in the visitor and acknowledges his opinion.

Be humble

Be grateful for every reaction that visitors give and thank them for it, value their input. The Close up from the Städel Museum (figure 66 - 68) thanks its user after a question is answered.

Be approachable

The tone of voice in which visitors are spoken to should be approachable, it should not feel like visitors are reading an art history book or scientific paper. It should feel like they are texting with a good friend. The example of the Brooklyn museum (figure 69) shows just that.

At the beginning of the twentieth artists began to use materials not normally thought of as art materials. Cubist artists Pablo Picasso and Georges Braque, added scraps of newspaper or the labels from bottles to their paintings. As well as playing with what is real and what is depicted in paint, this collaging of different things onto the surface of a painting added texture to the work.

Contemporary artists Ellen Gallagher and Wangechi Mutu make rich layered collages from found images in newspapers and magazines that explore themes including self-image, the representation of women and history.

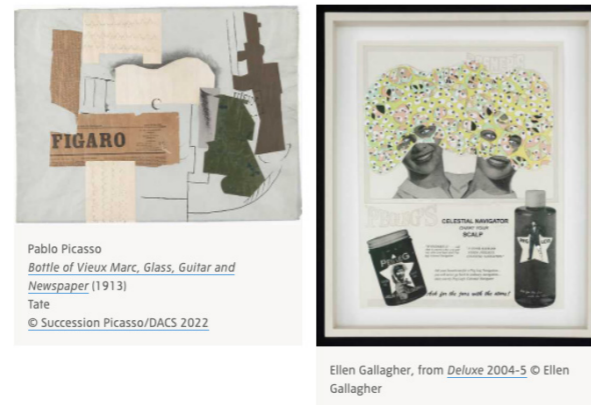


Figure 64. Tate Materials Coursework Guide. (Tate Modern, 2022).

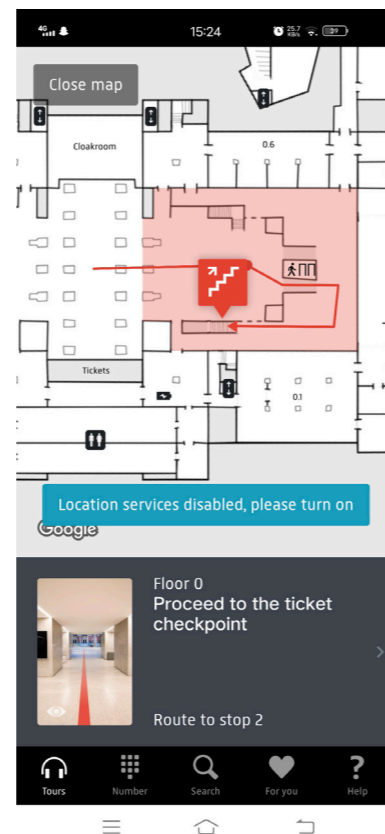
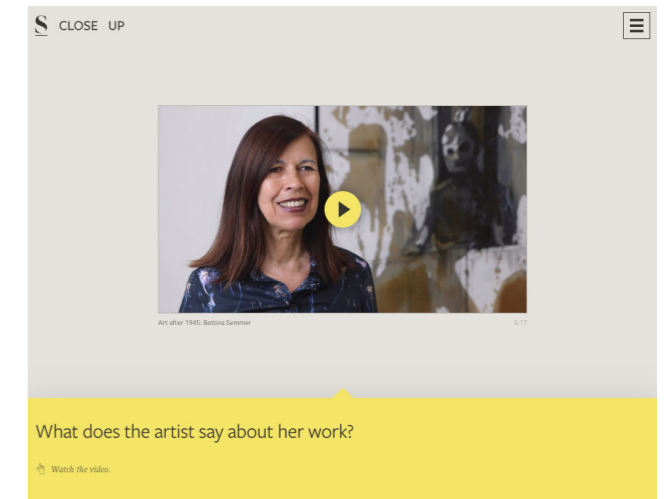
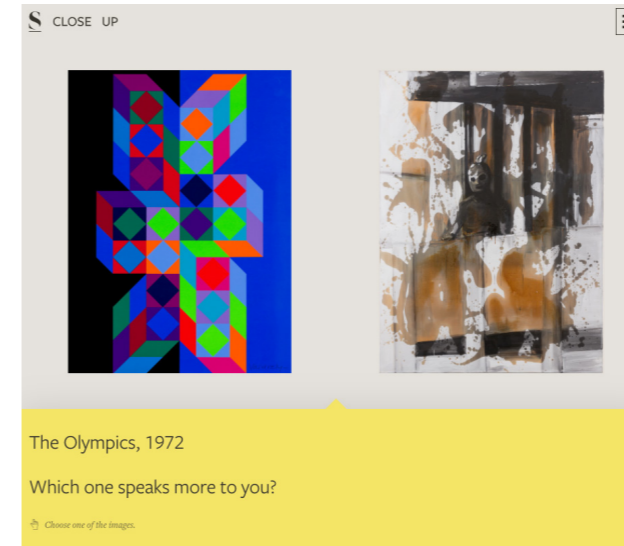


Figure 65. Rijksmuseum app (Rijksmuseum, 2022). A visitor is guided through the large building.



Figures 66 - 68. Three screenshots from the Close Up (Städel Museum, 2022).

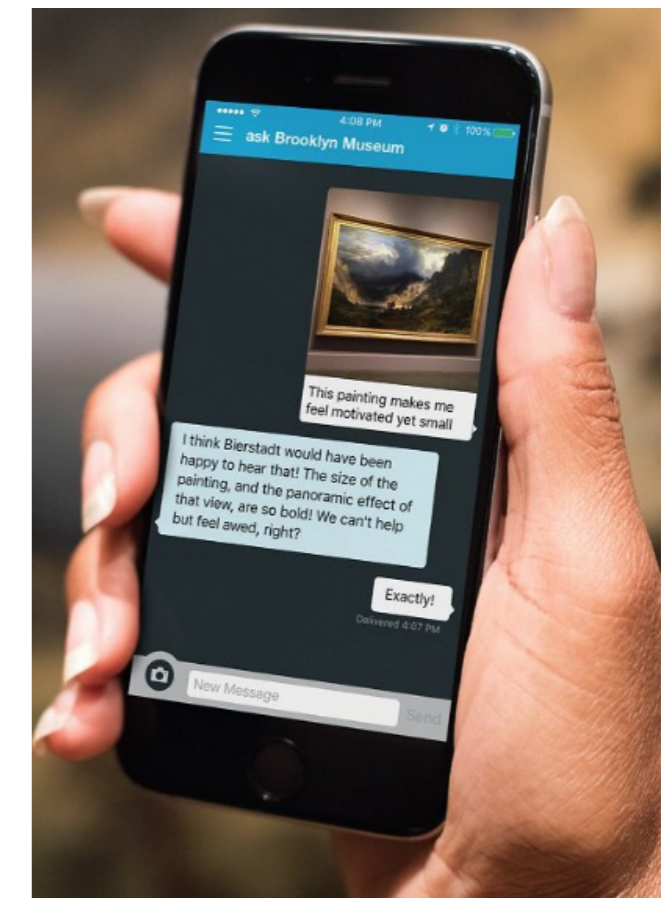
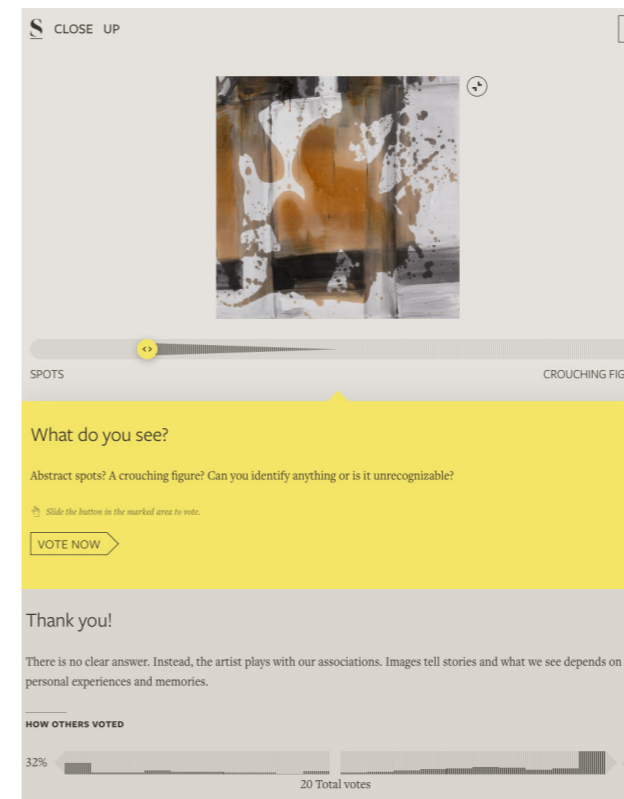


Figure 69. Images of the Brooklyn Aks application. (Brooklyn Museum, 2022).



How to give visitors the feeling of recognition and relevance?

Actively ask questions

Ask questions that are relevant. In this way visitors' thinking is started. The Städel Museum made 'Close up', this digital (web)application allows visitors to formulate their own response to a burning issue in contemporary art, because they are asked for their opinion (see figure 66 - 68).

Use easy and fun language

The tone of voice in which visitors are spoken to should be easy to understand. It should make them laugh and smile. See figure 62 for an example of IKEA, here a customer is addressed friendly, easy and understandable language is used. The emoji express a friendliness and openness towards the customer.

Stimulate reaction

By asking open questions there is space for visitors to enter their opinion and content. Ensure that questions are open and do not fit an implicit answer in there. See figure 66 - 68 for examples of the Close Up from the Städel Museum.



Figure 70. Screenshot of Boijmans Hillevliet Instagram post (Instagram, 2022).

4.7 DESIGN GOAL

The design goal presented here is based on the design focus and formulated in the sentence below:

“Design a service that introduces and invites visitors to take ownership of the collection stored in Depot Boijmans Van Beuningen. In addition it should create awareness for the storing, preserving and collecting process by guiding visitors in the depot, through listening and collaborating.”

THE NEW SERVICE SHOULD:

Introduce visitors to the collection of MBVB to visitors

The collection of the MBVB in the depot consists of more than 151.000 objects. As described in chapter 2.2 the collection has a wide variety, in terms of historical period and type of art from all kinds of materials. The depot is equipped to store all those types of materials.

Enhance visitors' ownership of the collection that is stored in DBVB

The collection is not owned by the museum staff or a private investor, it is built up out of a lot of donations and it is collectively owned by the city of Rotterdam, by the state of the Netherlands (MBVB is granted subsidy by the Dutch government) or by Dutch society.

Create awareness for the role of the depot, it is not a museum: it is a place for storing, preserving and collecting

As discovered in the interviews with depot visitors (chapter 3.4), the function of the depot is not always understood well, and the assumption is that this is necessary to fully enjoy the visit.

Guide visitors in their personal journey inside the depot

Each visitor is different, so every journey in the depot should be different as well. Every visitor will need personal attention and guidance to feel belonging. The depot should be a place where any perspective is valued in the same way and with the same respect.

The service should be maintenance free

Employees of MBVB have busy jobs already and there is no space yet to hire new staff. So the developed service should be easy to implement and should cost as little maintenance time as possible.

Fit into the already existing platforms that DBVB has to offer

The service should fit into the existing platforms that DBVB already uses to connect with users, e.g. the depot website, -information screens and -application.



IDEATION & DESIGN

In this chapter the ideation and designing process is described.

- 5.1 Research approach
- 5.2 Ideation
- 5.3 Rapid prototyping
- 5.4 First validation: test prototype with participants

5.1 RESEARCH APPROACH

In this part of the process ideas, concepts and prototypes are developed. Also a first validation of one concept is done to understand possible improvements. In the next chapter the outcomes of the ideation and prototyping can be found: chapter 6 Final design.

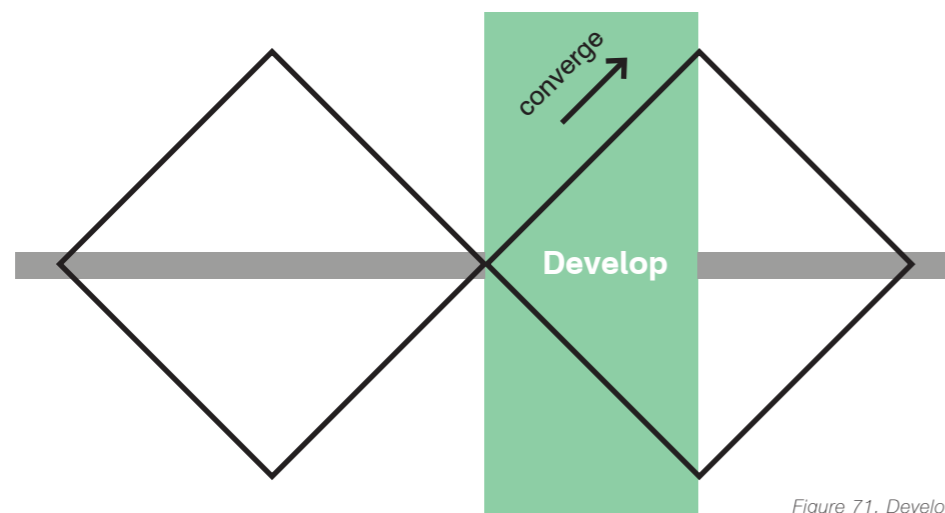


Figure 71. Develop phase

Research question

What services can the depot offer to invite visitors to take ownership of the collection stored in the depot and how can this service create awareness for the storing, preserving and collecting process by guiding visitors in the depot, through listening and collaborating?

The following activities were carried out in the develop phase:



Ideation is done to generate ideas, based on which a list of attributes for the final design is formulated.



Prototyping is used to develop promising ideas into a final design.



A small **usertest** with students is organised to easily validate the concept.

5.2 IDEATION

Approach

Ideation is the process to generate ideas to solve a problem. The problem of this thesis is defined in chapter 4. From the three perspectives in the creative session (Rotterdamers, care-takers and scientists) the needs of the depot visitor were considered. Each need is investigated on its own and ideas were generated for this sub-problem. With the How-To method (Delft Design Guide, 2020) questions were formulated to find ideas quickly. By performing the brainwriting and mindmapping method a lot of the Delft Design Guide (2020), ideas are found, for examples see figure 72 & 73 and see appendix 10 all ideation results. These ideas

are ranked based on the needs of the three main stakeholders (see appendix 7). The result of the ideation is a list of attributes that the final concept should entail. The final design is described in chapter 6.

Attributes for the final concept

A list of attributes was formulated to get an understanding of the functions that the final concept should entail. The final design should have the following:

Contribution of visitors

- Every contribution should be handled with care and respect.
- A contribution should have an effect or response of the system (listening).
- Only once a visitor has contributed, he/she will be able to see the content of other visitors.
- The contribution of visitors should be used in the intervention smoothly.

Tone of voice

- The tone of voice of the product should help and encourage visitors, every contribution is valid and welcomed, also very personal stories.

Grab and keep attention

- The attention of visitors should be kept by only showing only one question or message per screen.

Personalization

- The interests of visitors should be matched to what he/she is looking at in the depot.
- Questions asked should be easy and relevant to all visitors.

Online versus in real life

- What is the difference for visitors between looking at art in real life or online? (Online can mean on their phone, tablet or computer, any screen).

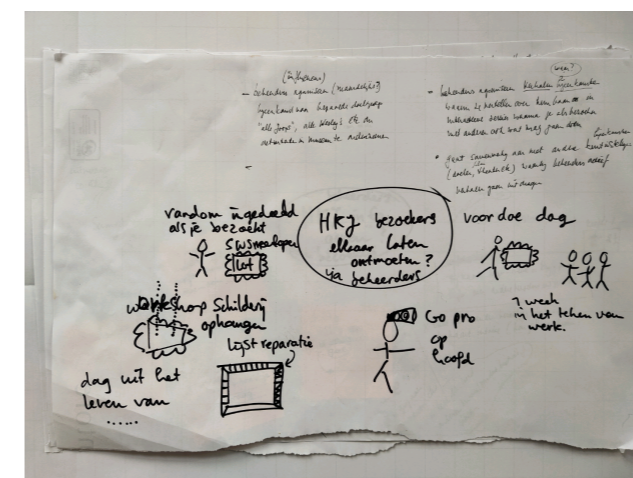


Figure 72. Example of Brainwriting with a How-To question

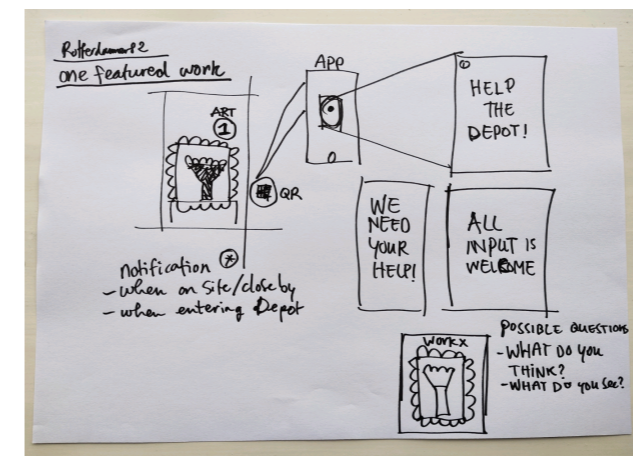


Figure 73. Example of elaborated promising idea

5.3 RAPID PROTOTYPING

Prototype with the program Miro

In the design process of this thesis, rapid prototyping is used to make ideas concrete and to test if those ideas are viable. Multiple prototypes were made, first they were drawn on paper and after they were made into phone screens in the program Miro. See appendix 11 for the prototypes. Based on the first three prototypes the fourth prototype evolved (name: 'A personal item of the visitor'). This prototype was tested two times, once with design students and once with staff of MBVB, the results of these tests are described in the next chapter.

The first three prototypes consist only of a few screens, not a whole sequence of questions. When the prototype evolved into next versions, more and more screens were added. Here a small description of the function of every prototype:

When a depot visitor is standing in front of an artwork, **Prototype 1** first introduces the artwork (figure 74). After the 'time which the museum is keeping an artwork safe' is presented, and the question is asked, 'Is there an object that you have stored for a long time?'. Now a visitor can type in an object.

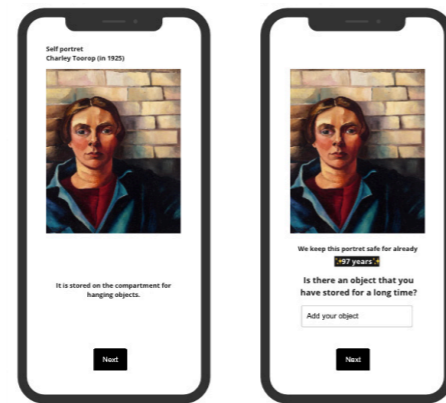


Figure 74. Prototype 1 in Miro, the museum is keeping this artwork safe for ... 97 years.. & type in your object.

Prototype 2 asked the visitor to also add a picture of their mentioned item, and after adding the picture of the item, also pictures of other visitors are shown (figure 75).

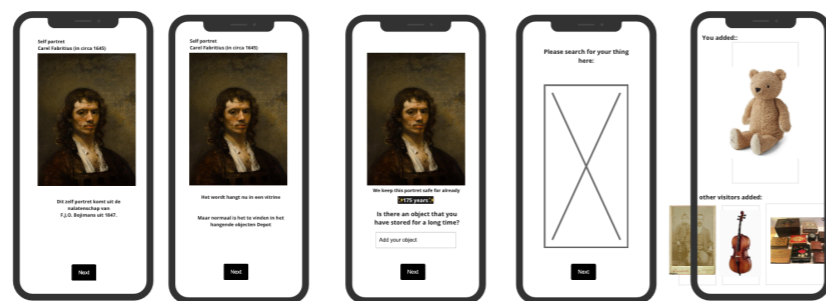


Figure 75. Prototype 2 in Miro, asking for object of visitor that they are storing.

In **Prototype 3** (figure 76) the type of material of the item of the visitor is determined. And after, the compartment in which the item would be placed when it would be stored in the depot is presented to the visitor: 'In the Depot we also take care for wooden objects in compartment: A1.02 Organic materials small, on the first floor'.

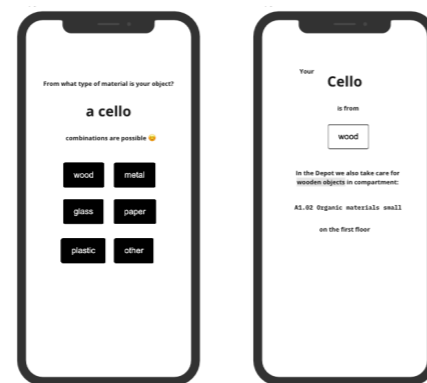


Figure 76. Prototype 3. From what type of material is the visitor's item made of?

Combining prototypes

Combining prototype 1, 2 and 3 resulted into prototype four. This prototype was tested with participants (see chapter 5.4. Figure 77 - 79 shows the architecture of each screen. In the architecture the questions presented in English (blue) and Dutch (orange). It is chosen to make the prototype in both languages because, in chapter 4.6 Design guidelines came forward that the tone of voice of the system is crucial.

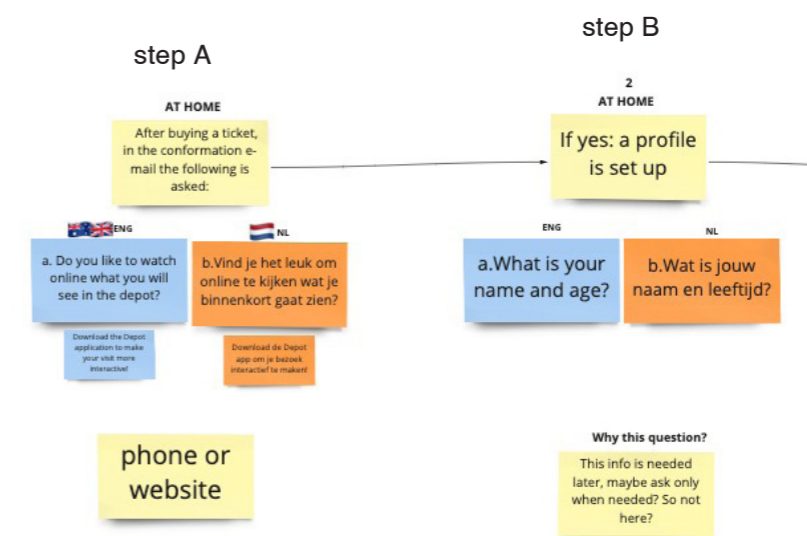


Figure 77. Architecture of screens presented to visitor at home.

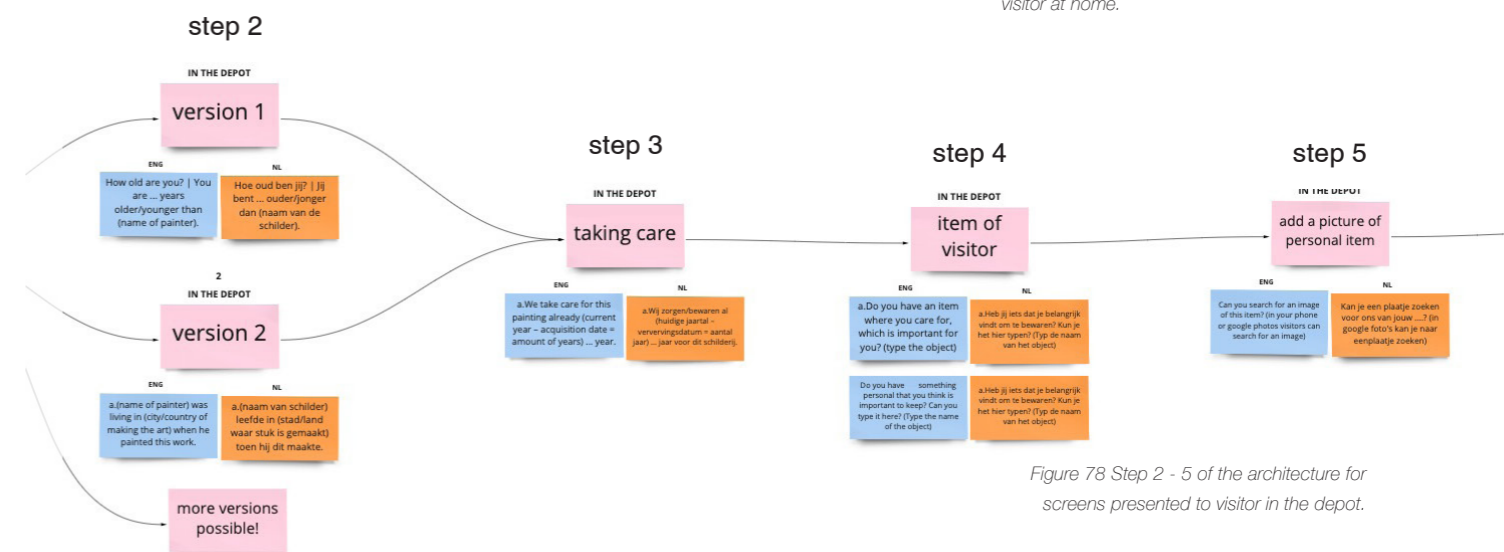


Figure 78 Step 2 - 5 of the architecture for screens presented to visitor in the depot.

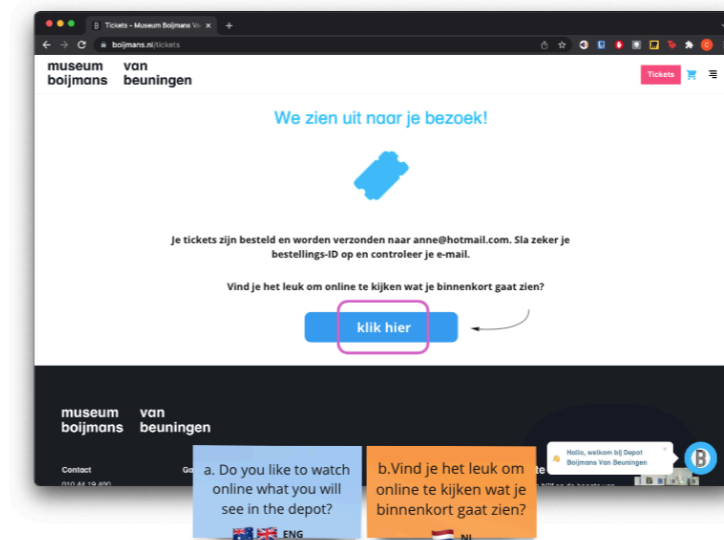
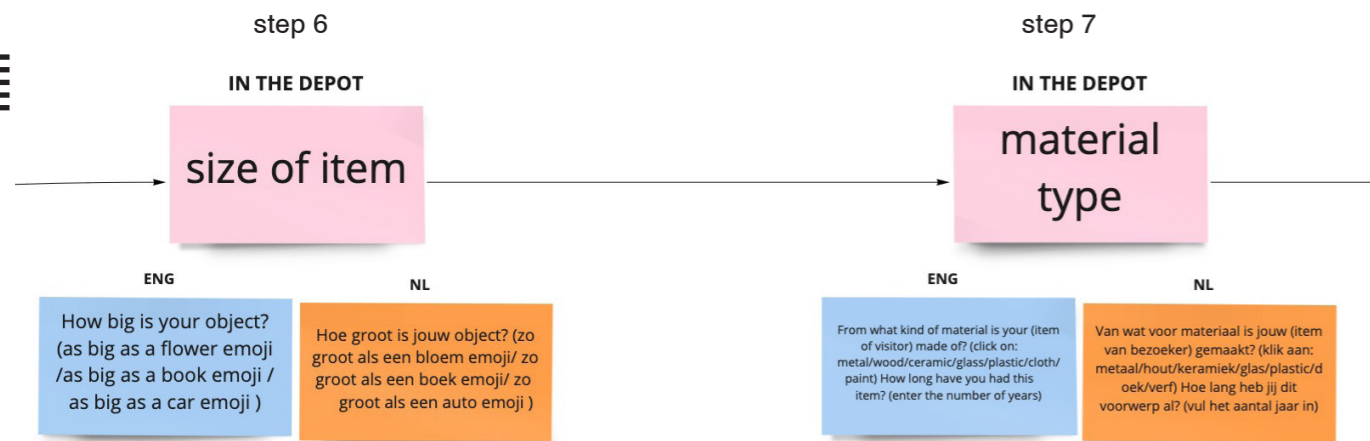


Figure 80a. Example of webscreen for senario of prototype 4.



Figure 81. Example of phone notification for senario of prototype 4.

Functions prototype 4

In this paragraph the most important functions of prototype four are discussed. Figure 77 shows the start of the prototype where visitors interact at home (step A and B), figure 78 (step 2 - 8) shows part of the questions that are presented to the visitor while being in the depot.

In step 1 the visitors is welcomed inside the depot, and their name is asked. Step 2: the age of the visitor is compared to the artist's age. The time that a painting is in the care of MBVB is shown (step 3), the visitors is asked: 'Do you have an item where you care for, which is important for you?' (step 4). After a visitor is asked to add a picture of this personal item (step 5). Then the size and type of material is determined (step 6 and 7). And in step 10 a tip is presented to the visitors on how to store their item best.

From architecture to scenario

The architecture of prototype four was made into a prototyped scenario, it consists of webpages, see an expample in figure 80a, and phone screens (figure 81 & 82) and pictures from inside the depot (figure 80b), see Appendix 12 for the full prototyped scenario.



Figure 79. Step 6, 7 and 8 of the architecture for screens presented to visitor in the depot.

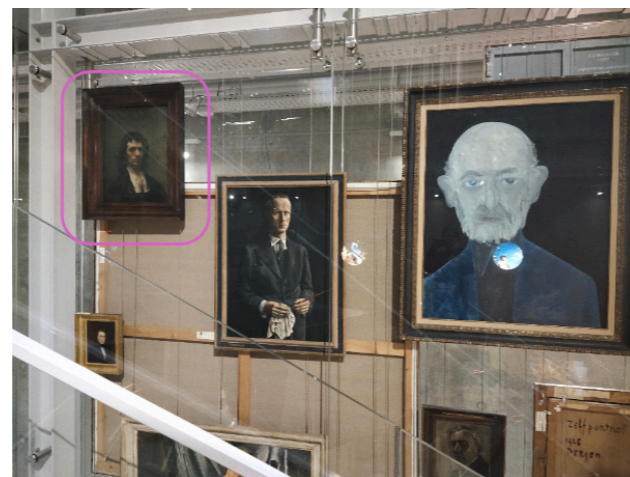


Figure 80b. Example of picture of depot used in the senario of prototype 4.

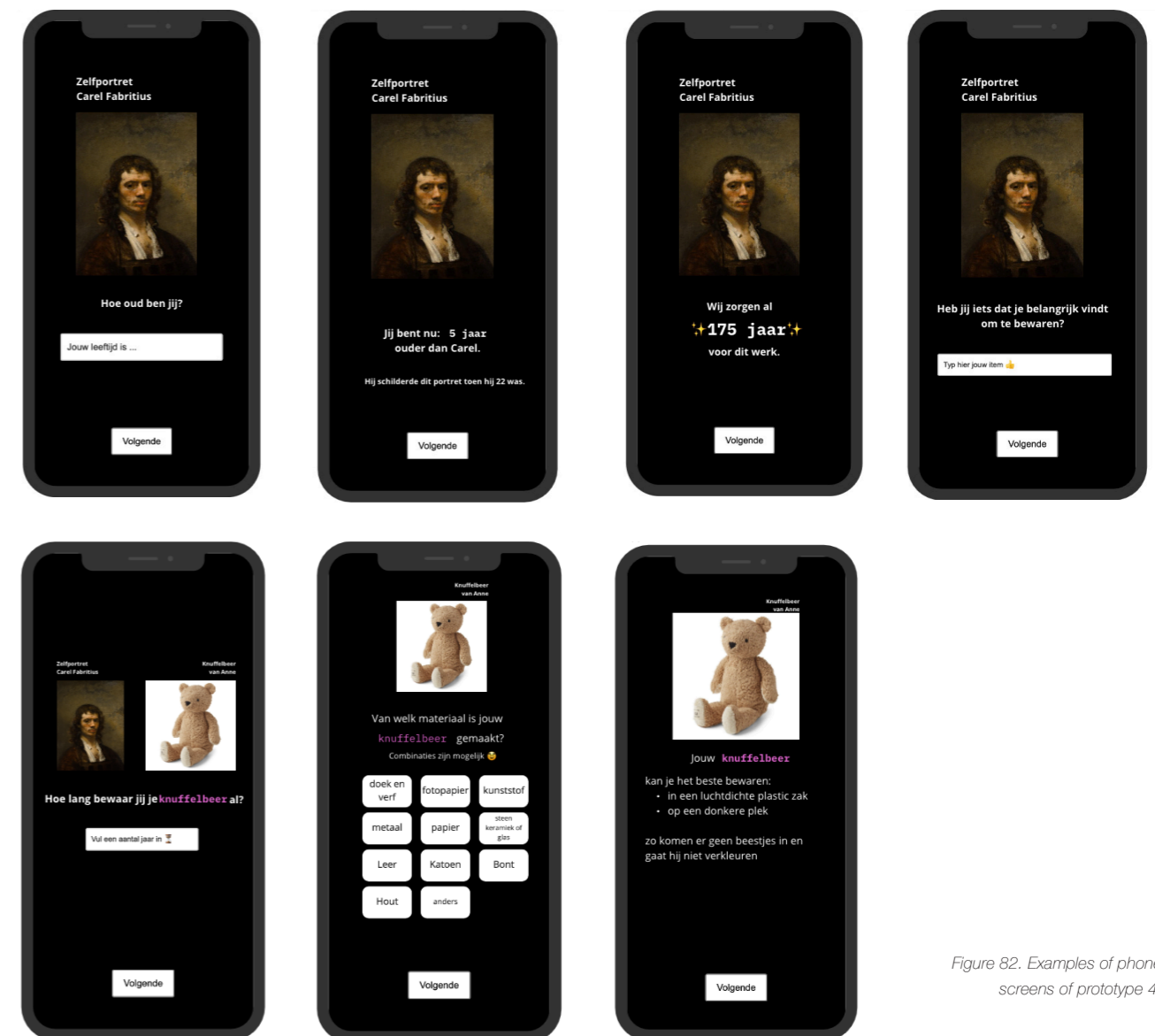


Figure 82. Examples of phone screens of prototype 4.

5.4 FIRST VALIDATION: TEST PROTOTYPE WITH PARTICIPANTS

Prototype four, the scenario of the complete service, was tested with students from the museum futures lab and staff of MBVB. After this test the final design was made, see chapter 6.

Prototype four can be found in appendix 12. It starts with a scenario of buying tickets for the depot, going to the depot and walking around in it. In the prototype several questions are asked just after buying tickets as well as inside of the depot. About personal questions and relating the answers of visitors to the artist and art piece itself.

Setup tests

Test 1: In an online Teams meeting prototype 5 was tested with five students simultaneously. The participants were asked to open an email on their laptop and typed in their answers to the questions of the prototype. Afterwards the test the email was sent to the researcher.

Test 2: In a presentation format I showed two staff members of the educational department of Boijmans the prototype, the research showed the prototype and explained the scenario. through it and discussed it.

Goal

The goal of both tests was to understand which part(s) of the prototype specifically fitted the depot, and which parts could be left out or changed a bit in order to reach the design goal.

Conclusions both tests

Connecting with visitors right after buying tickets was quite new to the museum staff and opened opportunities: 'the first step is the most interesting for the museum, we can do a lot more at this touch point'. Participants in the test liked this part as well: 'nice to get the link from buying tickets to real works, just a little party moment in the journey'. Another participant proposed to make the first part more

quiz-like, and that the visitor has a say in which painting they see, so that it feels like a personal work is selected for you.

Personal questions

The personal questions e.g. asking after the age of a visitor and after the visitor gets a note based on their age: 'you're now ... years older (younger or the same age) than (artist of the work)'. One participant said: 'I liked the personal element where you relate to the painter Carel Fabritius with the age, so you really reflect on 'wow he was young' what have I done so far in my life?'. This makes the visitor experience personal, because reactions of the system are based on information that visitors give to the system.





The question about an item that a visitor personally stores was well received: 'interesting indirect way of teaching about conservation of precious things.'

Uploading a picture?

In one question it was asked to upload a picture of the personal item that visitors store. Some point arose: searching for an item in google images is not desirable, because the participants did not like to see stock images: 'a stock photo is not interesting to look at afterwards'. Also, participants did not have a picture of their item at hand: 'I do not have a picture of my item when I am on location'. Others shared their concern of showing their uploaded picture unwanted to other visitors: 'is there an option to share my picture with the public? I can imagine the stuff people want to keep for dozens/hundreds of years could be quite personal!'. So, in a next version it is important to ask for consent before the photo is shared or stored.

Staff of MBVB shared their concern about setting up a virtual visitors depot, because this can be a graduation project in itself.

About the advice on how to store a treasured item

In the test participants shared their treasured item. They like to get a tip. When they were asked if they would like a tip about storing, one participant actually did not want to store her item, but keep it safe while using it. So. In in final design was an extra question added: 'Do you want to use "treasured item of visitor" or keep it safe?'.





Questions and answers test

- How old are you?
62, 23, 24, 23
- You are ... years older/younger than (name of painter).
- We take care for this painting already (current year – acquisition date = amount of years) ... year.
- Do you have an item you care for, which is important for you? (type the object)
 - Something important to keep (for 175 years!): family photos; attached: a photo of my great grandfather and great grandmother (figure 82)
 - I want to keep a wooden talisman I made for my father (figure 83)
 - A ring I got from my boyfriend which used to be from his mom (figure 84)
 - art piece of tulips from my parents (figure 85)
- Can you search for an image of this item?
(see figures on this page)
- For how long have you kept your (item of visitor) safe?
1 year and a half, 4 years, 1 year, Not long – couple of years; digitized & supplied by a distant family member, 23, since i was born hih
- From what kind of material is your (item of visitor) made of?
 - Photograph (now digital)
 - Hout, Ieren koord (dat tweede heb ik laatst moeten vervangen door slijtage)
 - white gold with a small diamond
 - Stone
 - katoen, kunststof

Figure 82 - 85. From Left to right. Pictures of visitors' treasured item.



FINAL DESIGN

In the previous chapters the focus and the design process is described (chapter 5). The result of this focus is the final design that provides a service that introduces the collection of MBVB to depot visitors. The storing, preserving and collecting process is explained by collaborating and listening to visitors.

- 6.1 Introduction
- 6.2 Final design: two parts
- 6.3 Scenario final design
- 6.4 Flowchart

6.1 INTRODUCTION

In this chapter the final design of this thesis is presented. Based on the rapid prototyping in chapter 5.3 and the first validation of prototype four in chapter 5.4, the design is delivered. See figure 86 to see where the phase is situated in the Double Diamond process.

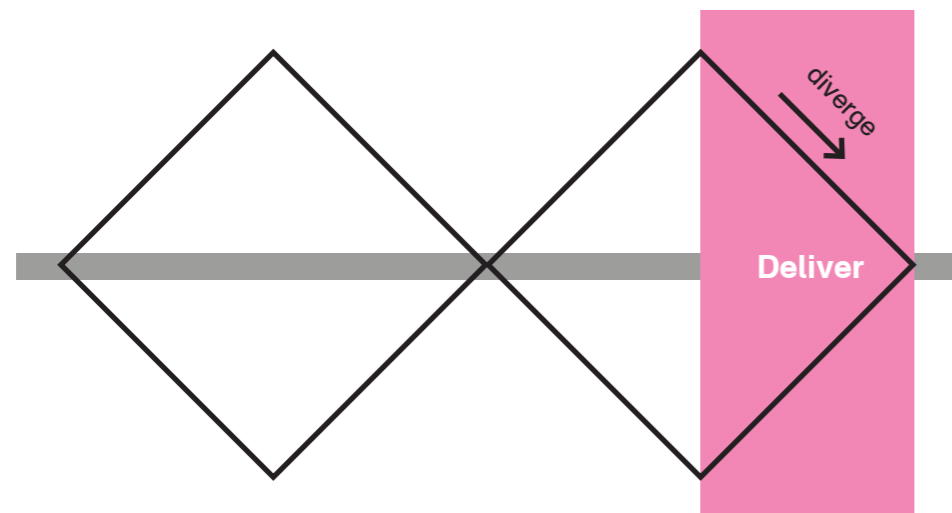
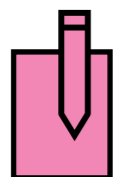
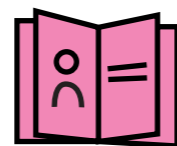


Figure 86. Deliver phase

The following activities were carried out in this part of the deliver phase:



The final design in **designed** in web and phone screens



A scenario and a **flowchart** is made to present the final design

6.2 FINAL DESIGN: TWO PARTS

The visitor journey is divided in two parts: at home, directly after buying tickets and inside the depot, during the visit. These two contact points are chosen because of the findings discussed in chapter 4. Focus.

1. At home

It is only possible to buy tickets for the depot online. The first part of the concept starts here. Online on the website of the depot the possibility is shown to determine a personal art preference. This is optional, so if visitors don't have time or if they don't feel like choosing a personal art preference it is possible to skip this item, they are directed back to the main menu. It is also possible to determine the art preference in the depot or at any other moment. When a visitor chooses to go forward, they will see two different pieces of art each time, for five times in a row, with the question: 'What appeals to you most?' see figure 93 for an example.

The art presented to visitors is not randomly chosen; these objects will be visible in the depot in the vitrines to be exact. This sequence with the visitors' art choice ends with a conclusion (figure 94). Here the art types of visitors' choosing are presented. After the conclusion, the visitor is asked if they want to download the depot-app which can be used inside the depot only, because this will enhance and enrich their visit.

The types of art are put opposite each other in the program are quite different (figure 87). No 'overlapping' art types are shown at the same time e.g. design and fashion.

2. In the depot

On entering the depot and opening the depot app visitors are guided through the depot on the basis of the art they liked before. They can answer questions on their smartphone when walking around in the depot receiving a 'personalized tour'.

Then there is question about a personal object that visitors store themselves at home. Questions about this object are asked and in between, art from the collection of MBVB is showed, and related to the object or item of the visitor. For instance, when a visitor stands in front of an art object, their age is asked and compared to the age of the artist when they made the object. In this way the visitors' age is compared to the age of the artist. Then the question is asked, based on the age of the visitor, when the visitor is older: 'What were you doing when you turned e.g.27?'. When younger 'what will you be doing when you turn 27?' (figure 88). In this way the life of the artist is made just as important as the life of the visitor, it is put on the same level of significance. Moreover, a visitor is made aware that they are someone just like the employees of the depot, taking care for objects, by storing them and cherishing them. In this way the visitor's object is like a mirror. This object is treated with respect, just like all the art in the depot, e.g. in the end of the

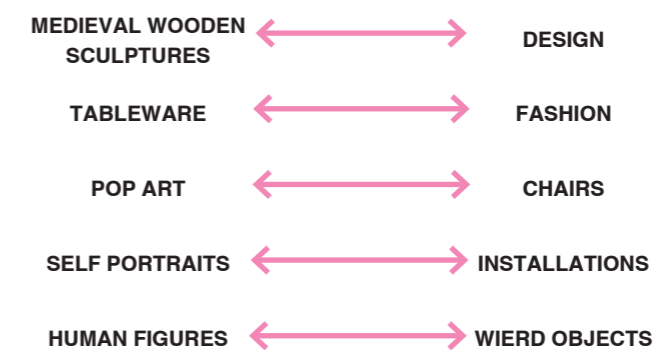


Figure 87. Types of art that are put opposite each other.

sequence the visitor is asked if they want to receive a tip about how to store their item best. Based on the material properties that a visitor selected, a tip about storing and/or conserving the item is presented, of course only if a visitor is interested. At the end of the app tour the visitor is sent off to the compartment in the depot where their object would be stored, as if it were an art object of MBVB.

Please note that some steps are quite personal and different for every visitor, e.g. because of the age of the visitor or the material properties of the personal item that visitor has enlisted in the tour. The tone of voice is very important, in the report parts of the English version are presented, see appendix 13 for the full English and Dutch version and in appendix 14 all the tips sorted material type can be found.

The design of web and smartphone screens

In the next chapter the scenario of the full service is explained. First the UX designs are presented, see figure 91 - 94 for the webpages designed for part 1. At home. See figures 88 - 90 for the phone screens designed for part 2. In the depot.



Figure 88. Comparing age of visitor with age of artist.

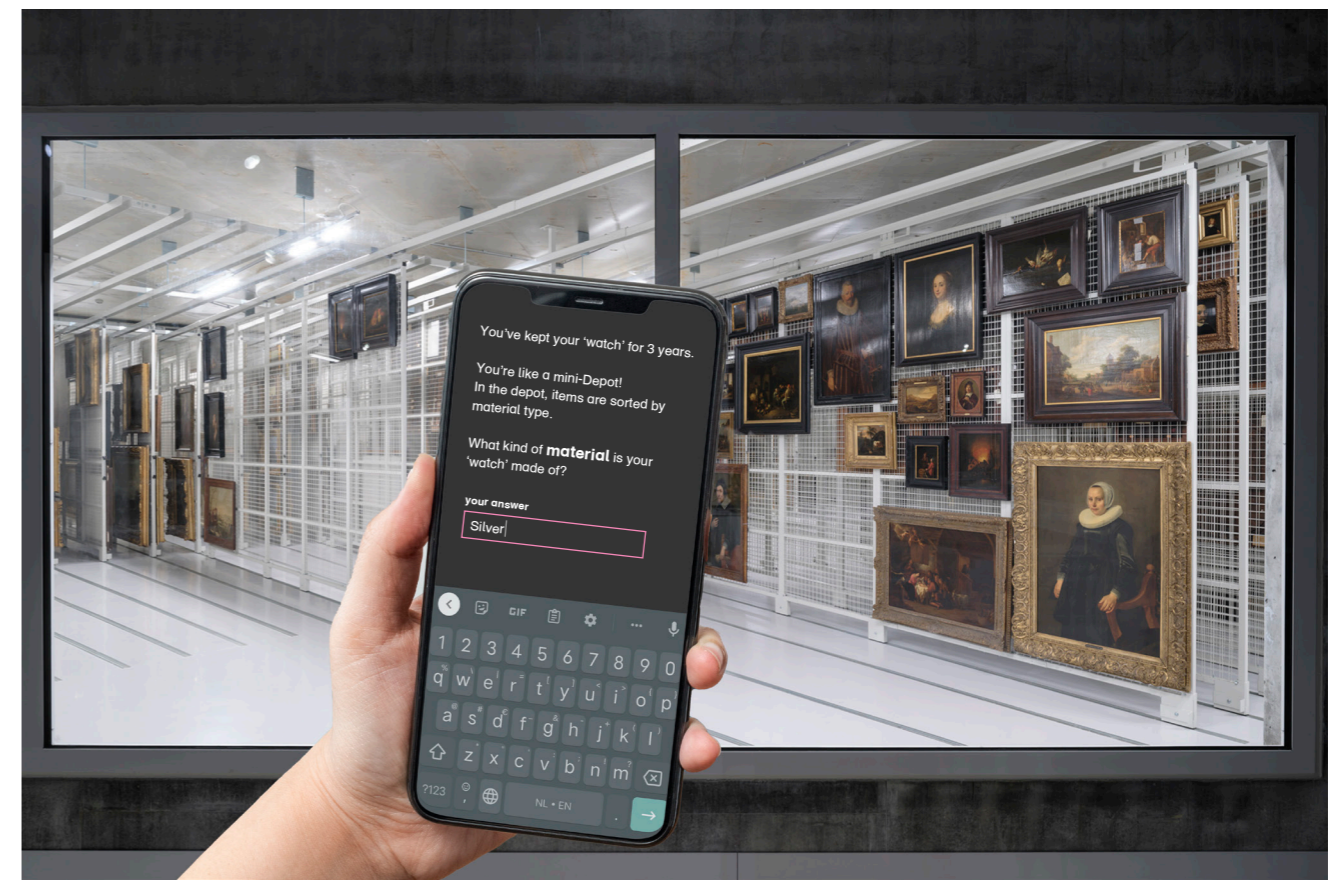


Figure 89. Adding material of personal item.



Figure 90. Receiving tips about storing your personal item.

1. Buy depot tickets online

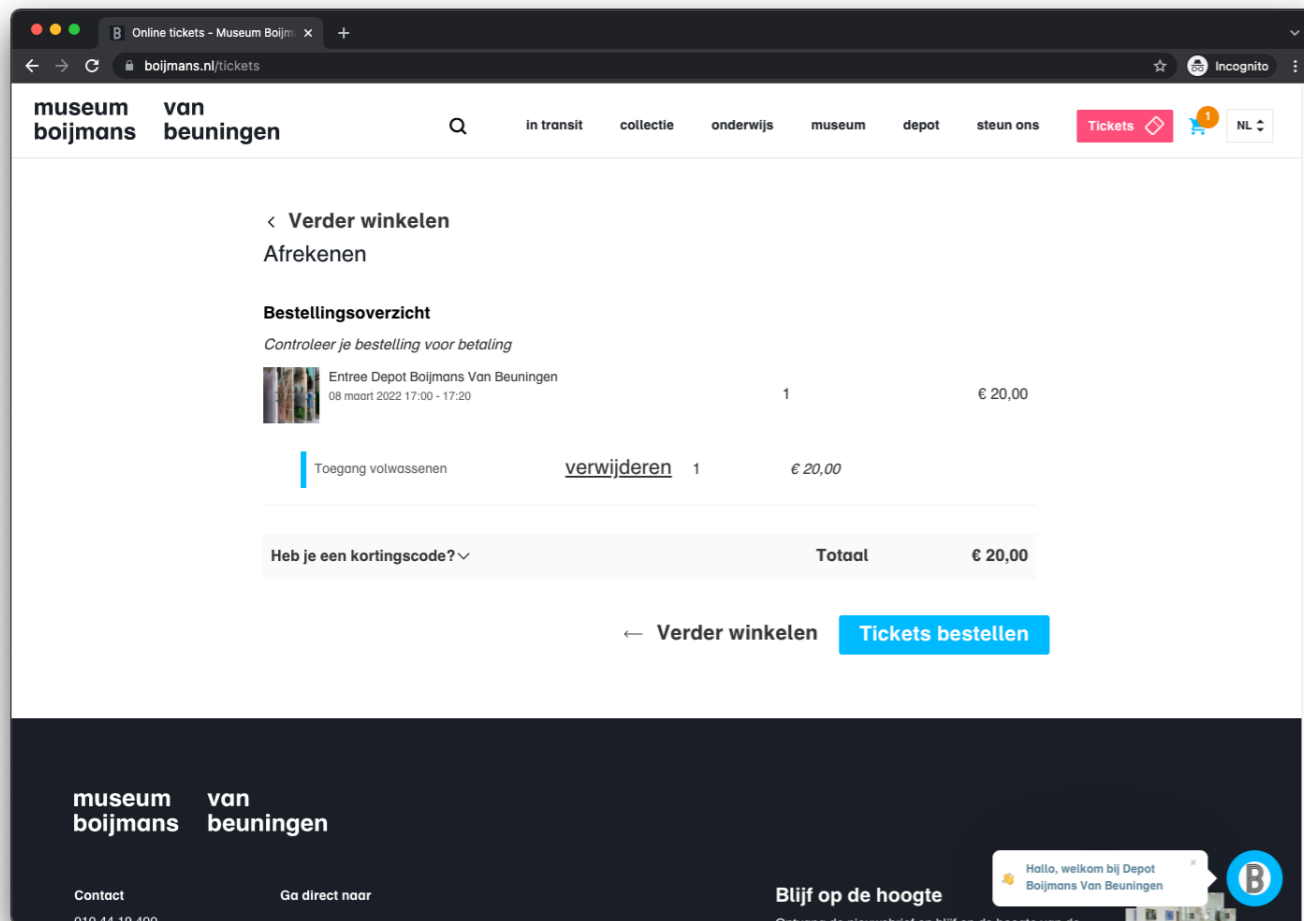


Figure 91. DBVB website screen 1.

3. Choose art that is visible in the depot nr. 1 of 5

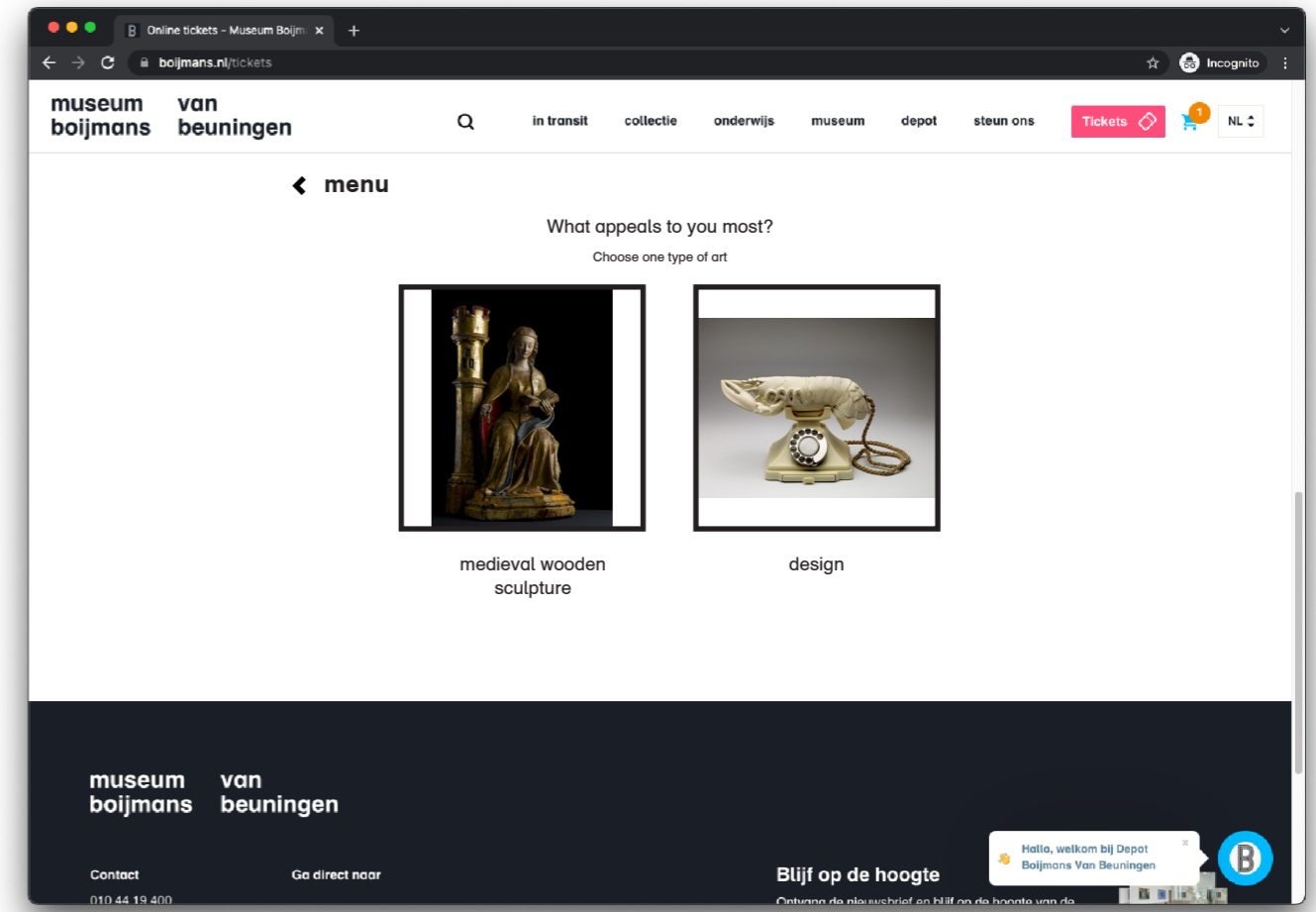


Figure 93. DBVB website, choose one art type.

2. Invitation to art preview

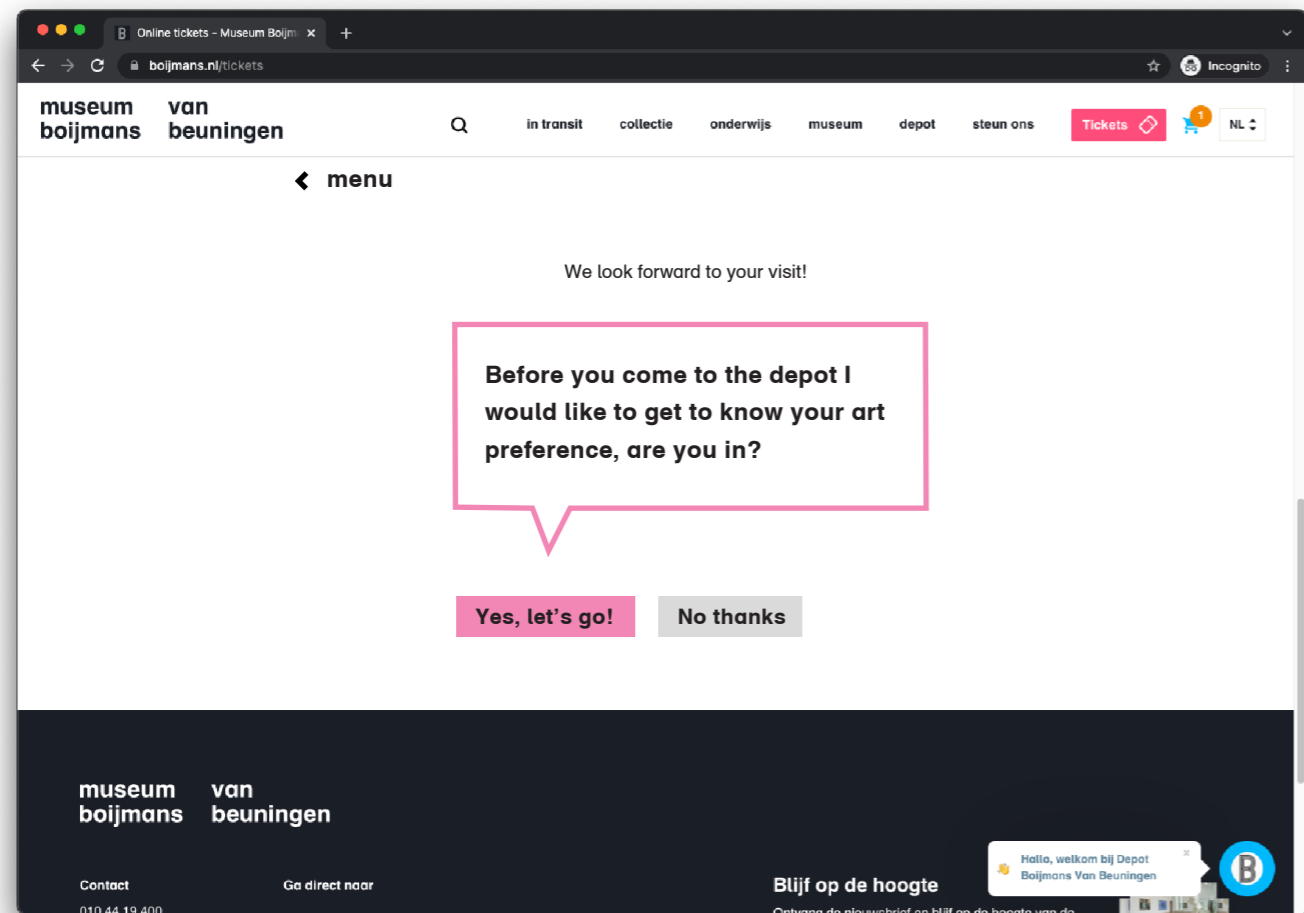


Figure 92. DBVB website screen with question.

4. Overview of chosen art

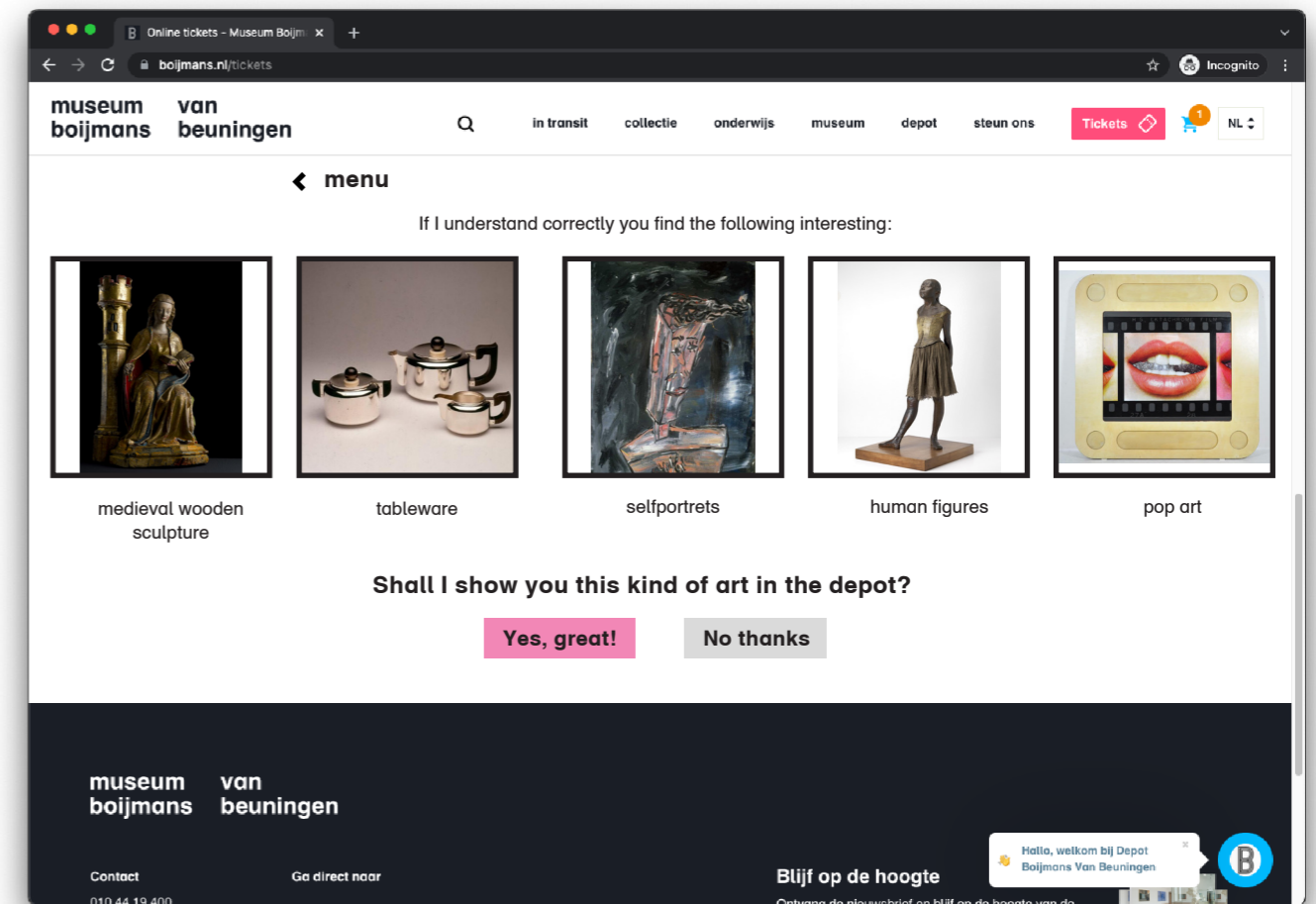


Figure 94. Overview of chosen art types.

6.3 SCENARIO FINAL DESIGN

In this subchapter the scenario of the service is presented. For every step in the depot visit a separate frame is made to demonstrate what the whole concept entails. Only the most important steps are shown, the full scenario in text format can be found in appendix 13.

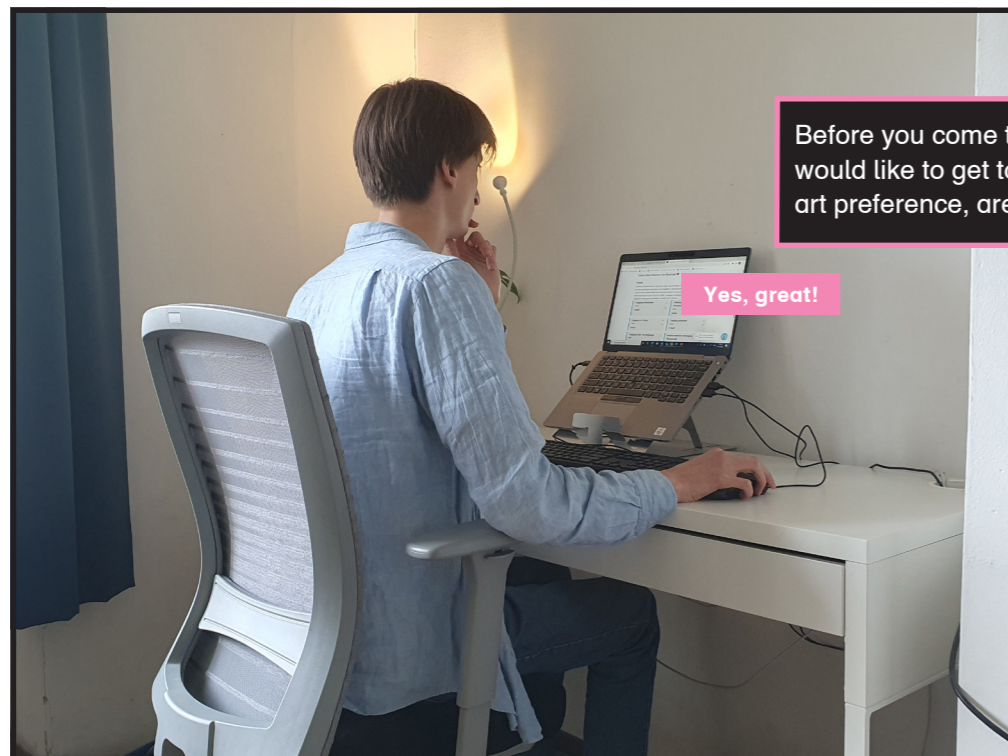
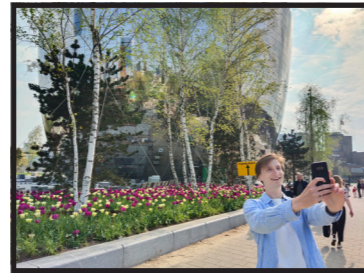
Legend

Questions, answers and information from the depot ;)

Answers from David

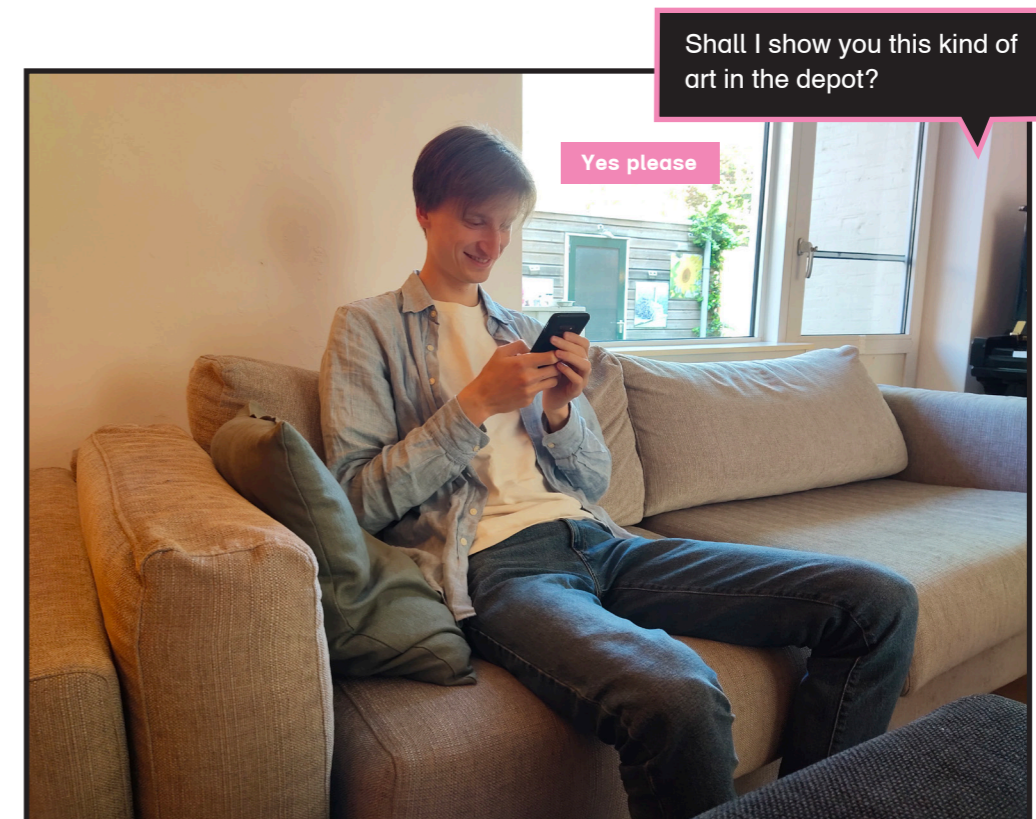
This is David

He likes to go to museums and is interested in the depot: 'What will a visit bring me?'. He likes to go to museums alone, so he can focus on the art.



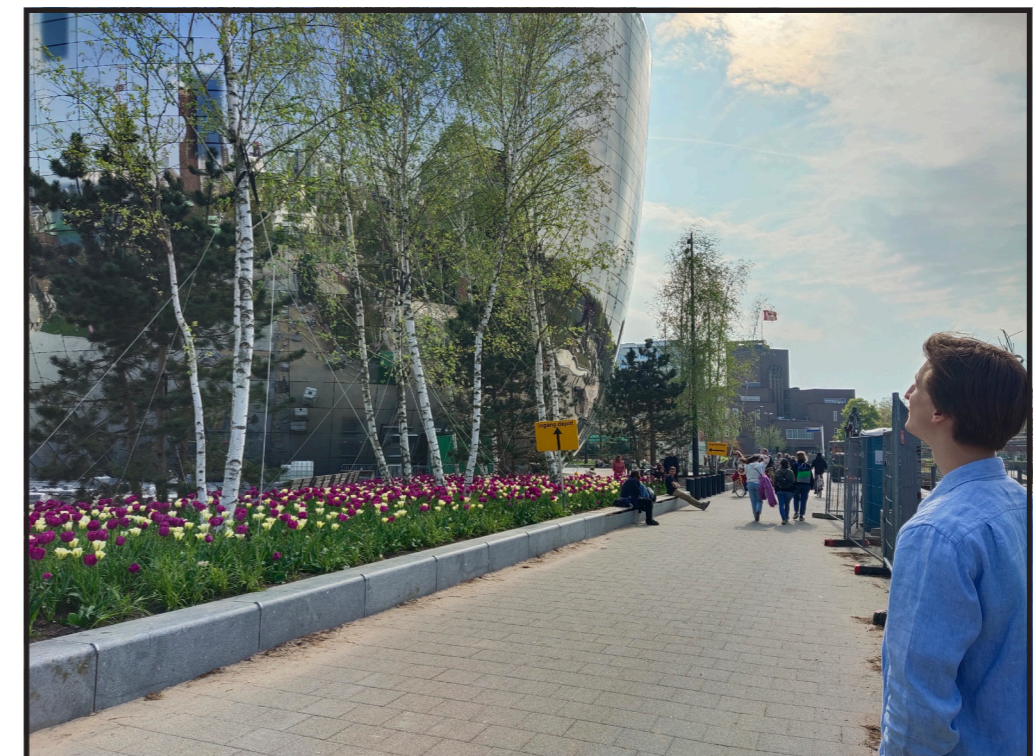
1. Buying a ticket

David wants to go to the depot, he purchases a ticket at home. Just after buying a ticket he is asked the following (see image). After, he is asked to download the depot-app, because this app will guide him in his visit.



2. Downloading the depot-app

David downloads the depo application on his phone. The app can retrieve the information he earlier provided about this art preference.



3. Looking at the depot from a distance

David is immediately impressed by the building, he takes a selfie with it to send to friends.



4. Enter the building

David walks towards the building and enters it.



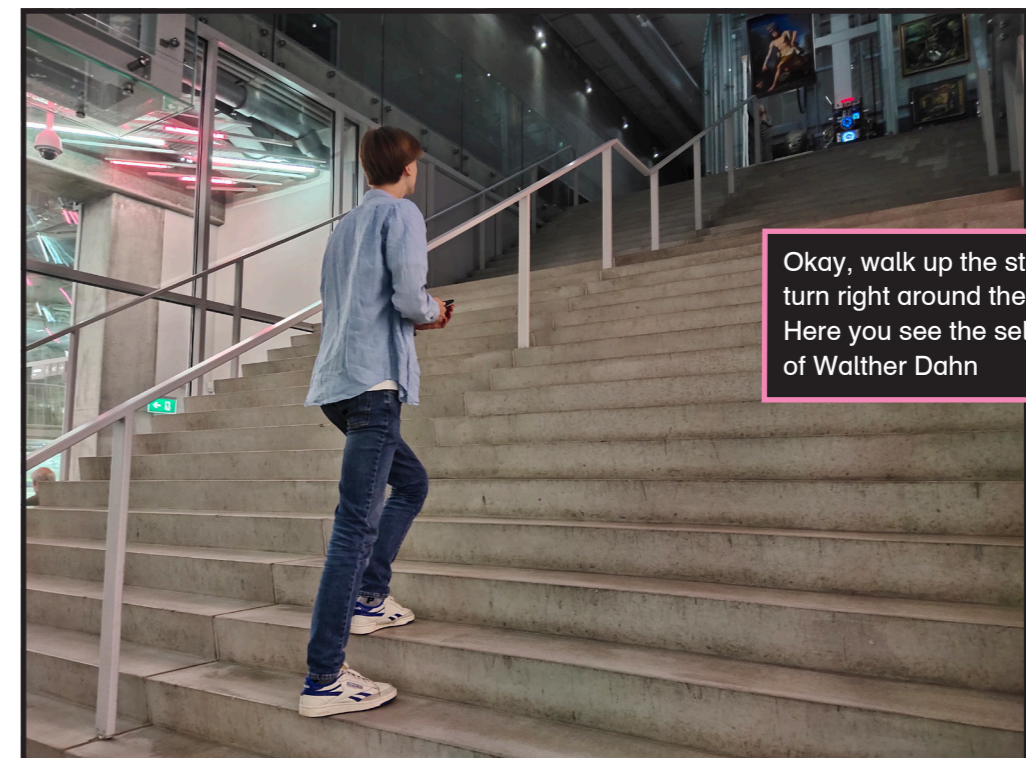
6. Receiving a notification

David gets a notification of the depot app when he is hanging his coat. He chooses 'yes'.



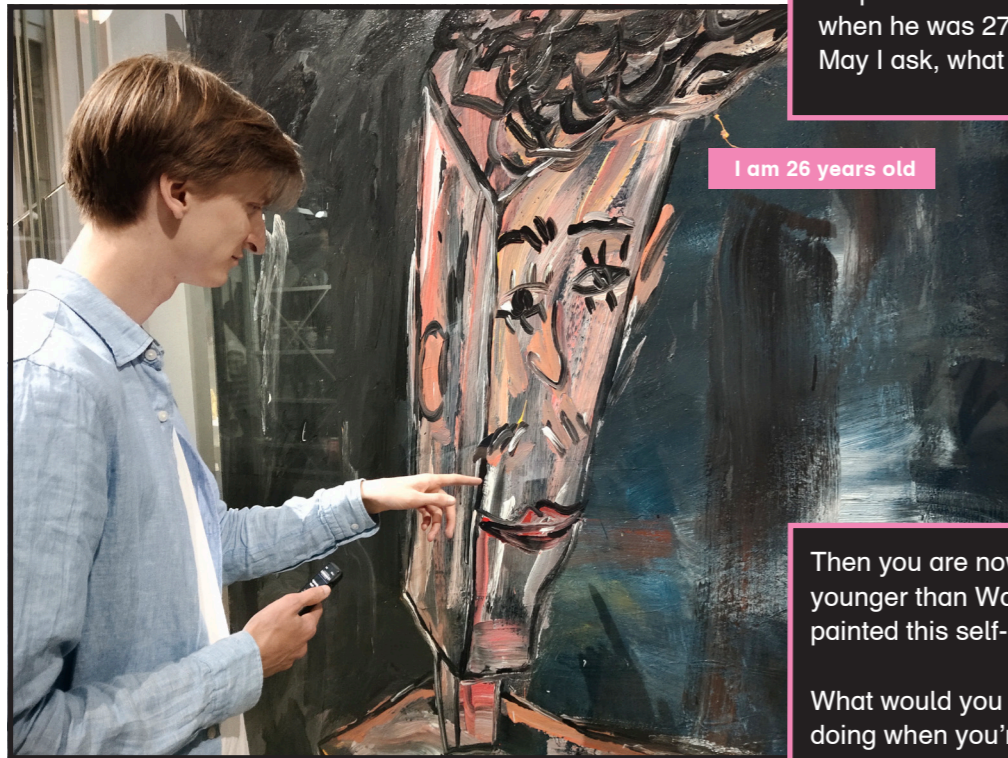
5. Scanning the ticket

With a QR code on his phone his ticket is scanned by the employee of DBVB.



7. Starting the tour

The tour begins, he follows the instructions on the screen.



He painted this self-portrait when he was 27 years old. May I ask, what is your age?

I am 26 years old

Then you are now 🔥🔥 year younger than Walter when he painted this self-portrait.
What would you like to be doing when you're 27?

Working, being outside a lot

8. Comparing the age of visitor and artist
David looks at the painting, and after that he answers the questions in the app.



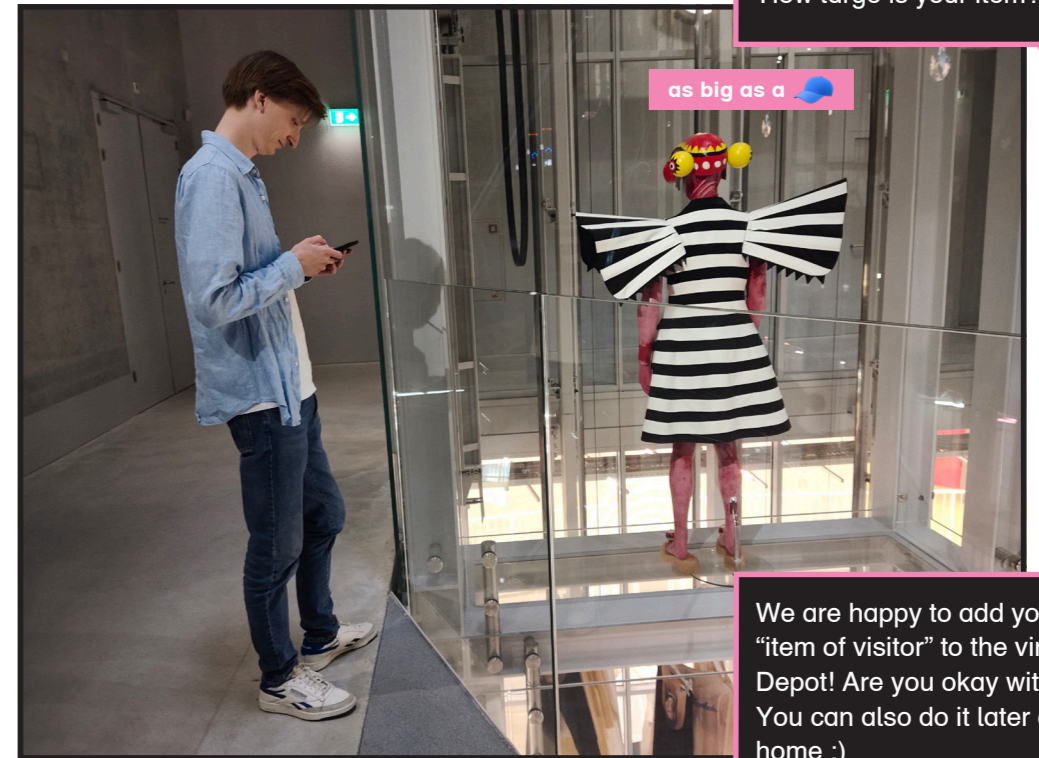
You know, this work has been kept at the Boijmans Van Beuningen for 🌟40🌟 years.
What do you think about that?

okay

Do you have a treasured item that you keep at home?
What is it?

a watch

9. Contributing a treasured item
David is asked if he keeps an item at home, he answers that he has a treasured watch.



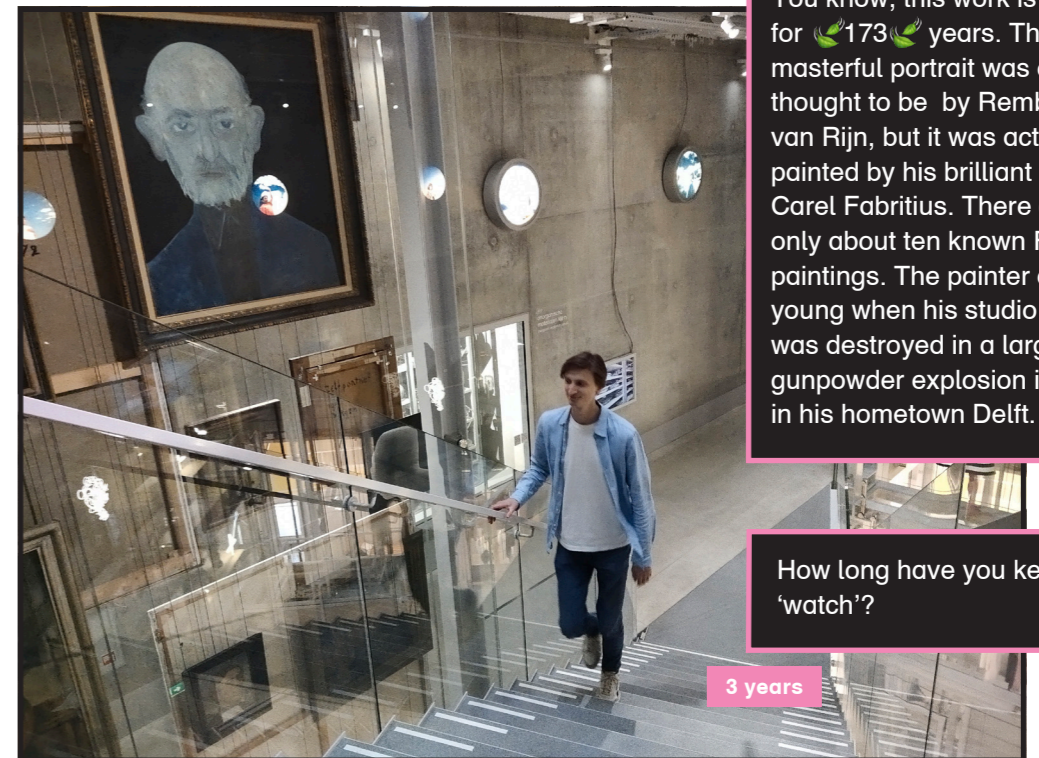
The Bee is more than 2 meters high and 1 meter wide.
How large is your item?

as big as a 🧠

We are happy to add your "item of visitor" to the virtual Depot! Are you okay with that? You can also do it later at home :)

yes, later at home

10. Comparing dimensions
Next he is guided to a dress called 'The Bee' it is described to him, and dimensions of his item and this dress are discussed.

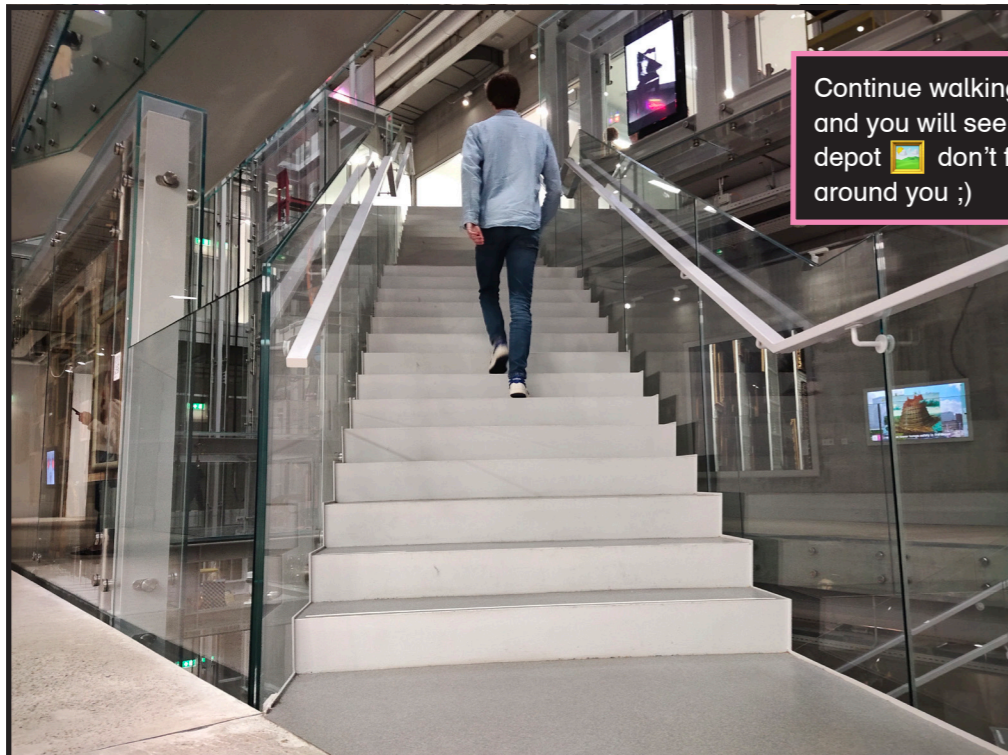


You know, this work is kept for 🌿173🌿 years. This masterful portrait was once thought to be by Rembrandt van Rijn, but it was actually painted by his brilliant pupil Carel Fabritius. There are only about ten known Fabritius paintings. The painter died young when his studio was destroyed in a large gunpowder explosion in 1654 in his hometown Delft.

How long have you kept your 'watch'?

3 years

11. Keeping an item safe
The following instructions are shown: 'Great! Let's Continue 👉 Walk a few steps up the stairs to the self-portrait of Carel Fabritius.' After David is presented the information about the self-portrait (see visual above).



Continue walking up the stairs and you will see the paintings depot 📺 don't forget to look around you ;)

12. Walking towards a depot compartement

David's walks to the next level. The system makes a comment not to forget to look around you.



13. Looking at the building

David's is indeed impressed by the 'Harry Potter' style stairs and vitrines. He takes a moment to look at them closely.



In this depot we keep 2,346 hanging items 📺

You've kept your 'watch' for 3 years.
You're like a mini-Depot!
In the depot, items are sorted by material type.
What kind of material is your 'watch' made of?

14. Adding the material of the personal item

When standing in front of a depot compartement the material type of David's item is added to the system.

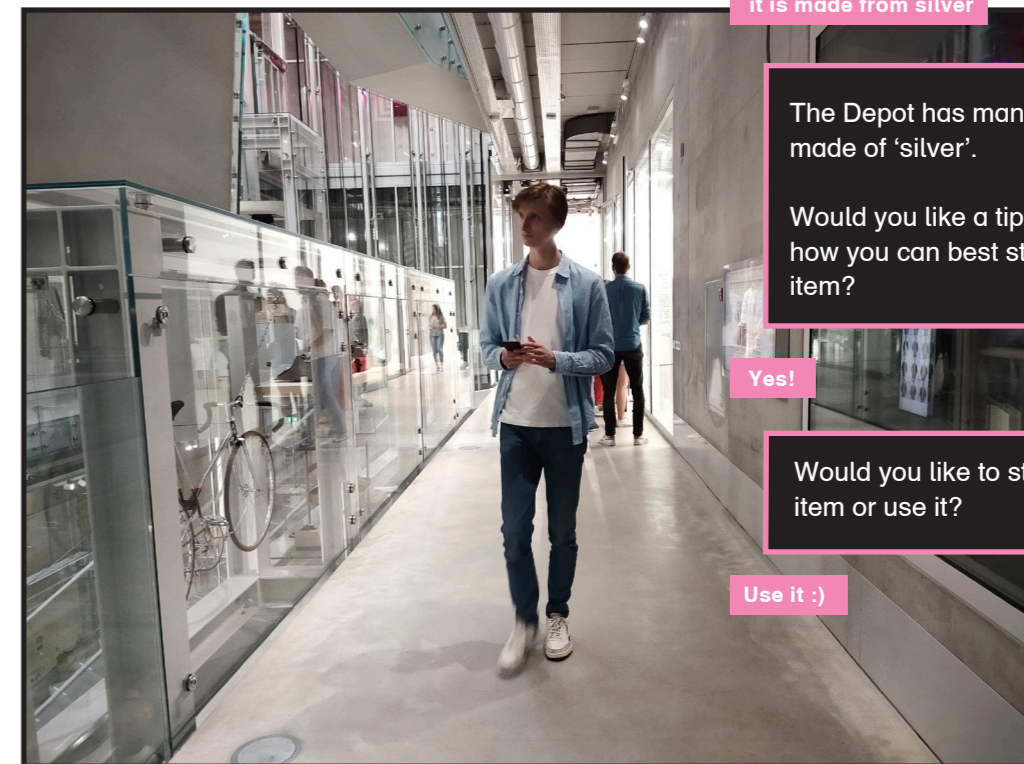
it is made from silver

The Depot has many items made of 'silver'.
Would you like a tip from us on how you can best store your item?

Yes!

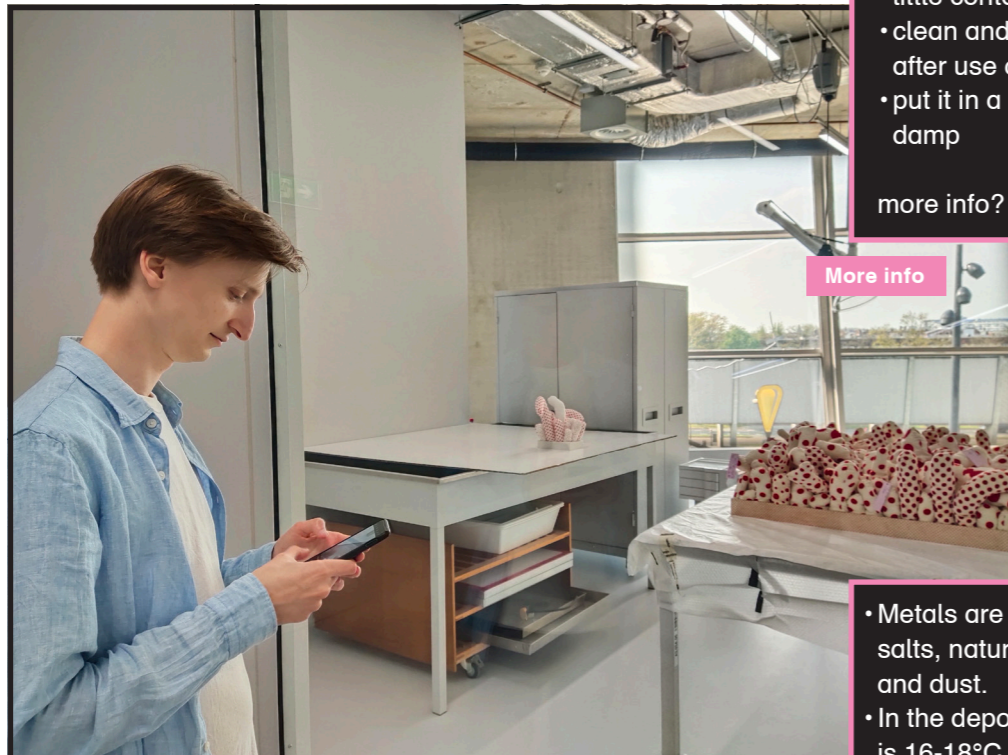
Would you like to store your item or use it?

Use it :)



15. Relating a depot compartement to the personal item

Also the depot keeps items like David's. He answers the question, if he wants a tip on how to store his item and how he wants to store his item. Afterwards he is directed to a conservation workshop.



Your 'watch' is kept best:

- little contact with water
- clean and dry thoroughly after use or when not in use
- put it in a place that is not damp

more info?

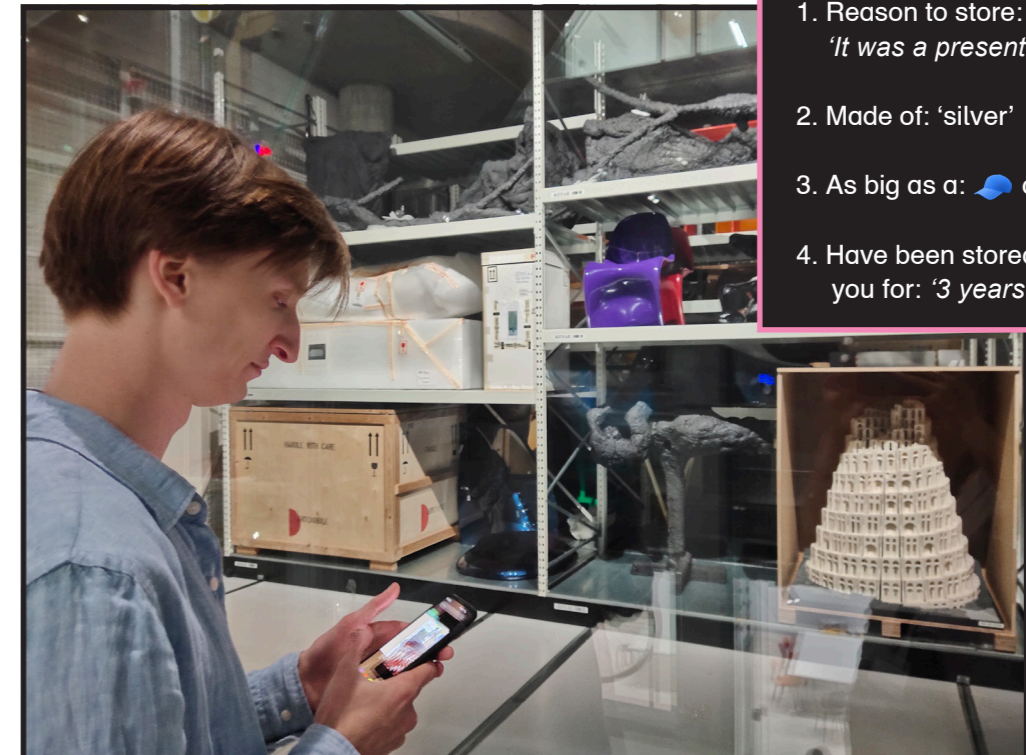
More info

- Metals are not resistant to salts, natural acids, ammonia and dust.
- In the depot, this compartment is 16-18°C in winter and the humidity is between 38-42%. In summer it is 16-18°C and the humidity between 38-42%.

16. Receiving tips about storing your personal item
At a conservation workshop David receives tips about how to store his watch. After he chooses to get more information about the material.



17. Taking a picture
Incidentally David's passes the plastics compartment, he sees an interesting art piece he likes and takes a picture.



You gave these answers about your 'watch':

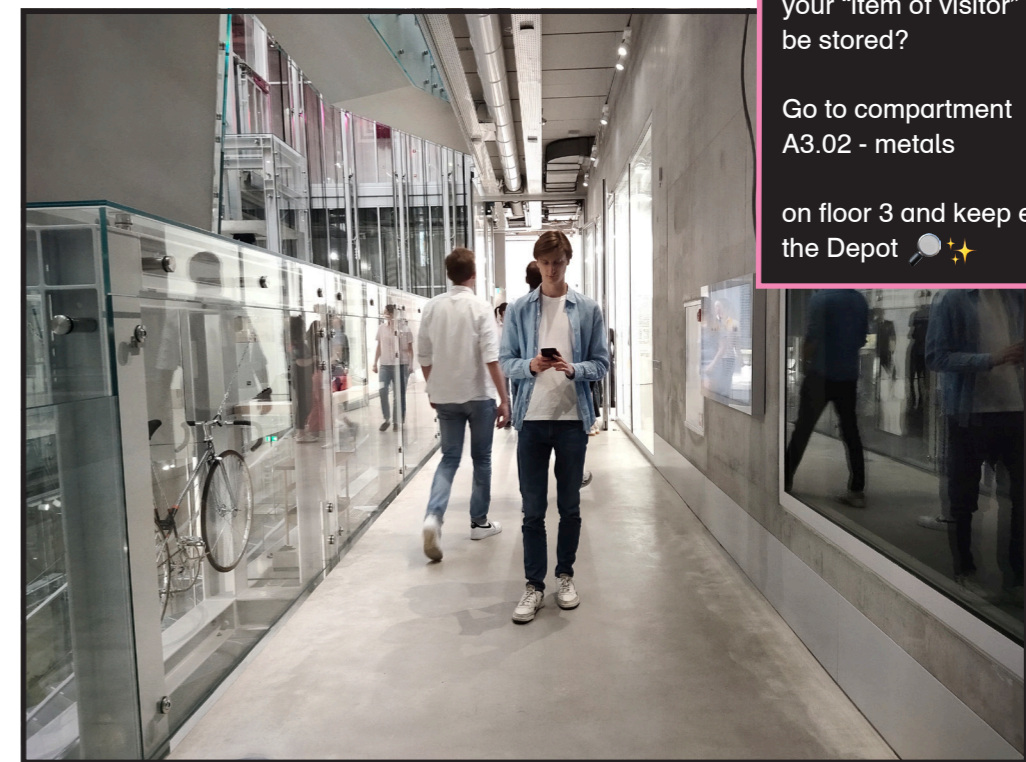
1. Reason to store: 'It was a present'
2. Made of: 'silver'
3. As big as a: 🗡 cap
4. Have been stored by you for: '3 years'

18. Summarizing the personal contributions
Now David receives an overview of his additions to the system.

Would you like to see where your "item of visitor" would be stored?

Go to compartment A3.02 - metals

on floor 3 and keep exploring the Depot 🔍 ✨



19. Going to a depot compartment of resembling material of personal item
In this last step David is guided to the compartment where his metal item would be stored.

6.4 FLOWCHART

In this subchapter the flowchart of the system is presented. Figure 95 shows the part where visitors interact with at home (on a phone or computer) and figure 96 shows the part where visitors interact with in the depot (in the depot application).

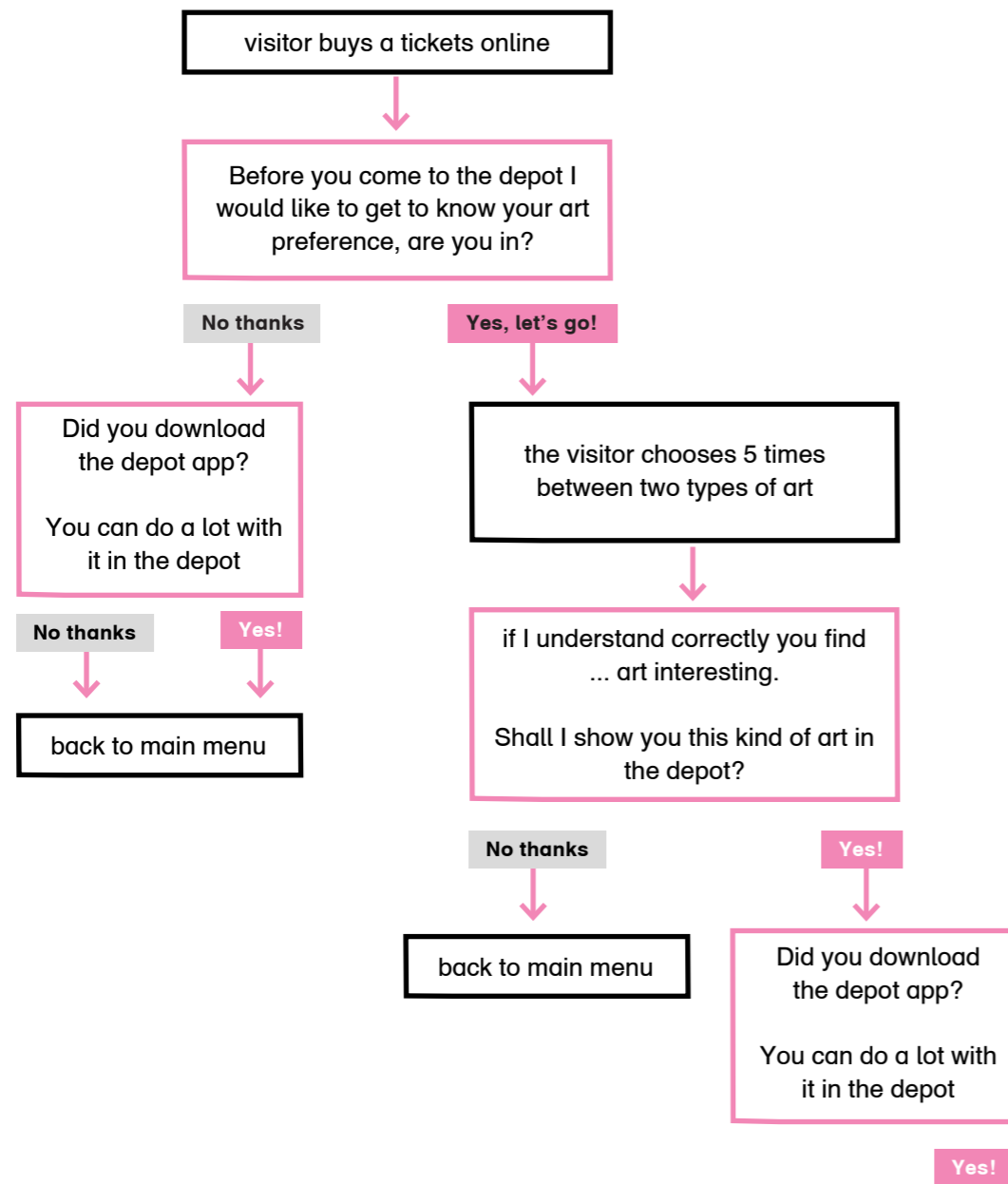


Figure 95. Flowchart of design (at home).

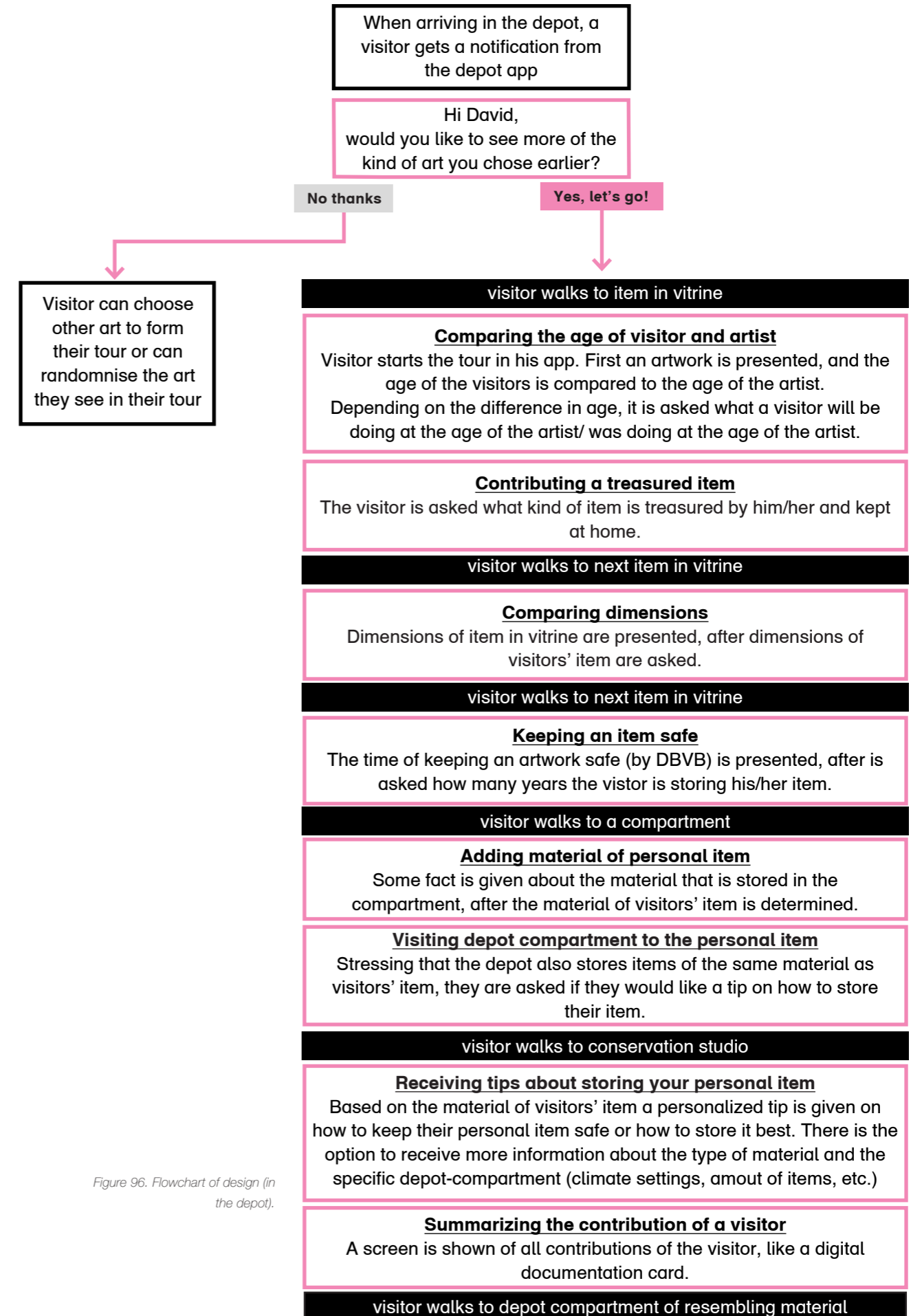


Figure 96. Flowchart of design (in the depot).



VALIDATION

To validate the functioning of the final design, user tests are organized at DBVB. These are discussed in the following chapters:

- 7.1 Research approach
- 7.2 Validation approach
- 7.3 Test results
- 7.4 Analysis of gathered data, contributions of participants
- 7.5 Conclusions

7.1 RESEARCH APPROACH

In chapter 6 the final design is delivered, in this chapter the design is validated. It is prototyped It is prototyped to interact with the system real time and is tested on site, in the depot. The following question resonates throughout the chapter:

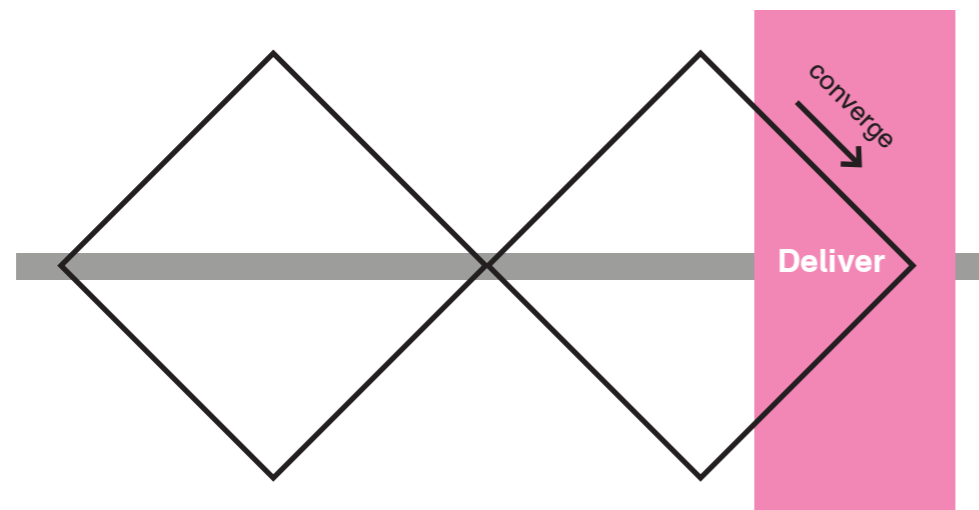


Figure 97. Deliver phase

Research question

Does the experience guide visitors interactively, by inviting them to contribute, and by giving them a sense of ownership of the collection of Museum Boijmans stored in the depot?

The following activities were carried out in this part of the deliver phase:



Prototyping is used to develop promising ideas into a final design.



User tests are held in the depot to validate the final design.

7.2 VALIDATION APPROACH

To validate the functioning of the concept, several user tests are organized at DBVB.

Research goal

Does the service introduces depot visitors to the collection of MBVB, and is the storing, preserving and collecting process explained by listening and collaborating with them?

Based on the design focus and design guidelines (chapter 4.5 & 4.6) the following sub questions were formulated:

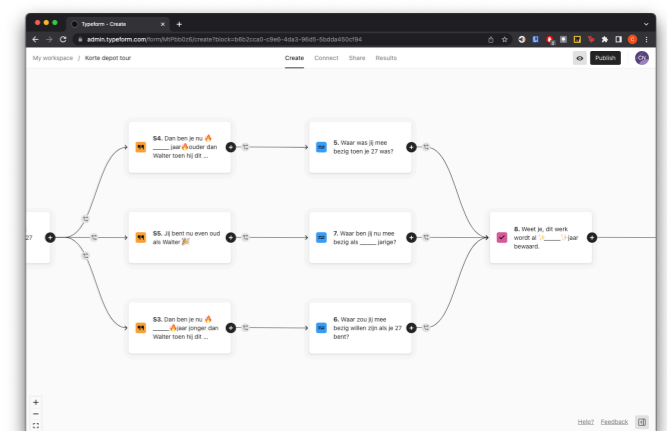
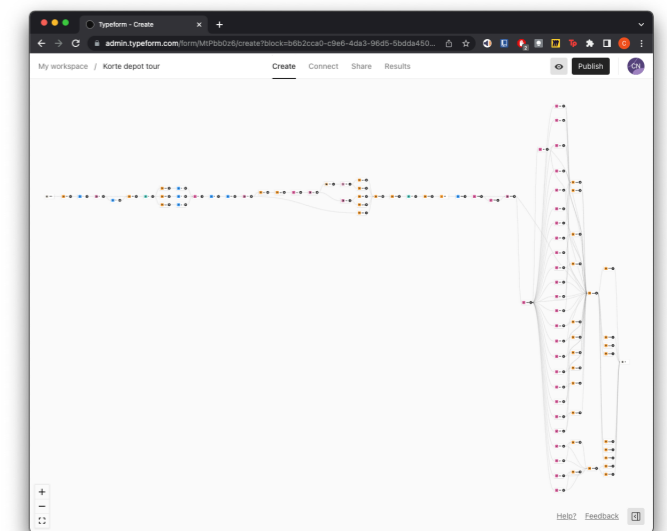
- Do visitors have the feeling that their visit is a personal one? (Keep visitor attention and respect their input)
- Do visitors have the feeling that they are guided through the depot? (Present one message at a time, disentangle the art, alternate content and guide the visitor)
- Do visitors have the feeling of recognition and relevance? (Actively ask questions, use easy and fun language and stimulate reaction)
- Do the visitors have the feeling of belonging and feel that their perspective is valued? (Be sincerely interested in the visitor, be humble and be approachable)

Test setup

The user test consisted of two online parts; participants were asked to do a small part before their depot visit at home. The second part consisted of an actual depot visit, while testing the prototype, combined with an interview at the start and end of the visit. For the test the program Typeform was used (figure 98 and 99), this program is well suited for the test because 1) It can retrieve answers of the participant and present them back 2) It can calculate with the answers that are given 3) it can determine, based on a given answer, to which questions a participant should be directed to. See figures 100 - 105 for images of the user test in the depot.

Timeline of user test

- At home filling in the online stimulus: 'buying tickets online (3 min)
- Online introduction to the project and test (2 min)
- Participants arrive at the depot (5 min)
- Interview about museum visits and expectations depot visit (10 min)
- Simulation with phone of the depot tour (15 min)
- Interview (15 min)
- Close off (5 min)



Figures 98 & 99. Flowchart of prototype in Typeform (questions in the depot).



Figure 100. User test in depot with two design students.



Figure 102. User test in depot with a depot guide.



Figure 104. User test in depot with two students of Delft University of Technology.



Figure 101. User test in depot with two students of Delft University of Technology.



Figure 103. User test in depot with one design student.

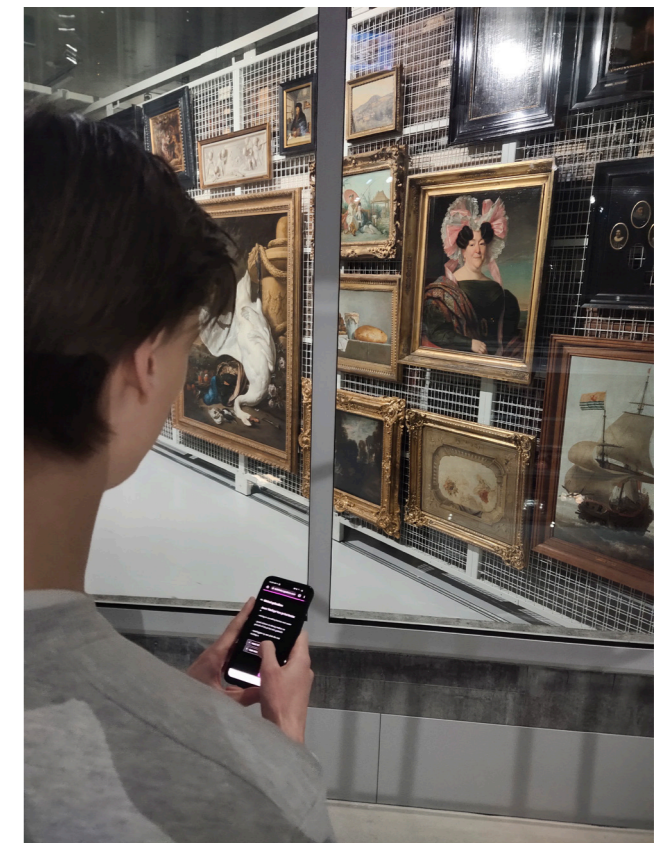


Figure 105. User test in depot with one participant.

First stimulus at home

In this part the purchase of depot tickets is simulated, and after the participant is asked the following: 'Before you come to the depot, I would like to get to know your art preference, are you in?' (Participants can choose: 'yes fun' or 'no thanks, back to the home menu') see figure 106. This part introduces the different types of art of the collection of DBVB. Important to add is that all art that is shown to visitors, is at that time on view in the vitrines. Every screen shows two types of art, that are quite different from each other e.g. fashion and medieval wooden sculpture. Participants are asked to select art that fits them best: 'which do you like the most?' (see figure 107). After visitors are asked if they want to see this kind of art that they selected in the depot (figure 108). 'Shall I show you this kind of art in the depot?' (yes or no).

Second stimulus inside the depot

After entering the depot, a short interview with every participant was conducted. After participants were asked to take their phone and start the stimulus on their phone. This stimulus was also prototyped in the program Typeform and would happen in the 'real' concept in the depot application. (see figures 109 - 111). The stimulus worked as a tour; participants walked around from object to object with their phone in their hand, sometimes looking and sometimes typing in answers on their phone. When the sequence on their phone ended, the researcher sat down with them on a quiet spot to reflect on the prototype, see appendix 15 for the interview questions.

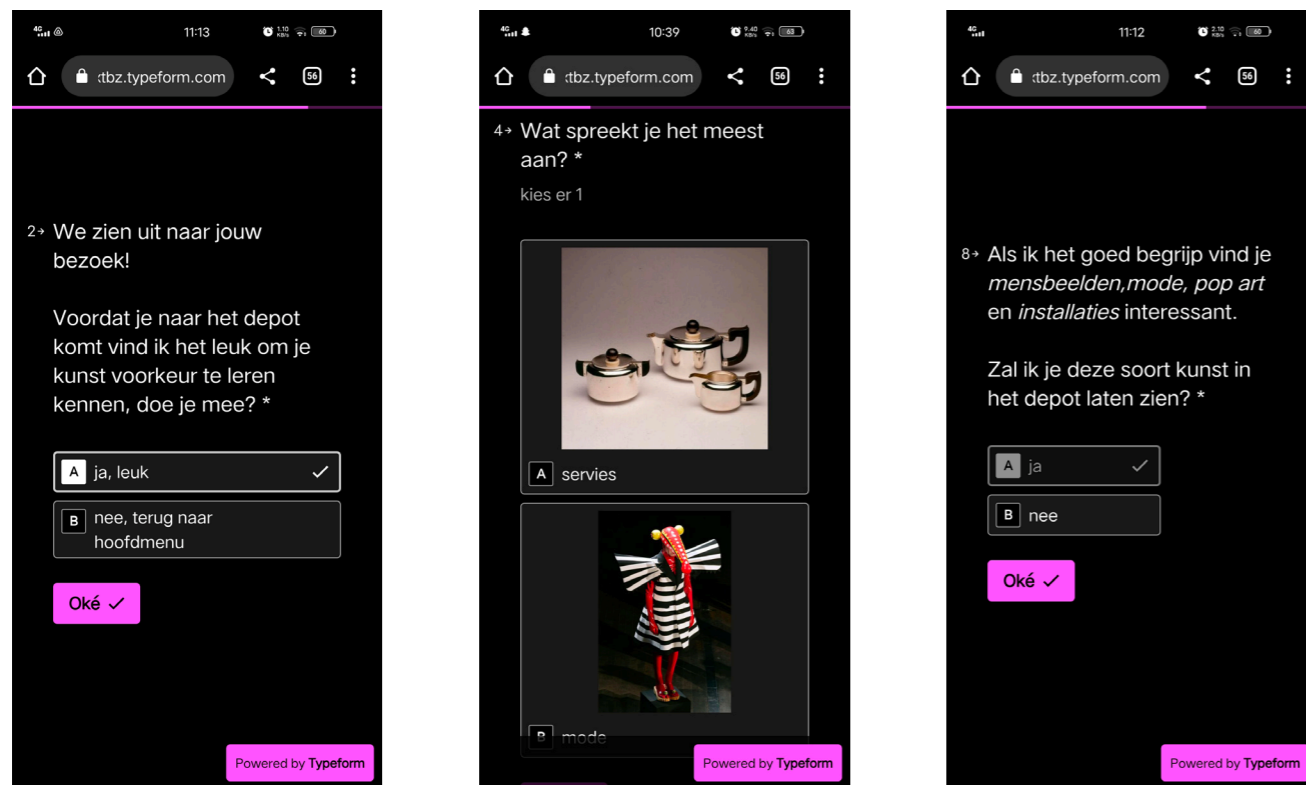
Limitations of the test

The prototype was tested 8 times with an individual participant and 4 times with two participants at a time. When testing with two people, it is possible that participants will influence each other. In their digital answers or in their experience of the prototype.

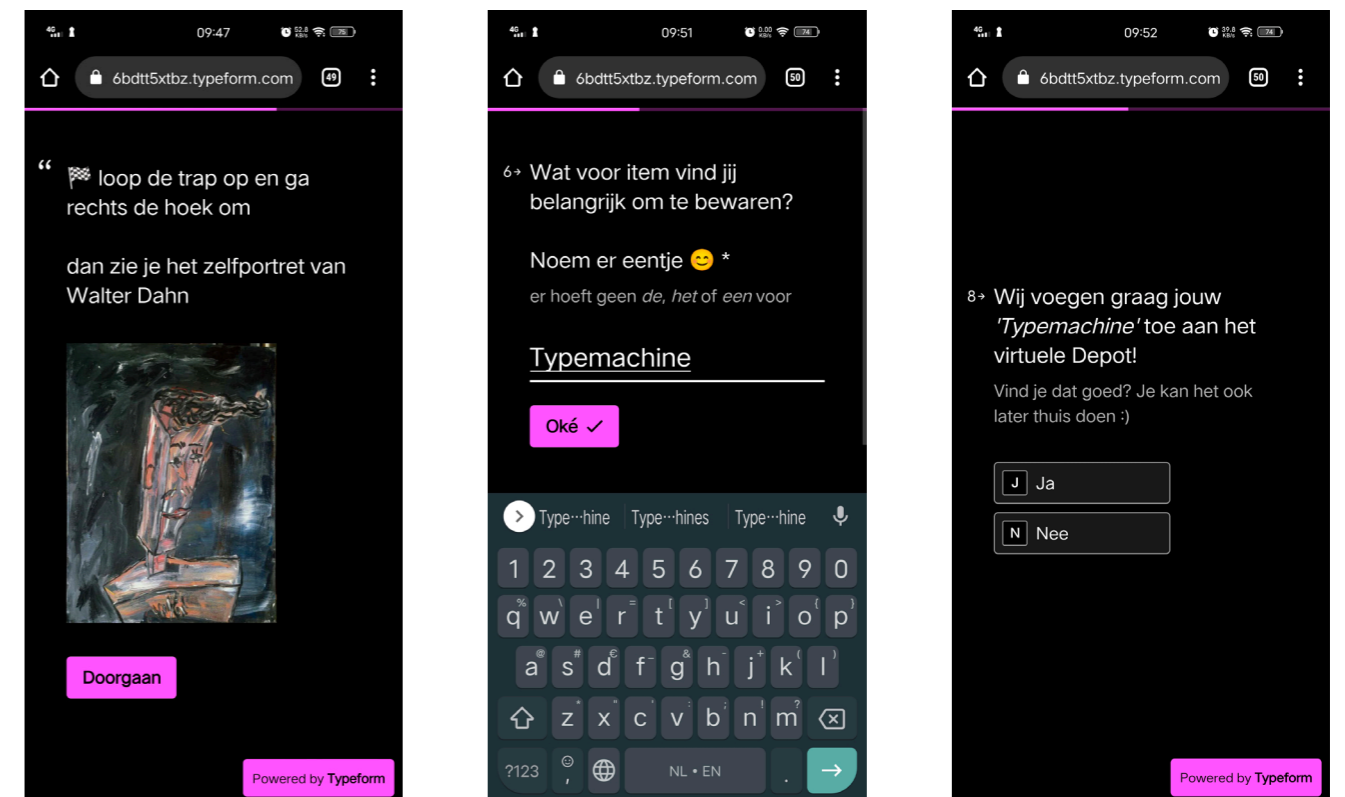
The program Typeform was used to prototype the test. This had some limitations, because the user interface of this program is somewhat standard. Still it was tried to use the depot-style throughout the prototype.

About the participants

- 16 of the 18 participants were of the age group 20 to 30
- 7 from the 18 participants had a design-background
- 4 out of the 18 participants were male and 14 female
- 5 out of the 18 participants had visited the depot before
- 3 of the 18 participants were employees of DBVB (two depot guides, one conservator education)



Figures 106 - 108. Prototype in Typeform, after buying tickets for the depot.



Figures 109 - 111. Prototype in Typeform, tour inside the depot.

7.3 TEST RESULTS



Do visitors have the feeling that their visit is personal?

15 out of 18 participants reported that the experience made their depot visit more personal. One participant expressed it like this: 'Cool, that it is so personal. It feels like the system is communicating with me.' Gianni (24). Another phrased it like this: 'it is not distant, it relates to you, because you may do something with your own materials.' Bente (17).



It is not distant, it relates to you, because you may do something with your own materials.

Bente (17)



Do visitors have the feeling they are guided through the depot?

Participants told the researcher that the depot tour gave a direction to their visit: 'It gives structure to your visit ... it leads you to the background info' Sabine (52). One participant had visited the depot before and after doing the tour she said: 'I would come back with friends, before this tool, there was not a lot to do in the depot. It gives more meaning to your visit.' Jikke (25). Two friends that used the tool said: 'first it was only storage. This tool gives direction in such a large collection.' Lieke (23) & Floor (25). Also to be personally guided is an advantage for visitors: 'That you are personally guided is really nice.' Loes (25) & Iris (26).

Visitors said the experience felt like a hunt for art or a treasure hunt, it has an element of surprise, which makes it more fun. 'So much fun! This just gives me a route; it feels like a scavenger hunt.' Gauri (22). Others like the game-like elements; searching objects: 'This is an expedition, searching for items stays fun, it is a little puzzle. Like an easter egg hunt.' Lieke (23) & Floor (25). And if felt more fun than a normal museum tour: 'Normally a tour is very well thought-out, this is looser, it really makes your

visit fun.' Lieke (23) & Floor (25). People like the fact that they were guided, it is 'Fun that you are guided a bit, the interaction is nice.' Chantal (22) & Bas (24).



First it was only storage. This tool gives direction in such a large collection.

Lieke (23) & Floor (25)



Do visitors have the feeling of recognition and relevance?

The tool related to visitors and made them choose how reflective they wanted the experience to be. Two participants were during the test philosophizing about the questions of the prototype: 'In the back of my mind I think about, what would be the remainder of my life? What would be stored if I am no longer here? This is quite philosophical actually.' Loes (25) & Iris (26).

Participants of the test also like the question about their own item, it made them recognize that they were storing objects, just as DBVB: 'What do you personally think is important to keep', is a good question. Which is what it is all about, right?' Chantal (22) & Bas (24).

15 out of 18 participants reported that their thinking about storing and the depot was activated. They said: 'It makes me think about precious items.' Barbera (44) or 'It reminds me of the things I store. It forces me to think about those items.' Jikke (25). Sabine a depot guide said: 'It links to what we do here, visitors are made aware of that this way.' The prototype started the thinking of participants about art and why we store it as society: 'It is valuable if you can keep art intact, many people do not realize that. Art in general should be stored, that's what's going on here.' Meike (22). Some participants said the same: 'There are very precious and old things here, we normally take those for granted. Now we can get an inside view.' Elke & Nina (both 24).

Two participants reported that their view on storing changed: 'My view has changed a bit, you are strongly reminded of the fact that things are kept here for a long time. This happens through the personalized tips and fun facts.' Martijn (27). Participants reported that they could put themselves in the position of the artist by following the tour. 'It makes you think about art, and it makes it more human. You are really standing still at artworks,

you take the time and think about what is important to keep. Normally an artist would stand far from you, he/she is a big name, relating my life to theirs emphasizes that they were also just human. I never think about the life an artist.' Loes (25) & Iris (26).



There are very precious and old things here, we normally take those for granted. Now we can get an inside view.

Elke & Nina (both 24)



Do the visitors have the feeling of belonging and that their perspective is valued?

Two participants expressed that every interpretation would be ok when using the prototype: 'It is funny, it does not matter what kind of item you choose, it will fit the tour anyway. Every interpretation is ok, you will end in the same way.' Lieke (23) & Floor (25).

The tone of voice and use of emoji of the prototype is well received by the participants: 'The language which appeared in the prototype fit really well, because it was neat but not so formal and it feels very friendly because of those emojis.' Meike (22). Another participant said: 'You have a small depot at home' that sounds fun and cute!' Mirjam (25).

The prototype teaches the participants about storing, and Mirjam's (25) view on her item changed as well: 'It teaches me how to store my item best and I look at my own item differently now. My logbook is very precious to me I realised, so I should take care in storing it. I did not think about how to store it yet'. Meike (22) said: 'I really liked the tips about storing, it helps me to preserve my own item'.



The language which appeared in the prototype fitted really well, because it was neat but not so formal and it feels very friendly because of those emojis.

Meike (22)

Participants appreciate that they are sent off to a compartment resembling the material of their item, at the end of the tour. That is a surprise in the narrative: 'The twist in the end, where I was sent off to a compartment, I liked that a lot!' Meike (22). 'That I was sent off to the works on paper compartment was really funny, that makes it lively.' Loes (25) & Iris (26). Mirjam (25) expressed that the end statement can stimulate creativity, because visitors can see what is possible with their type of material.



I look at my own item differently now. My logbook is very precious to me I realized, so I should take care in storing it. I did not think about how to store it yet.

Mirjam (25)

Difference between the expectations and the actual visit

An interesting finding is that participants expectations turned out to be shifted for 13 of the 15 participants (the three participants that were employees of DBVB were left out of this number, because they are biased visitors). They were asked just after entering the depot building what they expected from their visit. For instance Barbera (44) said: 'I will see the ambiance of the building. Lots of paintings in racks.' And Bas (24) said: 'The depot was in the news a lot, the buildings stands out! We will see glass rooms with people working in it, like a warehouse?'. Lieke (23) & Floor (25) phrased it like this: 'No clue what we are going to see in the depot; a lot of art and a cool building?'. And Loes (25) & Iris (26) said: 'We know foremost the outside of the building, the mirrors. I expect architectural details.' see figure 112.

After experiencing the prototype the same participants reported that the depot was more and more not a museum in their eyes: 'It is more and more not a museum. My thoughts are shifted in that direction.' Barbera (44). Bas (24) said: 'In the depot it is all about preserving, there is art, and how is it stored? That is really something different compared to a museum.' Bas (24).

The prototype made the participants understand the depot as institution better: 'It makes you think about art, and it makes it more human. You are really standing still at artworks, you take the time and think about what is important to keep.' Loes (25) & Iris (26). It made the building not only a place to store and it gave direction: 'First it was only a storage, this tool gives direction is such a big collection.' Lieke (23) & Floor (25). See figure 113.

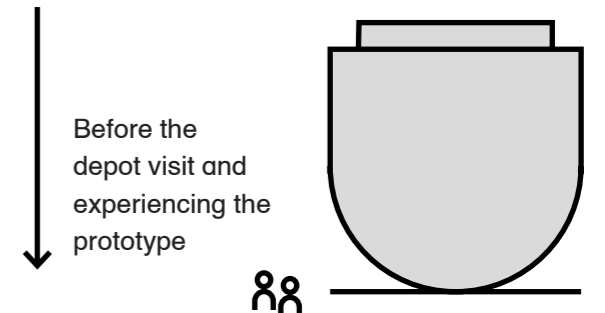


Figure 112.



We know foremost the outside of the building, the mirrors. I expect architectural details.

Loes (25) & Iris (26)

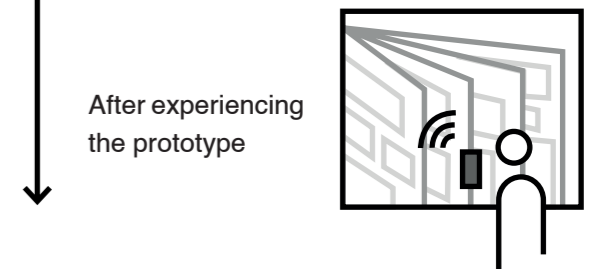


Figure 113.



It makes you think about art, and it makes it more human. You are really standing still at artworks, you take the time and think about what is important to keep.

Loes (25) & Iris (26)

7.4 ANALYSIS OF GATHERED DATA, CONTRIBUTIONS OF PARTICIPANTS

In this sub-chapter the data that visitors contributed is discussed. What can be concluded from these entries? Note that 2 of the 18 participants did not fill in the questions before coming to the depot, these are left out of this analysis. See appendix 16 for the raw data gathered in the user tests.

Contributions of participants: at home

The questions that participants answered before going to the depot had the following results. All participants wanted to join in the prototype and discover art from the collection of MBVB. Every time two types of art that are currently on show in the depot were presented.

Design, fashion and pop art are mostly chosen (14, 12 and 13 times), compared to medieval wooden figures, tableware and chairs (2, 4 and 3 times). Self-portraits versus installations and human figures versus weird stuff were chosen (6 -10) and (8 - 8), so here the participants have chosen more equally between the two options. See figure 114.

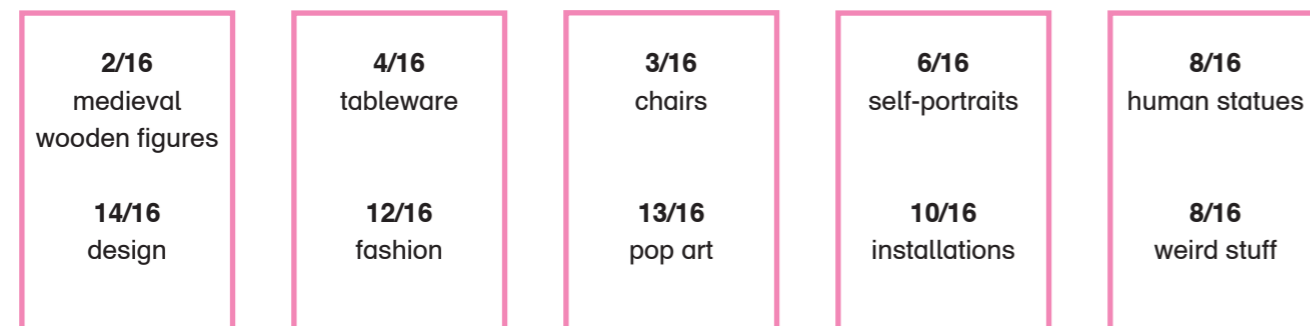


Figure 114. Chosen types of art by participants.

At the end the question was asked: 'If I understand correctly you will find -all the types of art that the participant chose- interesting. Shall I show you this kind of art in the depot?'. 16 out of 16 participants answered 'yes'. After they were asked if they would download the depot- application. 15/16 answered 'yes'.

In the comments of the system one participant reported that she liked every type of art, two participants said to be curious of what they would see in the depot. One participant wrote down: 'downloading the application on this point seems a big step, certainly because I do not have WIFI now'. Another participant said: 'I find it useful that you are asking about the preferences of visitors'.

Conclusion

Participants in the test liked the following types of art presented: 'design', 'fashion' and 'pop art' over 'medieval wooden figures', 'tableware' and 'chairs'. All participants wanted to see their chosen type of art later in the depot.

Contributions of participants, user test in the depot

Part of the contribution of participants is shown in figure 115. The personal objects that the participants keep safe at home and the reason for storing this object. Both entries are very personal and are different for each participant.

There is some overlap of the type of objects chosen by participants: five times paper materials, four times photos are reported as important objects, and three times jewelery. One time a non material item is 'stored': a hug.

Similarities in the reason for storing an item are: (happy) memories of the past (12 participants), material to reflect on (5 participants) and the item relates to family (3 participants).

In this way all data gathered could be analysed and used in various types of art related scientific research.

Personal object

- Watch → It was a present
- My sheet music → Because it tells something about me/my past/development
- photo books → Nice and happy memories
- typewriter → I have then written many famous books on it, and it is an aesthetic object
- Analog photos → That's one of the few things I don't have a digital copy of
- wallet → Contains many important cards
- Photos → To keep memories
- Photos → Nice memories, and it's tangible
- Diary → I think it would be fun to read it to my grandchildren when i'm in my late 60s haha
- Log (book) → To see how I approached and did things at that time. Like a marker in time
- Something with sentimental value, → It's nice to know that she also walked around with that in the past my grandmother's briefcase
- Every entrance ticket, brochures → It's a way to keep memories and trigger them and conference cards
- Hug → Because it's very nice and I can't sleep otherwise
- Heirlooms and our art → I am attached to it and want to keep it for our children
- Jewelry from loved ones, projects/ → Stands for more than the 'object' itself, but also good memories drawings you are proud of
- Jewelry → Because they represent memories
- My own work and books → To keep up with my development, nostalgia, piece of identity

Reason for storing

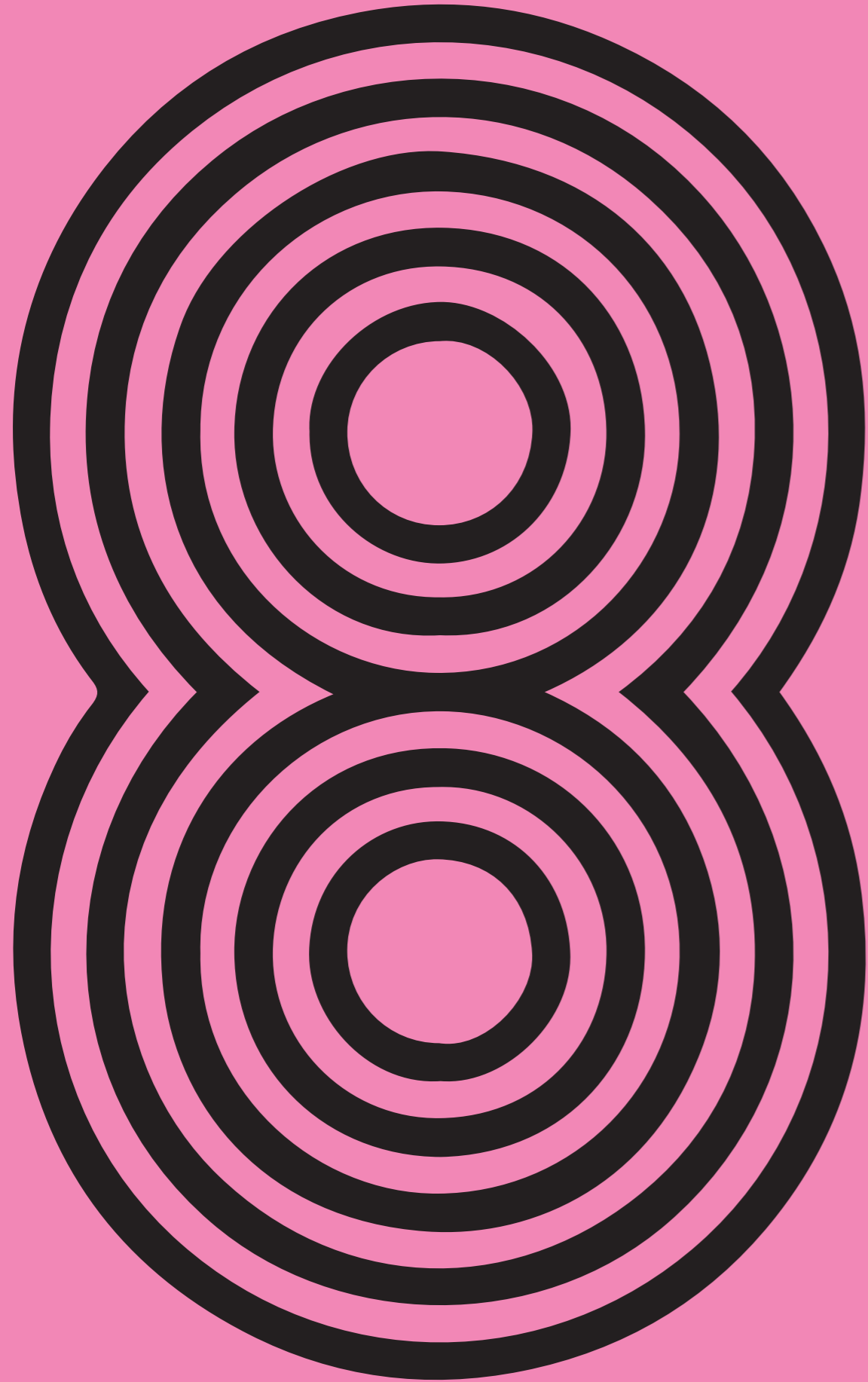
Figure 115. Personal objects that participants of the user test contributed.



7.5 CONCLUSIONS

Given the research explained in this thesis the following conclusions can be drawn:

1. A study was executed to develop a service that invites visitors to take ownership of the collection stored in Depot Boijmans Van Beuningen.
2. Using the Double Diamond model, ideas, concepts and prototypes were generated to implement this service.
3. The developed service, the final design, was tested to examine if the prototype would:
 - a. increase the knowledge and understanding of Depot Boijmans Van Beunigen among visitors;
and
 - b. resulted in a personalized engaging visit based on the overarching themes-and-needs-model developed in this study.
4. Applying the final design resulted in an increased engagement of visitors:
 - a. 15 out of 18 participants reported that their visit became personal.
 - b. 13 out of 15 participants shifted from 'just' visiting a storage facility to visiting a place where knowledge of storage and conservation is shared and discussed.
5. 17 out of 18 participants were interested to receive tips on storage of their item.
6. All participants of the test contributed own material to the prototype indicating that, if the right tone of voice is used and a personal approach is taken, visitors are willing to share information. This information can be made available for scientific research.



DISCUSSION & RECOMMENDATIONS

In this chapter recommendations are made for a redesign.

- 8.1 Research approach
- 8.2 Recommendations suggested by participants in user test
- 8.3 Discussion
- 8.4 Recommendations
- 8.5 Personal reflection



8.1 RESEARCH APPROACH

In this phase of the project recommendations are given to iterate further on the final design. See figure 116 for a visual of the process overview.

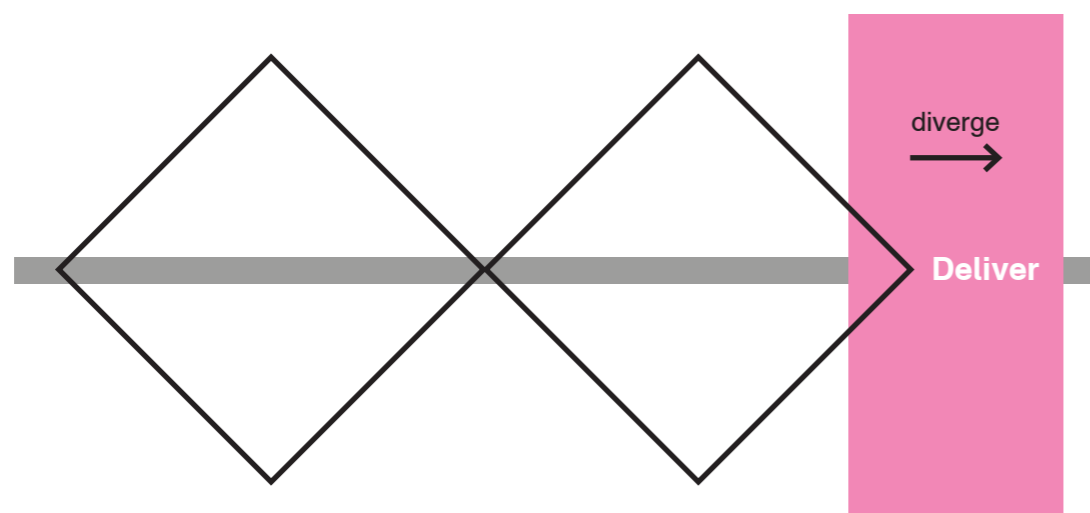


Figure 116. Deliver phase

Research question

Which recommendations can be made to improve the final design?

The following activities were carried out in this part of the deliver phase:



Evaluating the prototype with participants, deducting possible improvements for further development of the final design.



8.2 RECOMMENDATIONS SUGGESTED BY PARTICIPANTS IN USER TEST

In the user test described in chapter 7 the participants also reported points that might be considered for further development of the design. All points are discussed here.

Encourage even more personalization

Maybe it should be possible to let visitors choose how much information in text format they see per art work (personalization). Jikke (25): 'I would like some more background of the art.' Maybe A visitor can choose if they want a text-based or visual based experience? Gianni (24): 'It is very textual, maybe it should be a bit more visual?' and Chantal (22) & Bas (24) said: 'The questions that you had to answer about your own item felt a bit slow'.

A degree of complexity in the type of questions can be added: 'What will I be doing when 27? That is a hard question' Bente (17). 'Maybe more info or save button for the art that you see and like?' Martijn (27). For art-history-diehards and art-lovers it could potentially be valuable to be asked for a personal item related even more to the artwork: 'More a link between art and the item you store, for example a French painting and a French thing you store?' Or in the case of David (chapter 6.3) a watch and a painting with a watch on it.

Memory of system

When participants do the sequence in the depot in their second visit, the questions should differ, so the system should memorize what a visitor has seen already and what they have contributed already.

Practical reflection

Skipping an artwork should be possible. If a person does not like an artwork maybe a skip option should be available to just go fast forward in the tour: 'I do not like the dress so much. Why do I see this piece?' Martijn (27).

Editing and adding afterwards

It should be possible for a visitor to edit the information about a personal item that a visitor has contributed. The same applies for adding another item. 'Maybe if my item would be showed to others, I would like to alter my description or extend it.' Mirjam (25). Also Barbera (44) mentioned that she would like to 'make another entry, that should be possible!'.

8.3 DISCUSSION

In this chapter the results related to, data-gathering and the test results are shortly discussed:

1. **Personalization understanding the depot**

The two main findings of this study are: 1) the final design increases the understanding of visitors for the depot as new type of institution and 2) it increases the feeling of a personal visit. Personalization of a visit is based on feeling at home at an institute (belonging). So, an institute having an open attitude towards visitors, trying to understand their perspective and insight will build a relationship, partly because the contribution is valued (perspectives). At that point the museum becomes a friend. A friend in which you can recognise yourself. Which supports and advises you and helps you to form your own opinion and understand the world (relevance & recognition). See figure 117.

2. **Data gathering**

The data gathered in the user test seems relevant for multiple scientific research fields e.g. in the field of psychology, sociology and anthropology. If DBVB would actively start to gather this type of data it would deliver an opportunity to improve their visitor journey, define the field of interest and develop future exhibitions based on these preferences.

3. **Participants of user test in depot**

The user test results showed highly positive outcomes (83%, 94% and 94%). At this point, these results should not be given too much weight: The participants of the test had a positive and interested attitude towards the depot and most of the participants were familiar to the researcher. Further testing within a larger group of participants is needed to validate the results more in depth.

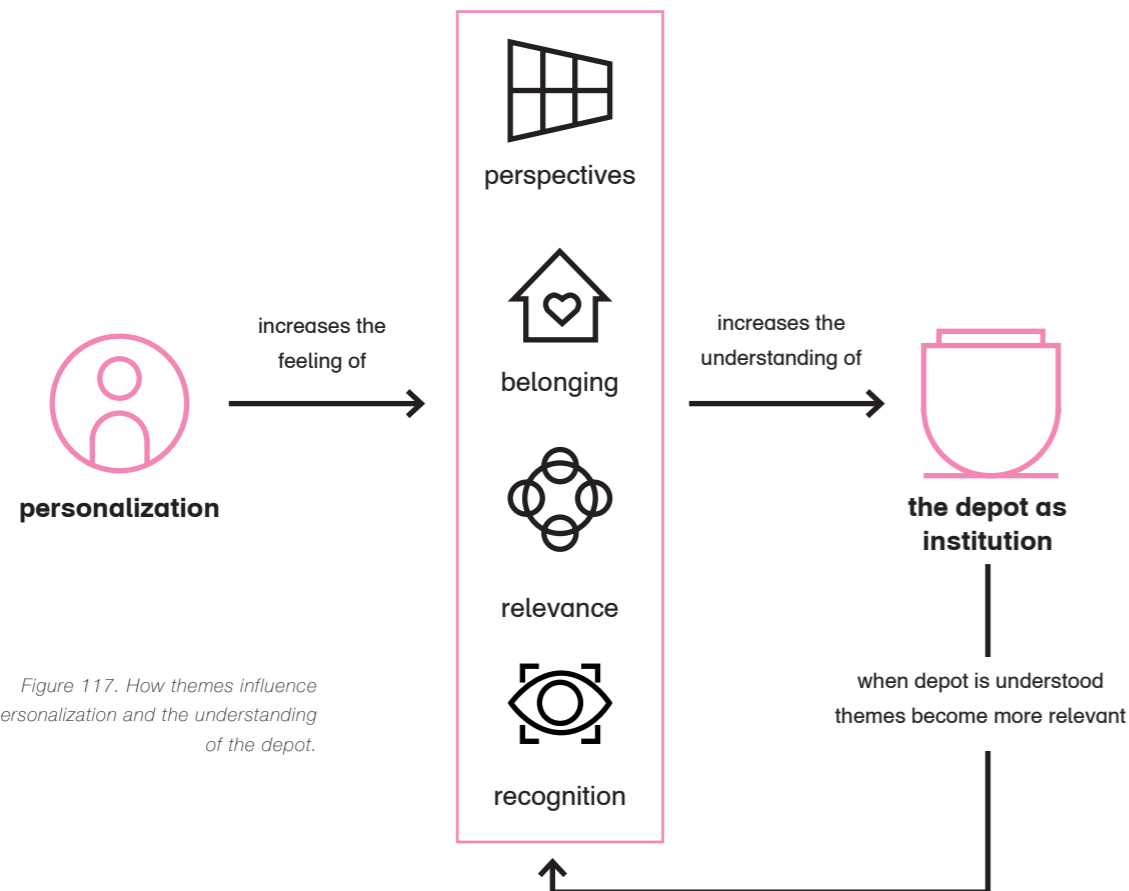


Figure 117. How themes influence personalization and the understanding of the depot.

8.4 RECOMMENDATIONS

- The relevance of the user test of the final design has to be investigated through a larger number of participants. This statistical analysis can confirm the research findings.
- The final design could be added to the system of DBVB to increase the personalization and knowledge of the depot. It is advised to take the overarching needs of visitors into account at every step of implementation.
- The outcome of this thesis can probably be used by other museums and institutions, that want to open up their storage and want to engage visitors.
- In this study the focus is on visitors' item and how to keep their item safe. In a next version, restoration information and tips could be added.
- It is advisable to involve designers in the further development of future systems to enlarge visitor engagement.
- It could be interesting for visitors to receive further information on their personal item, if a similar item has been sold in an auction house.
- It could be interesting for visitors to receive further information on their personal item, if a similar item is on view or available to look at in another museum.



REFLECTION

This thesis has been a challenging, fun and very interesting journey. It started with a assignment from Maarten and Els. Young museum visitors under 30 years are hard to attract, so it would be great if they could be involved more at the depot, starting with getting them to visit the depot. All types of art can be experienced digitally more and more. Does this effect the experience of the physical interaction with art? In this phygital space interesting data for science can likely be found.

By doing research I found that students of intermediate vocational education (MBO) were hard to address and to enthuse to come to the depot. Having them visit the depot was a requirement, because after designing the prototype, it had to be tested with the students. In hindsight the research that I did with the Zadkine students was valuable, because it made me understand the difficulties accompany this target group. If I had more time, I would have gone back to the Zadkine school and told the students about the design I made. Asking them again to visit the depot to bring an object with them explaining that they can get valuable information on how to preserve their treasure and keep it safe. Never too late to try this.

Considering all the types of research I performed, it might have been a lot, I have an intrinsic way of diverging the project boundaries. That has pros and cos, foremost it makes decisions hard. Looking back, only when a reason for choosing a certain direction was very clear, did I dare to act upon it. In a next project I may rely more on my gut feeling, I think this is a reason why ending the research phase is hard for me, I keep on looking for validation of any choice I make.

When making prototypes it was found that I should focus on a product linked to the depot and only applicable to that specific site. This was the most interesting option, the depot is really a new type of institute, so that makes it even more special to be able to design for that. This decision resulted in the final concept.

I noticed that the design methodologies are not common knowledge yet in the museum world. I do think that these techniques can be helpful in designing meaningful interactions between all stakeholders involved.

Designing for a museum environment is certainly interesting. The open atmosphere is welcoming, all museum employees are willing to share knowledge and experiences at MBVB and beyond. For a designer this is crucial, without input from stakeholders it is impossible to deliver an impactful design.

The support of my supervisory team was very helpful, when presenting my work every week to them, I really had to focus my thoughts. Which resulted in a clear mind. Thank you for all the patience!



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