Master thesis
By Eva Jonkers

BubbleBound

Creating a game to enable youngsters to meet & connect with strangers in third places

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acknowledgements

This thesis marks the completion of an intensive and meaningful period of research and design. I would like to sincerely thank the people and organizations who supported me throughout this journey.

First, I would like to thank the Central Library of Rotterdam for their openness and collaboration. In particular, I am deeply grateful to Gino van Weenen for his guidance, trust, and enthusiasm. Thank you for allowing me to test both early concepts and the final prototype within the library, and for sharing valuable insights about the organization and its users. Your perspective has been essential in shaping this project.

I would also like to thank my chair, David Keyson, for challenging me to approach this project from new research perspectives. Your critical questions and academic insights strengthened the theoretical foundation of this work and encouraged me to deepen my analysis.

In addition, I am very grateful to my coach, Susie Brand-de Groot, for guiding me through the design process. You consistently emphasized the importance of reflection, that design is an ongoing learning process. That mindset has stayed with me. This project allowed me to explore different methods and discover what suits me as a designer. I now feel equipped with a "backpack" of new tools and approaches for future projects.

Through this project, I explored how social interaction between strangers can emerge through small, intentional design interventions. Observing how people hesitate, engage, and connect strengthened my interest in working closely with users. I discovered again that I value a hands-on approach: testing ideas in real contexts, uncovering new insights about users, and acting upon them. This experience confirmed that I want to continue designing in this way: explorative, reflective, and close to the people I design for.
In addition, game design has always fascinated me, but this is one of the first times I had the opportunity to develop a game in depth. Through this project, I began to see its full potential, particularly how games are inherently engaging and enjoyable, while also offering the possibility to integrate a meaningful second layer that fosters deeper interaction and connection.

Finally, I would like to thank all participants who shared their time and honest feedback. Their openness made this project meaningful and grounded in real experiences.

enjoy reading

Chaos
Unity

abstract

Young adults increasingly struggle to form meaningful in-person social connections as traditional third places disappear, and online platforms often provide only superficial interaction. Libraries are well-positioned to fill this gap: they are free, public, frequently visited by young people, and aligned with the evolving goals of community engagement.
Context research: including observations in the library, generative sessions with youngsters, expert interviews, and literature review, revealed that while young adults primarily visit libraries to study, they look for opportunities to socialize during breaks. Existing library activities often fail to match their interests or social habits, creating a need for activities that encourage spontaneous interaction without disturbing those focused on studying. Playful, interactive formats, such as social games, emerged as promising solutions for facilitating low-pressure, meaningful encounters that help participants connect and get to know each other.

The design goal of this project was defined as: ***"Design a social game or play that enables library visitors aged 16–28 to spontaneously meet and connect with peers during study breaks in a fun, low-threshold way."***

Three core criteria guided the design: Inclusivity, ensuring participation is accessible to different personality types and supports both individuals and friend groups; Entertaining & social dimension, offering enjoyable gameplay while encouraging small, meaningful discoveries ("aha moments") about others; and Motivation to join, making the activity visually appealing and engaging to attract participation spontaneously.

The design process began by exploring eight different types of playful interaction, based on a matrix of ideas informed by literature, observations, and inspiration from existing games. ***These concepts ranged from creative play to challenge-based games and open-ended play objects***. Through sketch discussions and iterative evaluation, the ideas were narrowed down to three promising concepts, and eventually a single design direction was chosen. This direction was further developed through multiple prototypes, testing variations in physical interaction, challenge types, and visual design, which ultimately led to the final concept: BubbleBound.

BubbleBound is a life-sized social board game installed in the library, where participants move across stepping tiles and interact with challenges hanging in floating "bubbles" around them. Each bubble contains one of 5 different types of challenges: create, move, chaos, dilemma and unite, offering a variety of playful ways to engage. The goal is to collect "connection hearts" by completing challenges, which are designed to spark deeper conversations and meaningful interactions. The more hearts a player collects, the stronger the sense of connection with others, creating a fun, accessible, and social experience suitable for both solo participants and groups of friends. The game is structured around twelve monthly themes, keeping the experience fresh and encouraging participants to return over time.

Insights from the final user test highlighted that BubbleBound successfully engages participants, sparks laughter, and facilitates initial social connection. Participants felt more sociable and connected during gameplay, though deeper conversation was sometimes limited by surface-level answers to questions. Next to that the game was visually appealing and attracted attention, however without a push youngsters would not join the game by themselves.

Key recommendations include clearer instructions for actions like heart-collection, stronger visual invitations to join, flexible hanging systems for installation, material adjustments for durability and tactile feedback, and consideration of language to align with library objectives. These insights and recommendations ensure that BubbleBound not only entertains but also meaningfully fosters social interaction in a library setting.

glossary

The glossary provides explanations and definitions of key terms used throughout this report. In addition, it includes a short guide on how to navigate the report, helping readers quickly scan the document and identify the most relevant sections and pages. This allows readers to focus on the most important information while still understanding the overall structure of the report.

- ***Youngsters***
  Young adults who use the library to study, work, or spend time socially.

- ***Social games***
  Games designed to encourage interaction and conversation between participants.

- ***Open-ended play objects***
  Objects that can be used in multiple ways and invite exploration and creative interaction.

- ***HMW's*** (How Might We questions)
  Design questions used in brainstorm for new ideas or solutions.

- ***Youngsters' Level***
  An open floor in the Central Library dedicated to young visitors, designed as a space for studying, meeting, and social activities.

- ***"Aha" moments***
  Moments where participants realize something new or discover a shared connection.

- ***Trigger interactions***
  Small prompts or actions that start interaction between participants.

- ***Generative session***
  A research session where participants share ideas and experiences through creative exercises.

- ***Honeypot effect***
  When visible activity attracts others to observe and eventually participate.

- ***Core criteria***
  Key requirements used to evaluate whether the design meets its goal.

0
Chapter title
Sentence describing the main goal of the chapter
visual of contents in the chapter
evaluation introduction

0.1
paragraphs of chapter
0.1.1 Contents of paragraph
important visuals
The key takeaways of the paragraph
visual of the key takeaways
evaluation key takeaways

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prologue

this is mila

She lives in two different worlds
at the same time

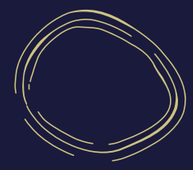
in one world,

she avoids small talk with strangers
she could see herself becoming friends
with, unsure of what to say or why
she should.

in the other world,

she connects easily, forms friendships, and falls in love.... all through a screen, where she can shape who she is and who others see her. Meeting in real life feels like a bigger step, even though it is the only place where people cannot be edited.

why do we no longer meet naturally in real life, when online connections often feel incomplete?



1

introduction

This introduction outlines the reasoning behind choosing this project and describes how the project has been framed.

This chapter explores why Mila no longer meets people organically in everyday life and why online connections often feel fragmented or unfulfilling. It also introduces the personal motivation that sparked the creation of this project.

Furthermore, the chapter provides an overview of the project and its core components, including its context, key stakeholders, and primary objective. It concludes by outlining the methods applied and describing the four phases through which the project unfolds.

The contents of this chapter is also visualized in Figure 1.

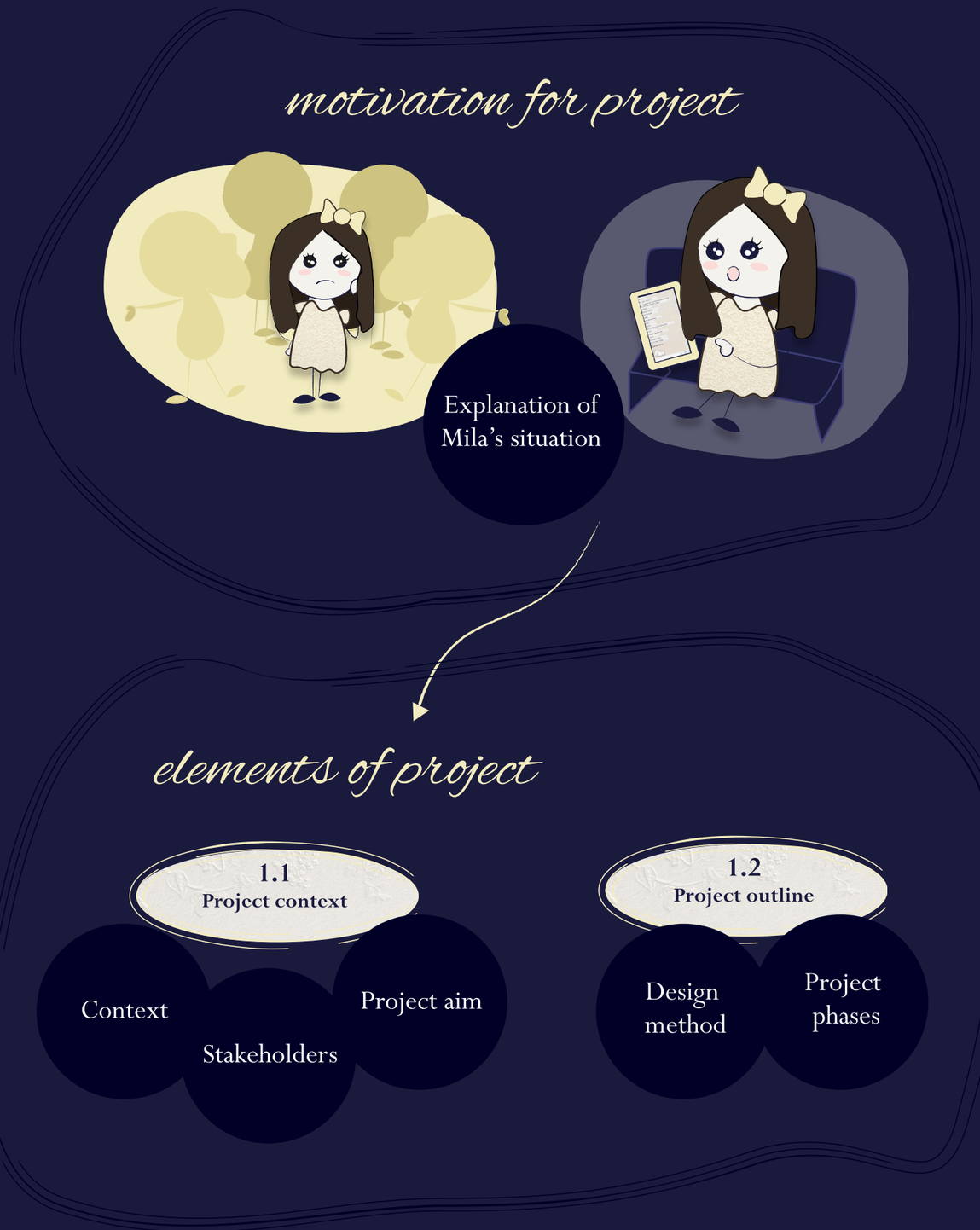


Figure 1: Visual of contents in the introduccion

the part of the world where third places are dissapearing

In this part of Mila's world, ***she does not feel supported by her surroundings to talk to new people.***

Even when someone is willing to meet new people, it is currently difficult to find places where this feels natural and safe. Outside of bars, planned events, or structured hobby and sports environments, there are few settings where approaching strangers feels appropriate rather than intimidating.

This is largely because encounters that once took place in informal public spaces, so-called third places, have become less common (Haines, 1991). Third places include environments such as libraries, public squares, parks, public buildings, and cafés. Although cafés are increasing in urban areas, people often remain within their own social groups, which makes spontaneous interaction difficult, as also noted by Saxena (2025). She argues that third places are gradually disappearing from cities, and that modern environments have become overly structured and transactional, leaving little room for unplanned social contact. This absence particularly affects young adults, for whom casual, low-pressure interactions are essential for building social ties.

In conclusion the part of this physical part of mila's world is that the ***third spaces are disappearing*** or no longer support spontaneous interaction, naturally meeting new people in everyday life has become increasingly difficult (Figure 2).

She avoids small talk with strangers she could see herself becoming friends with, unsure of what to say or why she should.

Third spaces are disappearing and no longer offer ways to help Mila meet people spontaniously

Figure 2: Explanation of mila's world part 1

the part of the world which inclines to online encounters

In the other part of mila's world she is ***highly dependent on online platforms to meet and connect with others***

Today digital platforms such as Tinder, Bumble, and Hinge have become the primary ways in which young adults form new relationships, both romantic and social (Potarca, 2020; Rosenfeld et al., 2019).

Forming new friendships or relationships online is relatively easy: connections can be made across geographical boundaries, users have more choice, and interactions feel safer. People can communicate from home, take time to get to know others through messaging, and assess compatibility before engaging in face-to-face interaction. This reduces the risk of awkward encounters and increases feelings of personal safety.

However, although these platforms offer accessibility and perceived security, they often lead to superficial interactions and short-lived connections (Huang et al., 2022; Hutson et al., 2018; Finkel et al., 2012). Particularly in online dating contexts, repeated rejection and experiences of "ghosting" can create emotional fatigue and reduce trust in others (Ahmed et al., 2024; Frost, 2008). Moreover, many online connections remain digital: people may message for days or weeks without ever transitioning to an in-person meeting.

In conclusion, the online part of Mila's world offers a perceived sense of safety and comfort. However, in practice, it often ***fails to deliver meaningful or satisfying connections***, instead resulting in interactions that remain superficial and online (Figure 3).

she connects easily, forms friendships, and falls in love…. all through a screen, where she can shape who she is and who others see. Meeting in real life feels like a bigger step, even though it is the only place where people cannot be edited.

Mila is almost inevitably forced to rely on online apps, yet these often fail to provide meaningful or satisfying connections.

Figure 3: Explanation of mila's world part 2

creating a new world for people like mila

Like the story of Mila, many young adults struggle with the fact that neither the online nor the physical world currently supports effortless, natural connection with others.

This is also my personal motivation for starting this project. I have witnessed and heard countless stories of young adults struggling to find ways to meet new people. From these experiences, I have observed a growing need for spaces where potential friendships and relationships can develop outside of online platforms.

I often hear people around me say:

"I don't like using dating apps, but where else am I supposed to meet someone?"

"I want a cute - how we met - story, saying we met through a dating app feels forced and kind of embarrassing."

Many young adults feel stuck when trying to think of alternative ways to meet new people, especially outside structured settings such as bars, sports clubs, or planned events.

This sparked a turning point for me. I began to question why there are so few natural opportunities, spaces, or moments where people can meet each other in an informal and comfortable way. That question became the starting point of this project. Additionally, as a designer, I am deeply interested in how urban environments influence human behaviour, and how spatial design can create small moments of connection and interaction between people and their surroundings.

Through this work, I aim to help create another possible "world" for Mila, one in which meeting others feels more natural, supported, and socially accessible (Figure 4).

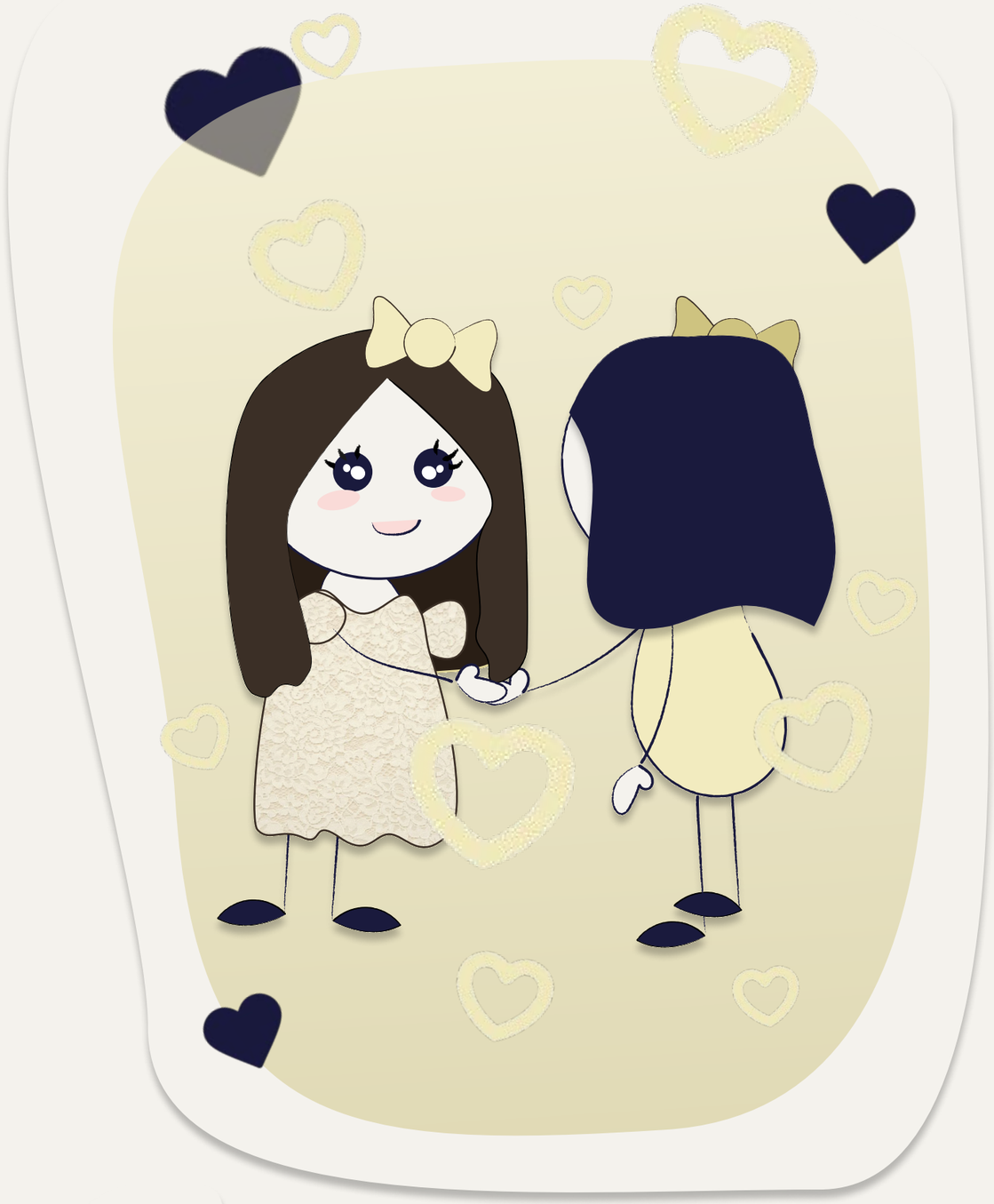


Figure 4: The world I want to create for Mila

1.1

project context

1.1.1 Potential of Libraries

At the start of this project, I needed to determine which type of third place to study in detail and explore for potential opportunities. For this project, I chose to focus on libraries as the context. Other options I considered included bars, cafés, or co-living spaces. However, libraries offer a unique advantage: they are public spaces where young adults can meet freely. In bars and cafés, spontaneous social encounters already occur, often influenced by intoxication. Co-living spaces, on the other hand, are not accessible to all and are limited in scope. Libraries, in contrast, are frequented by many young adults on a weekly basis, yet they are not commonly perceived as spaces for socializing.

This project is conducted in collaboration with the Central Library of Rotterdam (Figure 5). The library's vision is to evolve from a traditional repository of books and information into a welcoming space for diverse user groups, offering access to knowledge on a wide range of subjects beyond books. It aims to become a social hub and a safe place for young people to spend time, learn, and connect.

The library already organizes initiatives such as game nights and creative workshops to engage young adults. Additionally, it features the Jongerenvloer ("Youth Floor"), a dedicated area for young people to meet and interact. While this specific area is particularly relevant for this project, the exploration began with the library as a whole, considering its broader spatial and social context.

Despite this vision, libraries often face a perception gap. They are typically associated with children or older adults, and people aged 16–29 are less likely to see them as part of their daily routines (Zickuhr et al., 2024). This presents an opportunity for design interventions to reposition the library as a space for young adults to learn, socialize, and feel a sense of belonging, particularly in the context of the major renovations planned for the Central Library in the coming years.

So, the aim for this project is to:

to explore how the rotterdam central library can create appealing opportunities for young adults to meet and connect in real life.

Figure 5: Pictures of the current central library in Rotterdam

Figure 6:Youngsters studying in the library

1.1.2 Design for young adults

This project focuses on developing solutions for young adults between the ages of 16 and 28 (Figure 6). This specific age group was chosen because they are particularly affected by the growing reliance on digital platforms for social interaction. Young adults are among the most active users of online environments for meeting new people, which can increase dependency on technology while simultaneously reducing opportunities for spontaneous, in-person encounters.

At the same time, this group could greatly benefit from the social role the library aims to fulfill. The library aspires to become a social hub for diverse user groups; however, young adults currently make limited use of this potential (Zickuhr et al., 2024). This gap presents both a challenge and an opportunity: how can the library better support this group in forming meaningful offline connections?

Lastly, the transition from adolescence to adulthood is a crucial developmental period in which social relationships play a central role. Social connections during this phase contribute significantly to emotional well-being, identity formation, self-development, and a sense of belonging (Arnett, 2015; Burnett Heyes et al., 2024). However, after leaving structured environments such as school or university, many young adults lose access to built-in social networks. As a result, forming new friendships and expanding social circles becomes more difficult (Saramäki et al., 2022).

1.2

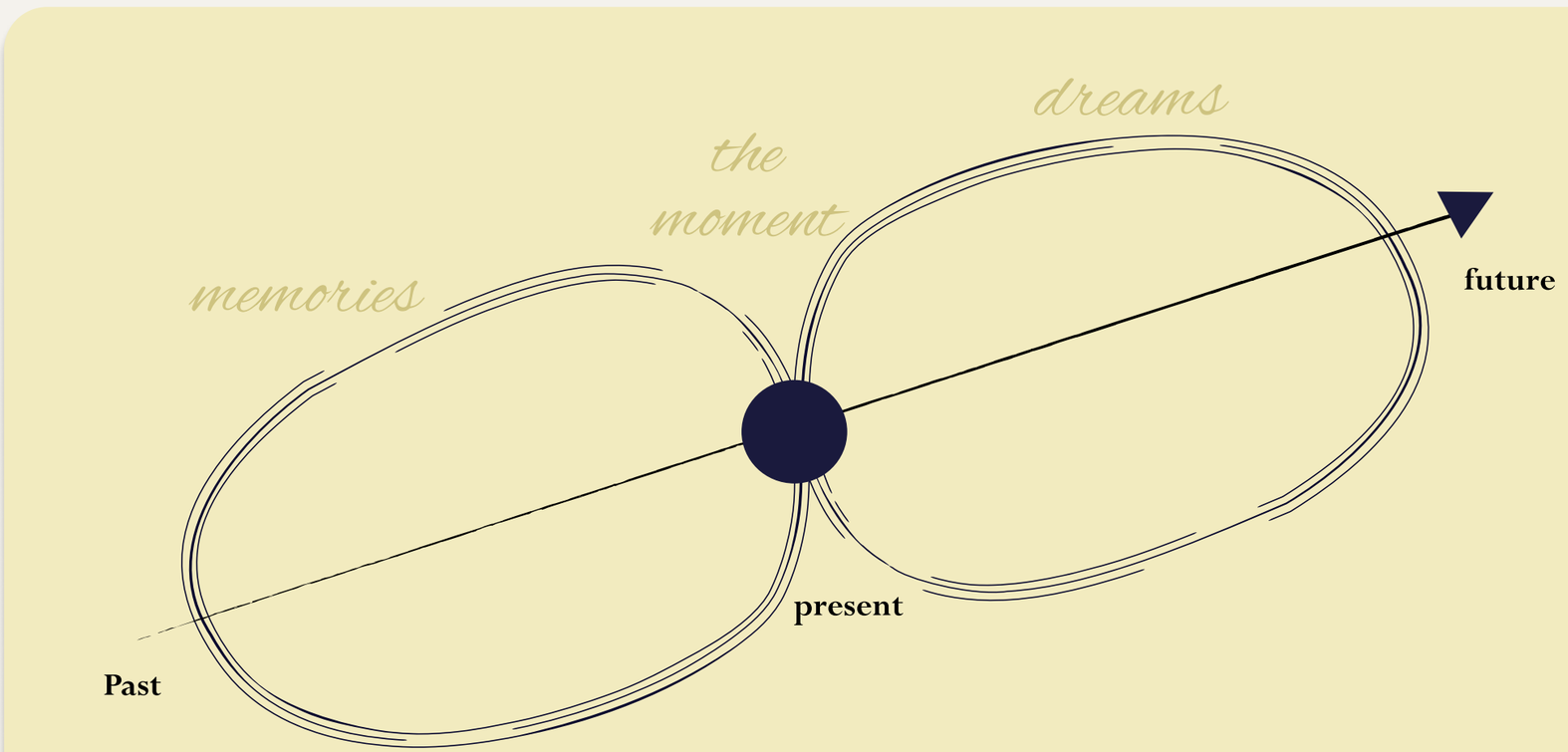
project outline

1.2.1 Design method

This project followed a human-centred design (HCD) approach, in which the experiences, motivations, and needs of young people formed the starting point and continuous reference for design decisions. HCD emphasises iterative learning cycles, co-creation with users, and early testing of ideas in context (Sanders & Stappers, 2008). Throughout the process, I applied a combination of generative sessions and co-creation activities, because these methods support users in expressing not only what they know but also what they feel, imagine, and desire for future situations (Sanders & Stappers, 2013).

Within the generative sessions, I used the Past–Present–Future method (Figure 7), a framework in which participants first reflect on past experiences, then map their current behaviours, and finally imagine ideal future scenarios (Sleeswijk Visser, 2009). This temporal structure allows participants to move from concrete memories toward abstract aspirations, enabling designers to uncover latent needs, emotional drivers, and opportunities for meaningful interaction.

Figure 7: Past-present-future framework



1.2.2 Project phases

In this project, I applied the Double Diamond method, as illustrated in detail in Figure 8, following one full cycle of divergence and convergence (Double Diamond model; Design Council, 2019). The Double Diamond model consists of four main phases, which were sequentially followed throughout this project: Discover, Define, Design, and Deliver.

Discover

This phase focused on context research, aiming to understand the users, their behaviors, and their needs within the given environment. The goal was to identify opportunities or gaps for design intervention. A mix of research methods was applied, including generative sessions combined with interviews, observations, desktop research, literature review, and conversations with experts. Together, these methods provided a broad and in-depth understanding of the context.

Define

In the Define phase, the insights gathered during the Discover phase were analyzed and synthesized. This phase focused on determining the direction of the project: identifying which problem to address, where to intervene, and what requirements the solution should meet within this specific context. The outcome of this phase included the formulation of the design goal and core criteria, which served as guiding principles for the subsequent design work.

Design

During the Design phase, ideas were further developed and explored. While initial ideas emerged in earlier phases, this stage involved actively testing and refining them. Sketching, prototyping, user testing, and methods such as Wizard of Oz were used to explore different directions and evaluate what worked and what did not. The aim was to iteratively develop and detail the concept into a promising and feasible solution.

Deliver

The Deliver phase focused on consolidating the insights from the Design phase into a final concept intended to fulfill the design goal. The concept was evaluated through prototyping and user testing. The findings were translated into recommendations, both general recommendations for the library and specific recommendations related to the developed concept. This phase also included reflection on the overall project and on my growth as a designer throughout the process.

Figure 8: Pictures of the Discover, Define, Design and Deliver phase (top to bottom)

project design process

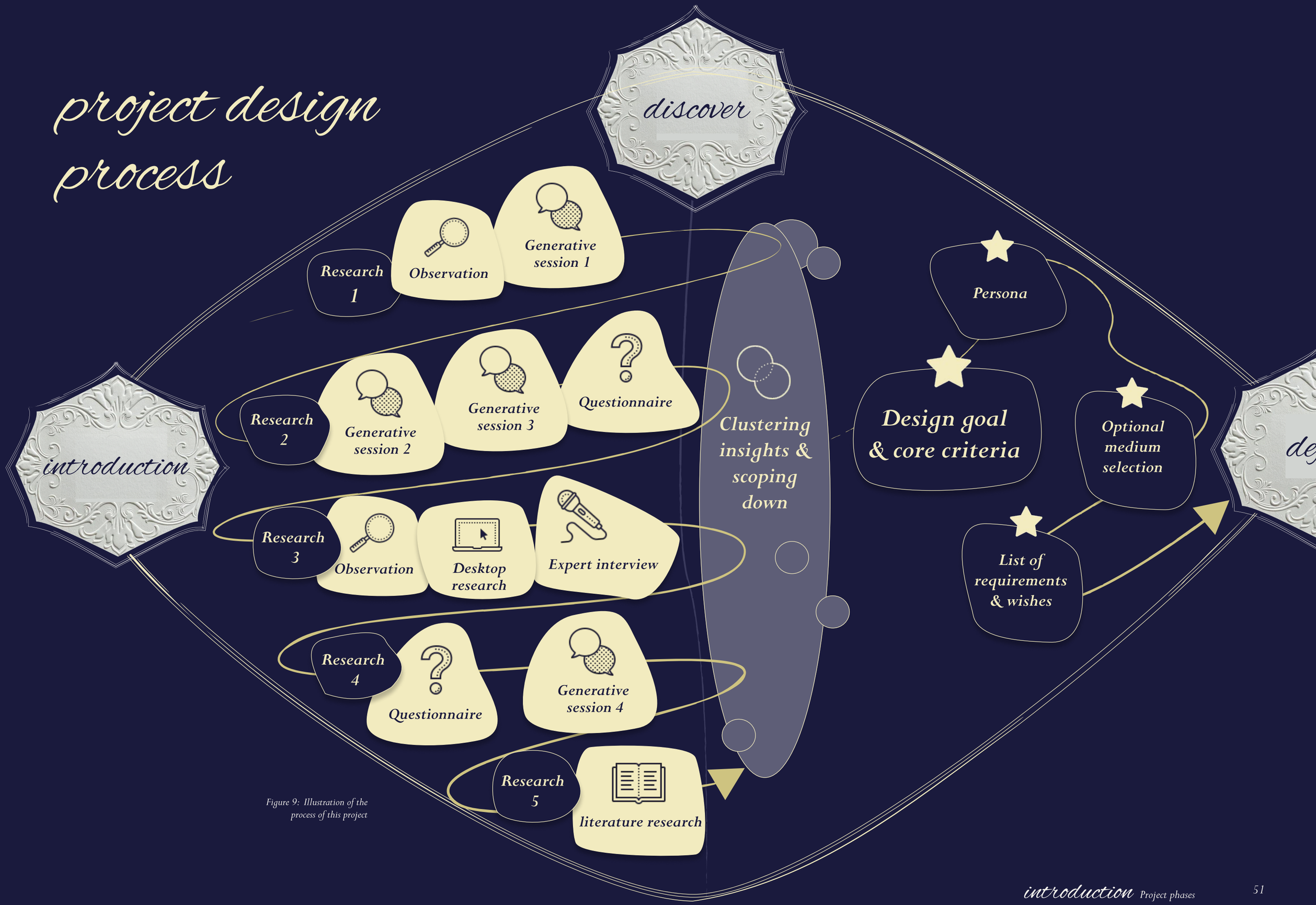
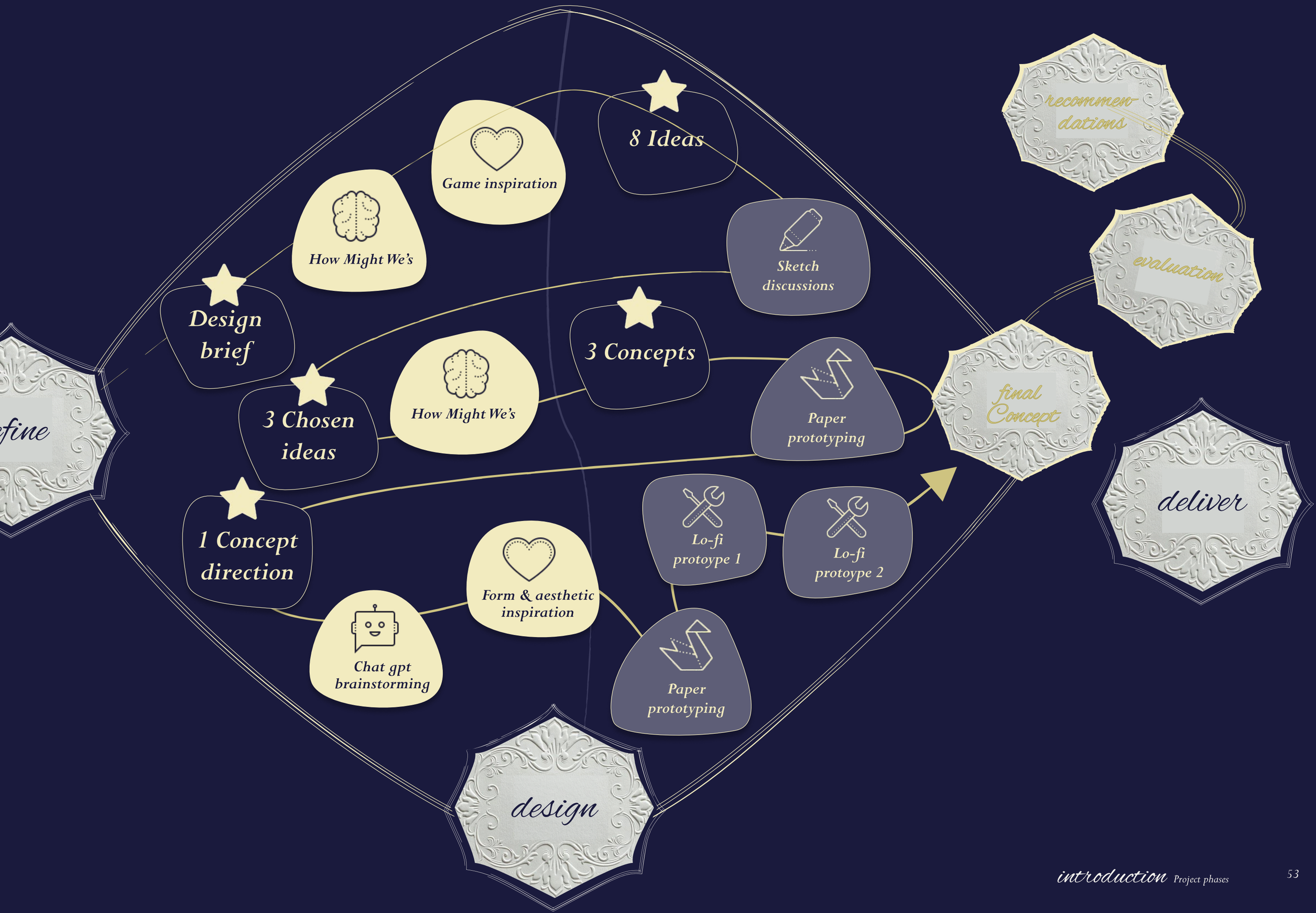


Figure 9: Illustration of the process of this project


efine
Design brief
How Might We's
Game inspiration
8 Ideas
Sketch discussions
3 Concepts
How Might We's
3 Chosen ideas
Paper prototyping
1 Concept direction
Chat gpt brainstorming
Form & aesthetic inspiration
Lo-fi protoype 1
Lo-fi protoype 2
Paper prototyping
design
final Concept
recommen-dations
evaluation
deliver

2
discover

The discover phase is focused on context research within the library with the user group.

The aim of this phase was to understand the world of the youngsters within the context. Mapping their current behaviour and future needs for meeting new people in the library. all to identify opportunity spaces or gaps where design interventions could support social interaction in the library context.

This project started with the following goal:
To explore how the Rotterdam Central Library can create appealing opportunities for young adults to meet and connect in real life.

During this phase, the opportunity space was explored twice (Figure 10). First in general meeting new people and later on specifically on activities. The key insights of each paragraph has lead to conclusion, forming the basis for the define chapter.

Exploration 1: Interacting with People in the Library
In the first exploration, the research took a broad perspective on how young adults currently meet new people and how they would like to interact with strangers in the library. This iteration focused on understanding existing behaviours, attitudes, and expectations related to social interaction within the library environment.

Exploration 2: Activities in the Library for Social Contact
In the second exploration, the focus shifted more specifically to activities in the library. This reserach explored which activities the library currently provides and which types of activities young adults would like to see. The goal was to identify what kind of activity could serve as a promising opportunity for design. The choice of this focus was further detailed and justified through literature research.

This chapter concludes with a synthesis of the findings from both iterations, leading to the conclusion that a game designed to connect young adults who do not know each other during their study break represents the most promising opportunity space for the library.

The next page presents the main questions for each research step, corresponding to the paragraphs in this chapter, as well as the research methods used to address them (Figure 11). These methods are explained in more detail in the respective paragraphs.

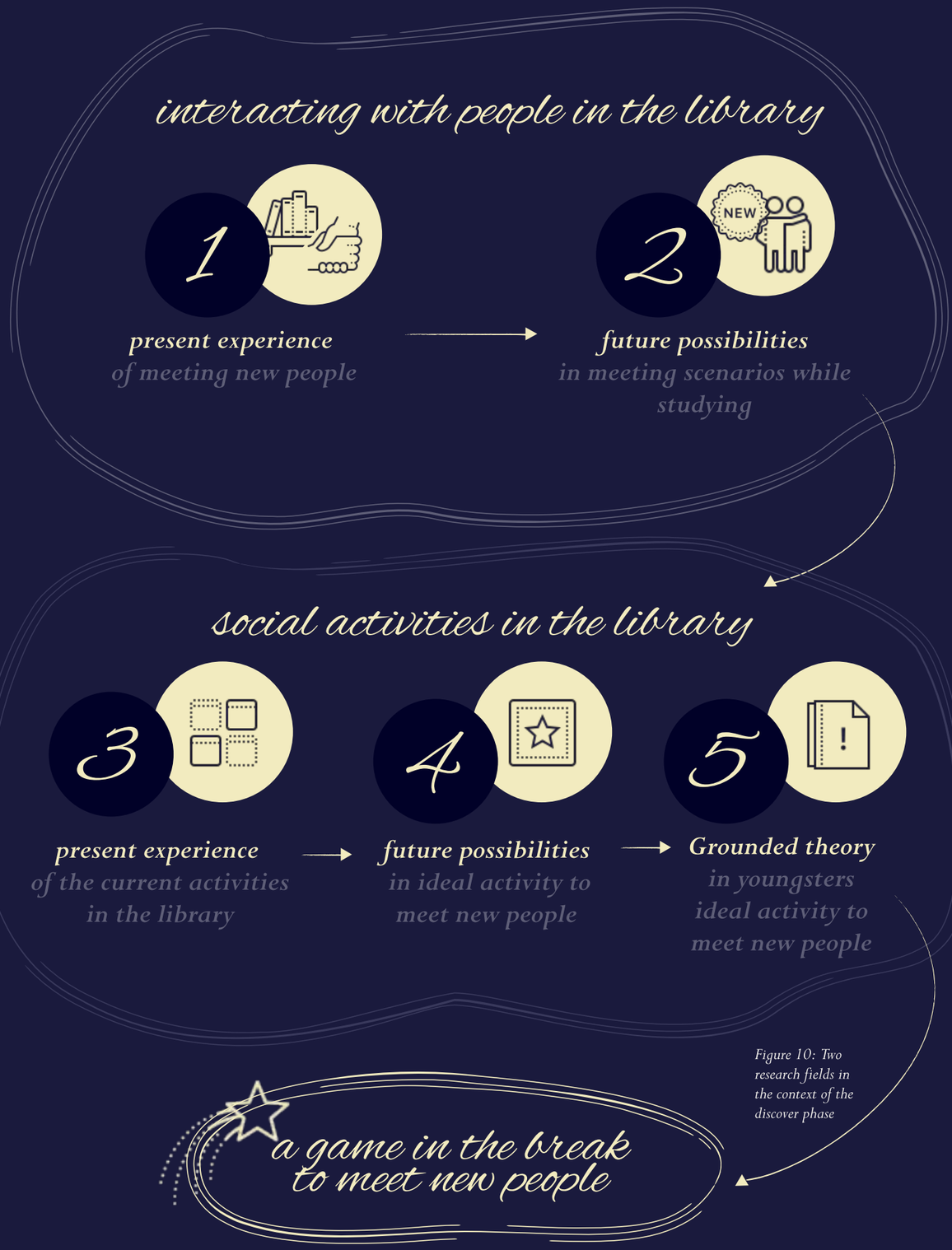


Figure 10: Two research fields in the context of the discover phase

Main Research Questions

1. How do youngsters currently experience meeting new people in the library?
2. How do youngsters want to meet new people in the library in the future?
3. How are the current activities experienced that the library has to offer?
4. What do youngsters want in an activity to meet new people in the library in the future?
5. How does the theory in the literature support and extend my context research on participation and connection in activity?

Research methods

- **Observation** at 2 libraries in Rotterdam
- **Generative session 1** Current experience in booklet, timeline and mapping
- **Generative session 2** Rating interaction triggers
- **Generative session 3** Good & bad scenario making
- **Questionnaire** while studying vs at an activity
- **Observation** at different library activities & promotion in library
- **Desktop research** Promotion of activities
- **Expert interview** Gino van Weenen
- **Generative session 4** Ideal activity to meet new people
- **Questionnaire** Ideal activity to meet new people
- **literature research** Participation & motivation in activity

Figure 11: Research questions and methods of the discover phase

2.1

present - meeting habits in library

To start this contextual exploration, it was necessary to understand how young adults experience meeting new people in their everyday lives and within the library space. Therefore, this research aimed to answer the following questions:

main research question

1

How do youngsters currently experience meeting new people in the library?

1.1

*How do youngsters **meet new people** in their **everyday lives**?*

1.2

*What do they currently **do in the library**?*

1.3

*Where do they **meet**, or imagine meeting, **new people** within **the library** context?*

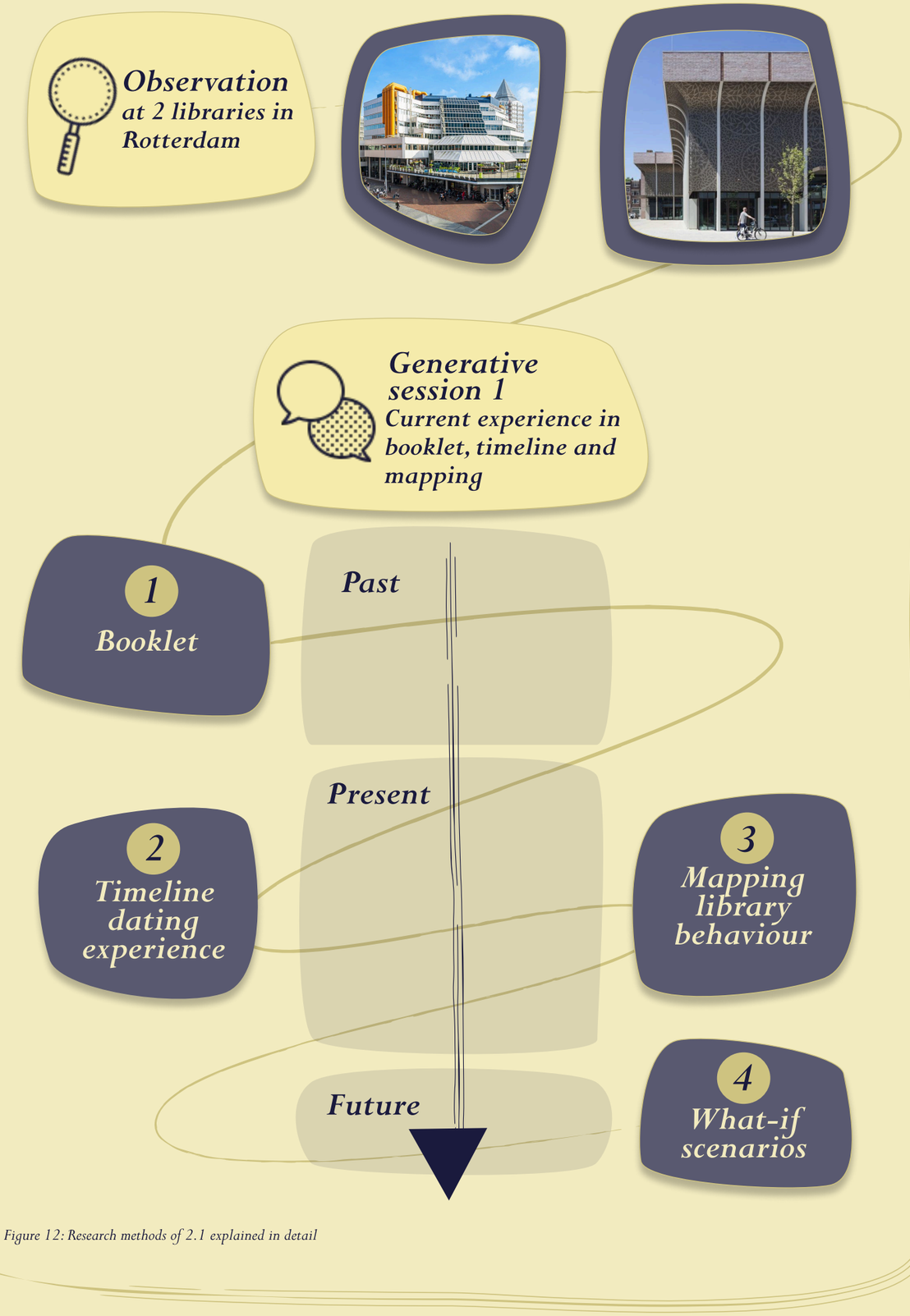


Figure 12: Research methods of 2.1 explained in detail

2.1.1 Research method

To answer these research questions, an ***observation study*** and ***generative session*** were conducted with youngsters in the library setting. Figure 12 explains what each method includes.

Participants

The participants were young adults with substantial experience using online dating applications and who regularly visited the Central Library of Rotterdam. They were recruited through my existing network and extended contacts. Table 1 provides an overview of the participants' characteristics.

	Gender	*Age*
1	Male	26
2	Male	18
3	Female	25
4	Female	23
5	Female	24
6	Female	24
7	Female	21
8	Female	24

Table 1: Participants generative session

The observation: materials & method

This study aimed to understand how young adults move through and behave within the library, with a focus on identifying moments of interaction as well as isolation.

An observational study was conducted in two libraries in Rotterdam: the Central Library at Blaak (the primary design context) and the library at Zuidplein, in order to gain a sense of the differences between the two environments. The Central Library was visited twice within one week for three-hour observation sessions during midday. The Zuidplein location was observed once, also for three hours in the midday.

During these sessions, observation maps were created (See Figure 13 sideways) to track how people navigated the space, whether they arrived alone or in groups, where they chose to study, and where social interaction occurred. The goal was to identify areas where interaction happened naturally, as well as spaces where little to no interaction took place. Observations focused on where people gathered, where they remained isolated, and what activities they engaged in at specific locations.

List of markers:
G = Group
T = Using technology (such as laptop and phone)
S = Socializing
△ = Walking
⊗ = Sitting

To complement the mapping, sketches were made of notable or interesting social interactions observed within the library.

Figure 13: Observation map second floor central library

Generative session 1: materials & methods

Generative session included the booklet, timeline, mapping and future ideas exercise.

Booklet

The booklet was designed to uncover participants' personal experiences, values, and aspirations related to social encounters. Each participant received a booklet containing a series of small exercises aimed at helping me understand them better while encouraging reflection on how they meet new people .

The booklet was shared one week before the session, giving participants time to reflect on the topic and their past experiences. They could complete one exercise per day or divide the exercises over several days. It was provided through a Canva link, allowing participants to add text as well as visual elements if they wished. This early reflection also helped me gain initial insights into each participant, enabling more personal and in-depth questions during the session itself.

Figure 14 presents an overview of the different exercises and the intention behind each one.

The exercises were intentionally kept simple and open-ended. While they provided guidance, they left enough space for participants to interpret and complete them in their own way. (Figure 15)

Meeting people habits	Exercise 1	Exercise 2	Exercise 7
Online dating experience	Exercise 3	Exercise 4	
Library habits	Exercise 5	Exercise 6	

Figure 14: The goal behind each question in the booklet

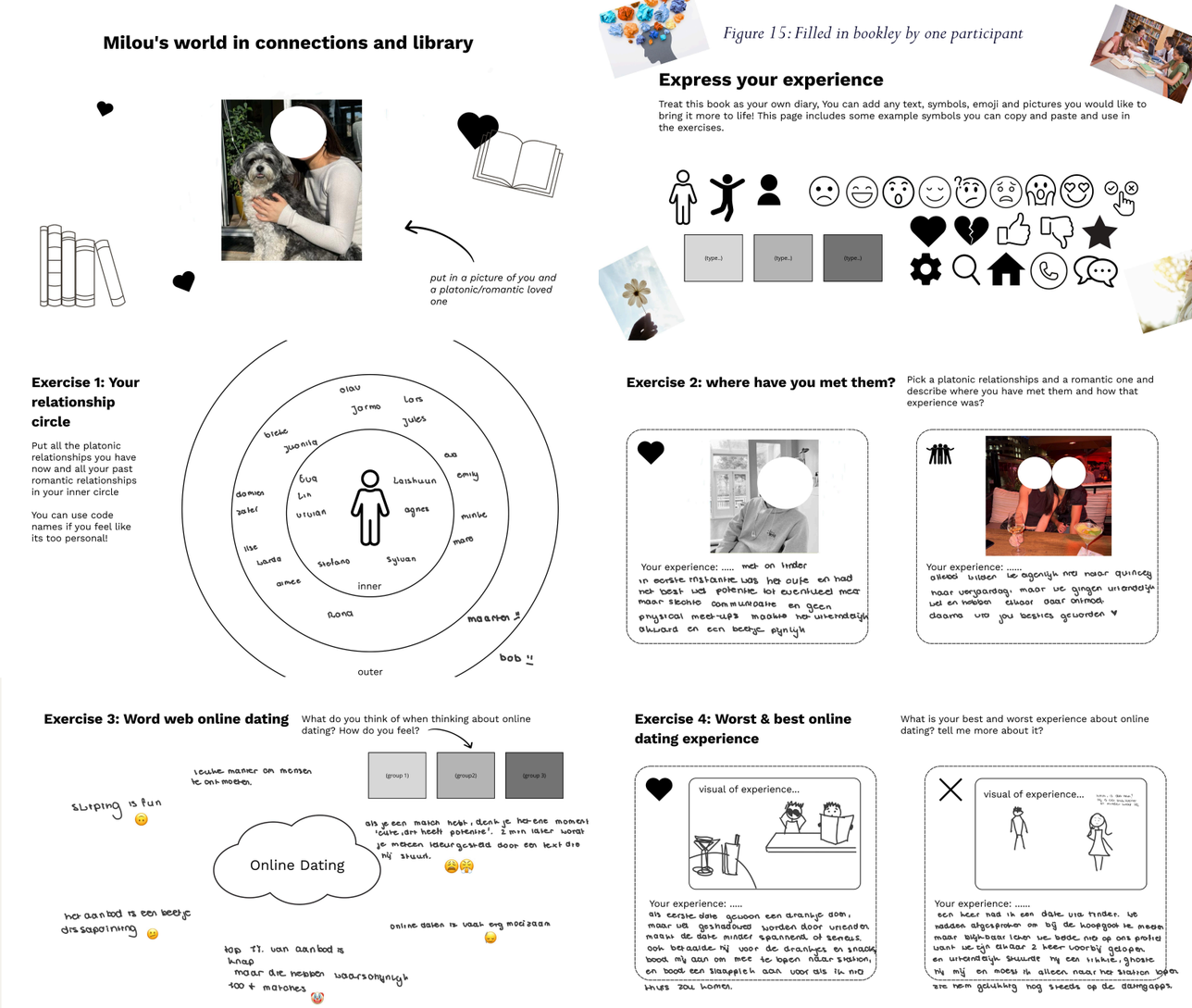


Figure 15: Filled in bookley by one participant

After the booklet was given a week before the session. they were invited to a personal 1-on-1 session that lasted for 1-1.5 hours where we first reflected on their filled in booklet, asked some questions about the booklets and did three exercises:

Timeline dating experience

First exercise is the timeline dating exeperience, where participants visualized how they use dating or meeting apps to uncover patterns in their past social experiences (Figure 17). The time line exercise exist out of two halves the upper where they could first right down the activities or action taken when using dating apps up until when they meet for the first time in real life. the lower half is for reflecting afterwards how they felt at each point of the timeline. the timeline was supported with extra materials (Figure 16), each of the mtaerials keps sure that there were neutral words or images that could be ambigious, negative as well as positive. and also pictures that include the library context but also different contexts.to give them a variety and not stir too much.

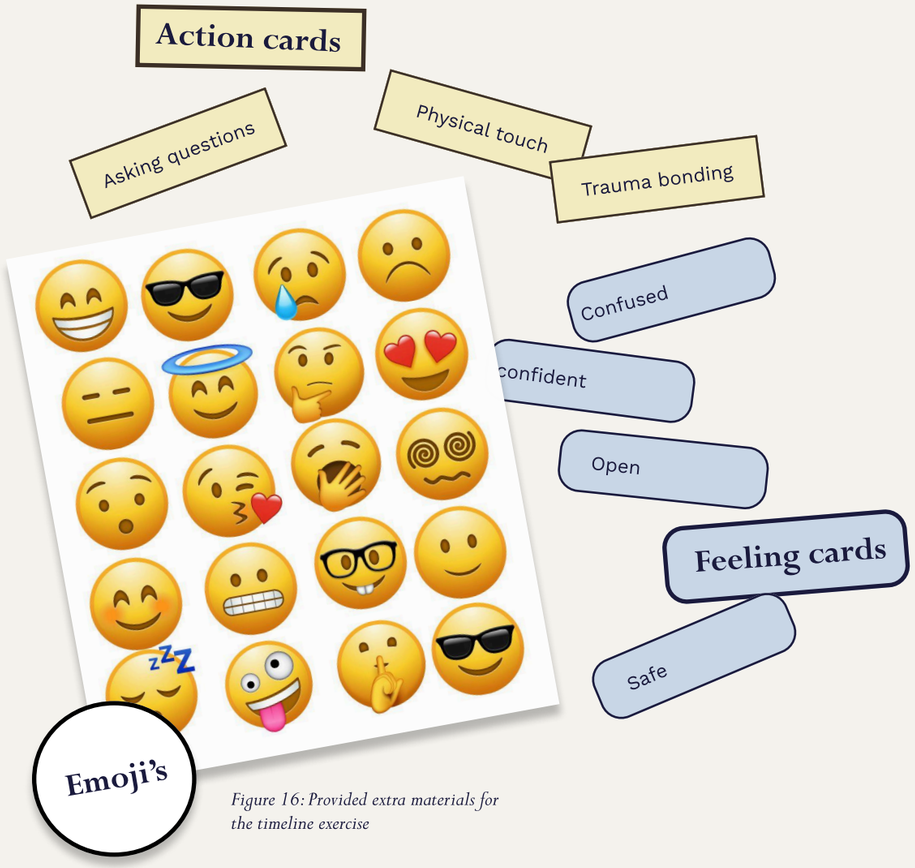


Figure 16: Provided extra materials for the timeline exercise

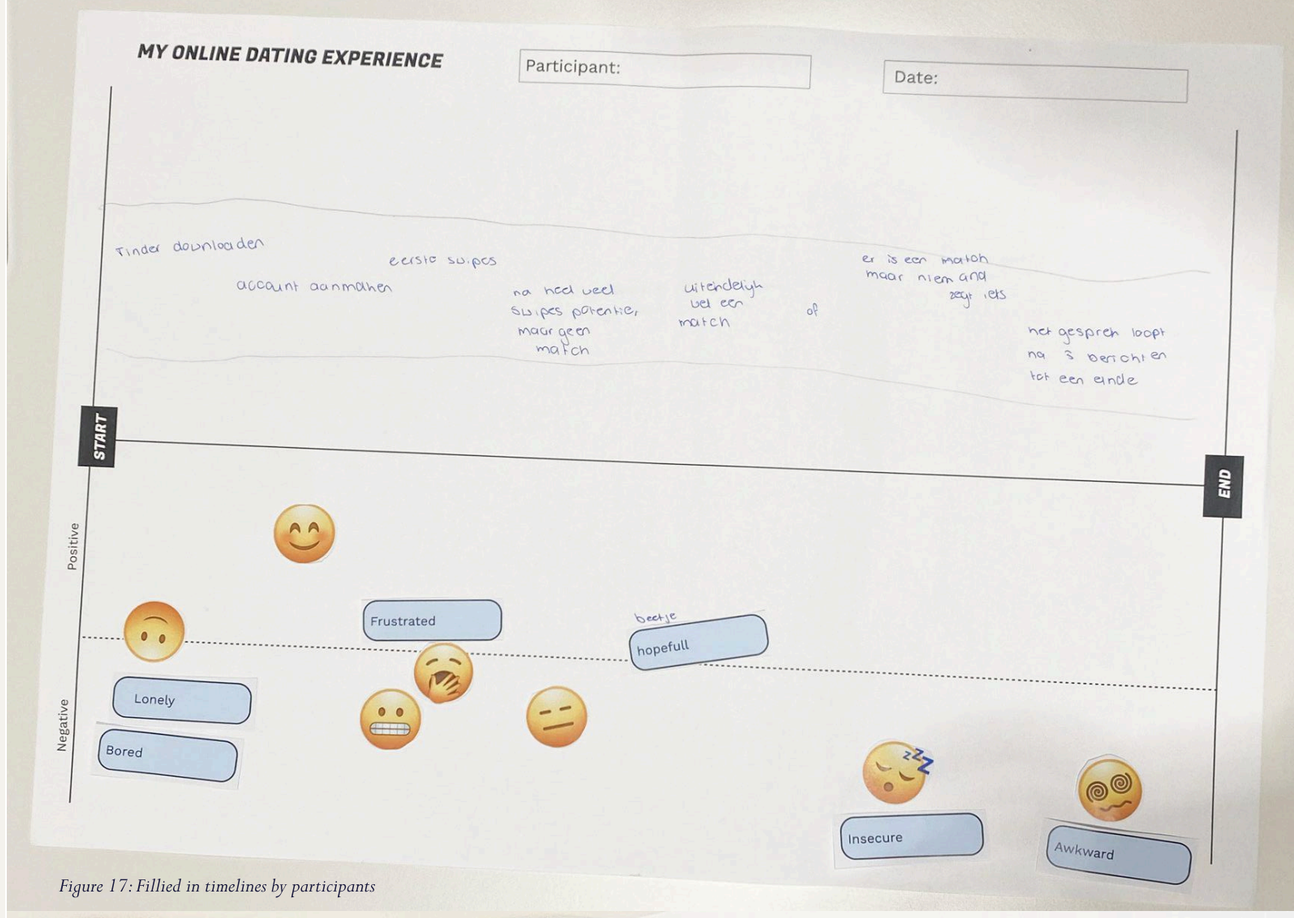
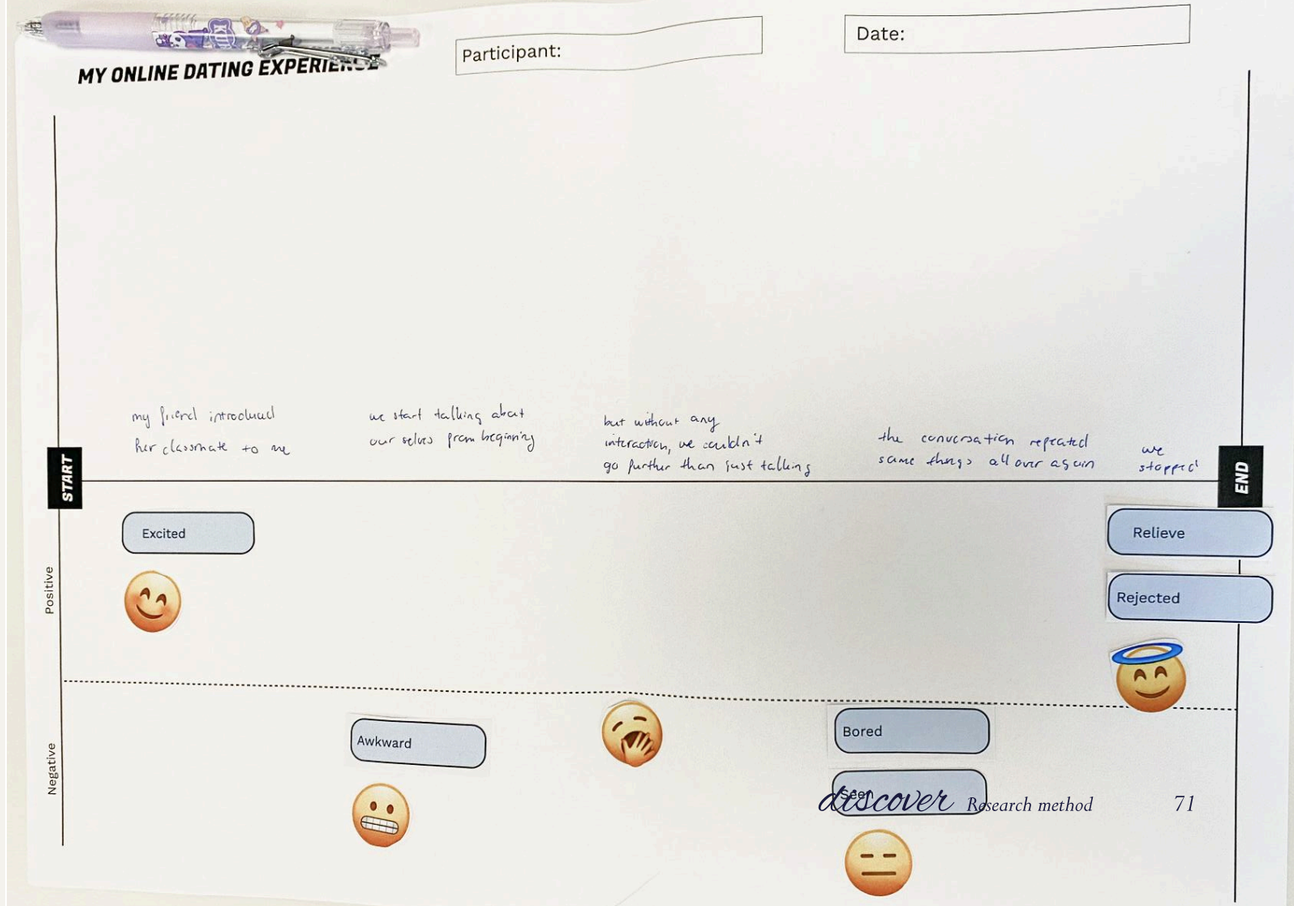


Figure 17: Fillied in timelines by participants



Mapping meeting behaviour in library

Following the timeline exercise, participants were given a mapping exercise. In the center of the sheet was the phrase “meeting new people at the library.”They were asked to map out a typical library visit and indicate where they see others interacting, or where they themselves might interact.

Afterwards, they were asked to reflect on what they currently experience versus what they would ideally prefer. On one side of the paper, they noted the current situation; on the other, their desired situation in terms of feelings, behavior, or interaction (Figure 19).

This exercise was supported by additional materials (Figure18) to help participants build stories and imagine specific situations more easily. A variety of prompts was provided, ranging from neutral and ambiguous to positive and negative perspectives.The context and stakeholder cards are based on insights from the earlier observation study. These tools helped participants articulate their thoughts in a more concrete and structured way.

Figure 18: Provided extra materials for the mapping exercise

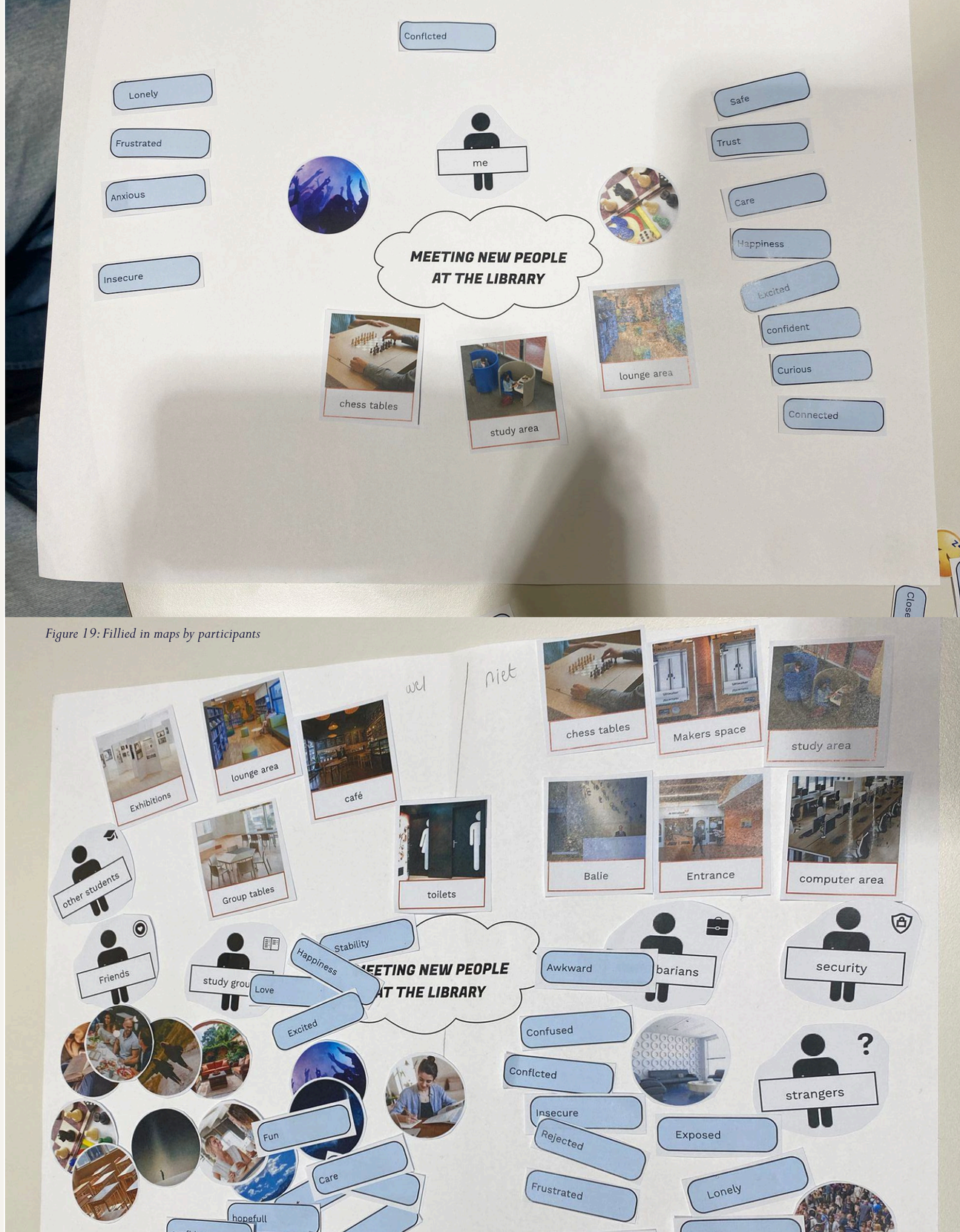


Figure 19: Fillied in maps by participants

Reflect on Future ideas
The final exercise asked participants to reflect on the activities they had completed during the session and on their current experiences related to meeting new people. They were then invited to consider how they would ideally like to meet others in the future, their initial ideas (Figure 21).

To support this reflection, participants were given a set of what-if scenario cards (Figure 20). These cards were based on preliminary project ideas as well as insights gathered from earlier observations. Each card presented a hypothetical situation intended to stimulate imagination and encourage participants to think about alternative ways of facilitating social interaction.

Although the intention of this exercise was to gain insights into how participants envision future possibilities, the discussion mainly focused on their past experiences and current perspectives.

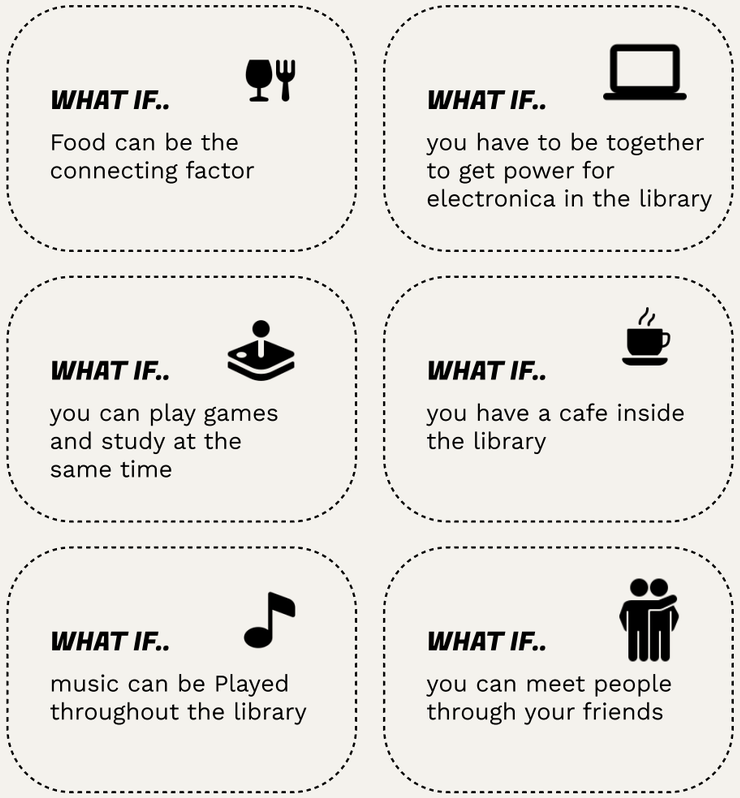


Figure 20: Provided extra what-if scenarios

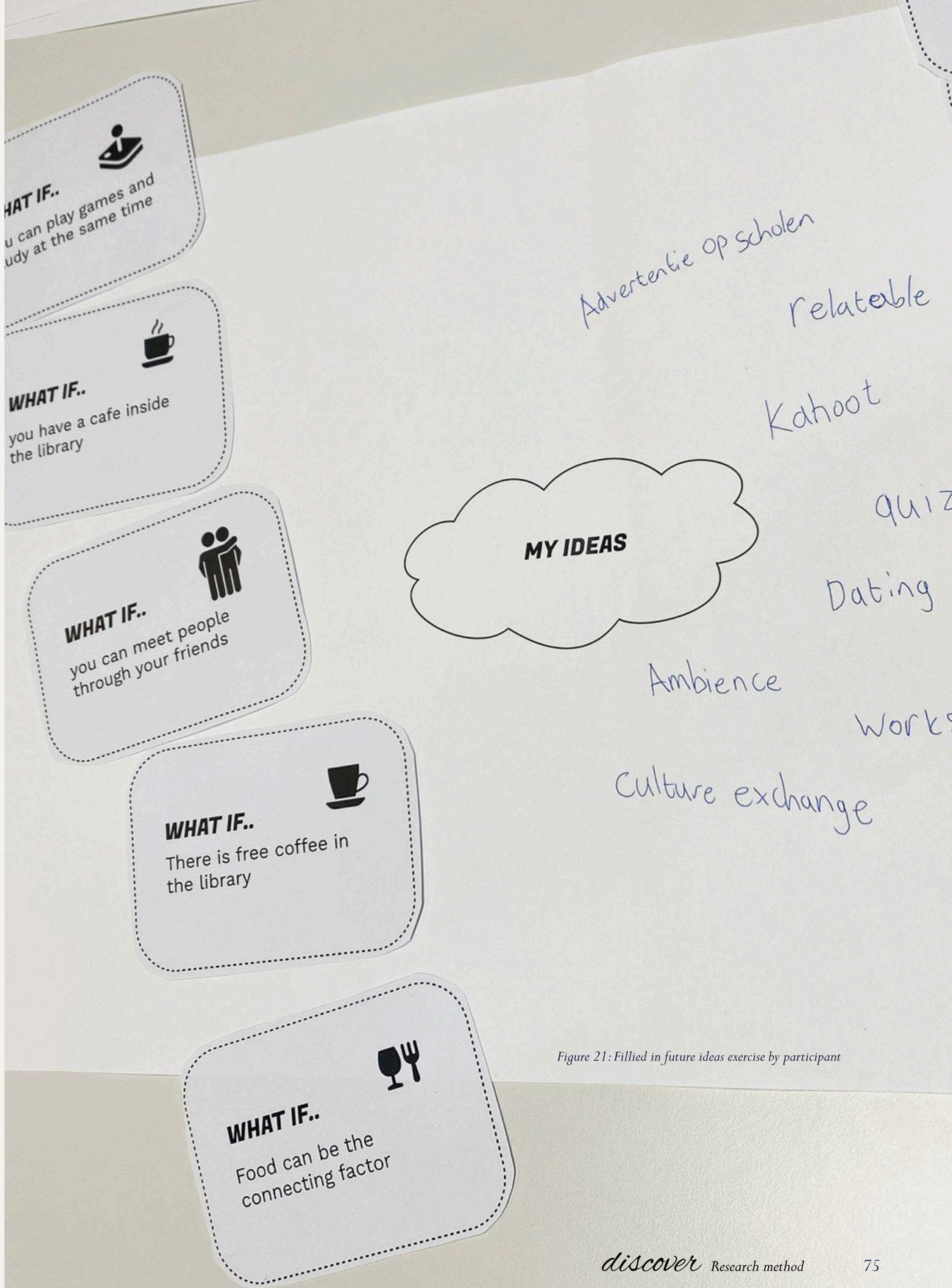


Figure 21: Fillied in future ideas exercise by participant

Data Analysis

The raw data collected from the observations, including photos, sketches, and notes, and from the generative sessions, including completed booklets, exercises, and participant quotes, were first translated into individual insights. These insights were then organized on a Miro board using digital post-it notes. These insights were then clustered based on similarities in content or meaning (insights cluster). Each cluster was given a descriptive title that summarized the main theme.

Subsequently, the clusters were further grouped and connected to identify overarching patterns, stories, and relationships within the data (story clusters). This process helped reveal key answers to the research questions. The complete cluster map is presented on the next page (Figure 23), along in Figure 22 an illustration of the analysis method with an example.

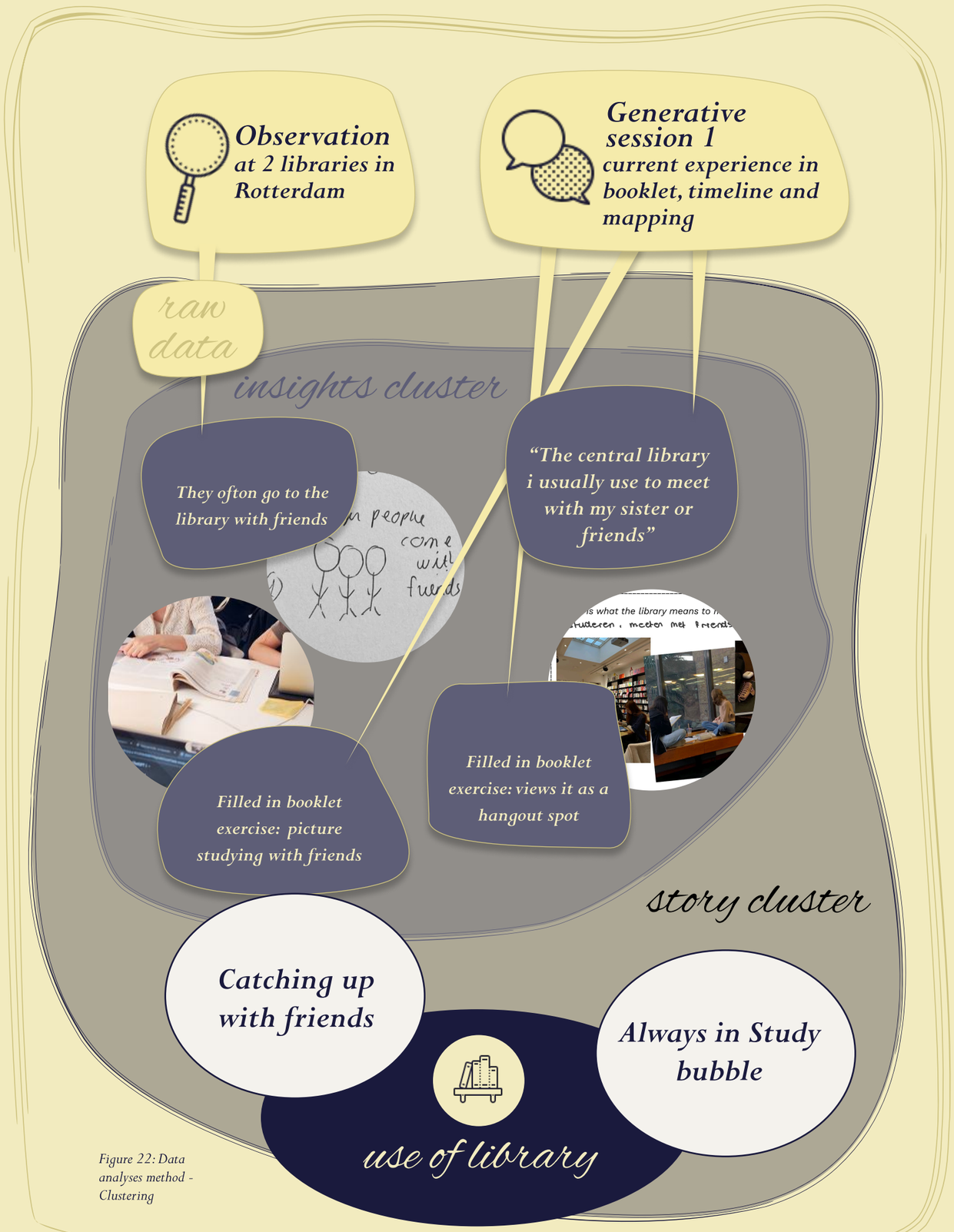


Figure 22: Data analyses method - Clustering

2.1.2 Insights

Here, a visual is presented that shows the clusters corresponding to their present meeting and library behaviour of youngsters. The following pages provide a more detailed explanation of each cluster, including the sepcific proof given by the young adults.

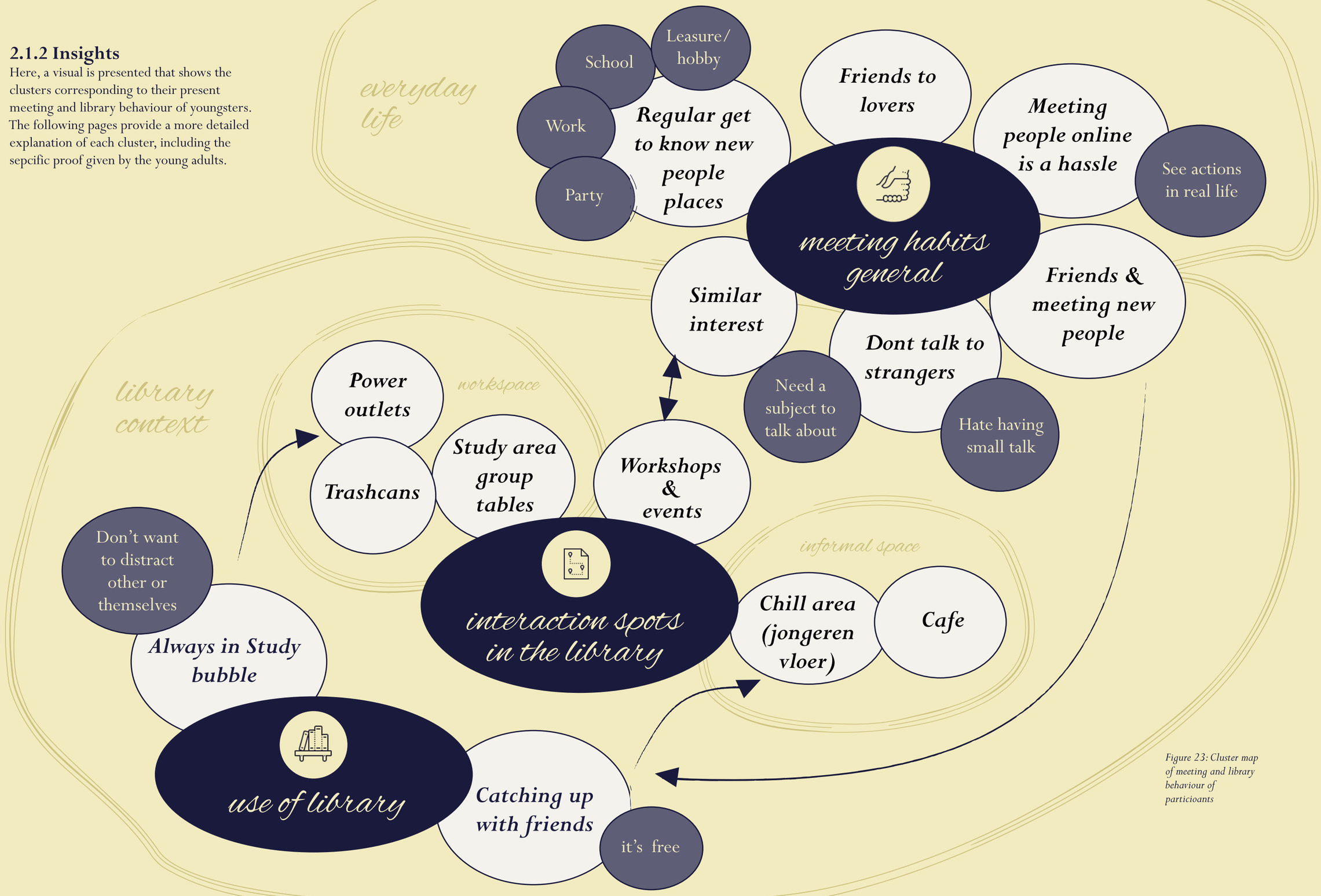


Figure 23: Cluster map of meeting and library behaviour of particioants

1.1

*How do youngsters **meet new people** in their **everyday lives**?*

Meeting People online is a hassle: Most participants reported that they primarily meet new people (particularly for dating) through online platforms such as Instagram or Hinge. However, they expressed a general dissatisfaction with this mode of interaction. Many described online dating as a necessity rather than a preference, as they felt it was often the only available option (Figure 24, top right). Participants indicated a clear preference for meeting people in real life, where they could better understand someone through direct interaction and behaviour, which they felt provided more meaningful impressions.

Friends to lovers: Many participants noted that long-term romantic relationships often developed from friendships. As this project initially focused on meeting potential romantic partners outside of online platforms, these insights suggest that designing for friendship formation could also create opportunities for romantic connections to emerge organically.

Friends & meeting new people: Participants often mentioned getting to know new people through friends. As reflected in Q1 in Figure 24, the underlying mindset was that if someone was already friends with one of their friends, they were more likely to feel comfortable and open to connecting with that person as well.

Don't talk to strangers: Participants consistently expressed hesitation about approaching strangers in everyday life. They described anxiety around initiating conversations (Q2), particularly concerns about how to start, maintain a natural flow, or avoid awkward silences. While continuing a conversation felt easier once it had begun, taking the first step remained a significant barrier.

Similar interests: Participants expressed a strong preference for meeting people with similar interests, as shared topics were seen as helpful for starting conversations and creating a sense of connection.

Regular get to know new people places: Participants commonly met new people through structured environments such as school, work, or hobbies. These settings provide a shared purpose, which lowers social barriers and facilitates interaction. Outside of these structured contexts, opportunities for spontaneous encounters were described as limited.

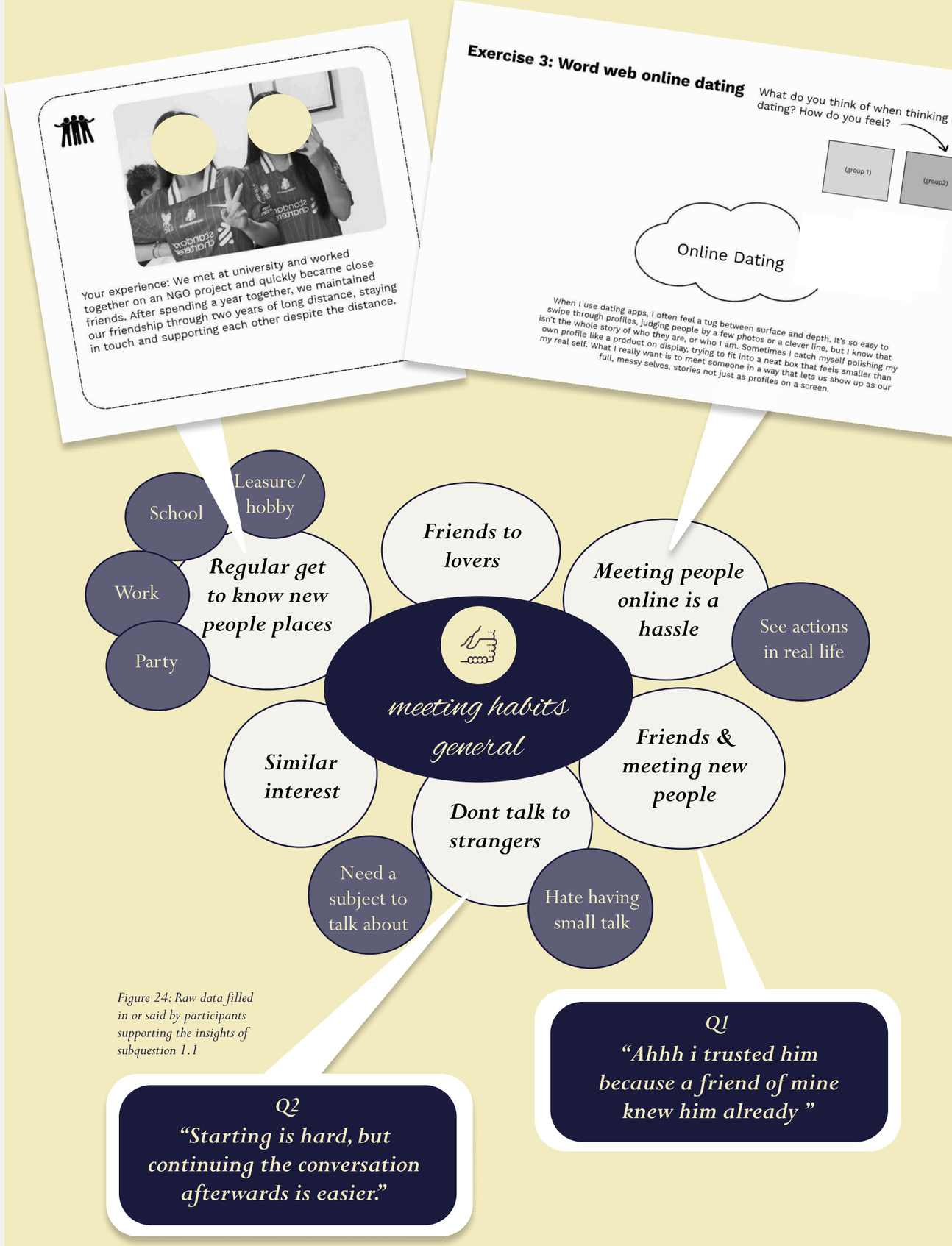


Figure 24: Raw data filled in or said by participants supporting the insights of subquestion 1.1

1.2

What do they currently ***do in the library****?*

Always in study bubble: Participants consistently described the library as a place primarily used for studying. Most of them spend their visits focused on academic work (Figure 25, top) and emphasized that they prefer not to be disturbed during this time (Q3). They are also mindful of not interrupting others, often choosing seating areas that provide some personal space.

Catching up with friends: Observations showed that many young visitors come to the library in small groups of two to four people. They often study together but also use the library as a convenient and free place to meet friends (Figure 25, bottom, with Q4). In addition, this highlights an opportunity to design interventions that allow friend groups to interact with other groups, as such interactions are also a common way of meeting new people in everyday life.

Figure 25: Raw data filled in or said by participants supporting the insights of subquestion 1.2

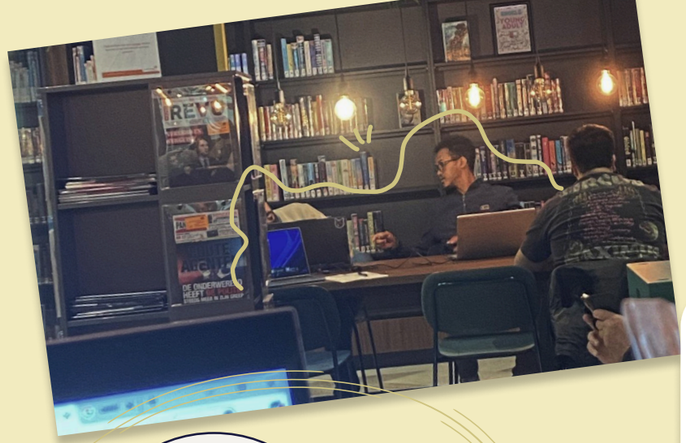
1.3

*Where do they **meet**, or imagine meeting, **new people** within **the library** context?*

Informal space: Participants identified several areas within the library where informal encounters could naturally occur. Study breaks, café areas, and casual seating zones were frequently mentioned as the most suitable spaces for meeting new people. Figure 26 on the bottom shows the images selected by participants when asked where they would prefer to meet others. These environments were perceived as relaxed and less task-oriented, making social interaction feel more acceptable and less intrusive.

Workspace: Observations also indicated that spontaneous interactions often take place in practical, shared spaces, such as near trash bins or power outlets. Figure 26, top left, illustrates an interaction between two young adults who approached each other for help with a power outlet. These locations naturally bring people together and create brief but genuine moments of connection. Such interactions could be more intentionally supported through design. Participants additionally noted that group tables could encourage more interaction between users.

Workshop & events: When asked where they would prefer to meet new people to get to know them better (Q5), participants often mentioned events such as exhibitions or workshops. These settings were seen as providing an accessible starting point for conversation, as they already offer a shared topic. Discussing exhibited artworks or reflecting on a shared creative activity helps reduce the pressure of initiating small talk and allows interactions to develop more organically. Participants noted that these shared experiences make it easier to recognize similarities and establish a sense of connection from the outset.



Q5
"With doing an activity together you get to see so much more of a person."

workspace

Power outlets

Trashcans

Study area group tables

Workshops & events

interaction spots in the library

informal space

Chill area (jongeren vloer)

Cafe

Figure 26: Raw data filled in or said by participants supporting the insights of subquestion 1.3

2.1.3 Key takeaways

Main Research Question 1: How do youngsters currently experience meeting new people in the library?

T1 – Friends versus romantic partners
When meeting new people for the first time, participants indicated that there is little distinction between interactions aimed at friendship or romantic connection. Many preferred relationships to develop from friendships into romantic partnerships, as a foundation of familiarity and trust is already present. This suggests that facilitating friendship-based interactions could also create opportunities for romantic connections to emerge naturally.

T2 – Initiating conversation
Initiating interaction emerged as a central challenge for most participants. They are not accustomed to approaching strangers or starting spontaneous conversations, particularly in structured environments such as the library. Participants indicated that they would benefit from subtle support or prompts to help initiate interaction.

T3 – Connection during studying
Although the library is primarily used as a study space, participants expressed limited openness to social interaction while studying. This highlights a tension between focus and social connection and raises questions about which types of low-threshold interactions, if any, might feel acceptable within a study-oriented context.

T4 – Connection through shared activities
An important opportunity lies in facilitating connections through shared activities. Participants indicated that workshops, exhibitions, or creative sessions provide a comfortable starting point for interaction, as these settings naturally offer a shared topic and purpose.

Explore type of connection & openess while studying vs activity

Overall, the findings suggest a need to explore not only how young adults prefer to meet new people, but also the types of connections they seek, ranging from brief, low-commitment exchanges to longer, more meaningful interactions that develop through ongoing activities. as well ass see how open they actually are for meeting new people while studying and throgh different activity.

present
experience

Q2
"Starting is hard, but continuing the conversation afterwards is easier."

Q5
"With doing an activity together you get to see so much more of a person."

Figure 27: Visuals & quotes off the key takeaways

2.2

future - boundaries in meeting new people

Building on the insights from the first session, which revealed that young adults mainly use the library for studying, hardly meet new people there, and find it difficult to approach strangers, this research session aimed to understand what kinds of interactions they are open to while studying and where their boundaries lie:

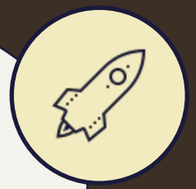
main research question

2

How do youngsters want to meet new people in the library in the future?

2.1

*What kind of **interaction starters** do they find appealing while studying?*



2.2

*How would they ideally want to move from starting interaction to **deeper bond**?*

2.3

*To what extent are young adults open to meeting new people in **different library use scenarios**?*

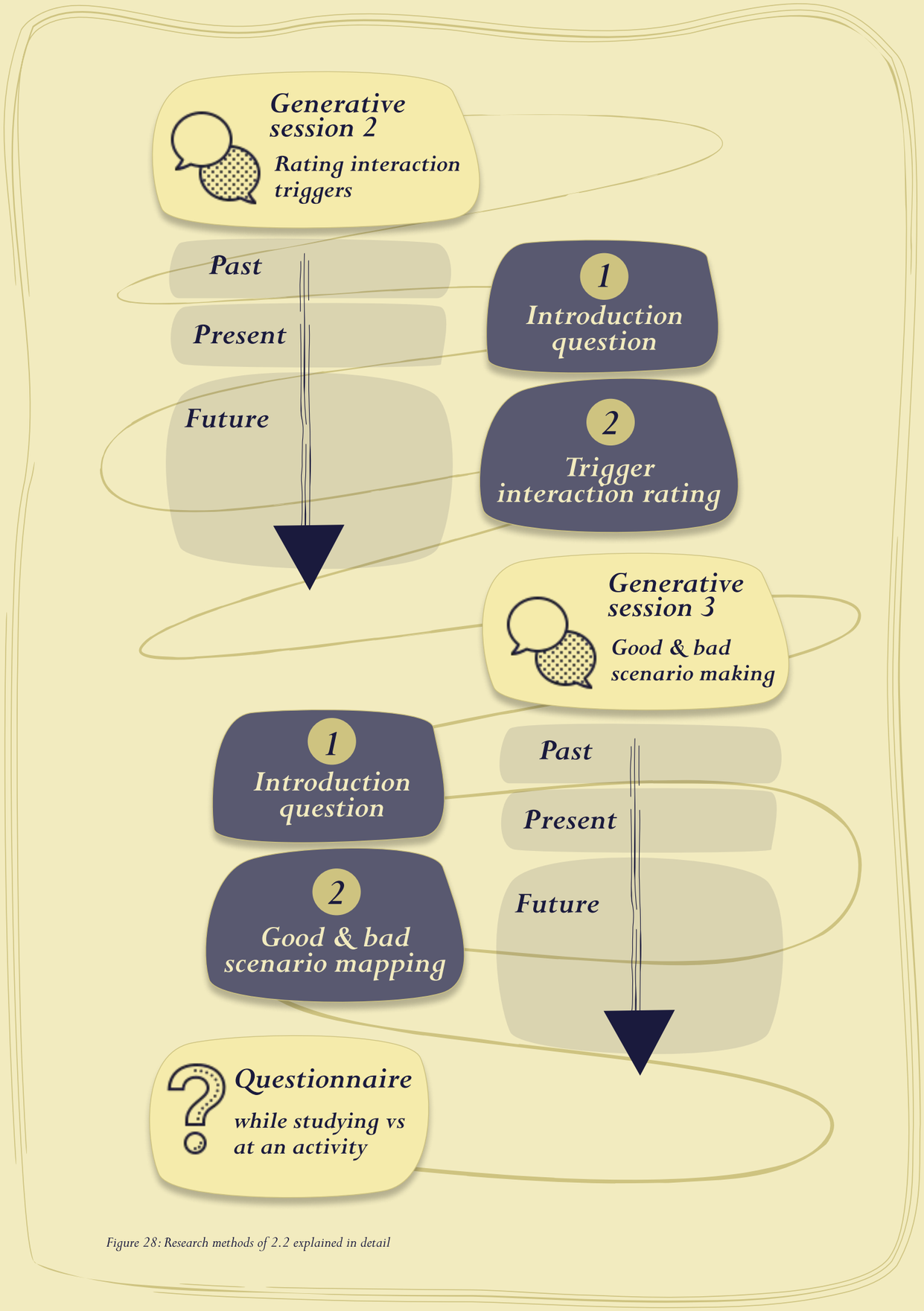


Figure 28: Research methods of 2.2 explained in detail

2.2.1 Research method

To answer these questions, ***a questionnaire*** and two ***generative sessions*** were conducted with youngsters in the library setting. Figure 28 explains what each method includes.

Participants

The first exercise included a total of 11 participants (Table 2). Some of these participants also took part in the previous generative session, while most were recruited directly in the library during their study activities. The second exercise included a total of 7 participants (Table 3).

The questionnaire was completed by participants who had previously taken part in the research, resulting in a total of 15 responses.

	Gender	*Age*
1	Female Group (3)	18,18,18
2	Female Group (3)	23, 24, 27
3	Female Group (2)	26, 27
4	Male	20
5	Female	25
6	Female	25

Table 2: Participants generative session exercise 1

	Gender	*Age*
1	Male Group (3)	18, 18
2	Female Group (2)	17, 17
3	Female	18
4	Female	25

Table 3: Participants generative session exercise 2

Generative session 2: materials & methods

The second generative session was designed to be more low-threshold and informal, allowing me to approach young adults directly in the library setting. This made it easier for participants to take part spontaneously. I approached both groups of friends and individuals who were studying, in order to explore potential differences in their perspectives and responses.

Since participants were not familiar with the project beforehand, the session started with a few introductory questions, such as how often they visit the library, what they usually do there, and whether they ever meet new people in this context.

Trigger Interaction Rating

One of the main exercises focused on "trigger interactions" , small moments or gestures that could spark social contact between strangers. Participants were presented with a series of short scenarios illustrating possible interaction triggers (Figure 29). Some scenarios were based on insights from the first generative session and the observation study (e.g., sharing a power outlet). Others were intentionally varied in type, including short versus longer interactions, friendship-oriented versus relationship-oriented situations, and both realistic and more unconventional ("extreme") ideas to gauge a range of reactions.
Participants rated each scenario on a scale from very unappealing to very appealing (Figure 30). During and after the rating process, follow-up questions were asked to understand the reasoning behind their choices and to gain deeper insight into their preferences.

Figure 29: Trigger interactions examples

Figure 30: Filled in trigger interaction ratings by participants

Generative Session 3: Materials & methods

Similar to the previous session, this session was designed to be low-threshold and brief. The exercise took approximately 10 minutes, followed by 10 minutes of reflection. I approached young adults who were studying alone or in groups in the library. Additionally, if recurring participants happened to be present that day, I asked whether they could quickly join the session.

For participants who were not familiar with the project, I began with short introductory questions, such as how often they visit the library, what they typically do there, and whether they ever meet new people in that context.

Good and Bad Scenario Mapping

Beyond identifying which trigger interactions participants were open to during study time, I wanted to explore what might happen after such an interaction. Participants indicated that they were looking for interactions that go beyond small talk and have the potential to develop into something more meaningful.

To explore this, I designed a mapping exercise in which participants built two scenarios: one that leads to connection and one that does not (Figure 32). They used action cards and emotion cards to construct their stories. These cards included positive, negative, and ambiguous elements to examine what stimulates a longer, ongoing interaction and what might hinder it (Figure 31).

The trigger interactions used in this exercise were selected from the previous session: one scenario involved studying with friends, and another involved being approached individually with a note.

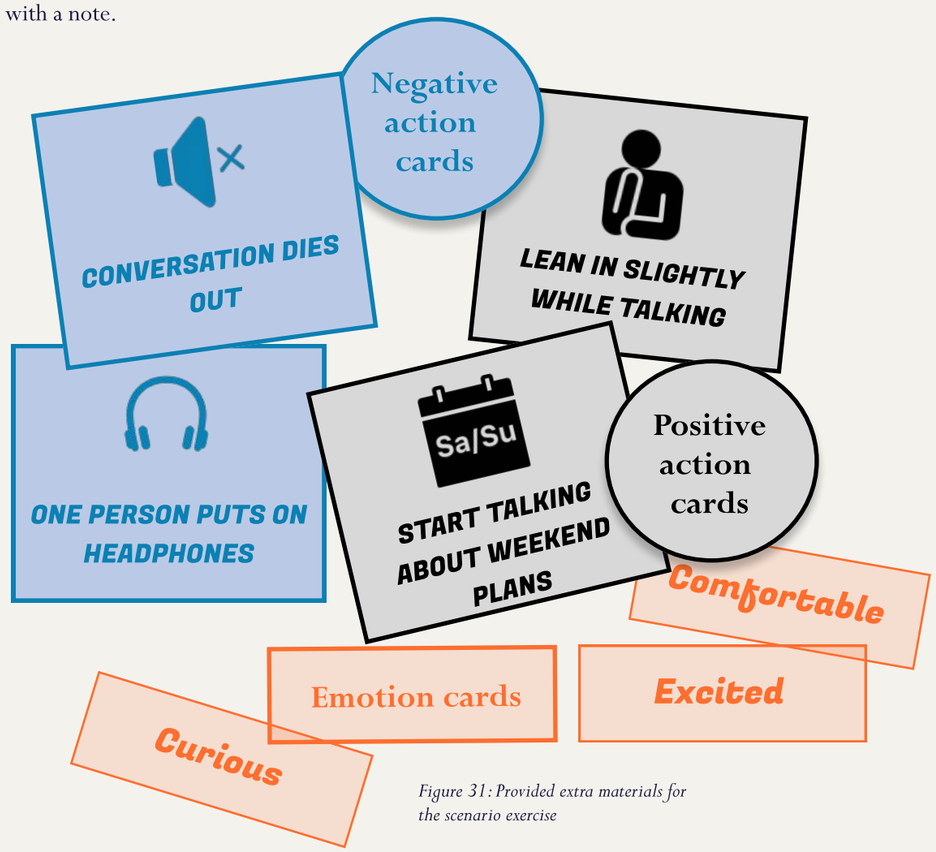


Figure 31: Provided extra materials for the scenario exercise

Figure 32: Filled in good and bad sceanrio mas by participants

Questionnaire: Materials & methods

In addition to exploring openness to meeting new people while studying, I also wanted to understand how open young adults would be to social interaction in other situations within the library. As this aspect was not fully addressed in the previous sessions, I distributed a short follow-up questionnaire to participants from Generative Sessions 1, 2, and 3.

The questionnaire provided a quick and structured way to gather additional insights into their preferences and attitudes toward social interaction in different library contexts. Figure 33 illustrates a few examples of the questions in the questionnaire.

Data Analysis

The data from the generative sessions and the questionnaire were analyzed to identify recurring patterns and themes across participants. Particular attention was given to topics that were mentioned repeatedly. In addition, average scores were calculated for the trigger interaction ratings and the scenario mappings, resulting in a consolidated trigger sheet and scenario overview, presented on the next pages.

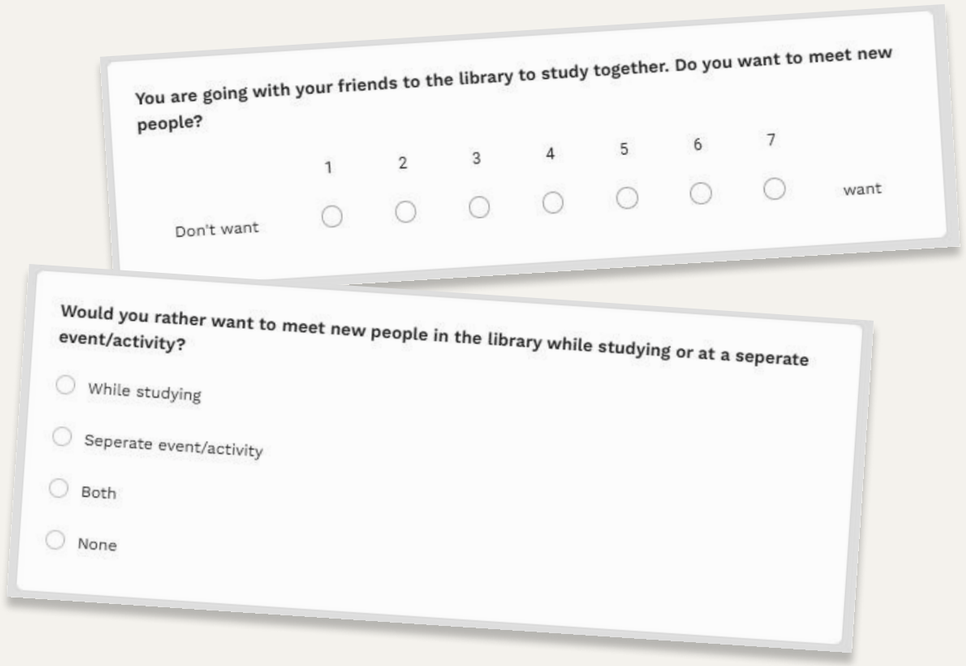
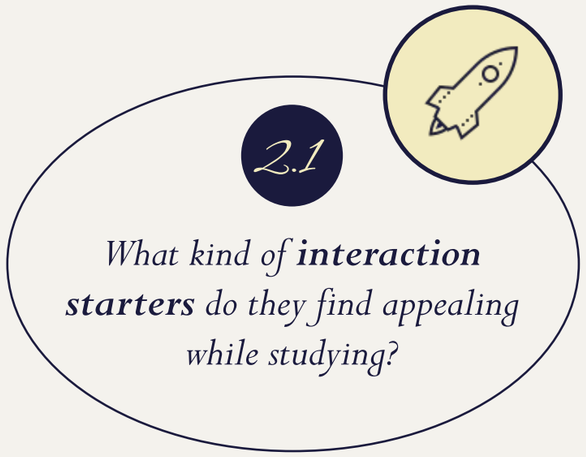


Figure 33: Example of question in the questionnaire

2.2.2 Insights

The following pages address the sub-questions by presenting the key insights derived from the generative sessions and the questionnaire.



Approach paradox: Participants rated cards in which they were approached by others more positively, as they described feeling hesitant to approach others themselves or fearing rejection within the library context. In contrast, cards that required them to initiate contact were rated lower, even when the interaction concerned the same topic, such as asking for study advice (e.g. Q7 and Q9). This contrast highlights a common social paradox: a shared desire for connection combined with a reluctance to take the first step.

Nothing time consuming: Participants emphasized that interactions they were already familiar with were more appealing to them. These included borrowing a charger, receiving help with study-related tasks, or simply exchanging a smile or glance (Q11). Interactions that felt too personal or time-consuming, such as long one-on-one activities, were often perceived as uncomfortable, as participants did not want to be overly distracted from their work (Q6).

Topic talk: Another recurring idea was the wish to move beyond small talk. Many participants expressed a dislike for superficial exchanges (Q8) and preferred contexts that made it easier to speak about shared interests or experiences. Workshops or group activities were frequently mentioned as situations that provided a comfortable starting point (Q10), as these offer both a reason and a topic to talk about.

VERY UNAPPEALING **VERY APPEALING**

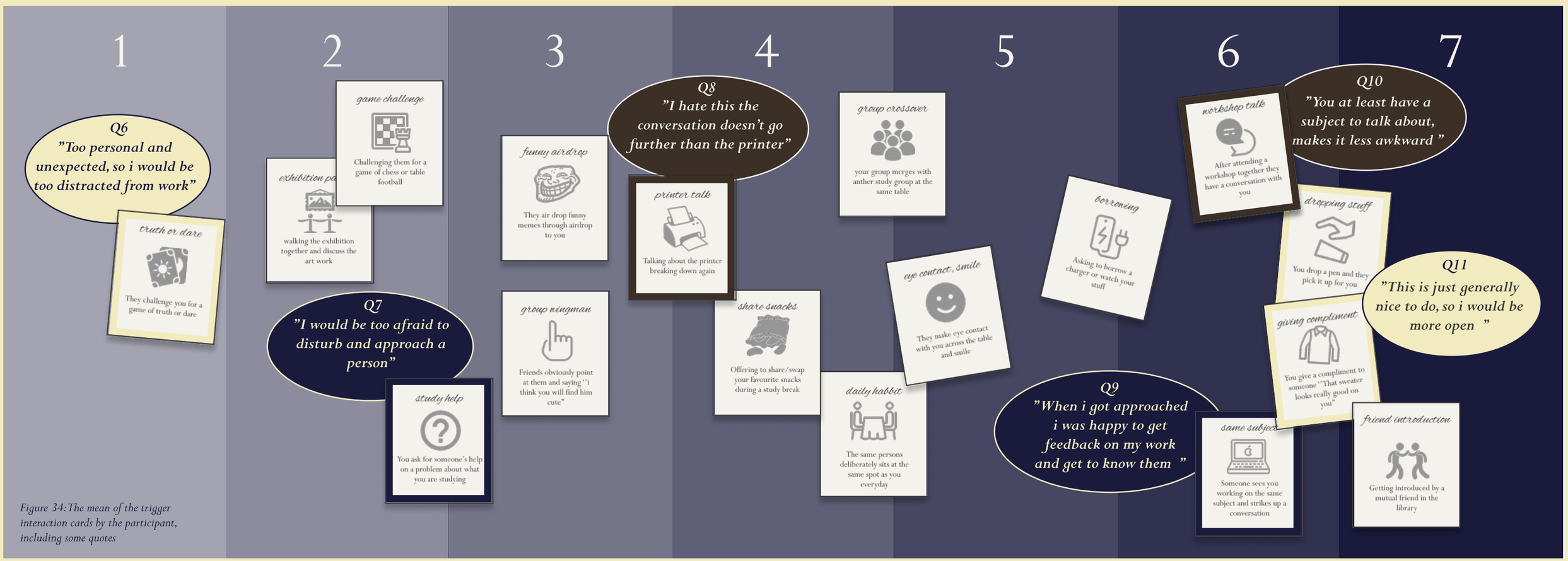


Figure 34: The mean of the trigger interaction cards by the participant, including some quotes

2.2

*How would they ideally want to move from starting interaction to **deeper bond**?*

Quick stop of interaction: When participants were asked to imagine what would happen after a trigger interaction occurred, all noted that the interaction typically ended after the initial exchange and rarely developed into something more meaningful. In scenarios with a negative outcome, participants frequently indicated that what prevented further interaction was a fear of disturbing others. They described the environment as feeling too quiet to continue talking, perceived the other person as uninterested, or interpreted actions such as putting headphones back on as a lack of connection (see negative scenario in Figure 35). As a result, participants often felt uncertain about whether the other person wanted to continue the interaction, leading them to end the interaction prematurely.

Gradually evolve: Many participants indicated that a comfortable conversation should evolve gradually. They described a preference for starting with neutral topics, such as what someone studies, and only moving toward more personal subjects, such as weekend plans or hobbies, when there was clear mutual interest. Finding shared interests was seen as an important driver in developing a connection, as illustrated in the positive scenario in Figure 35. Pushing too quickly into deeper or more personal conversation was perceived as uncomfortable or socially inappropriate; for example, asking for a phone number at the end of an interaction was often described as a dealbreaker, as it felt too personal too soon.

Break time is golden: Participants were asked when they would be open to reopening a conversation after it ended at a brief initial interaction, as they indicated that this often occurs. They described breaks within the library as valuable social moments. When people were having coffee, stretching, or chatting in small groups, the atmosphere felt more open and relaxed. These informal moments were seen as ideal opportunities for continuing short interactions or initiating new ones. Participants also noted that observing others engaging in conversation during breaks made it feel more acceptable and natural to join in.

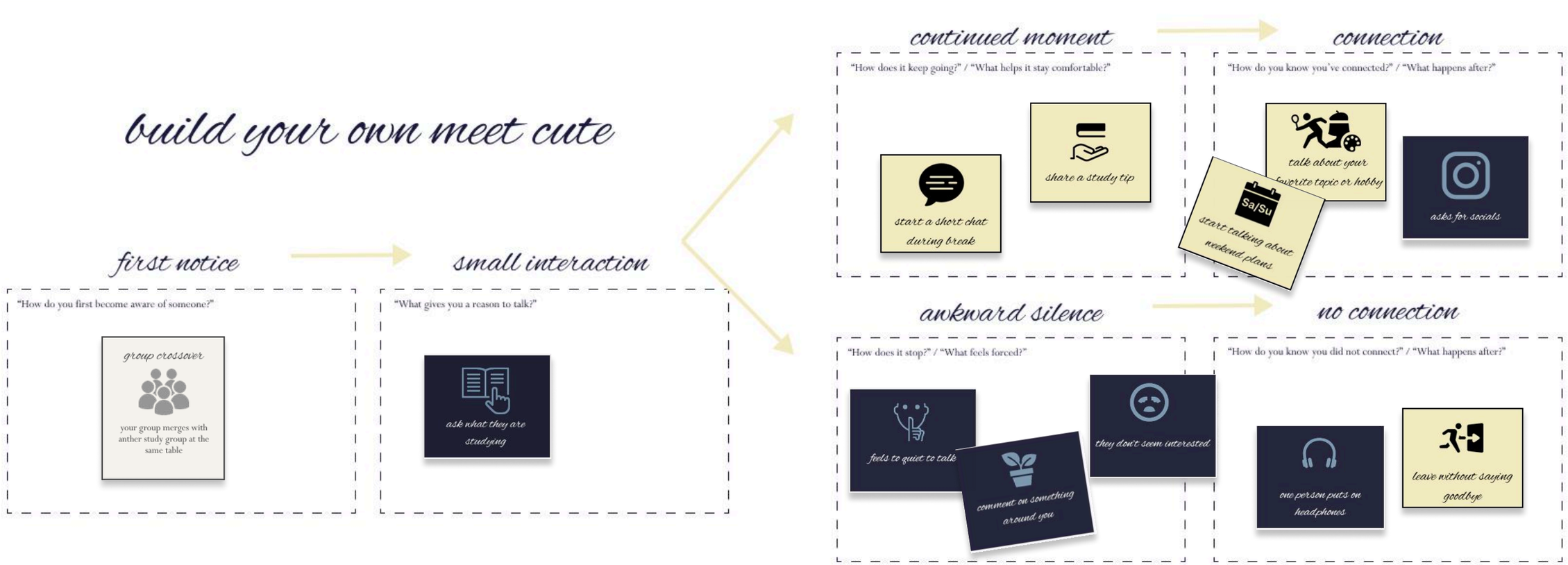


Figure 35: Patterns found in the negative and positive filled timelines of interactions with strangers in the library of the participants

2.3

To what extent are young adults open to meeting new people in ***different library use scenarios?***

More open at activities: Both the co-creation sessions and the questionnaire data indicate that young adults are open to meeting new people, but that this openness strongly depends on the context. A total of 76.9% of participants indicated that they were more willing to engage in social interaction during organised activities or workshops than while studying, as well as rated it the highest on the scale of openess (Figure 36 & 37). When focused on academic work, most participants preferred to remain undisturbed.

Presence of friends: Social comfort was also influenced by the presence of friends. Participants described feeling more confident and open when visiting the library with someone they knew. Having a friend nearby created a sense of safety and provided emotional support if an interaction felt awkward or uncomfortable. This indicates that existing friendships play an important role in encouraging broader social interaction. As also shown in Figure 37, participants were more likely to be open to meeting new people when accompanied by friends.

openness to meeting new people

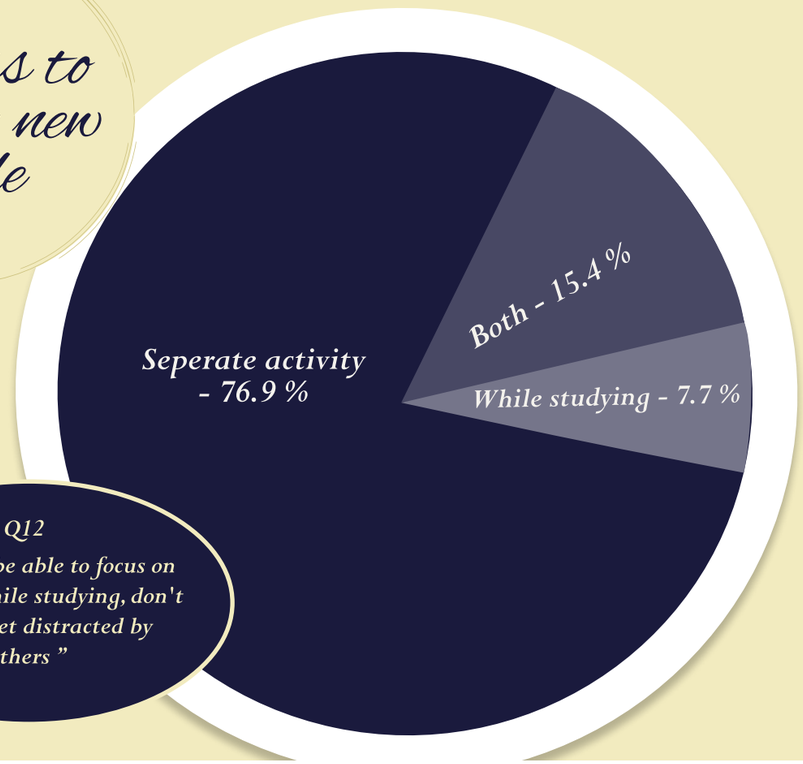


Figure 36: Percentages of when they would rather meet new people

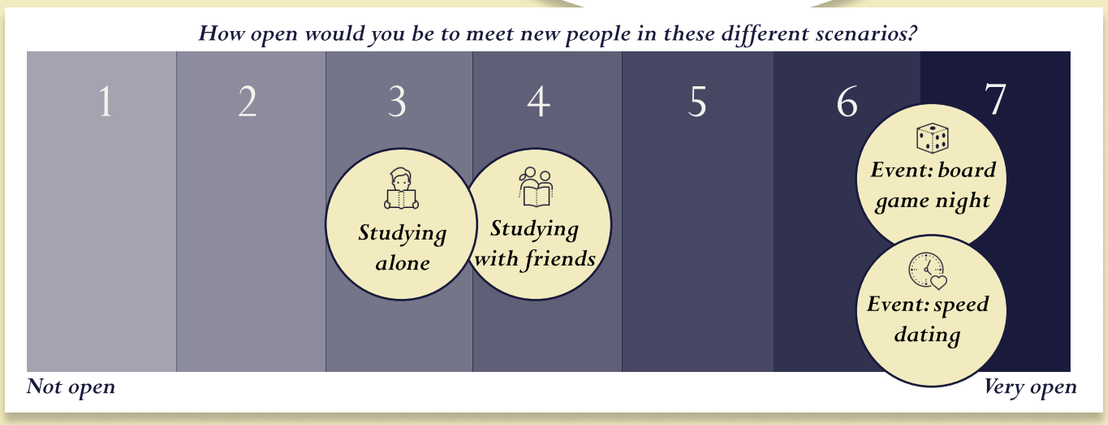


Figure 37: Rating of openness to meet people in different scenarios

2.2.3 Key takeaways

Main Research Question 2: How do youngsters want to meet new people in the library in the future?

T5 – More approachable during break
Further exploration showed that approaching young adults while they are studying and interrupting their focus is not an appropriate moment to initiate social interaction. In contrast, breaks during study sessions were identified as potential opportunity moments for meeting new people. Participants indicated that the atmosphere during breaks feels different and more relaxed, making them naturally more open to social interaction.

T6 – Shared activity over study time
Young adults are generally not open to being approached for conversation while deeply engaged in studying. They prefer to form new connections outside of their focused study flow. Introducing a separate, low-pressure activity that is not strongly related to studying was therefore seen as a more suitable way to encourage social interaction.

T7 – Deeper conversation over small talk
The design should facilitate opportunities for conversations that go beyond small talk. Encouraging participants to find common ground and learn more about each other, beyond surface-level information, was identified as important for creating meaningful connections.

T8 – With friends over joining alone
Including activities that allow participation with friends could help young adults feel more comfortable engaging with others. However, it remains important to consider how willing participants are to move beyond their existing social circles when they already feel comfortable within them.

Explore the activity opportunity space

The next step is to identify which types of activities and activity characteristics are most suitable for encouraging young adults to meet new people. This also includes further exploration of the timing of such activities, for example whether they should take place during study breaks—identified as an opportunity moment—or during a separate visit to the library that is not focused on studying.

Figure 38: Visual of the key takeaways future needs

2.3

present - activities in library

The previous paragraph showed that people are most open to meeting strangers when engaging in an activity. To identify opportunities within the social activity space, it is therefore important to understand what the library currently offers and how these activities are experienced in practice. To see where gaps can be bridged.

main research question

3

How are the current activities experienced that the library has to offer?

3.1

What kinds of activities are ***currently offered***?

3.2

How do these activities ***motivate*** youngsters ***to participate***?

Figure 39: Research methods of 2.3 explained in detail

2.3.1 Research method

To answer these research questions, three complementary methods were used: ***desktop research, observation,*** and ***expert interview.*** Figure 39 explains what each method includes.

Desktop Research: Materials & Methods

Desktop research was conducted by reviewing the library's website and social media channels. This helped map the range of activities currently offered and analyze how these are communicated and promoted digitally. The aim was to identify patterns in how the library reaches and engages younger audiences.

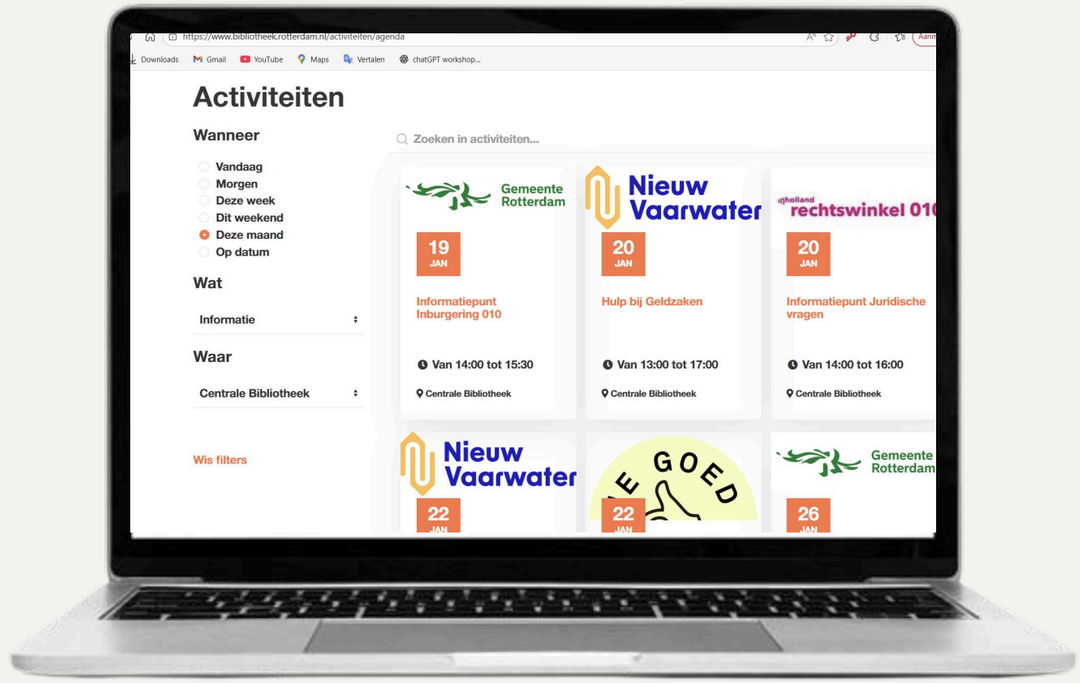


Figure 40: Activity agenda on the website of the library

Observation: Materials & methods

Several activities in the library were observed to understand how young adults engage in organized events. Three activities specifically aimed at young people were visited: a game night, an open mic night, and a creative session organized with a women's empowerment group (an activity not specifically targeted at youngsters but potentially relevant to them, Figure 41).

The aim was to observe participant behavior, assess whether young adults attended, understand the overall atmosphere, and identify possible struggles or barriers that could inform design opportunities for social interaction.

In addition, an observation was conducted on how the Central Library at Blaak promotes and communicates its activities within the physical space. This focused on how events are presented, displayed, and made visible to visitors on-site.

Both observation studies were documented through photographs, notes, and sketches.

Expert Interview: Materials & Methods

An interview was conducted with Gino, a library staff member involved in organizing social activities for young adults. The goal was to gain insight into the process behind developing and facilitating these activities, and to understand which types of events tend to be more successful. The conversation provided a broader perspective on the practical, spatial, and logistical considerations that influence how activities are initiated and managed within the library.

Data Analysis

The insights gathered from each research method were analyzed and clustered to identify recurring themes. These findings were then used to answer the sub-questions and develop a deeper understanding of the context.

Figure 41: Woman empowerement event on the library's ground floor

2.3.2 Insights

The following pages address the sub-questions by presenting the key insights derived from the different research methods.

3.1

What kinds of activities are ***currently offered***?

Small-scale activities for young adults: Regular events targeting young adults include a weekly board game night, while other activities, such as drawing workshops, stand-up comedy nights, and morning yoga sessions, are held less frequently, typically on a monthly basis. The current activity portfolio targeted towards youngsters is limited (Figure 43).

More older attendees: Even when events are aimed at young adults, older participants often attend. For example, the board game nights held on the jongerenvloer (youth floor) attract older individuals who are interested in chess, as the space is open to all (Figure 42). Similarly, events not specifically targeted at young adults, such as women empowerment workshops, are frequently attended by older participants, typically between 50 and 80 years old (Figure 42). While these events could be appealing to young adults with similar interests, they are often dominated by older attendees (Figure X). Nevertheless, young adults are not excluded from participating in these events.

Lower engagement in individual project activities: Open-format events with minimal guidance, such as the Naai Café or maker space sessions, present challenges for social engagement. Participants tend to focus on individual projects, making it difficult to interact with others. This is unfortunate, as events like these could serve as effective conversation starters and provide opportunities for young adults to connect with like-minded peers.

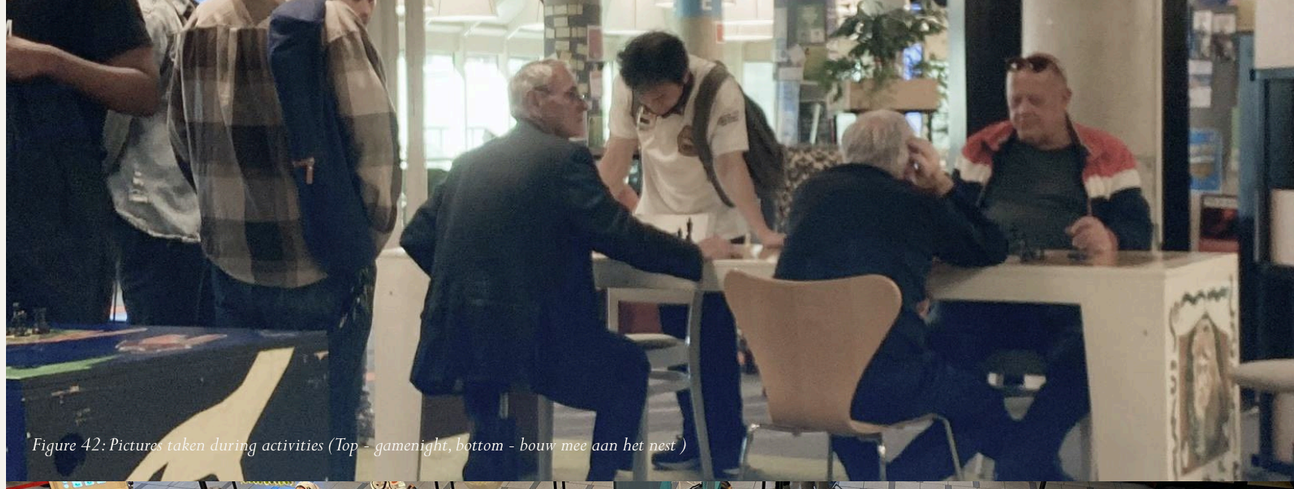


Figure 42: Pictures taken during activities (Top - gamenight, bottom - bouw mee aan het nest)

Figure 43: Activity portfolio interesting to youngsters

3.2

How do these activities ***motivate*** youngsters ***to participate***?

Information overload: The library primarily promotes its events through printed posters placed throughout the building. However, these posters are often scattered, visually unappealing, and not regularly updated (as shown in the roadmap in Figure 44). Consequently, it can be difficult for visitors to identify which events are relevant to them.

Low visibility for young adults: A board on the youth floor also displays weekly activities, but it is small and hard to read. Moreover, it does not effectively communicate which activities might be of interest to young adults.

Effective attention-grabbing displays: One positive example of event visibility is the weekly board game night, where the library displays the games in advance and appoints a mediator to help initiate play. This approach helps attract attention and encourages participation.

Online presence not youth-focused: While the library maintains an active website and social media presence (particularly on Instagram) promotion of youth-oriented activities remains inconsistent. Posts often lack clear information about dates, content, or atmosphere, and rarely include real-life images or videos that could help young adults visualize the experience.

Figure 44: Physical roadmap of ground and first floor information about activities

2.3.3 Key takeaways

Main Research Question 3: How are the current activities experienced that the library has to offer?

T9 – Need for more youth-specific activities
The activities currently offered for young adults are limited in scope. There is significant opportunity to design more targeted events or activities that specifically appeal to this group.

T10 – Too many older attendees
Many existing events are not clearly aimed at young adults, as they are also attended by a large number of older visitors. Designing activities that are more appealing to young adults could help better engage this audience.

T11 – Limited visibility of activities for young adults
Although some events, such as game nights and workshops, are of interest to young adults, their visibility and presentation could be improved. Promotional materials are often scattered, outdated, and not clearly targeted at this group. A more consistent and engaging communication strategy (particularly through social media) could increase awareness and participation, or simply make it clearer to young adults when an activity is taking place.

Explore the ideal activity of youngsters

Both the activities themselves and the way they are communicated could be better tailored to young adults, so that got me wondering what do the youngsters than want within a activity so they feel motivated to join in.

present
experience

Figure 45: Past / Present experience of current activities

2.4

future - ideal shared activity

The previous paragraph showed that the range of activities appealing to young adults is limited and that they rarely participate in them. This paragraph therefore focuses on understanding what young adults need in an activity to feel comfortable meeting new people and what motivates them to join.

main research question

4

What do youngsters want in an activity to meet new people in the library in the future?

4.1

Why youngsters ***do not*** currently ***participate*** in those activities?

4.2

What they would prefer in their ***ideal activity*** for meeting new people?

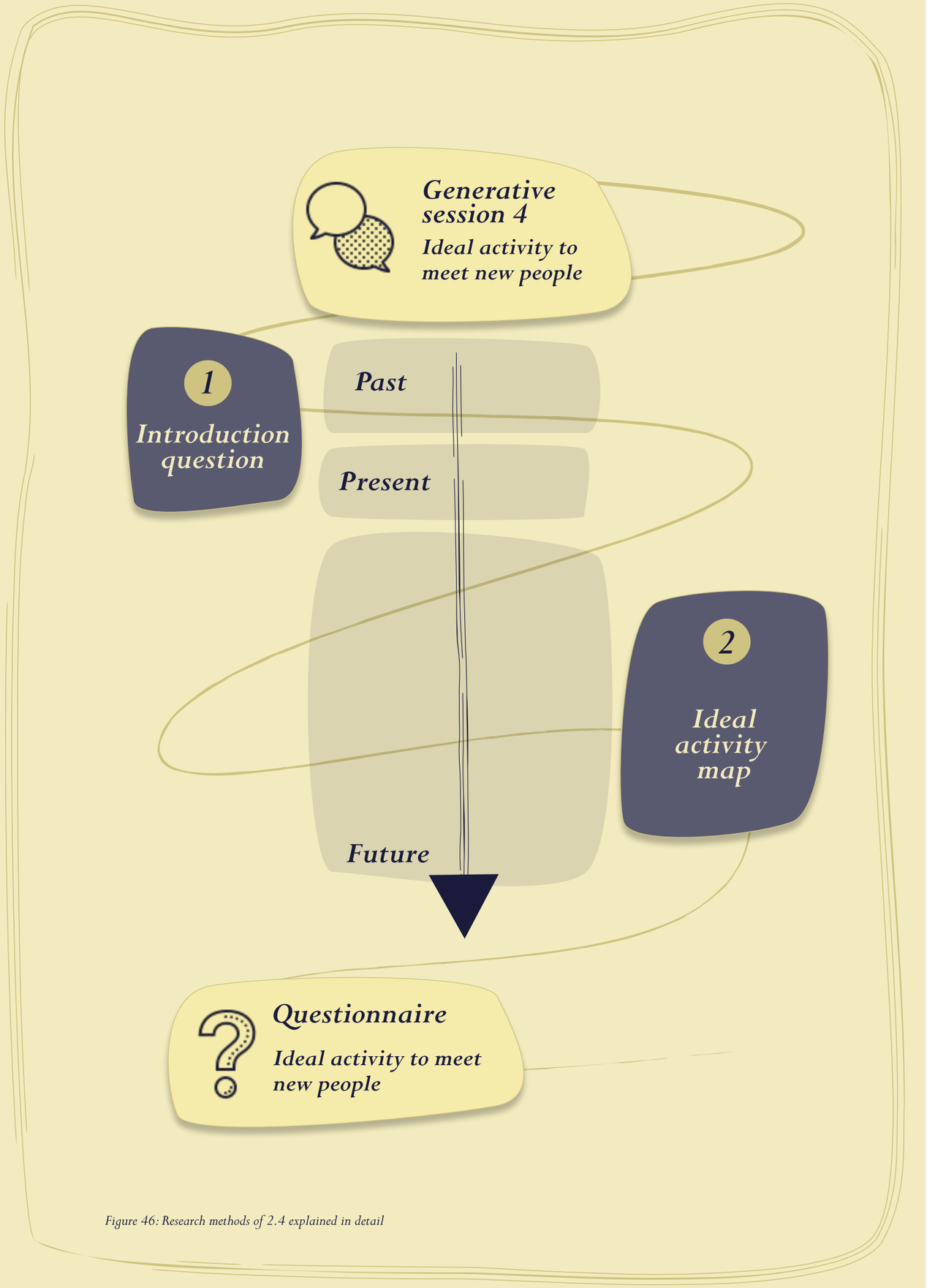


Figure 46: Research methods of 2.4 explained in detail

2.4.1 Research method

To answer these research questions, a ***generative session*** and a ***questionnaire*** and were conducted with youngsters in the library setting. Figure 46 explains what each method includes.

Participants

The Generative session included a total of 8 participants (Table 4). Most of these participants also took part in the previous generative sessions, while two were recruited directly in the library during their study activities.

The questionnaire was completed by participants who had previously taken part in the research and the ones that did the generative session, resulting in a total of 19 responses.

	Gender	*Age*
1	Female Group (3)	16,16,16
2	Male	18
3	Male	18
4	Female	16
5	Female	25
6	Female	25
7	Female	24

Table 4: Participants generative session

Generative Session 4: Materials & methods

Generative Session 4 focused on creating an ideal activity map to gain deeper insight into which aspects of an activity are most important to young adults, and how a new library activity could respond to those needs.

Ideal activity map (Figure 48)

The map was divided into four sections:

- What it looks like
- What people are doing
- How it feels
- What is a small detail that matters

These categories encouraged participants to reflect on different dimensions of their ideal activity, ranging from atmosphere and aesthetics to behavior, emotions, and subtle but meaningful details. The final category was specifically included to uncover hidden or more creative needs that might not emerge immediately.

Participants completed the map either individually or in small groups. Afterwards, a short interview was conducted to reflect on their choices and gain a deeper understanding of their input.

To support the exercise, participants received a set of visual prompts, including positive, negative, and ambiguous images, as well as library-related and non-library-related visuals (Figure 47). These materials helped participants build and communicate their ideas, while still leaving room for open interpretation. Unlike a questionnaire, this approach supported storytelling without steering participants too strongly in a predefined direction.

Figure 47: Provided extra materials for the ideal activity exercise

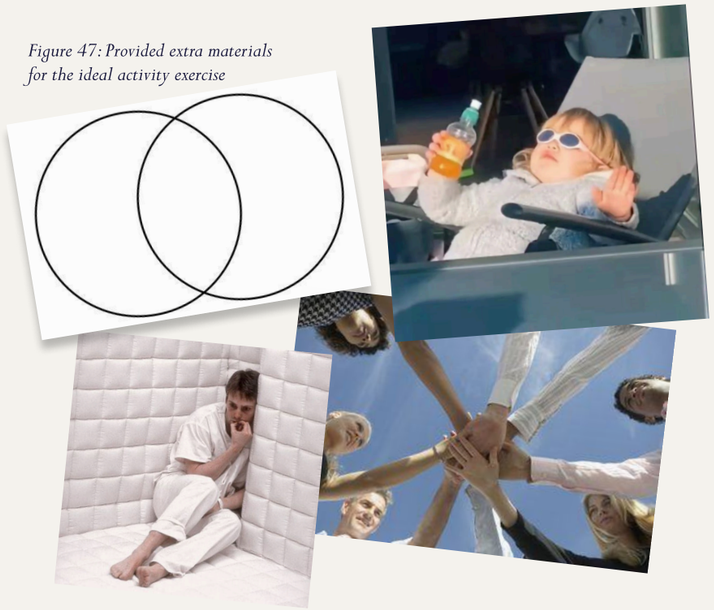


Figure 48: Filled in ideal activity exercise by participants

The questionnaire: materials & methods
After completing the mapping exercise, participants were also asked to fill in a short questionnaire. This questionnaire aimed to capture general attitudes and preferences toward social activities in the library.

It consisted of statements positioned on two opposite ends of a spectrum (for example, "I prefer structured activities" ← → "I prefer spontaneous activities"). Participants rated their preference on a 7-point Likert scale, indicating where they positioned themselves between the two extremes (Figure 49). This approach helped identify patterns in the types of activities and social contexts that young adults find most appealing.

The questions were grouped into four categories:
- Views on social interaction in the library
- When and where their ideal activity would take place
- What kind of activity they prefer
- How they would like to feel during the activity

The questionnaire was also designed so that other participants, who did not have time to complete the full mapping exercise, could still contribute. Compared to the generative session, this was a more structured and less open-ended method. Its purpose was to define clearer parameters and support decision-making about the specific direction of the activity to be developed.

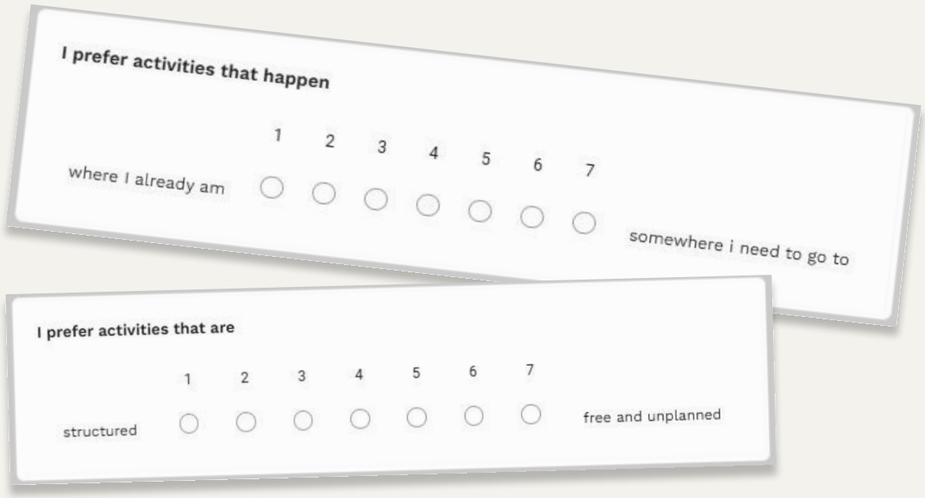


Figure 49: Example of the questionnaire questions

Data Analysis

The raw data, including participants' statements and completed mapping sheets, were collected and interpreted. Key insights were extracted and organized into clusters based on similarities and recurring themes. These clusters were then further connected and grouped to identify overarching patterns and to address the research questions, following the same approach described in Section 2.1. Figure 50 presents an example of this clustering process.

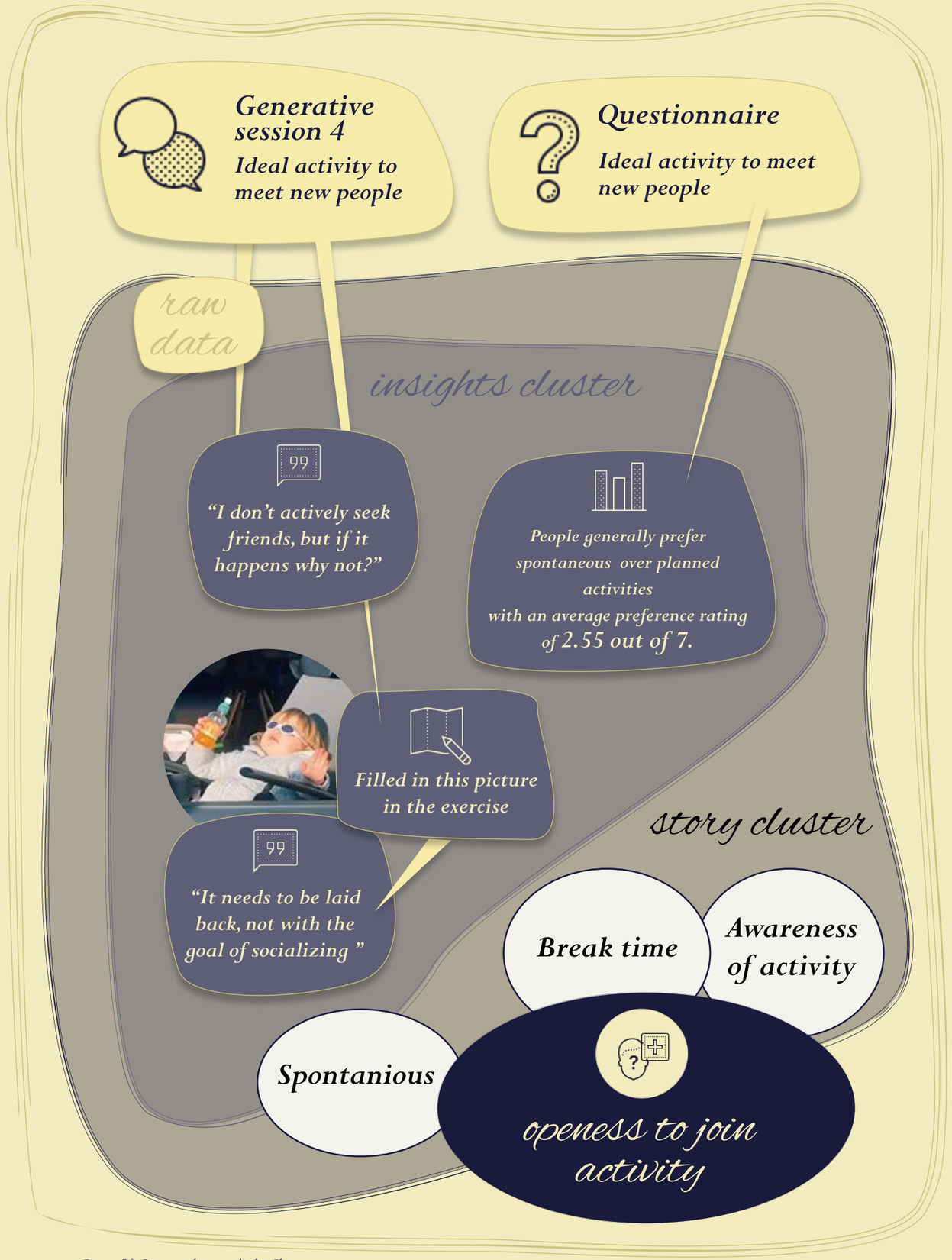
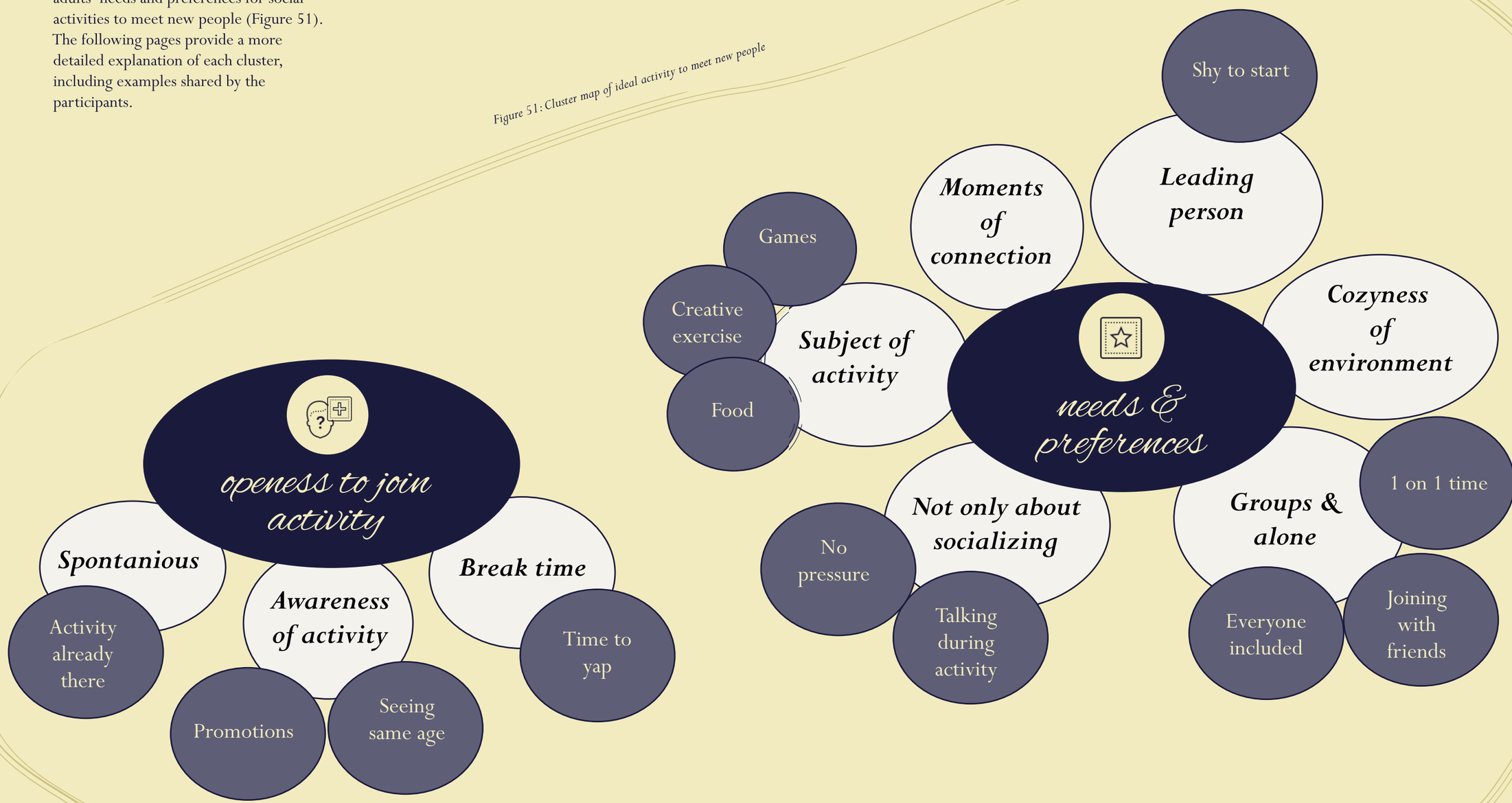


Figure 50: Data analyses method - Clustering

2.4.2 Insights

Here, a visual is presented that illustrates the clustered insights regarding young adults' needs and preferences for social activities to meet new people (Figure 51). The following pages provide a more detailed explanation of each cluster, including examples shared by the participants.

Figure 51: Cluster map of ideal activity to meet new people



ideal social activity

4.1

Why youngsters *do not* currently *participate* in those activities?

Awareness of activity: Many young adults are unaware of the activities organised by the library. When asked about them, several participants initially assumed that these events would not be engaging or relevant to their interests. However, when specific examples (such as the board game night, Q12) were mentioned, participants' reactions became noticeably more positive (Q13).
Another barrier is related to audience perception. Many young adults see the library's events as primarily attended by older adults or children, which reinforces the feeling that such activities are "not for them."This perception reduces motivation to participate, even when the activities might be enjoyable or relevant.

Spontanious: Participants expressed a strong preference for spontaneous participation. They were generally reluctant to attend separate, scheduled events that require significant effort or planning, unless the activity strongly aligned with their interests. Instead, they preferred activities they could join on the spot while already in the library. In addition they mentioned that spontanious is better when it comes to making friends you dont actively seek it (Q12). In addition, questionnaire responses indicated that shorter, informal interactions were generally perceived as more comfortable than longer, more structured sessions (Figure 52, top).

Break time: As discussed earlier in Section 2.2 and illustrated in the positive interaction timeline, participants were more open to meeting new people during breaks. These moments were described as opportunities to talk, walk, and mentally step away from studying. Participants often enjoyed these breaks with friends, further reinforcing break time as a promising moment for social interaction.

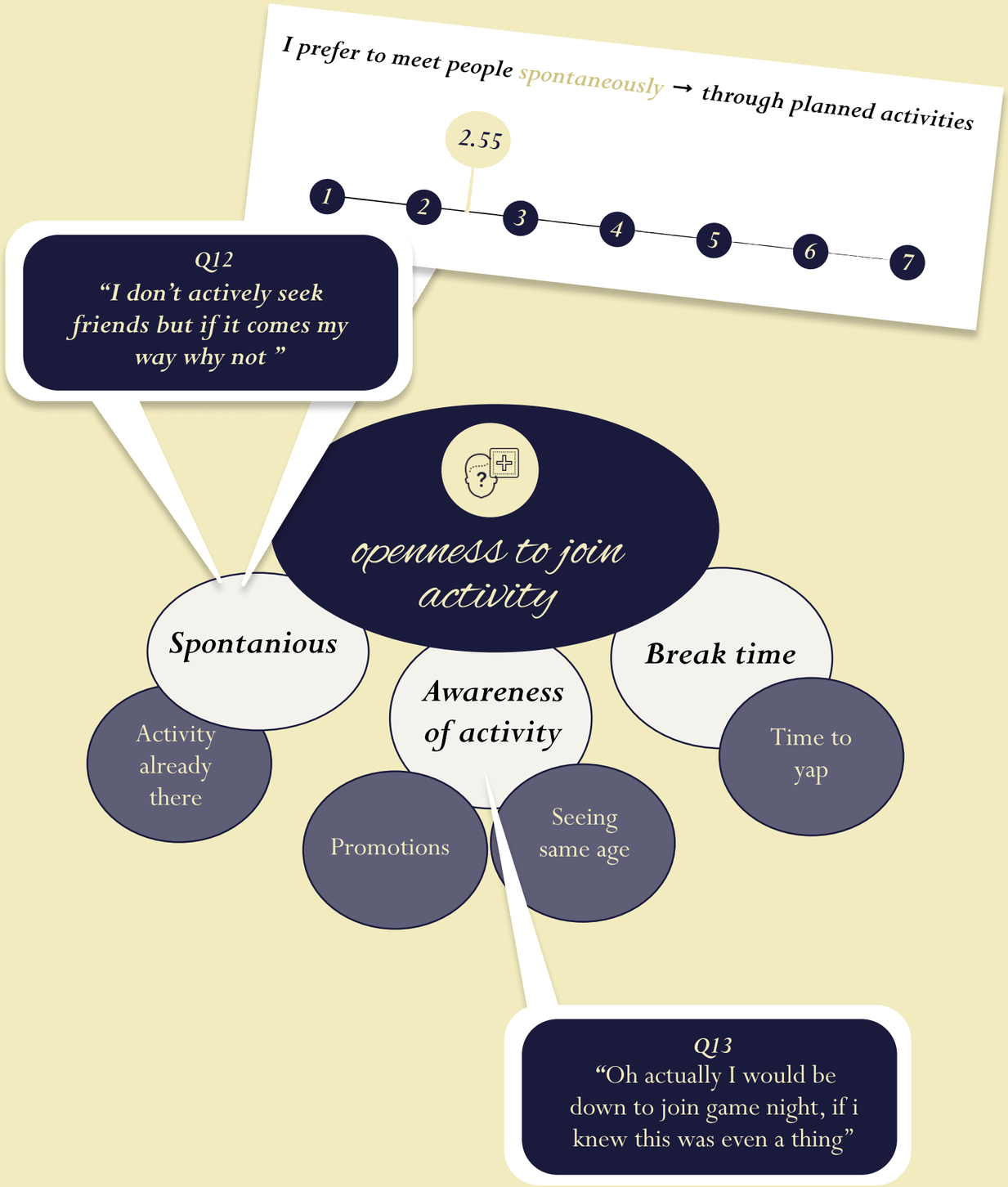


Figure 52: Cluster - openness yo join activity with quotes said by participants

4.2

What they would prefer in their ***ideal activity*** for meeting new people?

Groups & alone: When discussing factors that would make participation more likely, participants emphasised the importance of inclusivity and social comfort. Joining activities with friends was mentioned as an important motivator, as it increased feelings of safety and encouraged engagement with others. Even though they would participate with friends, they valued settings in which everyone is naturally included, particularly when someone is attending alone (Q15 and Figure 53, bottom right). While group interaction was appreciated, participants also highlighted the importance of opportunities for one-on-one interaction when they felt drawn to a specific person they wanted to get to know better.

Leading person: As mentioned before participants indicated that initiating interaction can feel particularly challenging when attending alone and being shy (Figure 53, top right). Having a facilitator or light structure, such as guided introductions, mixed teams, or small collaborative tasks, was seen as helpful in lowering social barriers. Questionnaire results supported this, showing that some structure was appreciated to guide participation, while excessive rules or overly rigid organisation were perceived as limiting.

Not only about socializing: Young adults expressed a preference for activities centred around shared experiences rather than direct socialising. Creative or hands-on activities, such as painting or cooking, were mentioned as formats that allow interaction to develop naturally (Q14).

Subject of activity: When completing the activity mapping exercise, participants frequently mentioned games, food-related activities, and creative exercises as appealing ways to meet others as a shared experience (Figure 53, top left). These activities were already aligned with their personal interests and therefore felt more inclined to join.

Figure 53: Cluster - needs & preferences with quotes said by participants

Moments of connection: Participants described moments of connection as a meaningful and almost poetic aspect of social activities (Figure 54, top left). They reflected on past experiences of getting to know new people, noting that there is often a specific moment when one realises they like someone, find something interesting about them, or simply feel a sense of connection (Q17). One participant called these the "aha moments" Participants expressed a desire for activities that allow such moments to emerge naturally or actively support their occurrence (Q18).

Cozyness of environment: When discussing the desired atmosphere of such activities, participants expressed a preference for a cosy and inviting environment, as illustrated in Figure 54 (right side). A relaxed setting was seen as encouraging openness and reducing feelings of pressure or obligation during social interaction. Questionnaire results further indicated a preference for indoor settings, largely due to the Dutch climate (Figure 54, bottom left).

Figure 54: Cluster - needs & preferences with quotes said by participants

2.4.3 Key takeaways

Main Research Question 4: What do youngsters want in an activity to meet new people in the library in the future?

T12 More fitted to young adults

To attract more young adults, library activities need to be communicated in a way that aligns with their interests and habits. The current perception that events are primarily intended for older audiences limits engagement. Clearer and more youth-oriented communication, both visually and in tone, could help reposition these activities as relevant and appealing to younger visitors.

T13 Spontanious activity in study break

Young adults expressed interest in activities that are flexible and easy to join, allowing spontaneous participation throughout the day, particularly during study breaks. Such activities should still offer enough structure to make participants feel comfortable and supported.

T14 Get those " aha moments" in the activity

Participants highlighted the importance of experiencing moments of connection during activities, in which they realise they relate to or connect with someone in a meaningful way.

T15 Everyone & friends included

Inclusivity was seen as essential. Participants emphasised that activities should accommodate both individuals and friend groups. They expressed concern about people attending alone and struggling to join, noting that while they would like to reach out, this can feel difficult. Activities that allow participation with friends while also encouraging interaction with new people were seen as ideal.

T16 Shared activity

Finally, participants indicated that activities should focus on shared experiences or collaborative tasks, such as creating or playing together, rather than emphasising socialising alone. Connecting through shared action was seen as more natural and less forced. Shared activity that was mentioned most ofton were games, food or creative related.

Literature review

To strengthen and validate the insights gathered so far, a literature review was conducted. The aim was to examine what existing research adds to or confirms about designing an ideal activity that supports young adults in meeting new people.

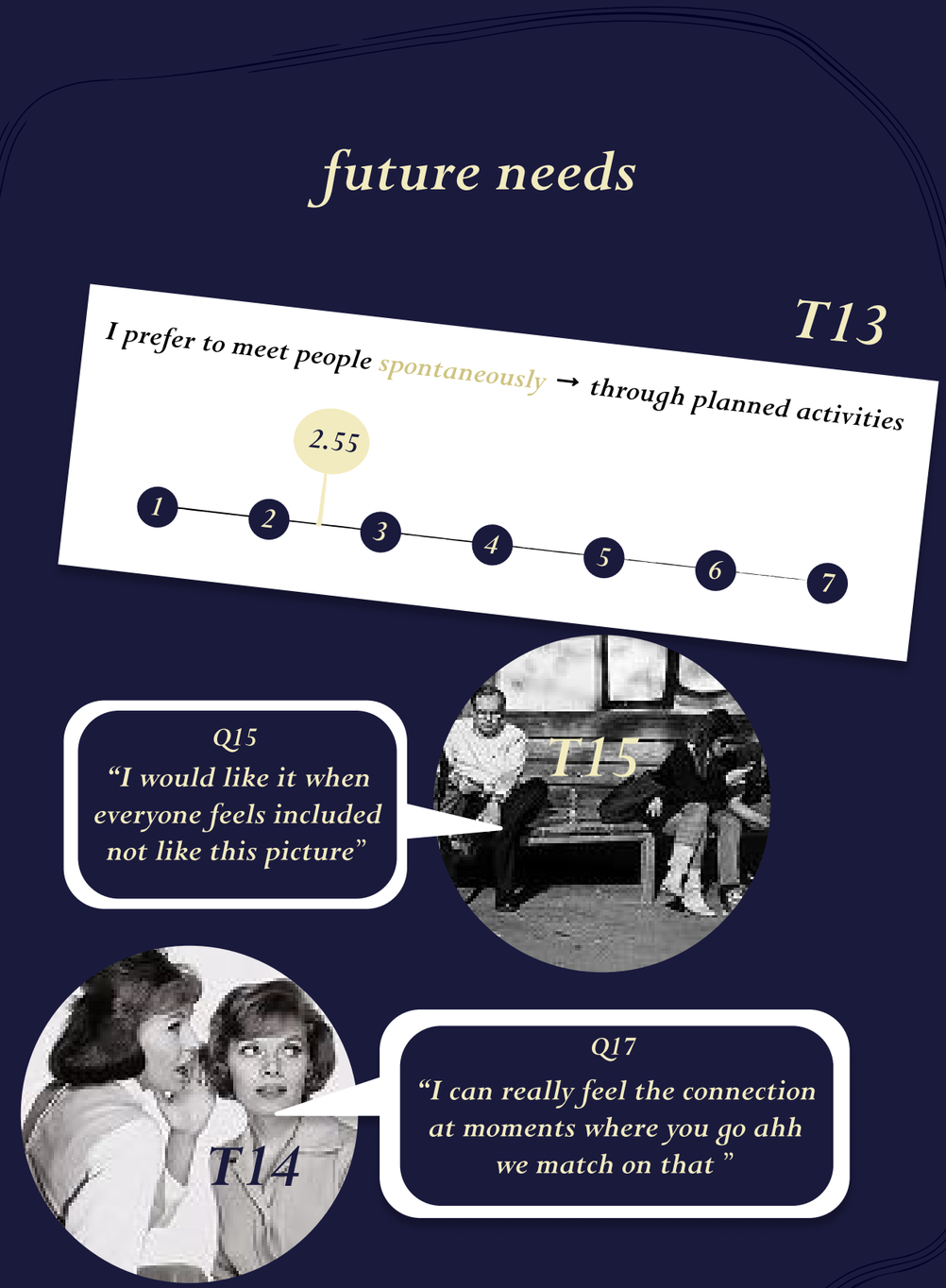


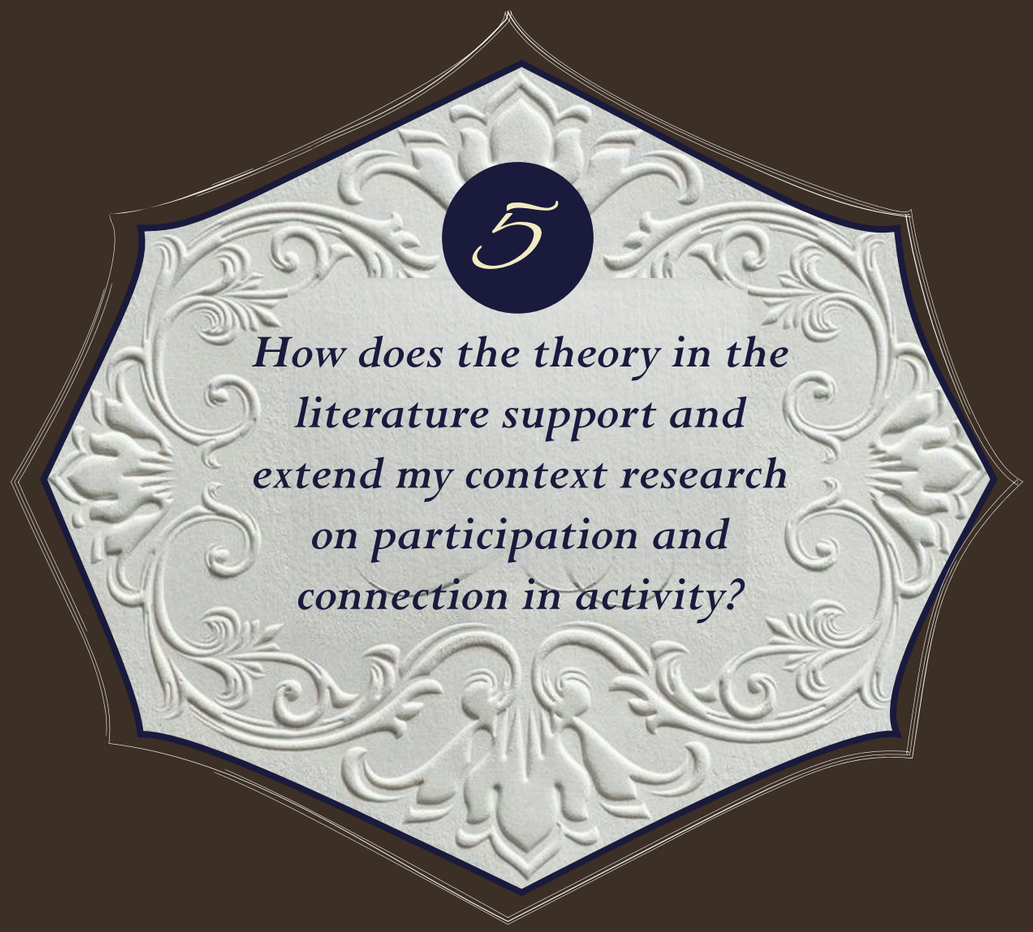
Figure 55: Visual of the key takeaways future needs

2.5

literature on social activity

Before building on the initial insights into what young people need in an activity to feel motivated to participate, it was necessary to deepen the understanding of how participation can be encouraged and which types of activity formats have the greatest potential to engage young adults. Therefore, a literature review was conducted to explore these aspects further and to make an informed decision about which solution space to focus on.

main research question



5.1

How can you ***motivate youngsters participate*** into an social activity?

5.2

How to Make It ***Easier*** for Young Adults ***to Connect With Each Other*** through activity?

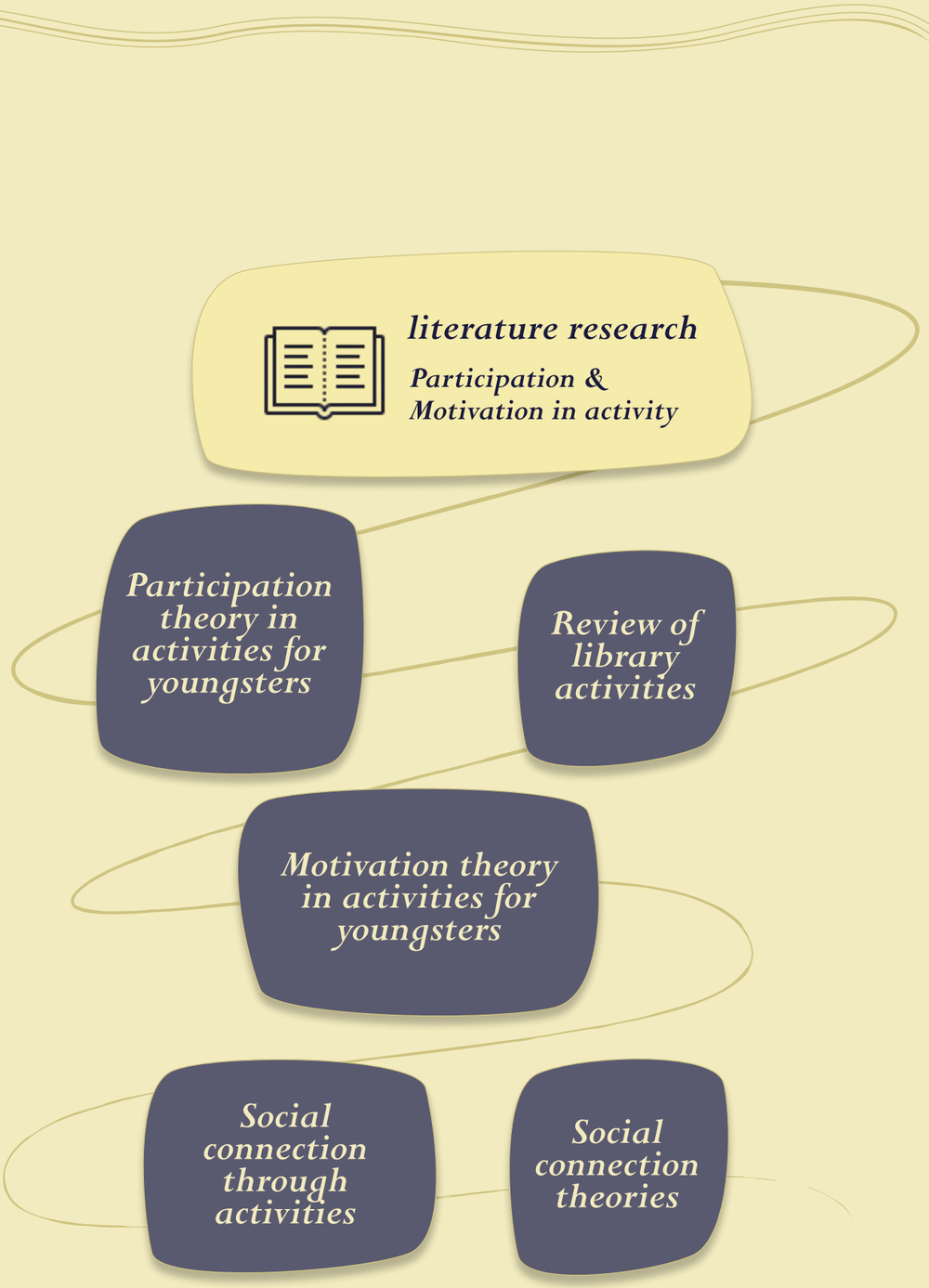


Figure 56: Research methods of 2.5 explained in detail

2.5.1 Research method

To answer these research questions and gain further insight and confirmation of the earlier findings, a ***literature review*** was conducted (Figure 56). This review aimed to explore why youngsters choose to participate in certain activities, how they can be motivated to join, and how activities can help deepen social connections.

Search terms used in this research included youngster participation theory, motivation for activities, activities for social connection, deepening social interaction, and library activity participation.

2.5.2 Insights

Here, a visual (Figure 57) is presented that shows the insights clusters of the theory on participation in social activities for youngsters from the litearture research and how they relate to the insight cluster from my own context research.

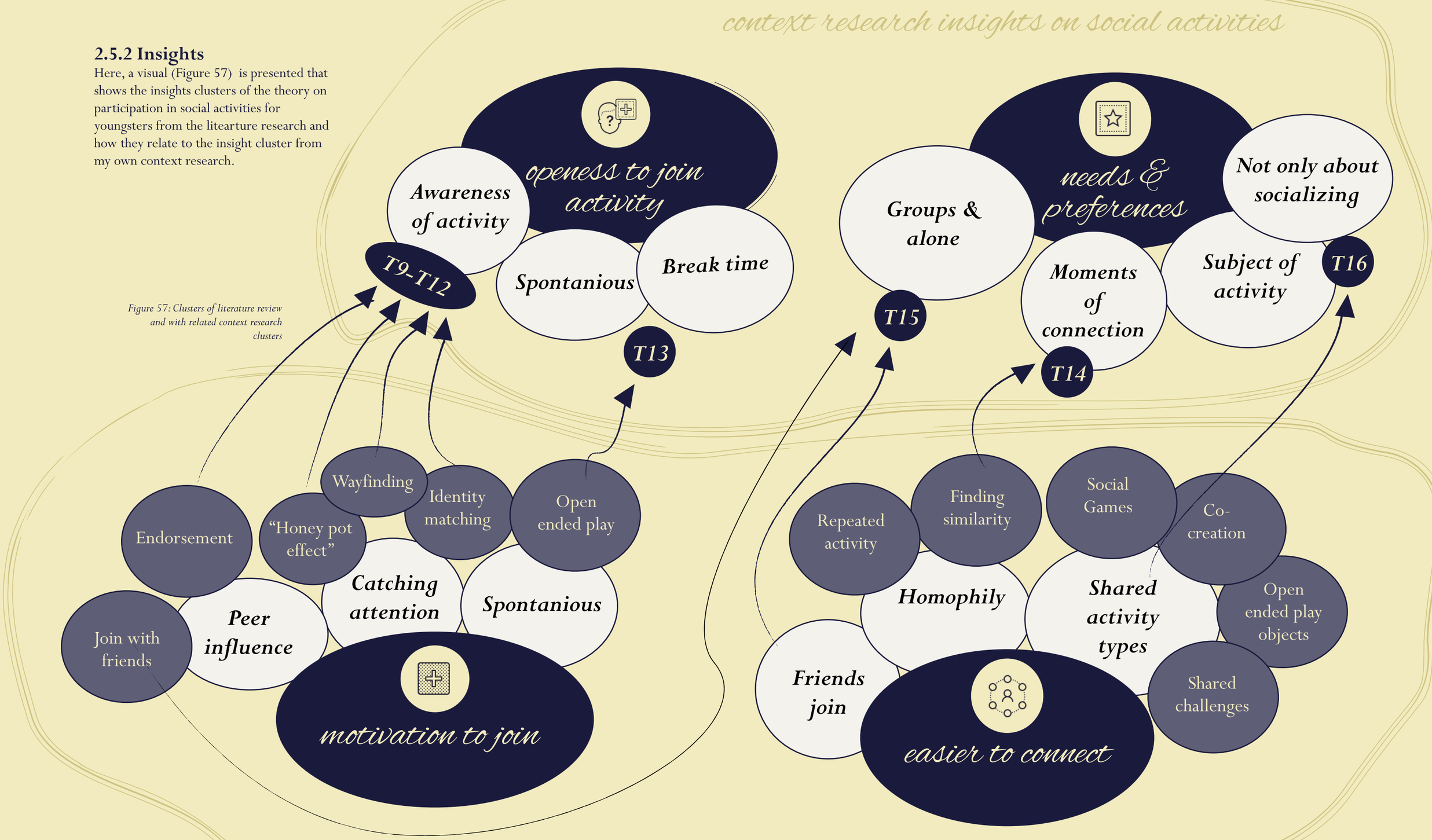


Figure 57: Clusters of literature review and with related context research clusters

5.1

How can you ***motivate youngsters participate*** into an social activity?

Importance of spontaneity and open-ended play objects

The previous paragraph showed that one of the main reasons young adults do not participate in existing library activities is that these activities are not easily entered spontaneously. Most activities take place at fixed times and require deliberate planning, which discourages participation. Young adults indicated a clear preference for spontaneous activities that they can join while already being in the library, rather than returning at a separate time for a planned event. Participation is only considered worthwhile if the activity strongly aligns with their interests, a finding that is also reflected in T13.

Open ended play

This preference for spontaneity is supported by literature, which indicates that young adults are drawn to spaces that enable spontaneous encounters and informal interaction. When considering activity design in relation to spontaneity, open-ended play objects and playful installations emerge as particularly relevant. Such interventions encourage exploration without predefined rules or outcomes, allowing users to engage at their own pace and according to their own interests. Playful or open-ended installations promote spontaneous exploration and improvisational use of space, lowering the threshold for engagement and creating room for experimentation (Rompas & Ekomadyo, 2024; Sand et al., 2023). In Figure 58, a good example of an open-ended play installation is shown. The installation The Swing Project was designed by Eric Höweler and Meejin Yoon of Höweler + Yoon Architecture (Mairs & Mairs, 2015). The installation consists of a series of swings that react to one another through sound and light when participants swing on them. Because users can immediately see and hear how their actions influence the installation and the experience of others, the swings invite playful experimentation and make it easy for strangers to interact and play together.

Figure 58: Swing project by Höweler & Yoon Architecture (Mairs & Mairs, 2015)

Lack of awareness of activities and strategies to address it

Another key finding from the previous section is that many young adults do not participate in library activities simply because they are unaware of them. Participants indicated that existing activities are poorly communicated and difficult to recognize. Promotional materials are scattered throughout the library, often fail to attract attention, or are outdated. In addition, the presence of predominantly older attendees created uncertainty about whether these activities were intended for young adults. As a result, many participants assumed the activities were "not for them," even when the content itself might have been relevant. These findings align with themes T9, T10, T11, and T12.

Literature supports this observation and highlights several effective strategies for increasing awareness and motivating participation among young adults.

honey pot effect

Across the literature, visibility emerges as a crucial factor in encouraging youth engagement. When young people see others actively participating in an activity, curiosity is triggered, a phenomenon known as the honeypot effect (Memarovic et al., 2012). Open sightlines, visible ongoing activity, and informal seating arrangements further strengthen this effect by making participation feel accessible and inviting (Vyas et al., 2016b). Rather than relying solely on promotional materials, activities that are physically visible within a space can naturally draw attention and lower the threshold for joining. This effect can also be observed in the installation 21 Balançoires (Figure 59) (2025), created by Daily tous les jours in Montreal. The swings produce musical sounds when people use them, and when multiple participants swing at the same time the sounds combine into a shared composition. The sound and visible activity attract the attention of passersby, encouraging them to observe and eventually participate. This creates a natural gathering effect where participation increases as more people join the activity.

Endorsement

Peer presence and endorsement play a significant role in motivating young adults to participate. Seeing peers engage in an activity increases perceived safety and social acceptance. In addition, subtle prompts such as invitations, reminders, or shareable visual content can help translate passive interest into active participation (Scammell & Semetko, 2012). These forms of endorsement are especially effective when they feel informal and socially driven rather than institutional. A clear example of peer endorsement can be seen in the popularity of the social media app BeReal (Figure 60). The application gained widespread popularity among young adults primarily through peer-to-peer sharing and word-of-mouth promotion rather than traditional advertising. When users saw their friends posting on the platform, they were more likely to download and participate themselves. This demonstrates how peer visibility and informal endorsement can strongly influence participation among young people.

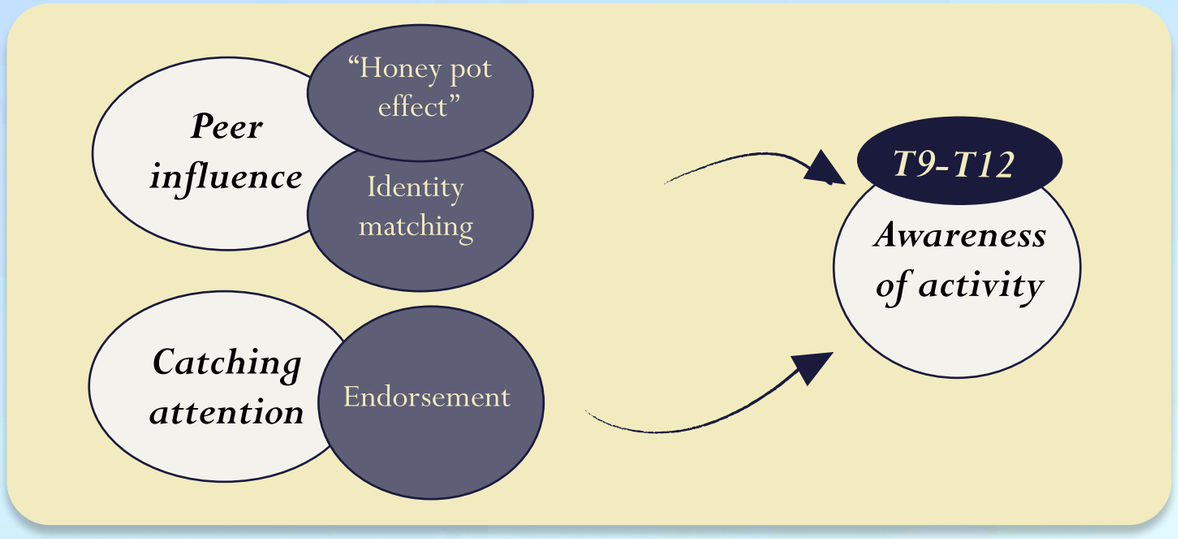


Figure 59: Swings installation 21 Balançoires (21 Balançoires (21 Swings), 2025)

Figure 60: Bereal application

identity matching & development

Young adults are more likely to engage in activities that align with their social and cultural identities (Lin et al., 2015). Activities that feel relevant, familiar, and expressive are perceived as more attractive and meaningful. Creative, interactive, and social formats support self-expression and shared meaning-making, which further enhances motivation to participate (Krpan & Konči ć, 2019).

The subject matter of an activity also plays an important role. Activities connected to recognizable cultural references, such as books, films, or popular media, have been shown to effectively attract students (Parker & McDonald, 2014). This can also be seen in the success of Pokémon GO, developed by Niantic in collaboration with Nintendo (2016). When the game was released, many young adults already recognized the Pokémon characters from their childhood. Because of this familiarity and nostalgic connection, the game quickly became popular and encouraged large numbers of young people to participate (Figure 61). Moreover, young adults are particularly motivated by activities that contribute to identity exploration, skill development, or future-oriented learning (Hixson, 2014; Eccles & Barber, 1999; Barber et al., 2005; Ramey et al., 2016; Luthar et al., 2006; Gage & Thapa, 2011).

way finding

Finally, clear wayfinding and visible engagement zones can function as social magnets within public spaces. These zones encourage a gradual transition from observing to participating, allowing young adults to join at their own pace (Lee, 2016). When activities are easy to locate and clearly framed as open and inclusive, participation becomes more approachable and less intimidating. A good example of wayfinding through design can be seen in Superkilen Park in Copenhagen (Figure 62) (Hellström, 2014). The park uses consistent visual design elements, colors, and spatial organization to clearly guide visitors through different areas. These recognizable design cues help users understand where to walk and where social interaction or activities are expected to take place.

Figure 61: Pokemon GO game (Niantic, 2016)

Figure 62: Superkilen Park in Copenhagen (Hellström, 2014)

Friends do make it easier

As reflected in T15, participants indicated that connecting with others feels more comfortable when they can join activities together with friends, while still allowing individuals to participate independently. Literature aligns with this finding, emphasizing that participation becomes more accessible when young adults can arrive as part of a group yet feel equally welcome to join alone.

Friends join

The presence of friends plays a significant role in social comfort (Figure 63). Research shows that individuals who arrive alone often first observe the social atmosphere before deciding whether to participate, whereas arriving with friends substantially lowers this threshold (Prinstein & Kenneth, 2008). Familiar peers provide a sense of safety, confidence, and social support, which increases willingness to engage with strangers (Løvoll & Vittersø, 2012). At the same time, young adults commonly use public spaces to remain within their existing social groups, making interaction with unfamiliar groups less likely unless the activity explicitly supports mixing (Van Aalst & Brands, 2020). Therefore, designs that welcome friend groups while gently facilitating interaction across groups can reduce social barriers and support more inclusive participation.

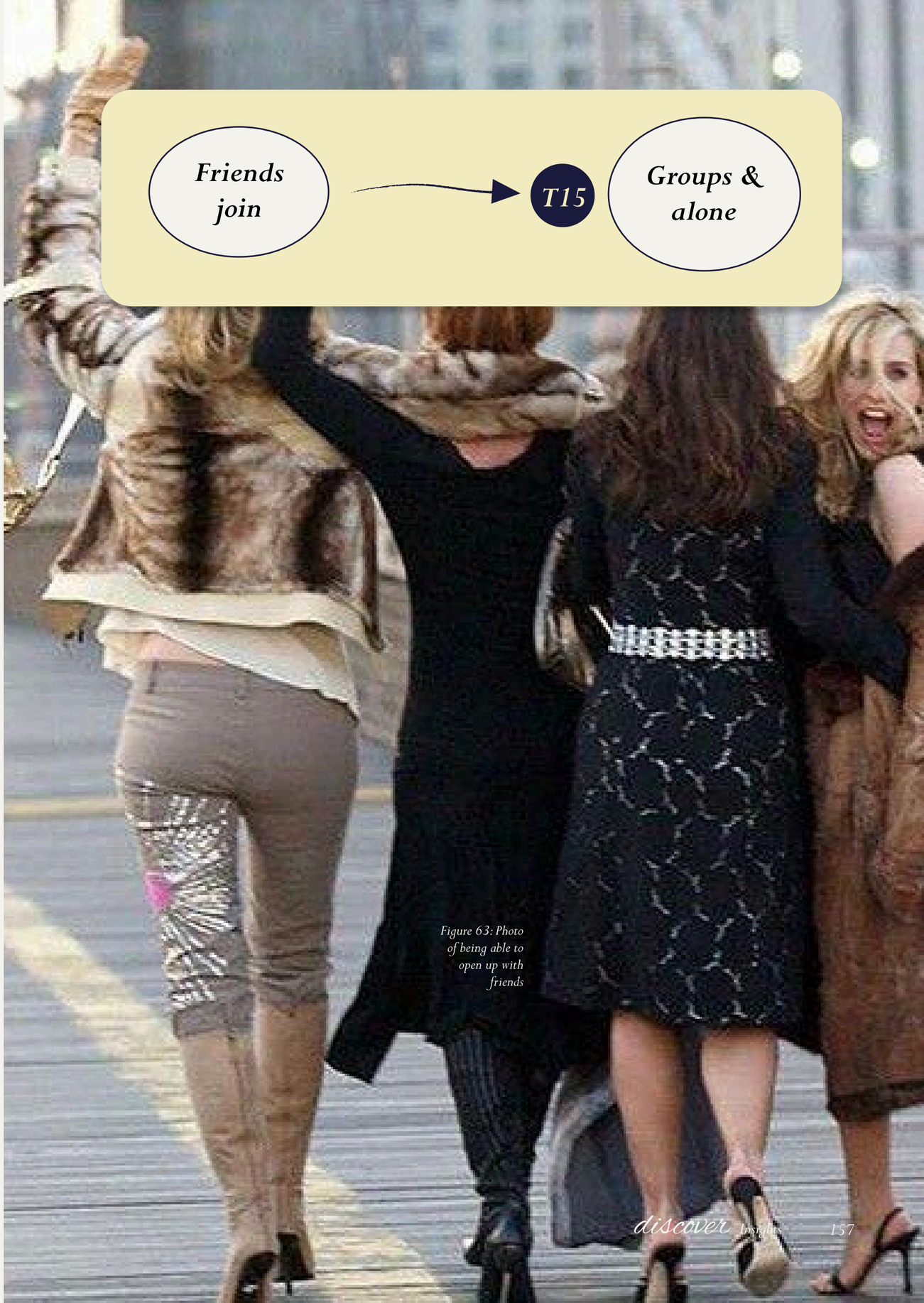


Figure 63: Photo of being able to open up with friends

5.2

How to Make It ***Easier*** for Young Adults ***to Connect With Each Other*** through activity?

When it comes to facilitating easier social connection, participants articulated several needs in the previous paragraph. The literature strongly supports these findings and further elaborates on the mechanisms that enable social engagement.

Supporting "Aha-moments" through similarity

Another big thing that the youngsters need were those ''aha moments" dor found in T14. where they wanted to have those i know we are oing to match moments and they apprecaite that to getting to a deeper bond

Finding similarity & repeated participation

The literature describes this process through the concepts of familiarity and homophily. Repeated participation in the same activity or space increases familiarity, which strengthens the likelihood of forming social bonds (Poulin & Denault, 2013). This process is supported by homophily, as adolescents tend to connect more readily with peers who share similar interests or behaviours (Figure 64). Discovering such commonalities helps reduce the initial sense of strangeness and creates a foundation for further interaction (Sun & Taylor, 2020; Sanchiz et al., 2016). While deeper questions or moments of mutual vulnerability can further strengthen emerging bonds (Aron et al., 1997), the literature suggests that these typically develop gradually from neutral, low-pressure openings rather than from deliberate or immediate attempts at "deep talk."

Figure 64: Illustration of different people being similar to eachother

Shared activity does make it easier to connect

Findings from the contextual research indicate that shared activities make it easier for young adults to connect with others. As reflected in T16, participants expressed a preference for doing something together while getting to know each other, rather than placing direct emphasis on socializing itself. Engaging in an activity allows interaction to emerge more naturally and reduces the pressure associated with initiating conversation.

This is supported by literature, which shows that young adults most easily form connections when interactions develop organically within shared activities (Figure 65). Friendships are often described as beginning with "doing something together" or "realising we had something in common," highlighting how shared engagement naturally leads to conversation and bonding (Wicaksono & Adiyanti, 2019).

Type of activity that support connection

Participants indicated a preference for creative, game-based, and food-related activities, as also reflected in T16. These formats were perceived as both enjoyable and comfortable ways to meet new people. The literature strongly supports creative and game-based activities as effective social facilitators.

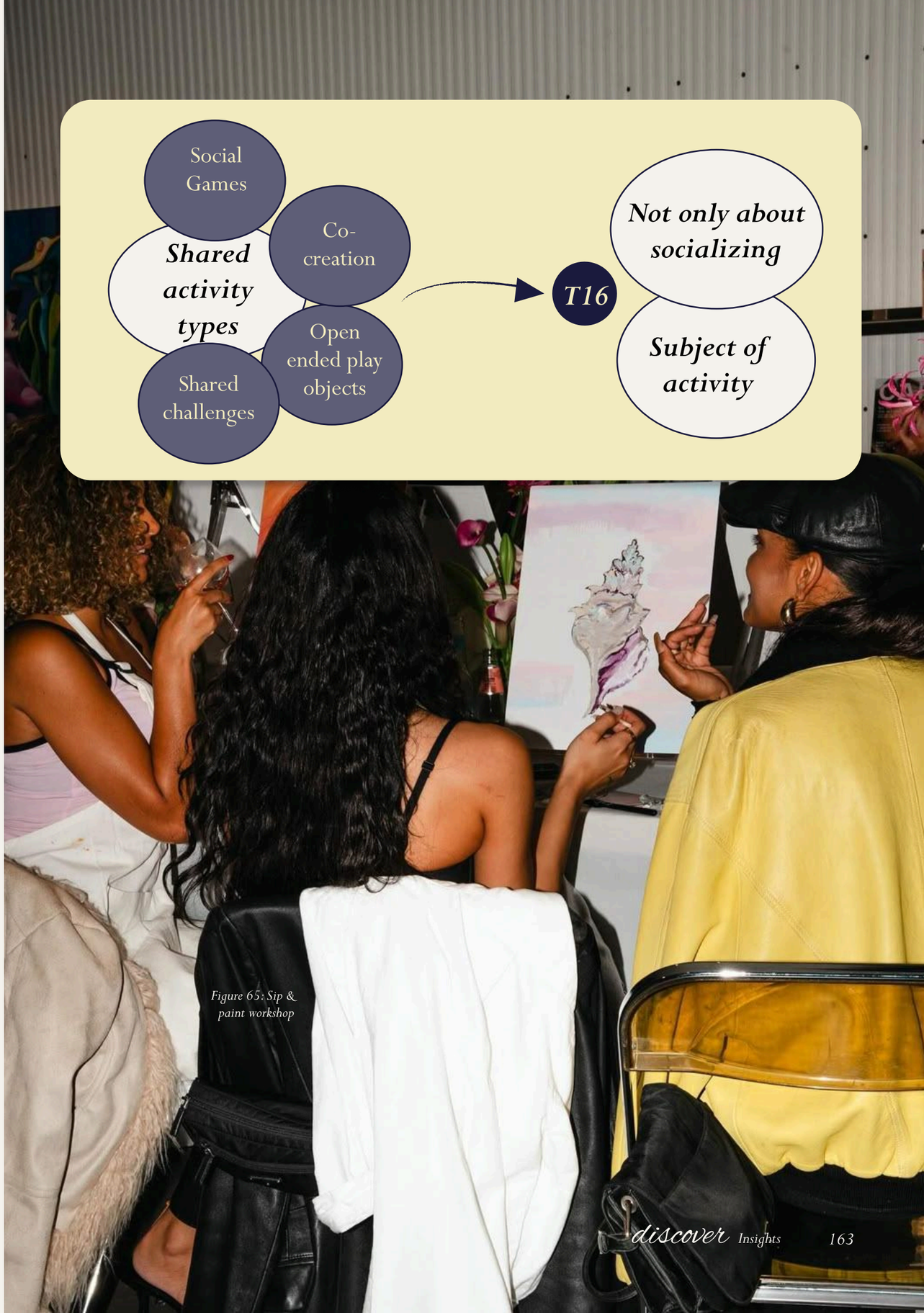


Figure 65: Sip & paint workshop

Shared challenges

Activities that involve collaboration, shared discovery, or light challenge tend to generate more meaningful interaction than passive or solitary activities. Shared challenges create moments of cooperation and mutual reliance, which help spark conversation and deepen engagement (Fonseca et al., 2022). This can also be seen in skribbl.io (Figure 69), a popular online drawing and guessing game (Rantanen, 2017). In the game, one player draws a word while the other players try to guess what is being drawn. While playing, participants can communicate through a chat function, which encourages interaction and playful communication even when players are not physically in the same space.

Co-creation

Creative and co-creative activities allow young adults to express their identities and personal experiences, which increases both comfort and engagement (De Roeper & Savelsberg, 2009). Co-creative approaches, in which participants can influence or shape the activity based on their own interests, further enhance feelings of ownership and motivation to participate (Hagemann et al., 2024). A strong example of co-creation can be found in LittleBigPlanet (Figure 67), developed by Sony (2018). The game allows players to design their own characters, levels, and environments and share them with others online. Because players can contribute their own creations and experiment with different designs, they often feel motivated to invest more time and effort in the game while sharing and interacting with others.

Social games

In addition, participants expressed interest in games as a preferred form of shared activity (T16). Literature provides numerous examples of social games as effective tools for initiating interaction. Social games offer a structured yet low-pressure framework for engagement, as the game itself provides a clear reason to communicate, negotiate, or collaborate. Through gameplay, participants naturally express humour, preferences, and perspectives, helping establish common ground and making follow-up interaction more likely. This makes social games particularly suitable for encouraging initial connections in public, low-threshold environments. One of the simplest forms of social games are conversation-based card games such as We're Not Really Strangers (Figure 68) (Odiney, 2018). In this game, players draw cards containing questions designed to spark conversation and reflection. The structured format provides a clear reason to talk, which helps participants feel more comfortable opening up and getting to know each other.

Open ended play objects

While open-ended play objects were not explicitly mentioned by participants, they present an interesting opportunity for the design phase. The social potential of such objects lies in their capacity to invite exploration and shared discovery. An example of open-ended play objects can be seen in Imagination Playground Blocks, designed by David Rockwell (2010) (Figure 66). Because the objects have no fixed purpose, they encourage exploration, creativity, and collaborative play between participants. Open-ended, multi-use play objects encourage spontaneous interaction by enabling smooth transitions between individual, parallel, and group engagement (Bekker et al., 2009; De Valk et al., 2015). These installations stimulate conversation through shared curiosity and momentary discovery, making them particularly effective in supporting informal and exploratory social encounters (Rompas & Ekomadyo, 2024).

Figure 66: Open ended play objects by David Rockwell (2010)

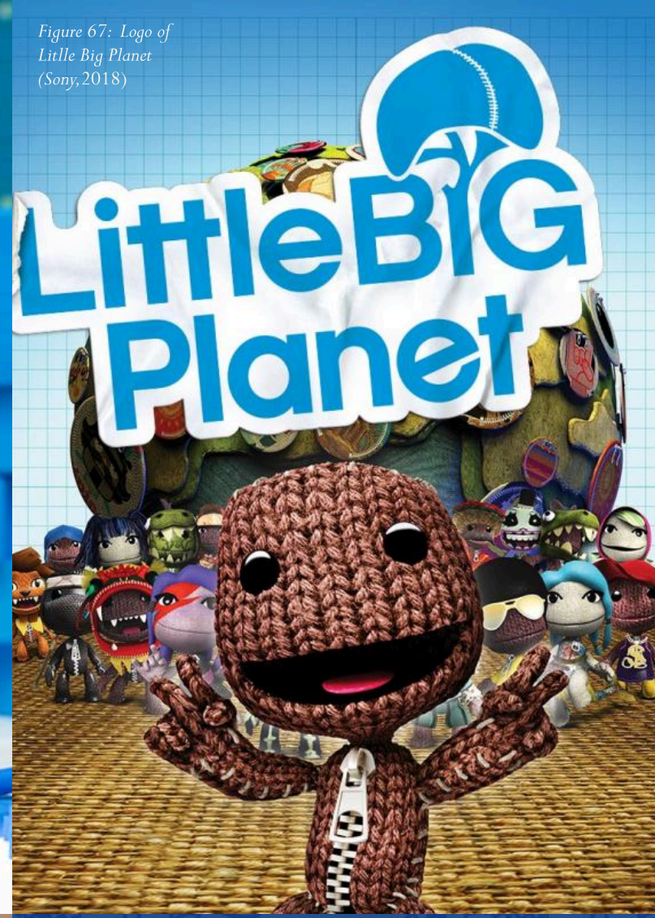


Figure 67: Logo of Litlle Big Planet (Sony,2018)

Figure 68:We're not really starngers cards of the game (Odiney, 2018)

Figure 69: Logo of Skribbl.io (Rantanen, 2017)

2.5.3 Key takeaways

Main Research Question 5: How does the theory in the literature support and extend my context research on participation and connection in activity?

T17 - Adding a deeper social layer to games

This chapter demonstrates that play is a highly effective tool for facilitating connection and making social interaction feel effortless. This aligns well with the needs expressed by participants, who indicated that they did not want activities to focus explicitly on socializing. Games were frequently mentioned as an activity they were already interested in and comfortable engaging with. Building on this, social games can be designed to include a deeper social layer, enabling more meaningful connections beyond surface-level interaction.

T18 - Forms of shared play that support bonding

The literature identifies several types of shared play that are particularly effective in strengthening social bonds. Co-creative activities, collaborative challenges, and open-ended play objects all encourage interaction through doing, shared discovery, and mutual engagement. These forms of play support gradual bonding by allowing participants to interact at their own pace while working toward a shared experience.

T19 - Creating awareness of activities within the library context

Increasing awareness is essential for encouraging participation. Literature highlights several strategies that are relevant within the library context, including the honeypot effect, identity alignment, and clear wayfinding. Activities should be visible, recognizable, and visually connected through consistent cues or objects that guide young adults toward participation and help them understand what is happening and whether it is meant for them.

T20 - The importance of spontaneous activity

Both the literature and the contextual research confirm that spontaneous activities are particularly appealing to young adults. Activities should therefore be continuously available, easy to join, and easy to leave. Low thresholds for entry and exit reduce pressure and make participation feel natural rather than planned or forced.

T21 - Enabling moments of similarity and recognition

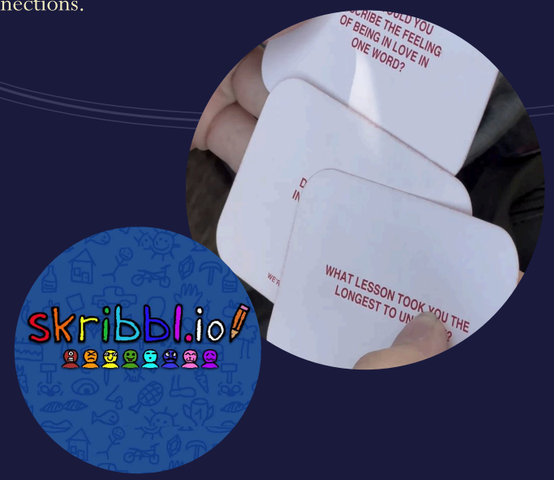
Finally, social games can support deeper connection by helping participants discover similarities and shared interests. These moments of recognition, often described as “aha moments,” are closely related to the concept of homophily in the literature. Designing for this deeper layer enables participants to learn meaningful things about each other, strengthening the sense of connection beyond the activity itself.

T22 - Joining with friends supports openness

Both the contextual research and the literature indicate that the possibility of joining an activity with friends is essential. Participating together with familiar peers increases feelings of safety and confidence, which in turn makes young adults more open to engaging with strangers.

Social game to connect

Overall, these insights outline how participation and social connection can be strengthened through activity design. Games and playful interactions emerge as particularly effective tools for engaging young adults and stimulating social interaction. By integrating an additional social layer into gameplay, one that supports discovery, similarity, and shared meaning, the activity can create space for more meaningful and lasting connections.



3

define

The *define* phase focuses on explaining the key insights collected during the contextual research. It clarifies the focus and boundaries of the design space.

The final sections of each paragraph in the Discovery phase outlined key insights into how libraries can support young adults in meeting and connecting with one another. These insights revealed what young adults value, how they prefer to meet new people, and which conditions facilitate or hinder social interaction. This chapter builds on those findings by selecting the most relevant and promising insights to define the focus of the project.

The following pages describe the common thread running through these insights and explain how they gradually shaped the design goal. In addition, this chapter clarifies which key components from the Discovery phase are carried forward into the Define phase as core design criteria. Other significant findings are translated into a user profile describing the target group, an explanation of the chosen medium for the design process, and a set of requirements and wishes. Together, these elements form the foundation for the design phase of the project.

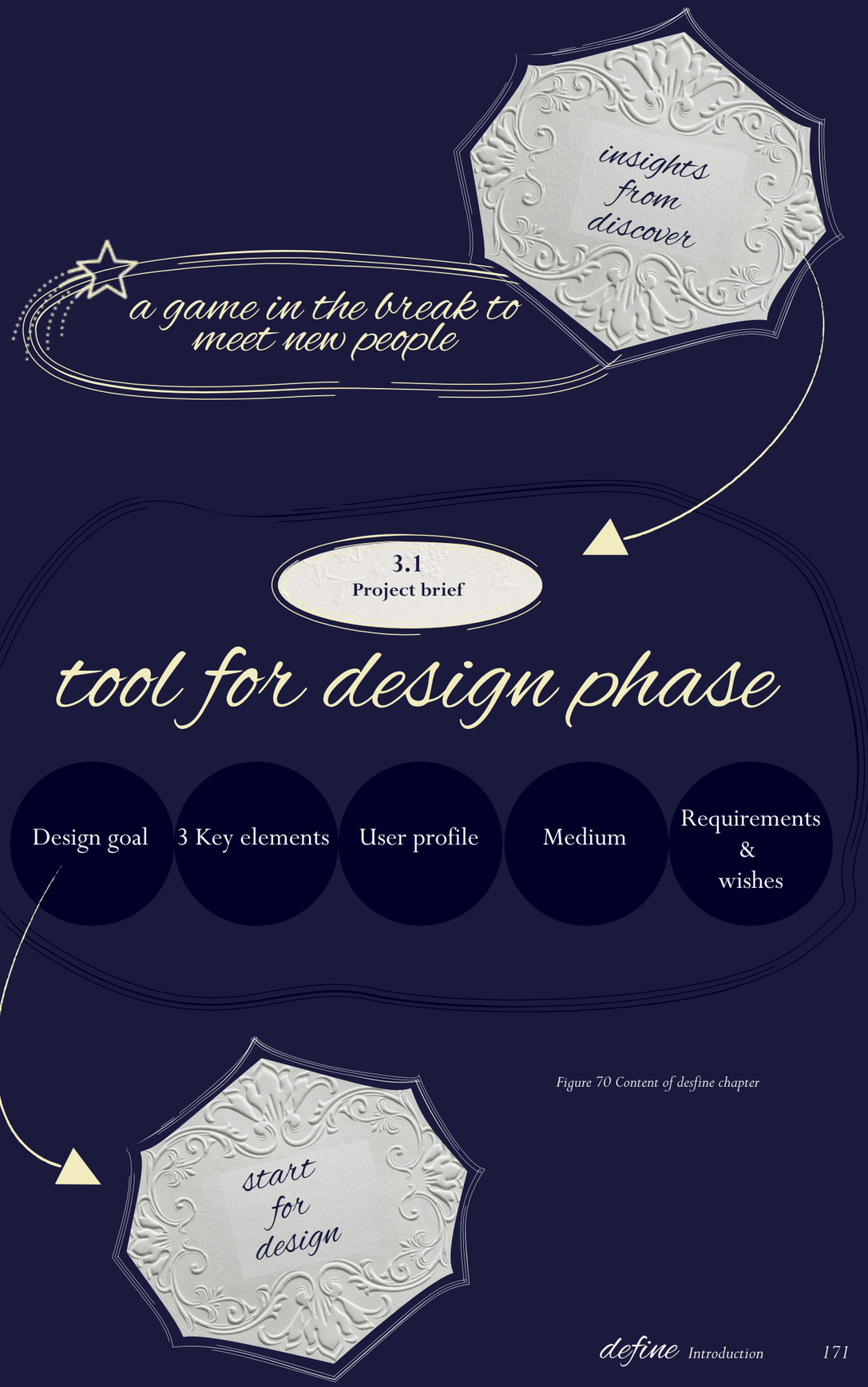


Figure 70 Content of desfine chapter

3.1

design brief

3.1.1 Making sense of the insights from the context research

The design goal was continuously adapted, iterated, and refined throughout the discover phase described in the previous chapter. The following pages explain how the goal evolved across each stage of the context research.

For each part, the main insight is presented, followed by the opportunities they create and the motivations for further research. These assumptions guided what needed to be explored in more detail and helped clarify whether initial interpretations were valid.

This structure of explanation is also visualized in Figure 71.

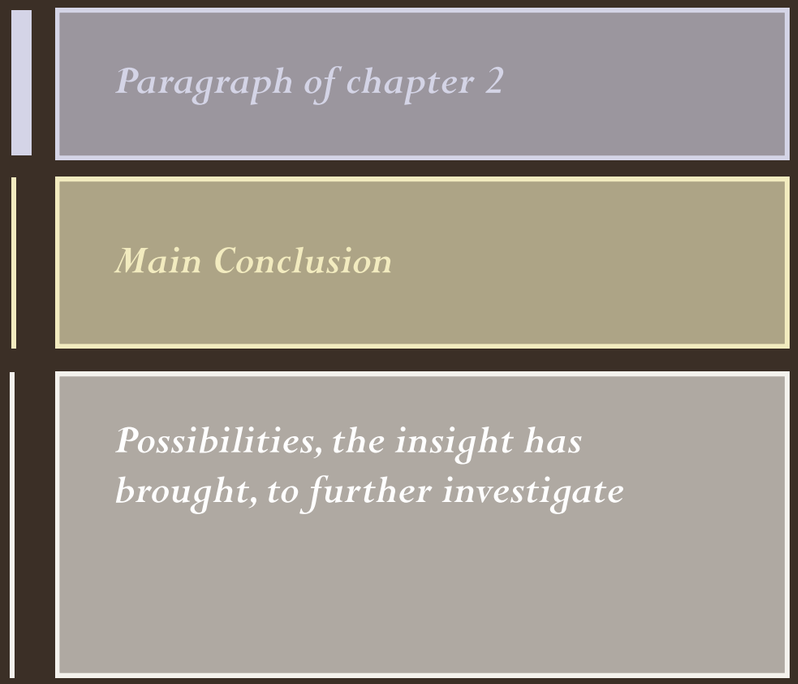


Figure 71: Structure of reasoningof the insights context research

2.1 current meeting behaviour of youngsters in libraries

Hesitant to talk to strangers

Based on the research in paragraph 2.1, young adults struggle to initiate conversations with strangers in the library. This is mainly due to fear of awkward situations, a lack of clear conversation topics, and concern that interactions will remain superficial, ending in small talk without leading to meaningful connection (Figure 72).

Possibilities: meeting people during studying or during a separate activity

Although the library is primarily used for studying, participants indicated that they are not very open to meeting new people during focused study time. This raised questions about where their social boundaries lie and whether certain forms of interaction might still feel acceptable in that context. At the same time, they expressed enthusiasm for meeting new people during shared activities, such as exhibitions, where a natural conversation topic already exists. This highlighted the need to better understand their preferences and identify the contexts in which they feel most comfortable connecting with others.

Figure 72: Visual conclusion paragraph 2.1

Figure 73: Visual conclusion paragraph 2.2

2.2 Potentional future scenario ideal to meet new people

Shared activity to meet strangers

From the exploration of possible interaction scenarios during studying in paragraph 2.2, it became clear that young adults are generally not open to social interaction while studying. Interactions that do occur are typically brief, task-related, or purely functional, and rarely develop into meaningful connections. Participants also expressed concern about disturbing others, which further reduces their willingness to engage socially. As a result, studying contexts do not provide sufficient opportunities for getting to know someone in a deeper or more personal way. This finding indicates that a shared activity outside of focused study time is a more suitable context for meeting new people (Figure 73).

Possibilities: activities during break time, with friends, and deeper conversation

While discussing potential interactions during study moments, clear patterns emerged. Break time was consistently seen as a moment when people are more open to conversation. Being with friends also made participants feel more comfortable approaching strangers. In addition yet again, surface-level interactions were not valued; participants preferred conversations that move beyond small talk. This raised the question of whether these same conditions of break time, the presence of friends, and opportunities for deeper conversation, would also apply to their ideal and current library activity for meeting new people outside the context of studying.

2.3 Current experience of the activities in the library

Current activities do not align with young adults

The library's current activities do not align well with the interests and needs of young adults. Many activities that are intended for this group are largely unknown to them, and in some cases, young adults are unsure whether these activities are actually meant for them (Figure75).

Possibilities: lack of interest, mixed-age audiences, limited visibility

Initial observations suggest several possible reasons for this low engagement. The activities may not sufficiently match their interests, they often attract a broad age range (including much older and younger participants), and there is limited visibility and promotion. These factors may reduce young adults' motivation to participate. To better understand this, I aim to interview young adults to identify the specific reasons why they do not engage with the library's activities.

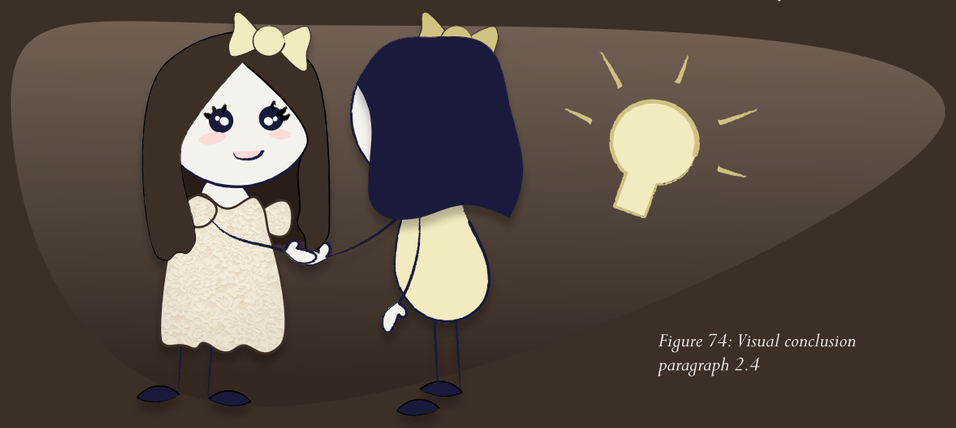


Figure 74: Visual conclusion paragraph 2.4

2.5 Grounded ideal future activity to meet new people

Social games to connect

The literature research helped clarify which type of activity best fits the possible identified needs: spontaneity, shared action, inclusion, participation with friends, and discovering similarities. These needs were also strongly supported by the literature. As a result, low-threshold, join-anytime social games emerge as a promising direction (Figure 76). They are appealing to young adults because they are fun, visibly interactive, and based on doing something together. They can be easily joined by both strangers and friend groups. By adding a deeper social layer, these games can also create moments of connection ("aha moments") and provide meaningful topics for continued interaction.

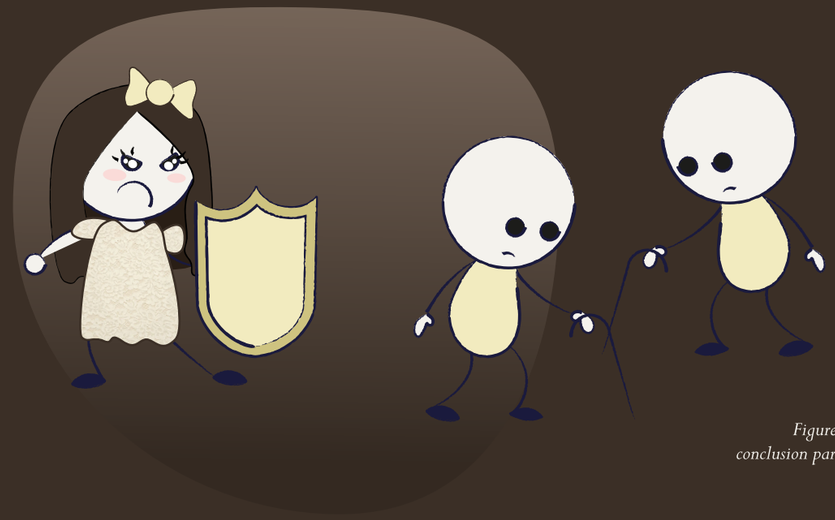


Figure 75: Visual conclusion paragraph 2.3

2.4 Potentional ideal future activity to meet new people

New shared spontaneous activity during breaks

This research confirmed the earlier assumptions. Young adults do not engage with existing events because these activities do not align with their specific needs and preferences. They express a clear desire for a new shared activity designed explicitly for them. Young adults prefer to meet new people spontaneously while already being in the library, with study breaks emerging as the ideal moment to combine spontaneity with time away from focused study (Figure 74).

Possibilities: spontaniounity, doing together, importance of inclusion, friends, similarities

Key factors of the youngsters ideal activity include the importance of spontaneity, doing something together, inclusion, the ability to join with friends, and finding similarities ("aha moments"). The next step is to explore what previous research says about these themes, assess how well it aligns with my findings, and identify possible directions for solutions that support these needs.

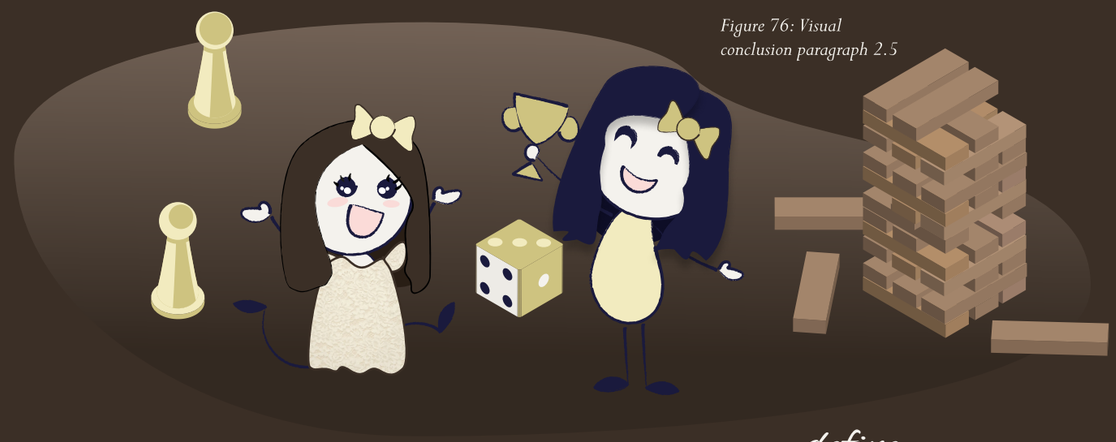


Figure 76: Visual conclusion paragraph 2.5

3.1.2 Design goal

The context research has led to the formulation of the design goal for this project (Figure 77). The findings show that young adults find it difficult to spontaneously approach strangers. Study breaks emerged as the moments when they are most open to meeting new people. The youngsters prefered to do that through a low-threshold, spontaneous activities within the library. Games were identified as a particularly promising medium, as they create opportunities for social interaction and connection in a fun, accessible way, and are already appreciated by young adults as an engaging form of activity.

Figure 77: Design goal defined after context research

3.1.3 Core criteria

The common thread running through the key findings of each step in the context research led to the formulation of the design goal as seen as in 3.1.1. To provide a clearer overview and to ensure that all important insights were taken into account, the findings were clustered into three groups representing the core criteria that the design must fulfill in order to achieve this goal (Figure 79).

This project focuses on designing a *social game or play*, and its design must address these requirements: it should be ***inclusive*** of different personality types, comfortable for both individuals and friends to join, ***motivating*** for young adults to participate, and *entertaining* while also incorporating a deeper *social dimension* that allows players to connect on a more meaningful level.

Figure 78 shows how each the core requirements emerged. Each core requirement brings together the relevant insights from the context research (paragraphs 2.1–2.4) and is further supported by findings from the literature research (paragraph 2.5). The next pages presents a visual overview that links these requirements to the corresponding research key insights, which are then explained in more detail.

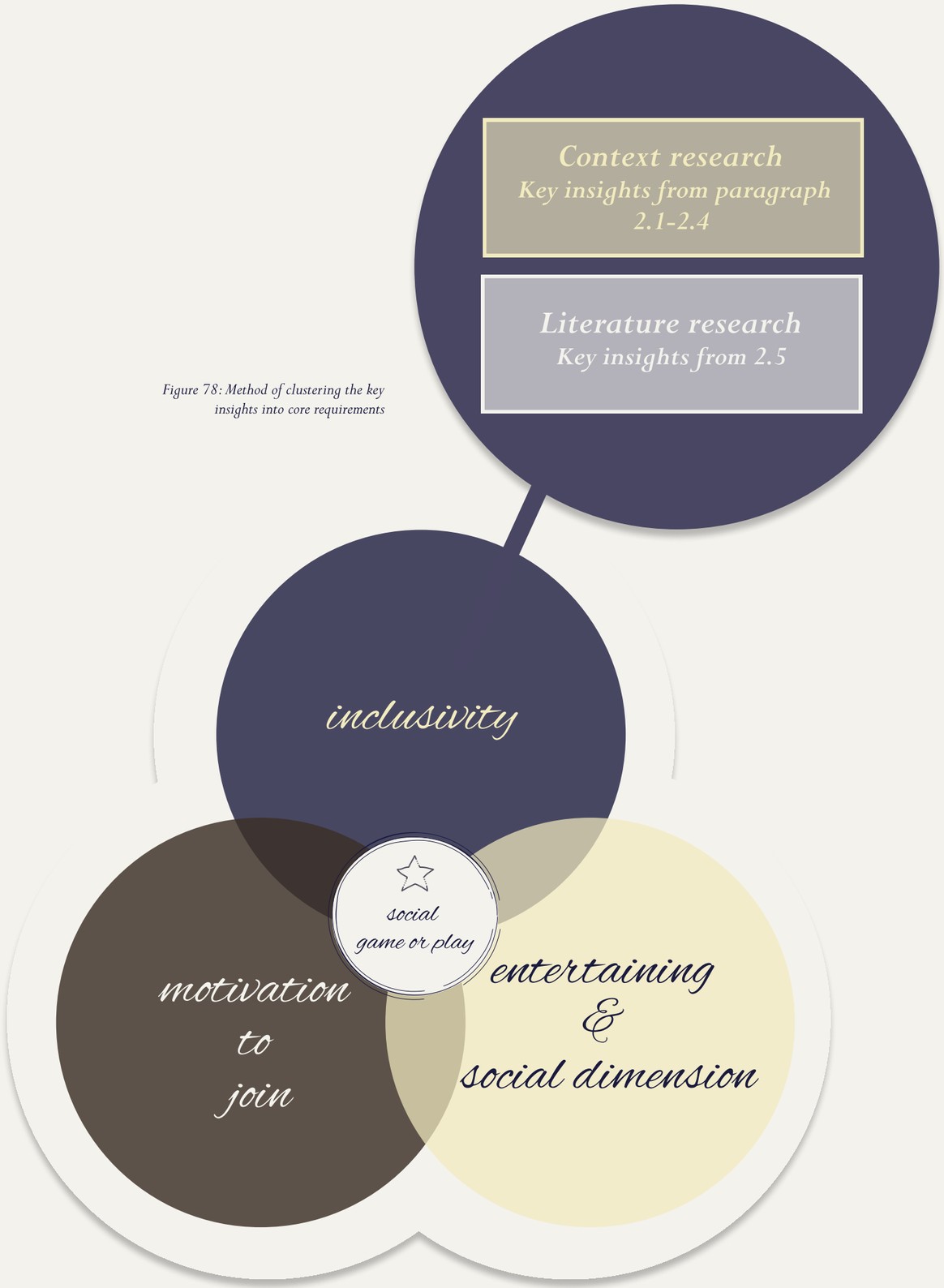
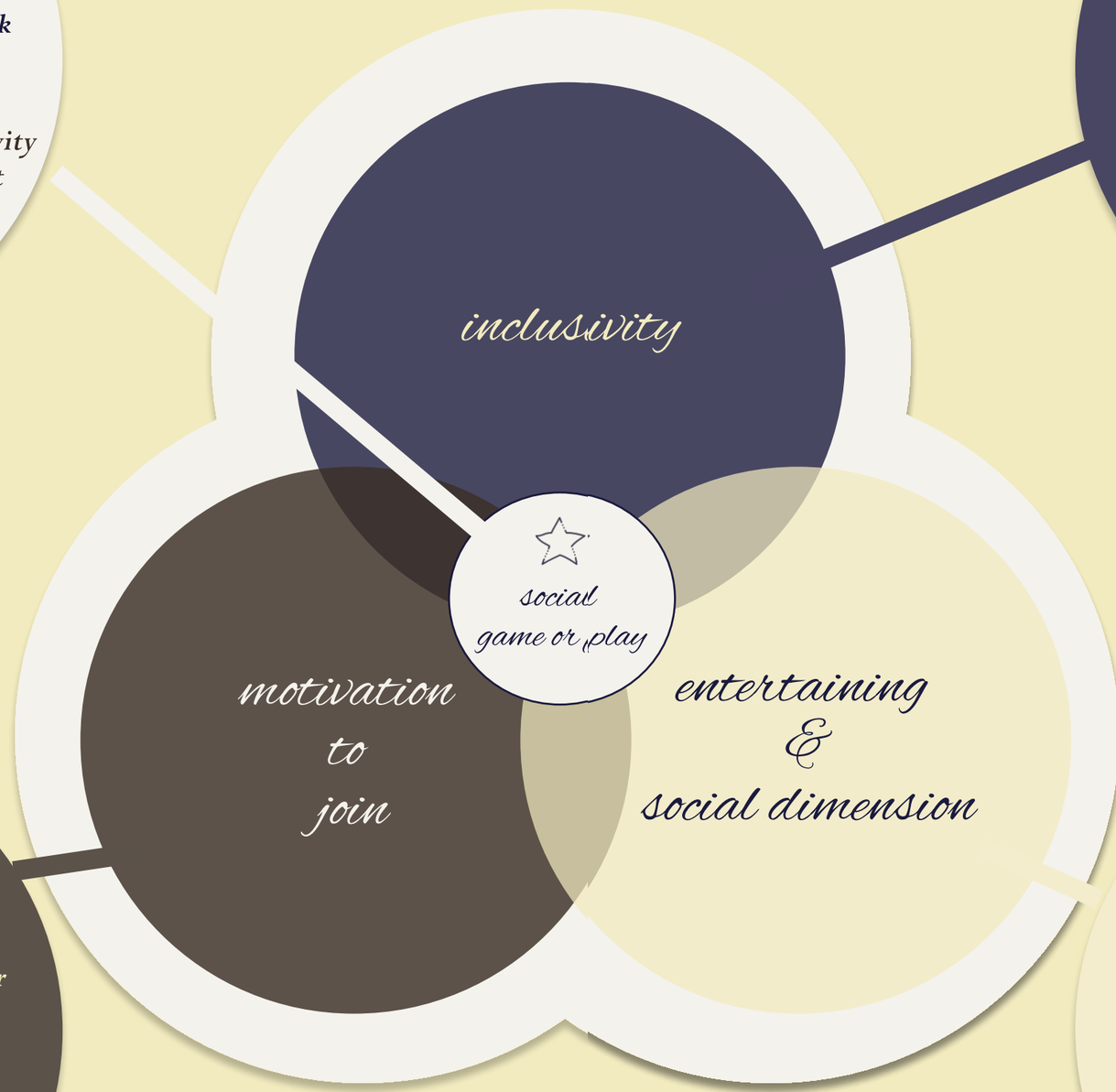


Figure 78: Method of clustering the key insights into core requirements

Context research
T5 – Break time over study time
T6 – Shared activity over study time
T16 Doing together while socializing
T13 Spontanious activity for study break

Literature research
T20:The importance of spontaneous activity
T18: Forms of shared play that support bonding



Context research
T1 – Friends to romantic partners
T8 – With friends over joining alone
T15 - Everyone & friends included

Literature research
T22 - Joining with friends supports openness

Context research
T9 – Need for more youth-specific activities
T10 – Older attendees
T11 – Limited visibility of activities for young adults
T12- More fitted to young adults

Literature research
T19: Creating awareness of activities within the library context

Figure 79: Core requirements with appurtenant key insights from context research

Context research
T2 – Initiating conversation is hard
T7 – Deeper conversation over small talk
T14 - Get those " aha moments" in the activity

Literature research
T17 - Adding a deeper social layer to games
T21- Enabling moments of similarity and recognition

Inclusivity

The concept should accommodate different personality types by offering low-threshold entry points for different personality types with participants, while allowing users to join either alone or together with others.

This is important because young adults strongly value inclusivity. They expressed a preference for joining activities with friends when meeting new people, but not at the expense of excluding individuals who arrive alone. In addition, the concept would benefit from attracting a wide range of personality types.

Entertaining & social dimension

The game should be enjoyable in itself while also enabling players to discover small but meaningful things ("aha moments") about one another, embedding a deeper social goal as an integral layer of the experience..

Games were identified as an activity that many young adults are genuinely interested in when meeting new people. To motivate participation, the game should be entertaining, personally engaging, and aligned with the types of games they already enjoy, encouraging repeated play. At the same time, it should include a social layer that subtly supports interaction. Participants indicated that initiating conversations with strangers feels difficult when there is no clear topic, and that interaction feels more comfortable and meaningful when they discover shared interests or similarities.

Motivation to join

The experience must be visually appealing and engaging enough to motivate young adults to participate spontaneously during their breaks, as current library activities are not sufficiently motivating for this group.

It should be clearly noticeable and communicated in a style that aligns with how young adults see themselves. Research indicates that this can be achieved through strategies such as the honeypot effect, identity alignment, and clear wayfinding, all of which are well suited to the library context.

Figure 80: Visuals of the three core criteria

3.1.4 User profile

The context research also provided a deeper understanding of the users, which was synthesized into a persona (Figure 81) outlining their main challenges, needs, and issues when it comes to meeting strangers in the library

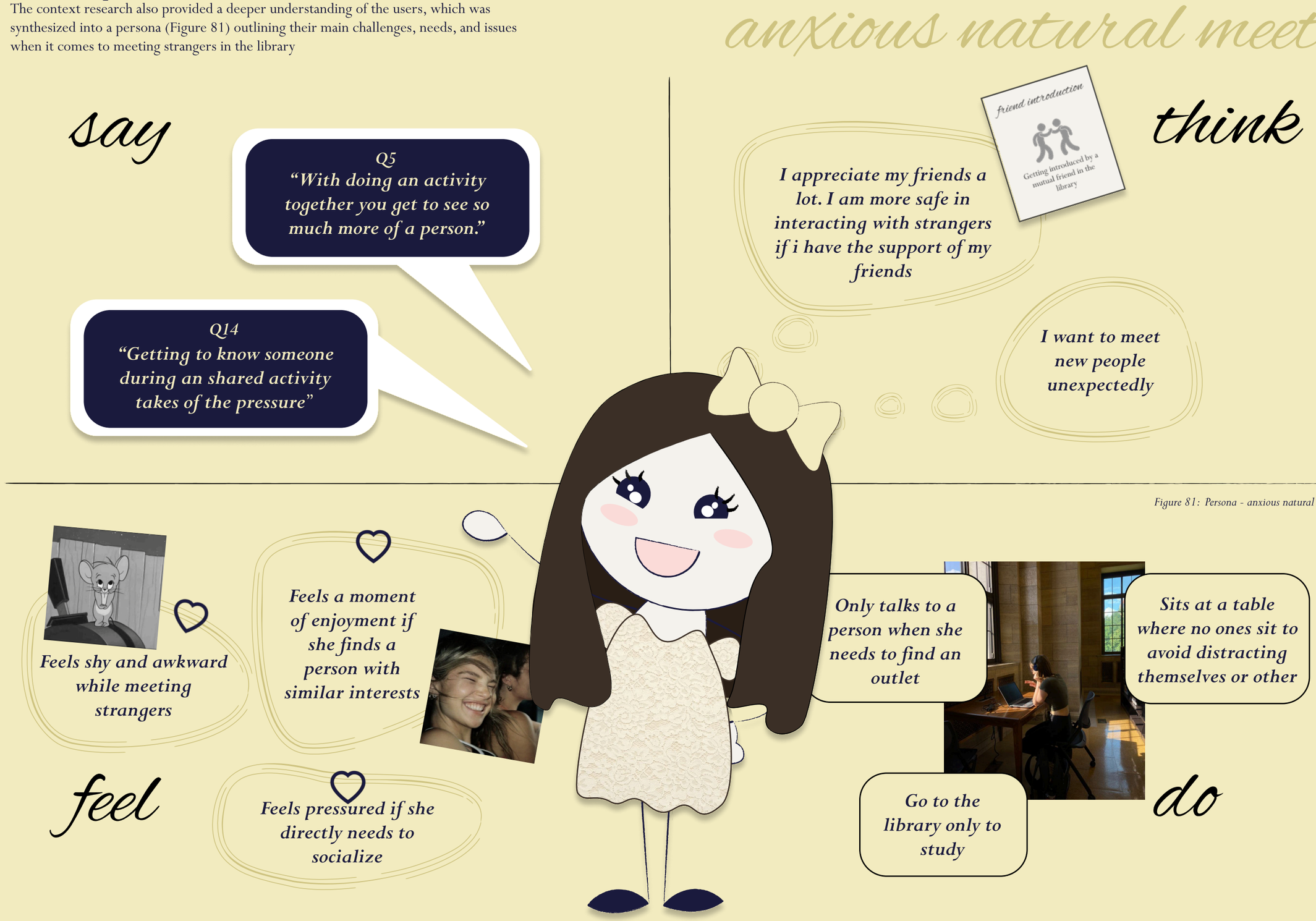


Figure 81: Persona - anxious natural meeter

Figure 82: Three focus tyoes of social game or play in this project

3.1.5 Medium of social game & play

In this project, the design focus is on creating a social game or playful intervention. The term game or play is used broadly, referring not only to rule-based games but also to playful activities that invite interaction and shared experience. Based on both the contextual research and the literature review, three types of playful media emerge as particularly promising for fostering social connection and motivating participation among young adults in libraries (Figure 82).

Co-creative play

Co-creative forms of play, in which participants collectively create or shape an outcome, have been shown to support social interaction and a sense of belonging. Literature indicates that creative and co-creative activities allow participants to express personal identity and contribute meaningfully, which increases emotional engagement and motivation to participate (De Roeper & Savelsberg, 2009; Hagemann et al., 2024). Because participants feel partly responsible for the outcome, co-creation can also encourage repeated engagement and a stronger sense of ownership, making it a powerful medium for social connection.

Challenge-based games

Challenge-based games form another relevant medium, as many young adults are already familiar with and drawn to this structure through digital games and board games. Both literature and contextual research show that working together toward a shared goal supports bonding and mutual understanding. Collaborative challenges create shared experiences, moments of problem-solving, and light tension, all of which contribute to social connection and a sense of togetherness (Fonseca et al., 2022). Going through a challenge together allows participants to get to know one another in an organic and low-pressure way.

Open-ended play objects

Open-ended play objects offer a more exploratory form of interaction, where outcomes are not predefined and meaning is created through use. Such objects encourage participants to experiment together, observe each other's actions, and negotiate shared understanding. Literature shows that open-ended, multi-use play installations support spontaneous interaction and smooth transitions between individual, parallel, and collective engagement (Bekker et al., 2009; De Valk et al., 2015; Valk et al., 2015). Through shared exploration and curiosity, these objects stimulate interaction and collective meaning-making, which can naturally lead to conversation and connection (Rompas & Ekomadyo, 2024).

3.1.6 List of requirements

inclusivity

- It needs to include people that join alone as well as with friends
- It needs to be comfortable to join for different personality types

motivation to join

- It needs to be joined spontaniously
- It needs to be aesthetically attractive to youngsters
- it needs to have a game subject youngsters find attractive

durability

- It needs to be able to stand/integrated on the youngsters floor in the library
- It needs to take between 15-20 minutes, so they can play in the break
- It needs to be able to be played multiple times in a month
- It needs to be able to adapt so it keeps being interested during the year

entertaining & social dimension

- It needs to be entertaining to play
- It needs to create a deeper bond between the players
- It needs to create “aha-moments” during the game
- It needs to create an opening for social interaction between the players

Figure 83: List of detailed requirements per core criteria

3.1.7 key takeaways

This chapter defined the design goal and identified the core requirements that the concept must incorporate in order to achieve this goal:

Design goal

Design a social game or playful intervention that enables library visitors aged 16–28 to spontaneously meet and connect with peers during study breaks in a fun and low-threshold way.

Core criteria (Figure 84 & 85)

- Inclusivity: Multiple personalities feel comfortable to join alone or with friends
- Entertaining and social dimension: the game has to be fun and have a social layer where you get to know more about a person
- Motivation to join: they need to be able to feel that they want to join spontaneously

Medium Game or play (Figure 85)

these include the mediums most effect-full for this case:

- Co-creation
- Challenge type games
- Open ended play objects

For the Design phase, it is essential to continuously consider these three key elements alongside the chosen medium of game or play. Concept ideas should integrate all elements in order to address the needs identified among young adults and support meaningful social connection. At the same time, these elements remain intentionally open in how they are interpreted and implemented, allowing room for experimentation. Exploring different ways of translating these elements into form and interaction will help identify which combinations work best within the library context.

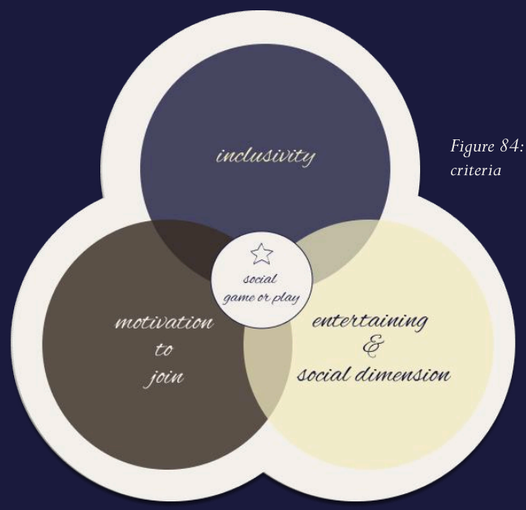
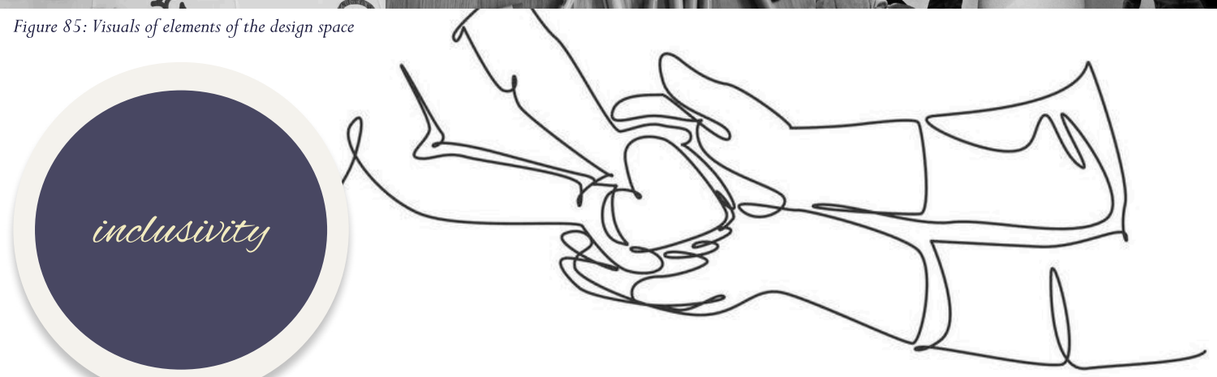
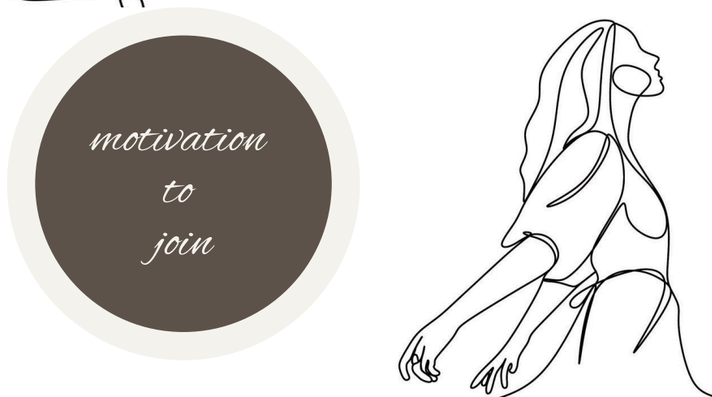


Figure 84: Three core criteria

Figure 85: Visuals of elements of the design space





4

design

The *design* phase focuses on experimenting with mutiple ideas, concepts and prototypes, exploring what works and what does not in relation to achieving the design goal

The phase began with a brainstorming process (Figure 86) that resulted in eight initial ideas. Through sketch-based user testing, three of these ideas were further developed into concept directions based on participant feedback.

Subsequently, a low-fidelity paper prototyping test was conducted with the three concepts to evaluate their suitability for the library context.

This process revealed one main concept direction, which was then further developed in detail, including its aesthetics and core components. The concept was iterated on twice through the development of two mid-fidelity prototypes.

These steps culminated in the final concept presented in Chapter 5 of this project, which will be tested in the Rotterdam Central Library.

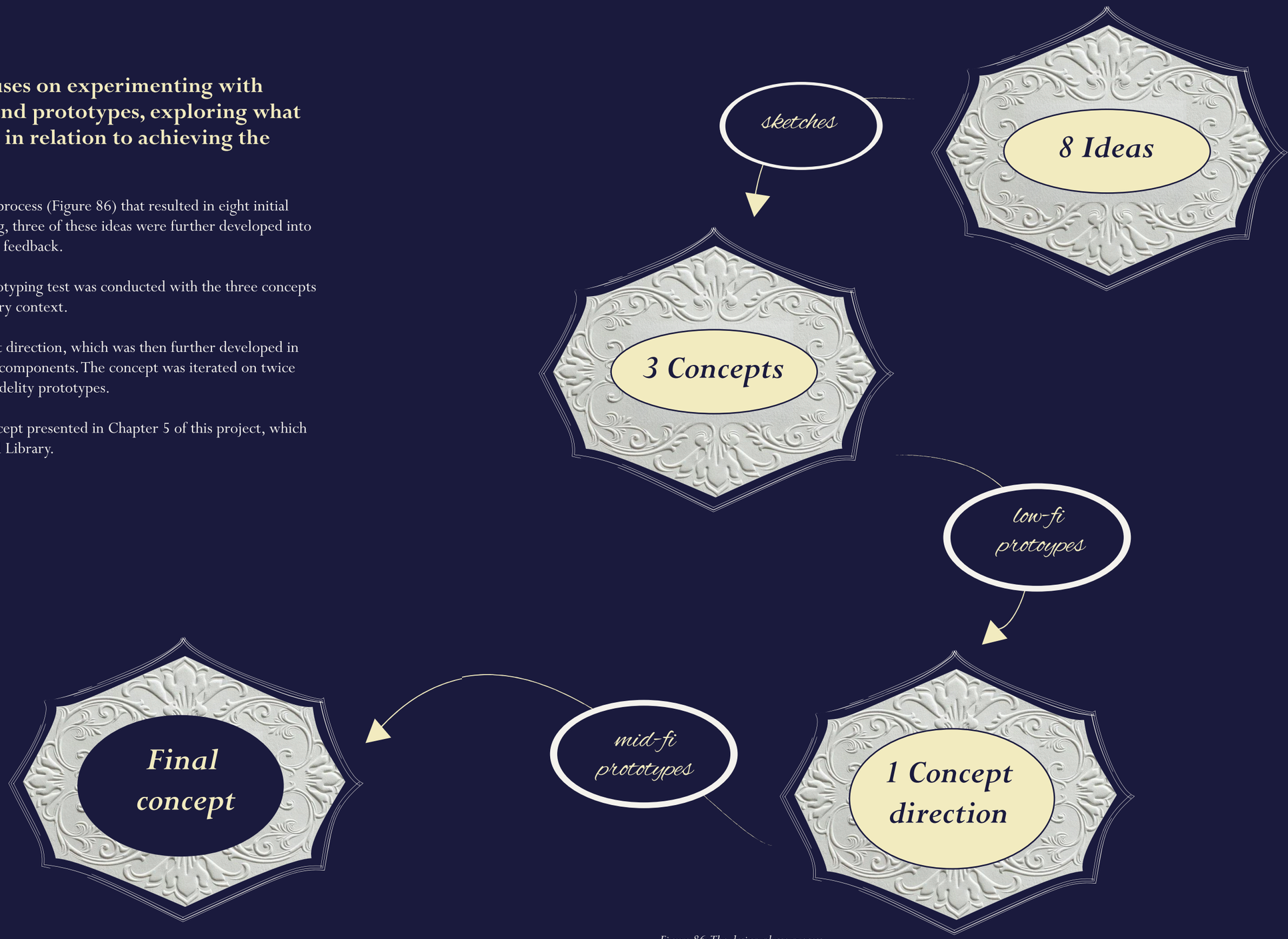


Figure 86: The design phase process

4.1

eight ideas

The design goal and core criteria,established in the previous chapter, served as guiding principles for ideating the social game/play concepts.

This chapter presents the brainstorming process that generated the eight initial ideas (Figure 87). Each idea addresses some or all of the core criteria in different ways, providing a broad perspective on how young adults might engage with them. The eight final ideas were validated with users and Gino through sketch-based discussions, enabling early feedback on desirability, clarity, and perceived potential.

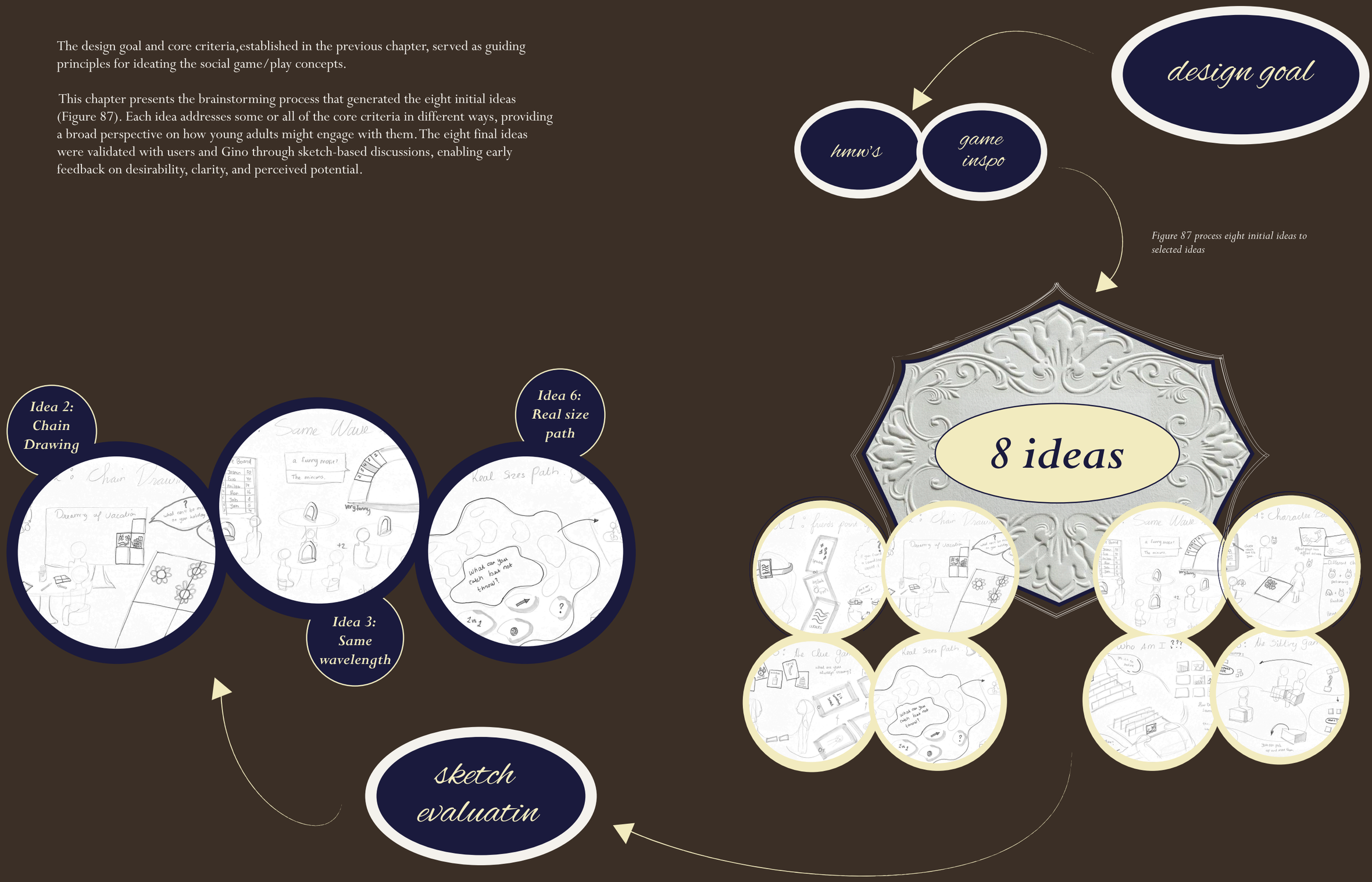


Figure 87 process eight initial ideas to selected ideas

Presented on this page (Figure 88) are the eight initial ideas generated during the first phase of the design process. This paragraph will explain each idea in detail, including how it was developed and what it entails.

Figure 88: Sketches of the eight ideas

4.1.1 brainstroming process

The brainstorming for the ideas began by generating a series of "How might we…?" statements, which acted as prompts for exploring different directions and components for potential ideas. Existing games were also used as creative references, helping to expand possibilities and spark novel combinations. The most inspirational and feasible solutions of the HMW's, when combined with characteristics of existing games, resulted in eight initial ideas.

How Might We's

The "How Might We" statements were derived from the design goal and its core criteria, framing potential ways to address these needs. All generated HMW statements are shown in Figure 90. The brainstorming session was conducted individually: each HMW was written in the center of an A4 sheet, and I sketched or noted down all ideas that came to mind within four minutes, rotating the paper as I went. After completing all HMWs, I circled the most promising ideas and expanded on them, quickly translating thoughts from mind to paper (Figure 89).

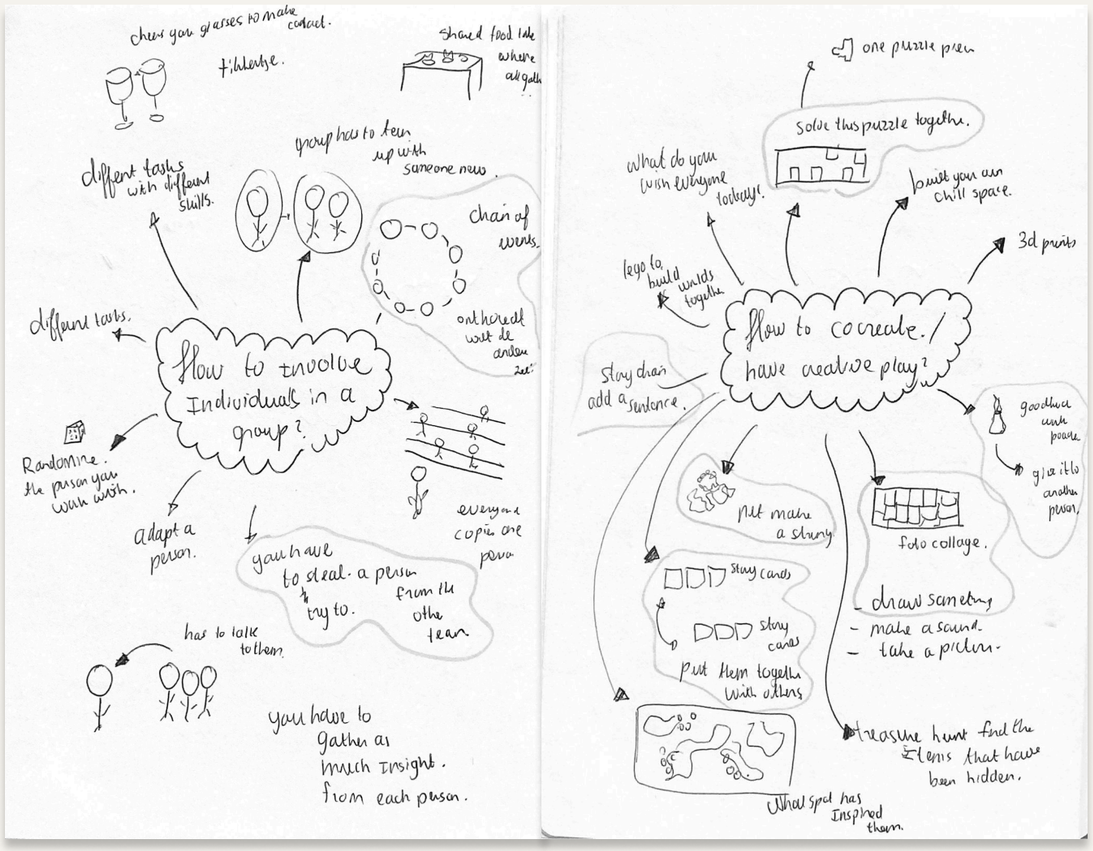


Figure 89: Example HWM brainstorming sheet

Figure 90: All HMW's of the brainstorm

Figure 91: Clusters of games

Inspirational games

During brainstorming, it was important to consider games that young adults already enjoy or that remind them of games from their childhood. Both online and physical games, including classic board games, were explored as sources of inspiration. From this research, four clusters of game types emerged (Figure 91).

1. Challenge-based games:

These games involve completing tasks or mini-challenges, often requiring teamwork or quick thinking. Examples include:

- Overcooked and Wario Ware, which feature fast-paced, chaotic mini-games that create fun tension and collaboration.
- Geese Board, a classic board game where each tile has a different effect, introducing variety and surprise.
- Escape rooms, which have gained popularity in recent years and require different strengths from each participant to succeed.

From these examples, three design opportunities emerged for challenge-type games: creating moments of chaos (Overcooked, Wario Ware), introducing variety to keep the experience fresh (Ganzenbord), and leveraging the unique strengths of each participant (Escape Room).

2. Imposter role games:

Games like Zombie and Among Us involve uncertainty and hidden roles, creating tension and engagement through trust and deception. The unknown element keeps players entertained and fully immersed.

3. Input games:

These games allow players to contribute personally to the content or outcome, which increases engagement and adds a social layer. Examples include:

- "Fill-in-the-blank" story games from childhood
- Cards Against Humanity
- Meme-based games, where players create stories or sentences using their own references

Such games provide a personal touch, allowing players to express themselves. This not only encourages engagement but also reveals personal traits to others, supporting deeper social connections.

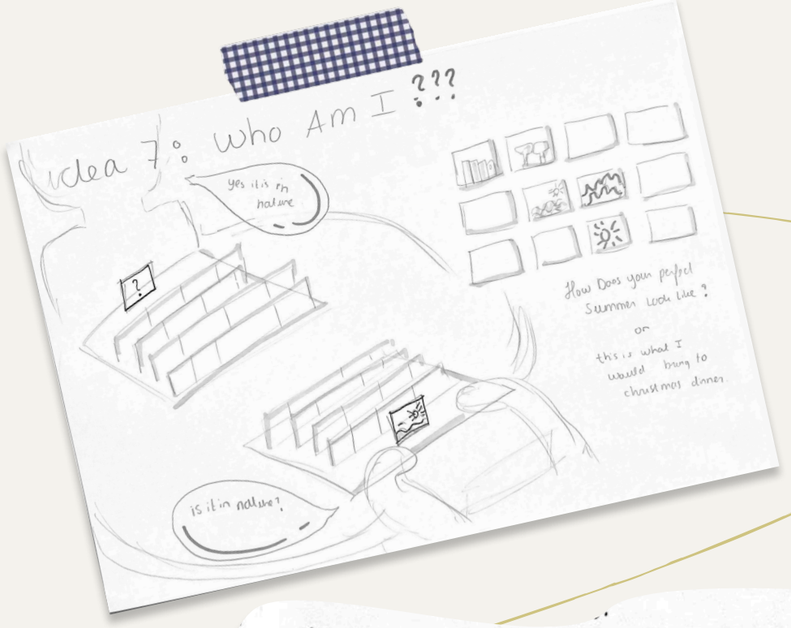
4. Mixed popular games:

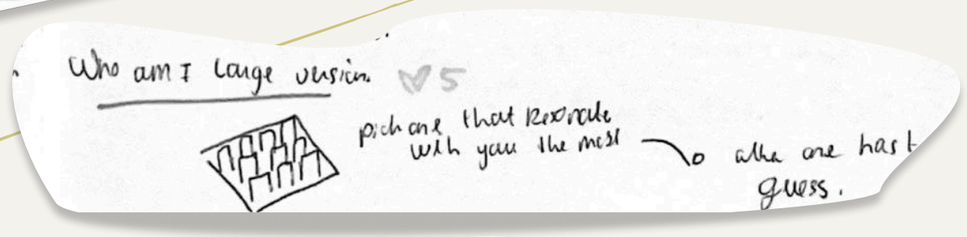
This cluster includes games that combine elements from the previous types. Examples:

- Uno, where players compete against each other and can escalate challenges
- 30 Seconds, which introduces chaos, personal explanations, and fast gameplay
- Who Am I?, a game popular among youth that allows personal input while fostering conversation

These games demonstrate potential as interaction points, as they naturally encourage participation, engagement, and social connection.

Here are a few examples of how the brainstorming phase contributed to the development of the eight initial ideas, by combining the "How Might We" statements with inspiration drawn from existing games (Figure 92 & 93).





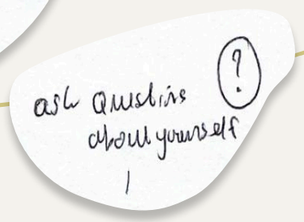
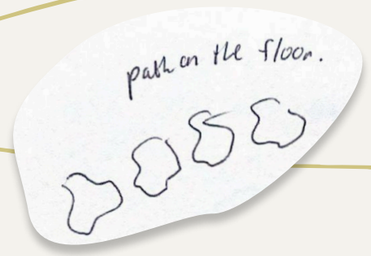
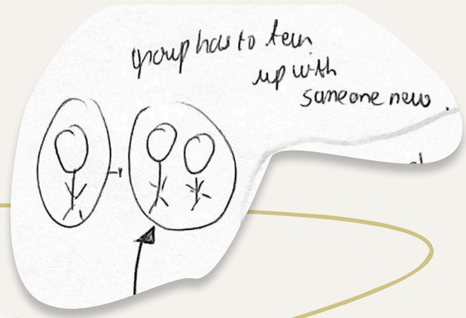


Figure 92: Example from brainstorm to idea 7





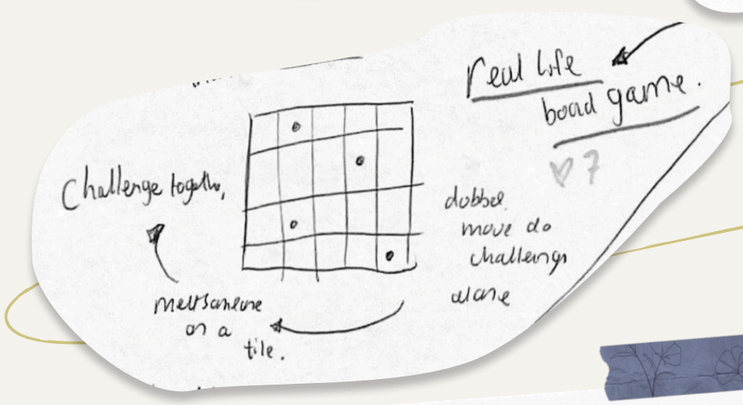
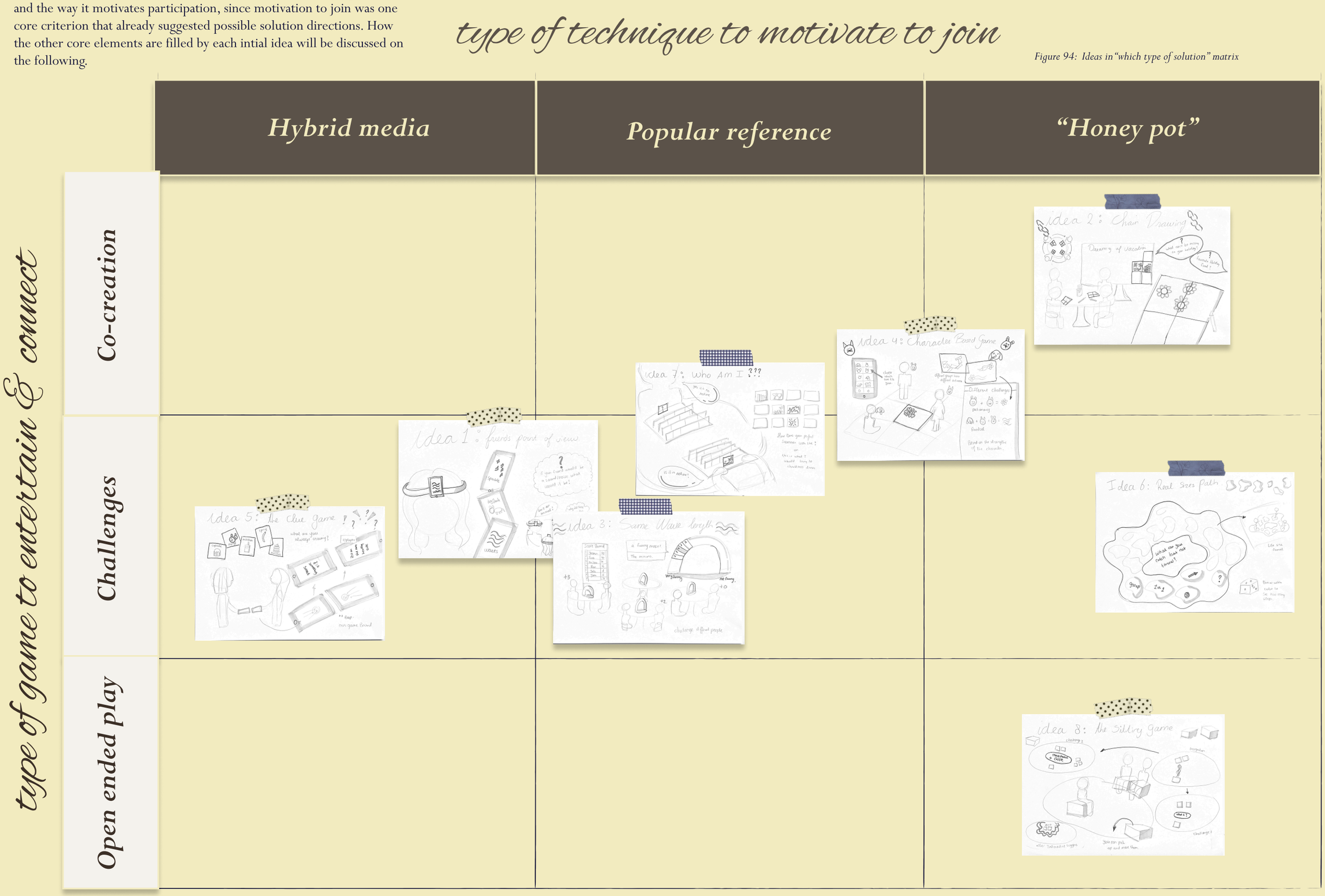


Figure 93: Example from brainstorm to idea 6

4.1.2 Eight ideas

Eventually, these eight ideas were organized into a matrix (Figure 94) that categorizes each concept by its medium (as defined in the design brief) and the way it motivates participation, since motivation to join was one core criterion that already suggested possible solution directions. How the other core elements are filled by each intial idea will be discussed on the following.

Figure 94: Ideas in "which type of solution" matrix



Idea 1 — Friends' Point of View

A hybrid between Who Am I? and the mobile game 30 Seconds.
Friends of the player receive a daily app question and respond by choosing an image that represents the player. In the library, players must guess their assigned "identity" by asking each other questions about the picture and interpreting why their friends chose it. This setup stimulates conversation, curiosity, and personal storytelling.

Core criteria check

Challenge based game

- ***Inclusivity***: friends can join together with the online questions, while individuals can easily participate on their own with the digital support/push of friends.
- *Entertaining & social dimension*: the concept builds on familiar social games like Who Am I and 30 Seconds to create a means/challenge to motivate to reveal personal traits by asking questions.
- ***Motivation to join***: by using smartphones and referencing a well-known game, the concept feels familiar, modern, and low-threshold to join

Figure 95: Sketch of idea 1

Idea 2 — Chain Drawing

A creative, co-creation–based activity for 2–4 players.
Participants pass a shared sheet of paper and continue each other's drawings. Each month includes a different theme (vacation) and each paper has a small prompt (e.g., "What does your view look like on vacation?"). After completing the drawing cycle, the group discusses their interpretations. The results can be displayed on a public board in the library, creating both personal reflection and a sense of contribution to the space

Core criteria check

Co-creation

- ***Inclusivity***: both individuals and friend groups can join the activity very easily with shared tables.
- *Entertaining & social dimension*: simple creative exercises reveal similarities or different perspectives without requiring advanced skills.
- ***Motivation to join***: results are displayed on a library board, making the activity visible and attracting participation.

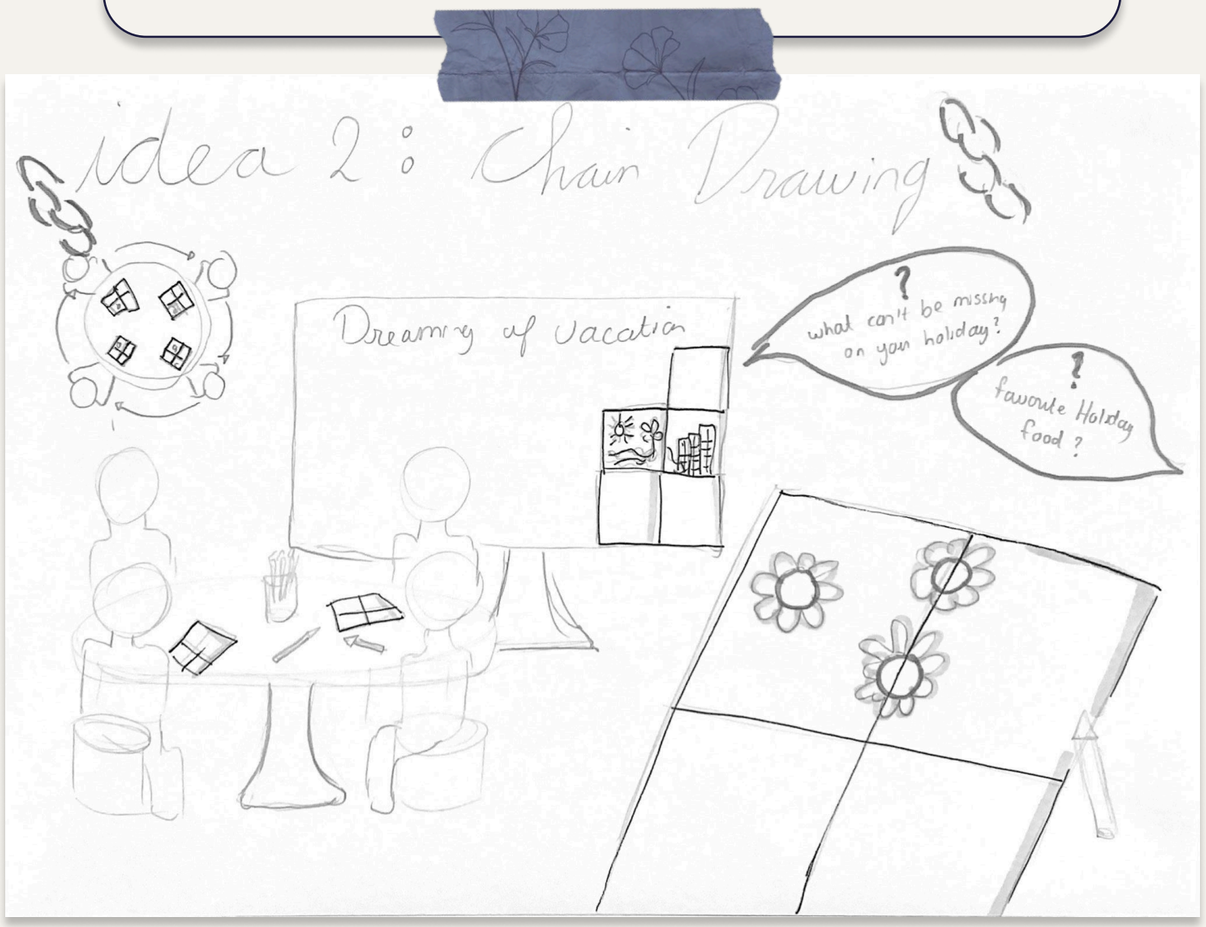


Figure 96: Sketch of idea 2

Idea 3 — Same Wavelength

Inspired by the popular "Same Wavelength" game trend on TikTok.
Players try to guess the correct position on a conceptual scale (e.g., cold–hot, introvert–extrovert) based on another person's clue. A competitive layer is added through an optional sign-up and notification system that encourages returning daily. The game allows quick in-and-out participation and sparks conversation through the interpretation of abstract prompts.

Core criteria check — **Challenge based game**

- ***Inclusivity***: the motivation of getting a high score as it is a competition will nudge everyone to mingle and get as many wavelength questions correct.
- *Entertaining & social dimension*: the concept is built on an already existing viral game on Tiktok and it already has a social dimension of comparing views on certain subjects
- ***Motivation to join***: visually large presented score board as well as tables full of the game which will leave a visual trail

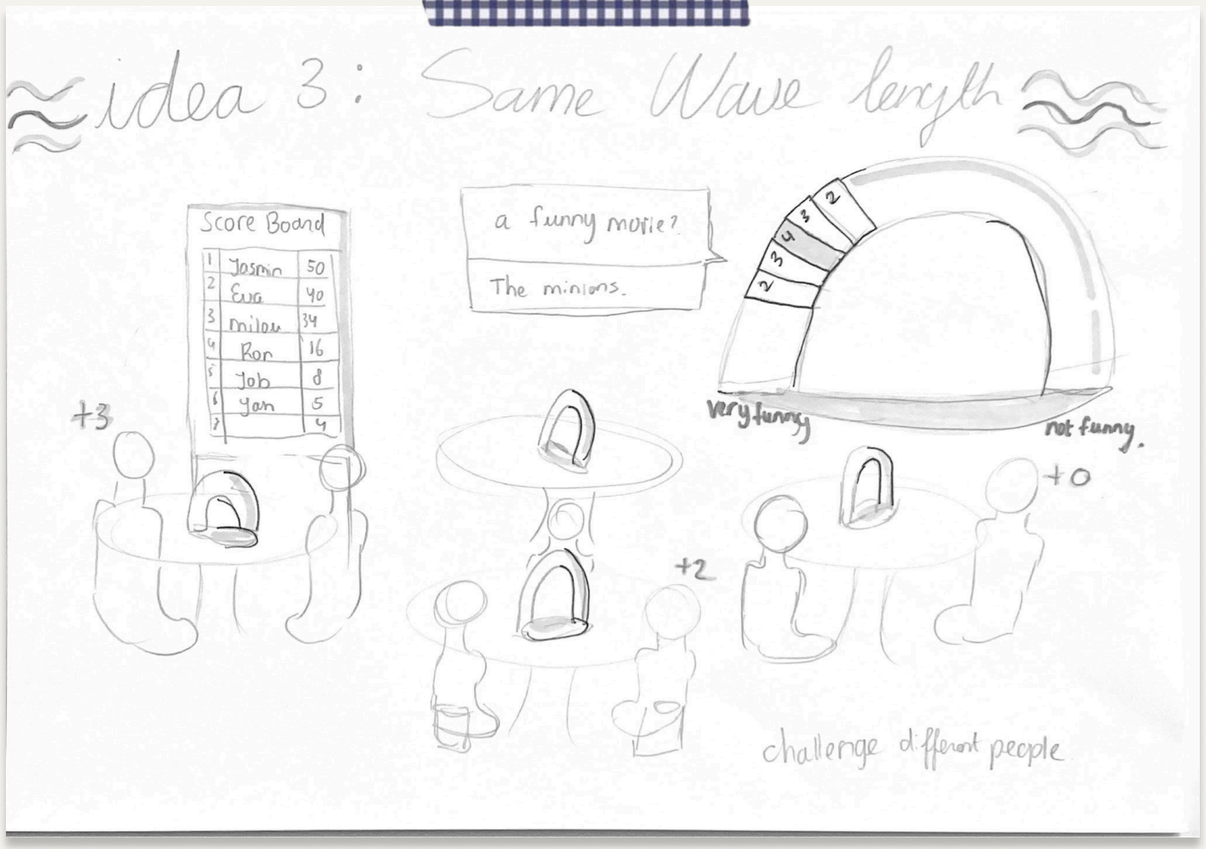


Figure 97: Sketch of idea 3

Idea 4 — Character-Based Game

Inspired by personality typologies such as MBTI, which are popular among young people. Players choose a character representing their skills and personality. Based on the combination of characters in the group, tailored challenges appear, which players must complete together. Each challenge contributes to a growing collaborative artwork. The results are displayed to show how different character combinations shape outcomes. The game is played on a life-sized board.

Core criteria check — **Co-creation & Challenge based game**

- ***Inclusivity***: the game is based on the strength of the different personality types, this will make sure you can show your strengths during the game. forces you to switch it up and play games with everyone who participates
- *Entertaining & social dimension*: doing challenges which are based on the strengths, so they will learn about your personality and strengths through playing the mini games
- ***Motivation to join***: the game board itself is life size, so visually large presented.

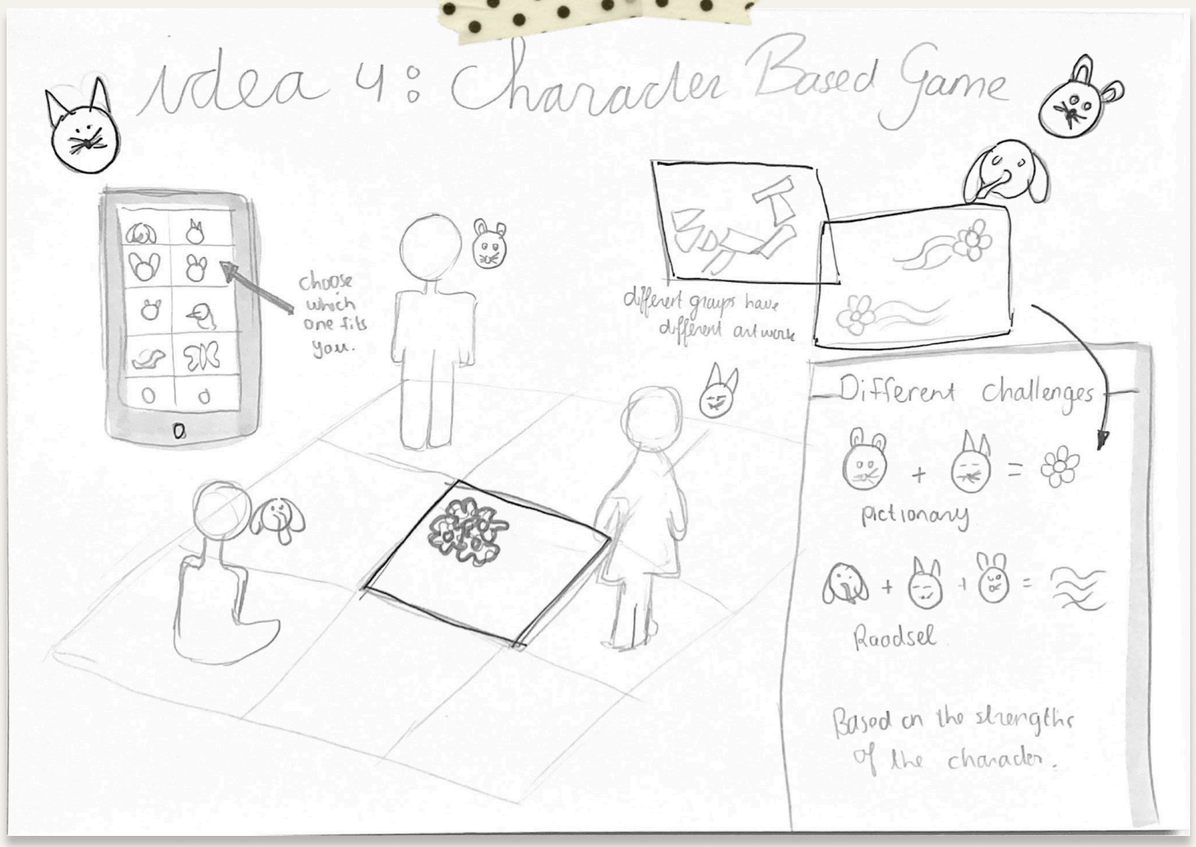


Figure 98: Sketch of idea 4

Idea 5 — The Clue Game

Inspired by Mario Party. A phone-supported game where players receive a daily question. Before playing, they answer the question and then try to guess other players' answers by completing mini-games together. Winning or cooperating successfully gives clues about others' responses. Although engaging, the concept relies heavily on mobile interaction.

Core criteria check — **Challenge based game**

- ***Inclusivity***: it requires minimal effort for individuals to join as you need others to play the game, it gives you a reason to not be afraid to join alone as it is part of the game
- *Entertaining & social dimension*: the concept is played with phones, mobile games are popular with the youngsters. They get to know each other by questions about their preferences.
- ***Motivation to join***: by using smartphones and referencing a well-known game, the concept feels familiar, modern, and low-threshold to join

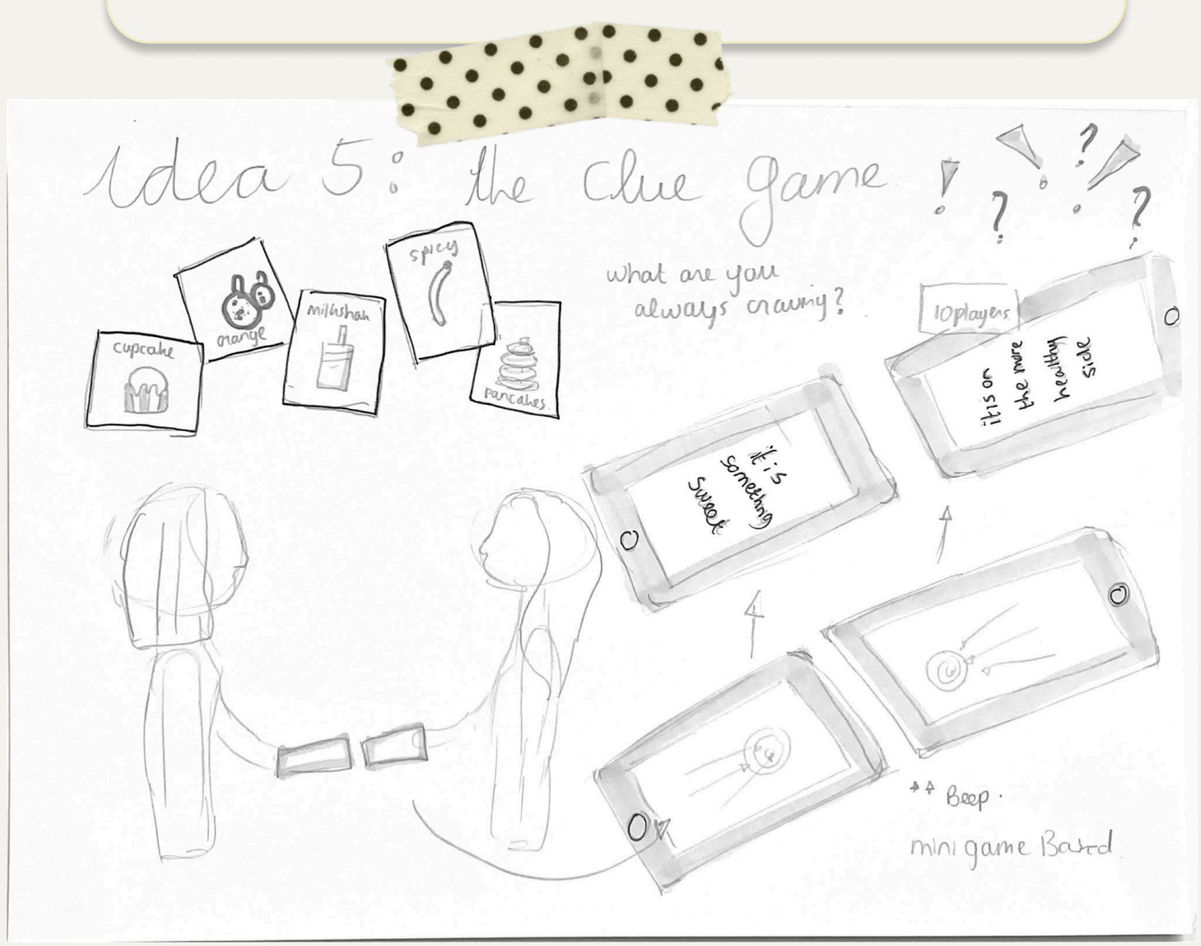


Figure 99: Sketch of idea 5

Idea 6 — Real-Size Path

Inspired by "ganzenboord" and trivia.
A life-sized path with different tiles, each representing a mini-game or challenge. Players can step in at any time and collaborate to solve the main riddle. the mini games range from drawing to trivia questions to group challenges.

Core criteria check — **Challenge based game**

- ***Inclusivity***: both individuals and friend groups can join the activity anytime during it.
- *Entertaining & social dimension*: the different challenge reveal the skills of other persons and you can connect on solving a puzzle together.
- ***Motivation to join***: the board game is life size in itself which will attract attention with the visibility of the interaction

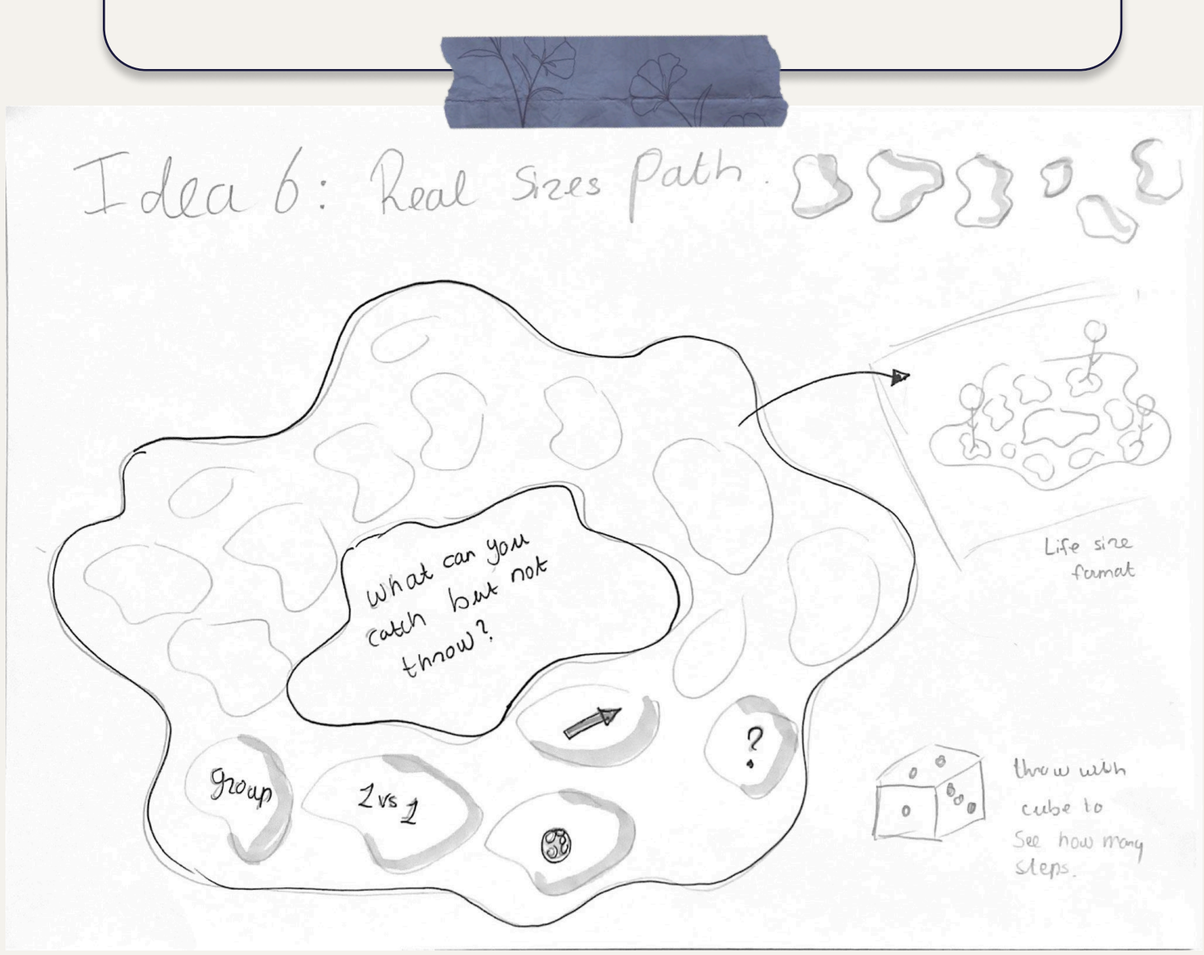


Figure 100: Sketch of idea 6

Idea 7 — Who Am I (Place Edition)

A variant of the classic Wie ben ik?. Instead of guessing a fictional character, players guess each other's favourite ''things", such as a favourite spot in the city or a favourite vacation place. Asking questions naturally leads to personal stories, shared experiences, and deeper conversation.

Core criteria check

Co-creation & Challenge based game

- ***Inclusivity***: -
- *Entertaining & social dimension*: It is a game everyone already know to play put with choosing a picture that best describes what you like, each question asked in the game will reveal something about the person.
- ***Motivation to join***: -

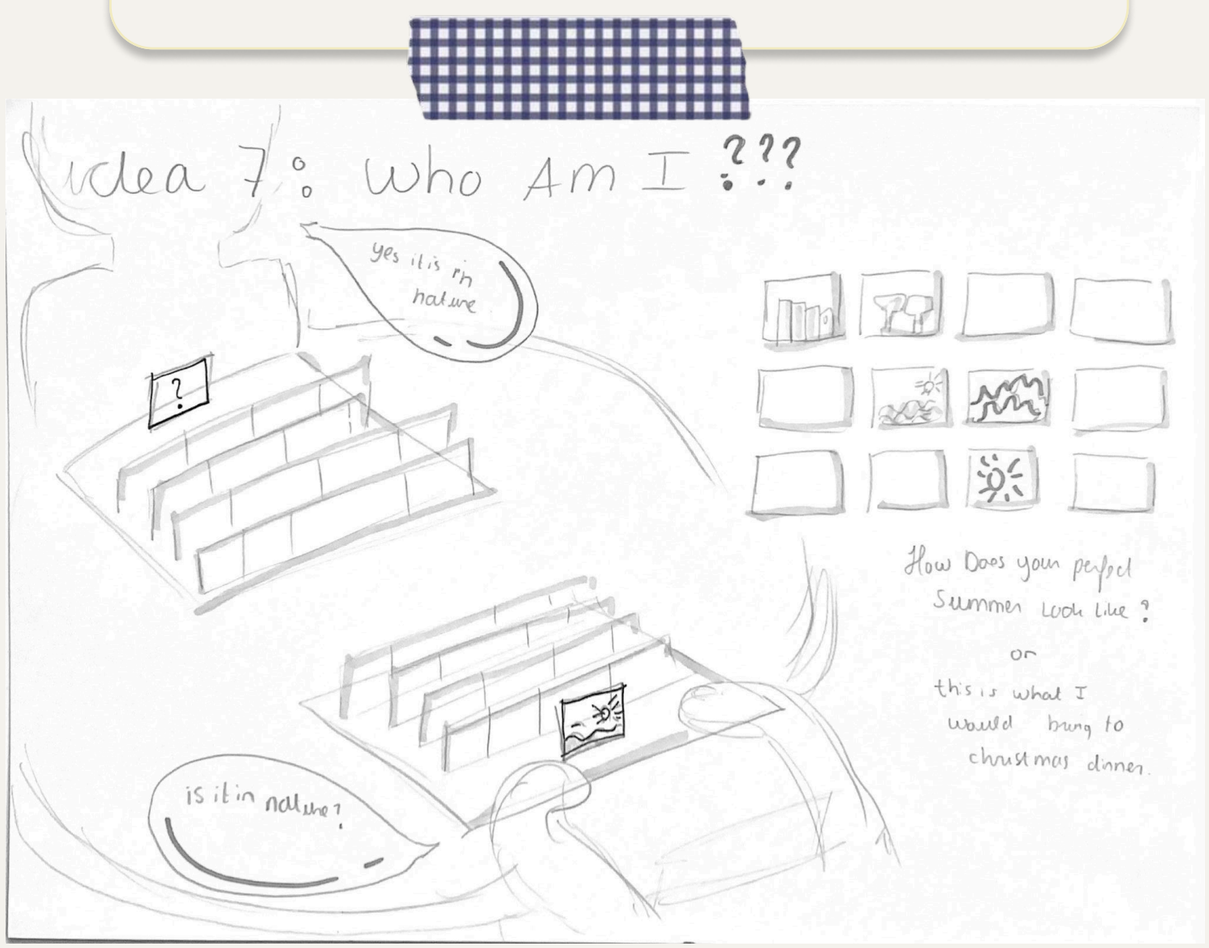


Figure 101: Sketch of idea 7

Idea 8 — The Sitting Game

A playful lounge-like installation. Blocks and seating elements in the space react to people sitting or interacting with them. When a group sits together while someone sits alone, the system "connects" them and displays a shared prompt or small challenge. This concept focuses on creating an interactive environments that stimulates conversation.

Core criteria check

Open ended play

- ***Inclusivity***: Both individuals and friend groups can join the activity with comfort as it is just a seating place as well. and the floor tries to connect people together,
- *Entertaining & social dimension*: The challenges given when made connection can be a way the users get in social contact with eachother and get to know one another better.
- ***Motivation to join***: it is visually a large area and the floor that changes catches attention

Figure 102: Sketch of idea 8

4.1.3 Evaluation method: sketches on paper

Conducted: 5 times
With whom: with 4 reoccurring participants of the context research & Gino (youth activity manager in the library)
Goal: too understand their first reaction to the ideas and to choose or combine the positives of each idea and understand the alignment with the library goals (Gino)
Interactables: drawn one pagers of the ideas and vocal explanation
Location: library

The session began with a brief introduction to the project, providing participants with a clear context for their feedback. They were asked to imagine the following scenario: "You are going to study in the library, either alone or with friends. During a break, you come across each of the following ideas…"This helped them evaluate the concepts from a realistic and relatable perspective.

Each idea was then presented individually (Figure 103). Participants were invited to share their immediate thoughts and feedback as the concepts were explained. After reviewing all the ideas, they were asked to reflect on them as a whole, identifying their favorite and least favorite concept and explaining their reasoning.

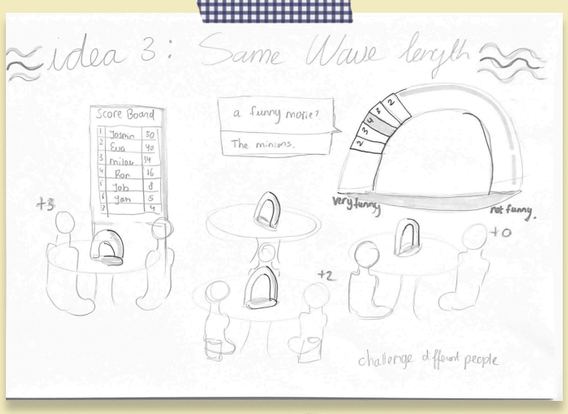
Figure 103: Sketches of the 8 ideas

4.1.4 insights

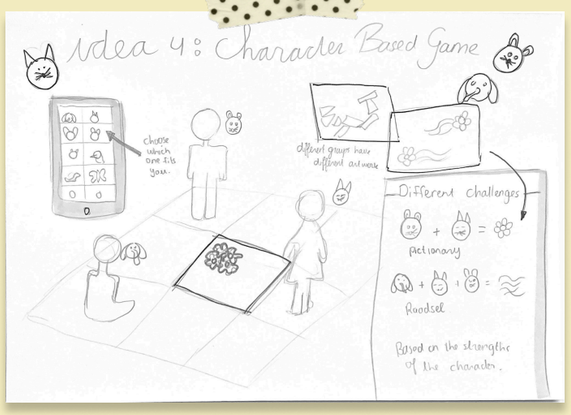
This section presents the positive and negative insight of the sketch discussion with the participants and Gino during the discussions.

- Phone will be too distracting while socializing
- Phone will be too large for the head holder

- \+ Feels comforting to meet people during creative activity
- \+ Great way to show other's efforts and see your own
- Afraid some people will ruin it by not taking it seriously

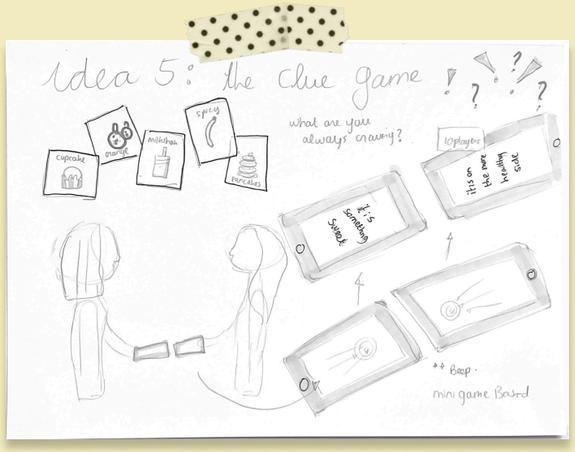


- \+ The prompts in the game help getting another person's points of view
- \+ You can do it very quickly and a lot of times (repeatability is high)
- It doesnt stand out and have any novel interactions



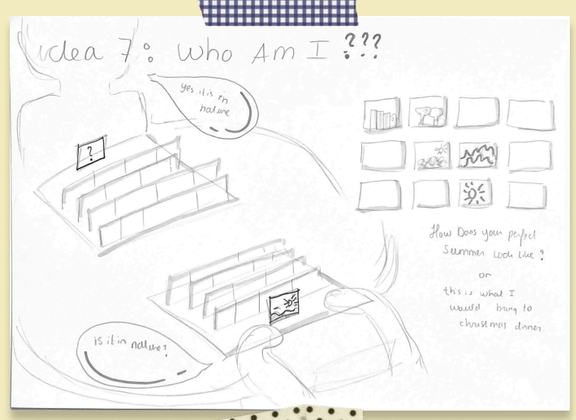
- \+ They liked that it's life sized and you can move on the board
- The character selection on phone add too much steps, feels unnecessary
- Creating the art piece at the end doesn't make sense and might be hard to realize with technology

- The questions and answers are a bit too surface level
- Phone will be too distracting while socializing
- They dont like that the game does not have any physical interaction

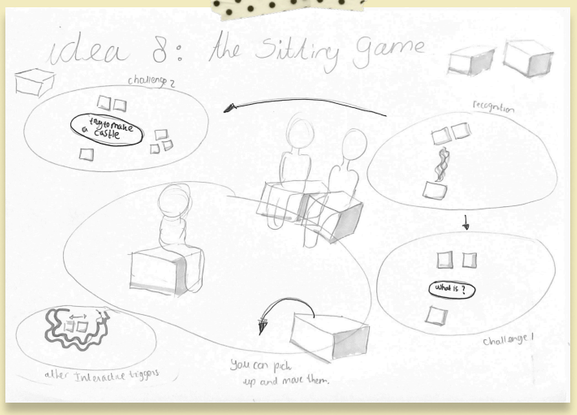


- \+ They like that it is very interactive, large and you can move in your break
- \+ Different challenges make it fun to play for everyone and for multiple times
- \+ You can connect on working towards a mutual goal

- \+ With every question you ask you reveal something new about the person
- Making your own answers would be more fun than a standard set
- You can only play it with one other person, playing multiple games take too long



- \+ It is a novel and exciting experience
- Needs to be more clear on how exactly you are motivating them to interact
- Is hard to make feasible for the library technology wise



All of these aspects were evaluated to identify recurring patterns. The following key insights emerged:

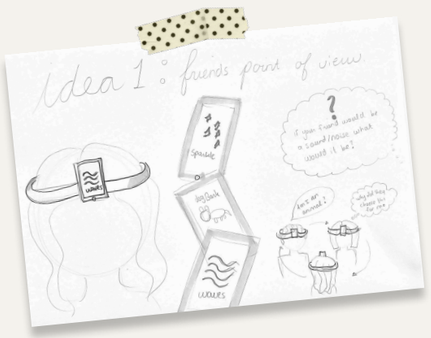
Minimal phone use is preferred.

Concepts that relied on phones or digital interaction were generally not favored by the participants (Figure 104). Phones were seen as a major distraction from social engagement, with several participants expressing concern that they would quickly shift to other apps, such as TikTok. This was perceived as conflicting with the core purpose of the project: fostering social connection and getting to know one another in person.

One participant explained:

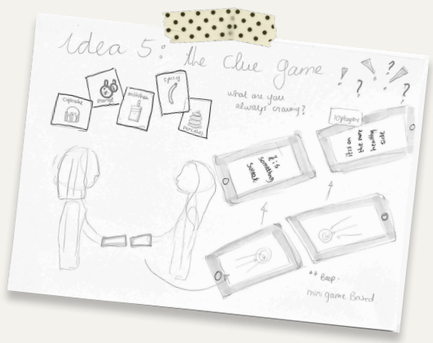
"I would be too distracted by pop-up notifications from other apps; it could easily become a gateway to not socializing."

More broadly, participants emphasized the importance of face-to-face interaction rather than communication mediated through a phone, as this is something they are actively trying to move away from. That said, they remained open to limited, supportive digital elements (such as brief notifications or sign-ups) provided these features serve only to activate participation rather than dominate the experience.



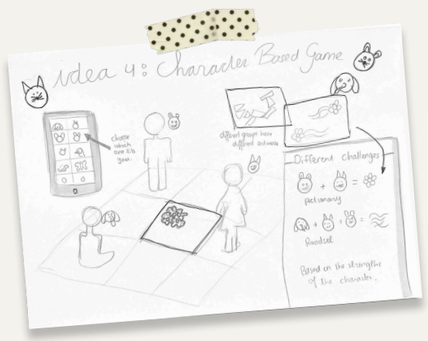
− Phone will be too distracting while socializing

− Phone will be too large for an holder on head



− Phone will be too distracting while socializing

− They dont like that the game does not have any physical interaction



− The character selection on phone add too much steps, feels unnecessary

Figure 104: Cluster of insights lead to the key insight - Minimal phone use is preferred

Creative activities are highly appreciated.

Participants responded very positively to the creative elements of the concepts, particularly Idea 2 (collectively creating a large board of drawings displayed together) and Idea 4 (a digital artwork generated after playing the game). They valued the act of creating something together or contributing a small, personal detail (Figure 105). Creative activities that require little skill or effort were seen as a relaxed and approachable way to interact with strangers.
For Idea 2, however, participants raised concerns about whether everyone would take the activity seriously.

As one participant noted:

"I can already imagine some people drawing inappropriate things; that could become an issue."

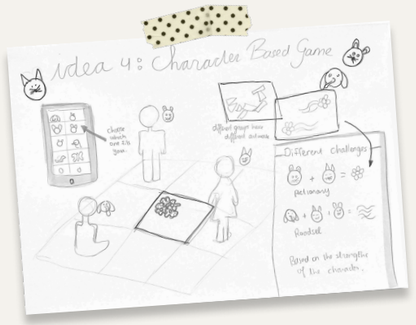
Regarding Idea 4, participants felt that combining the digital artwork with the game made the experience too complex and potentially overwhelming. They also disliked that the outcomes of the art work were largely predefined, which reduced the sense of personalization. From a practical perspective, an analog approach was considered more suitable for a library setting than a digital one, as it is easier to implement and more accessible for quick, low-threshold participation.

Gino also expressed a positive view of Idea 2, highlighting its potential as a physical installation on the youngster's floor that draws attention. Displaying the collective work of the community not only showcases shared effort but also leaves a lasting impression on other library visitors.

+ Feels comforting to meet people during creative activity

+ Great way to show other's efforts and see your own

− Afraid some people will ruin it by not taking it seriously



− Creating the art piece at the end doesn't make sense and might be hard to realize with technology

Figure 105: Cluster of insights lead to the key insight - Creative activities are highly appreciated

Life-sized and physical interaction is appealing.

Ideas that were visually large and encouraged full-body movement were rated positively by participants (idea 4 & 6). Physical interaction and large scale made the concepts feel more engaging and inviting (figure 106).

Idea 4 was considered fun, varied, and approachable, due to also the many different challenges you could do together.

One participant commented:

"I love that you have multiple different kinds of challenges, this way it won't get boring."

In contrast, the character-based game was seen as less valuable (although also large scaled as idea 4), as it introduced unnecessary complexity with the characters and it didn't make the challenges that much different compared to idea 4.

Gino also highlighted the strong potential of a life-sized game board for young people. He could clearly imagine it placed on the youth floor, where it would bring energy to the space while also functioning as a decorative element. Overall, he saw high potential in the physical presence of the life-sized board to activate the area and encourage interaction.

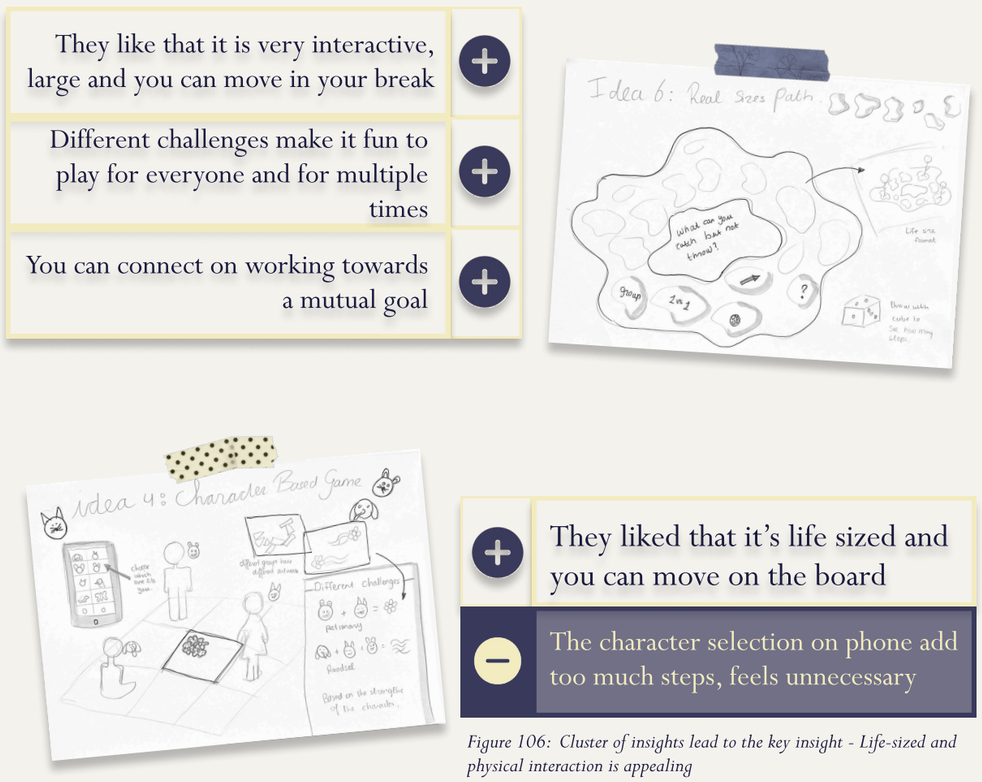


Figure 106: Cluster of insights lead to the key insight - Life-sized and physical interaction is appealing

Quick conversation prompts that reveal stories, perspectives, and preferences are highly valued.

The format of idea 3 was already a favorite among participants, as many were familiar with similar games through TikTok or influencers and were enthusiastic about trying them themselves. Its strength lies in the low threshold for participation: players can easily join during a short break, and the prompts quickly spark conversation, such as discussing what someone considers a scary movie or what they define as clean or dirty (Figure 107).

As one participant put it:

"Yeah, it's done in two minutes, and you can easily switch around, so it's a quick way to get to know one another."

Idea 5 and 7 were also appreciated for their conversational nature, as they naturally invite discussion about personal preferences and experiences. However, because these formats rely on predefined answer options, participants felt the interactions were somewhat less personal and more surface-level. In these cases, follow-up questions proved effective in adding depth to the conversation.

Figure 107: Cluster of insights lead to the key insight - Quick conversation prompts that reveal stories, perspectives, and preferences are highly valued

4.1.4 Key Takeaways

In conclusion, based on the positive and negative insights from the sketch discussion sessions with both participants and Gino, three concepts emerged as having the strongest potential (Figure 108).

Idea 2: Chain Drawing

This concept was valued for its creative nature, which participants described as a relaxed and approachable way to get to know others. Creating one collective artwork allows participants to see each other's efforts and contribute to a shared outcome that can be attractively displayed in the library. Two main concerns were raised. One was how to gently encourage conversation about what participants are drawing. The other was whether everyone would take the activity seriously.

Idea 3: Same Wavelength

Participants were particularly enthusiastic about the fast paced two minute rounds, which allow them to quickly meet many new people. The prompts function well as conversation starters and reveal different perspectives. A key point for improvement is ensuring that the interaction has an big physical interaction to it and making it a bit different than what already exists.

Idea 6: Real Size Path

The idea of a large playful installation in the youth area was strongly appreciated. Participants liked the physical movement and the variety of challenges, noting that this combination helps prevent the experience from becoming repetitive. They were already thinking ahead about the specific types of challenges and how movement across the board would work, which are important aspects to explore in the next design phase.

Additional overarching conclusions were that digital elements and phone use should be kept to a minimum. Analog designs were clearly preferred and were also seen as easier for the library to implement.

Finally, when games ask participants to share something about themselves, it is important that responses are not limited to predefined options. Open ended answers spoken or created by hand were seen as more personal and meaningful.

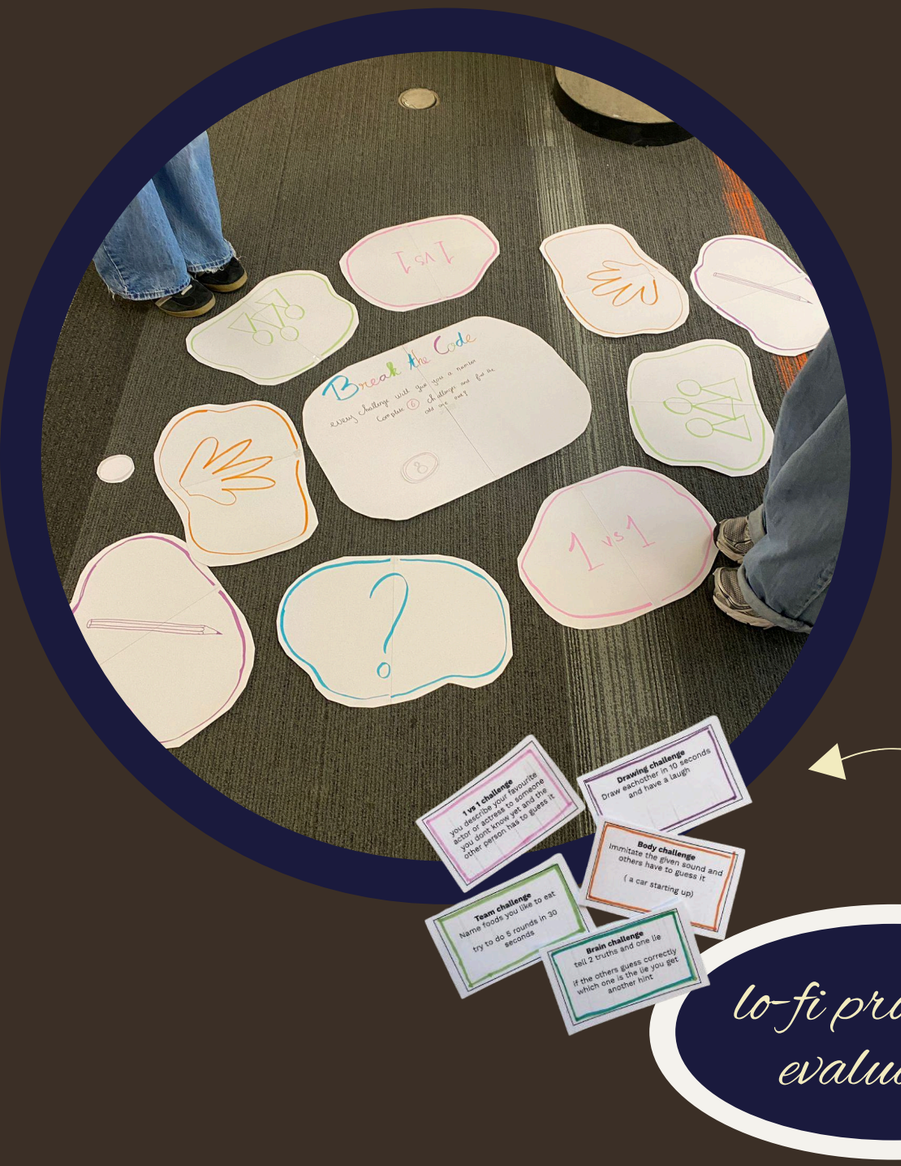
Figure 108: improvement points of selected ideas for next iteration round

4.2

three concepts

From the previous paragraph, three concepts were selected for further development: Idea 2 — Chain Drawing, Idea 3 — Same Wavelength, and Idea 6 — Real-Size Path. These concepts were further iterated into more detailed versions, so that their game-play scenarios could be explored through cardboard prototyping.

This chapter presents how the ideas are iterated to concepts (Figure 109), the evaluation of these concepts through user testing with the cardboard prototypes. Finally the insights gathered from these sessions will inform the selection of one final concept direction.



lo-fi prototype evaluation

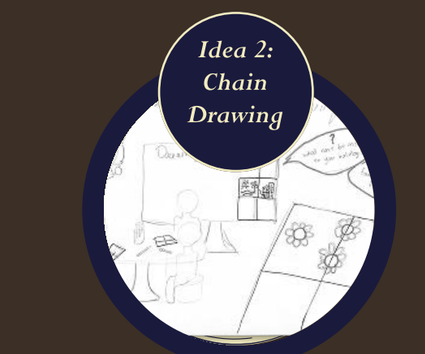
3 concepts

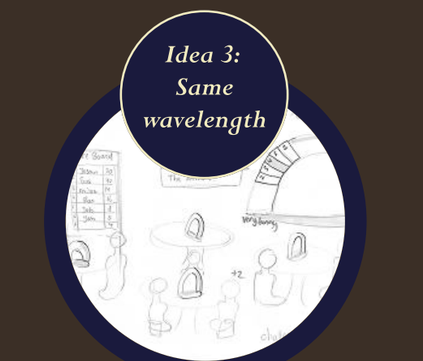
hmw's

Idea 2: Chain Drawing

Idea 3: Same wavelength

Idea 6: Real size path





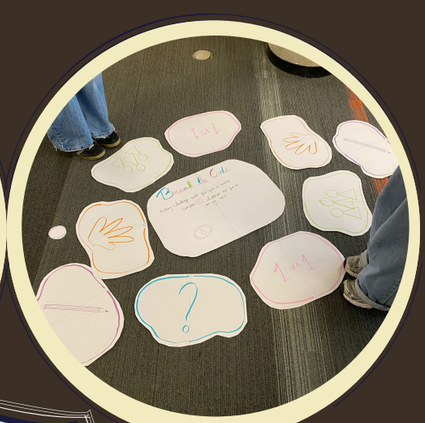


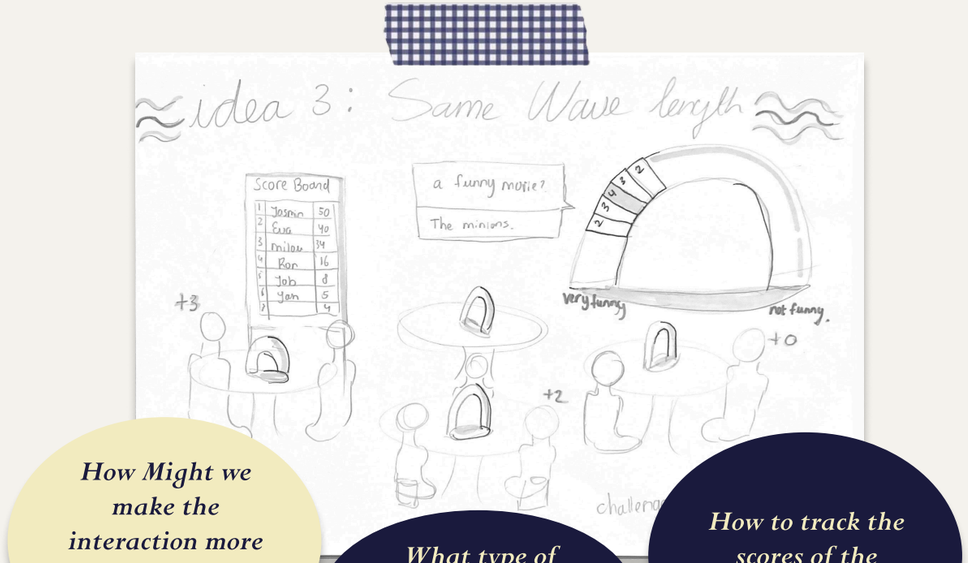
Figure 109: Process three selected ideas to one concept direction

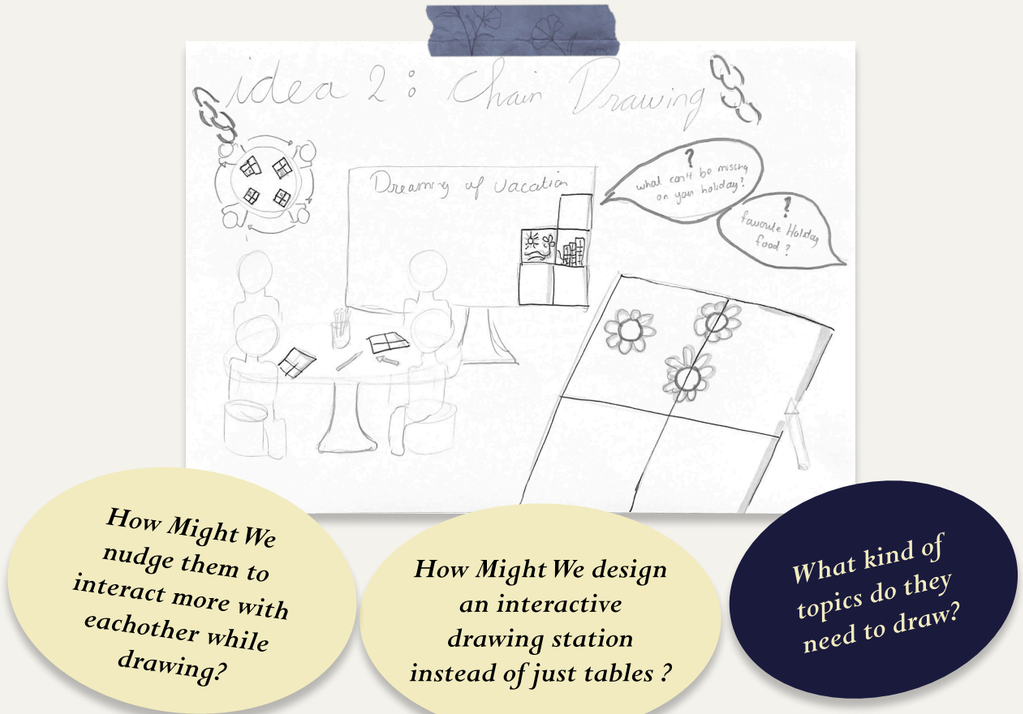
4.2.1 Improving initial ideas

At this stage, the goal was to test how the concepts would function in real use and to develop them into fully formed concepts rather than initial ideas.

To guide this transformation from ideas to concepts, I brainstormed additional How Might We questions based on the elements that required further refinement or clarification according to the feedback (Figure 110). The new How Might We questions are marked in yellow and relate to aspects that needed to change, while the blue ones refer to elements that were already part of the concept but required deeper consideration.

As the concepts became more detailed, it was also possible to sketch out user scenarios. While creating these scenarios, new requirements and adjustments emerged that were necessary for the concepts to function in a real life context. These reflections are noted on the pages where the individual concepts are discussed.





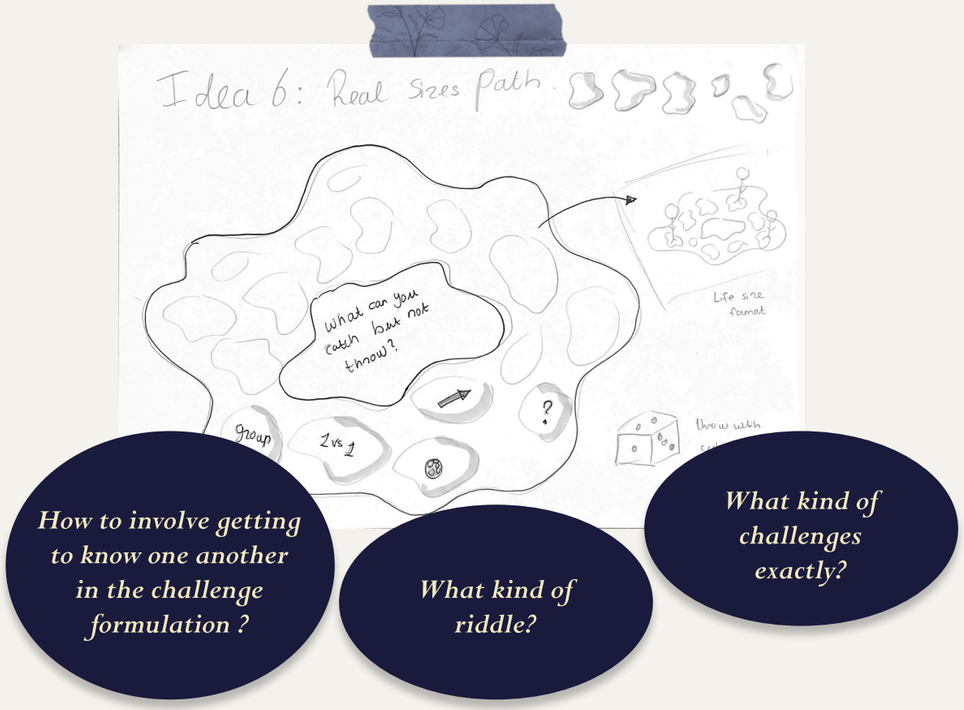


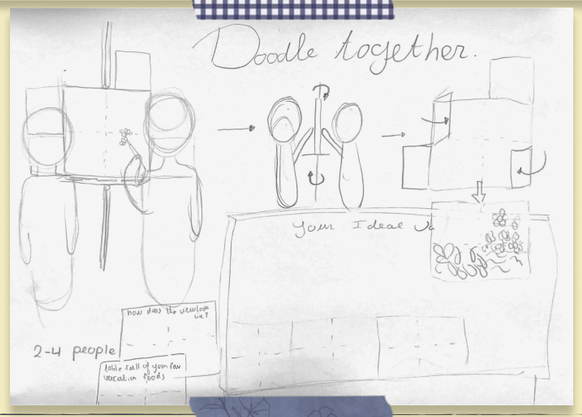
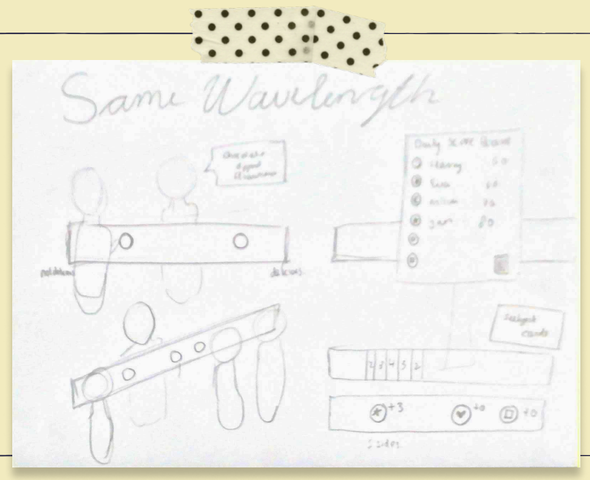
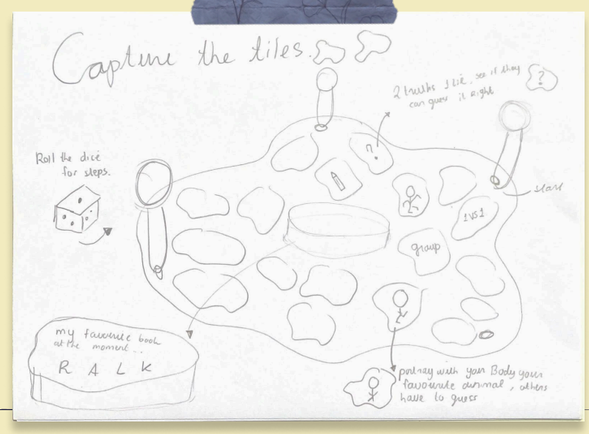
Figure 110: Questions of improvement of the three selected ideas

4.2.2 Three concepts

After refining the ideas into three concepts, they were organized into a matrix (Figure 111) that categorizes each concept by its medium, as defined in the design brief, and by the way it motivates participation, similar to the earlier eight ideas. The hybrid media category was excluded, as research presented in Section 4.1 showed a clear preference for analog solutions.

Figure 111: Concepts in "which type of solution" matrix

type of technique to motivate to join

type of game to entertain & connect	*Hybrid media*	*Popular reference*	*"Honey pot"*
Co-creation			
Challenges			
Open ended play			

Concept 1: Capture the tiles (Figure 112)

This concept is a life size board game with challenges. It consists of a series of large, scattered floor tiles placed in the center of the space. Each tile displays a challenge and in the middle the main riddle they need to solve such as:

- guessing a word from a partial set of letters,
- identifying an odd number in a sequence,

Five challenge categories were developed: Drawing, Questions, 1-vs-1, Group, and Body. These 5 different challenge show a variety in skill and the amount of people you come in contact with to make it more interesting and fun for different types of people to play. Each challenge is designed to act as a social mediator that helps participants learn something about one another in a light and playful way.

The board includes multiple starting points and no fixed path, encouraging freedom of entry and spontaneous engagement

Core criteria check

Challenge based game

- ***Inclusivity***: both individuals and friend groups can join the activity anytime during it. and the variety of challenges make it interesting for different type of people to join
- *Entertaining & social dimension*: the different challenge reveal the skills of other persons and the challenge has a deeper level of getting to know one another. lastly you can connect on solving a puzzle together.
- ***Motivation to join***: the board game is life size in itself which will attract attention with the visibility of the interaction

Figure 112: Idea sketch to concept sketch

1. *You can join anytime from different spots at the game board*

2. *The middle displays the riddle you have to solve together*

3. *Once it's you turn you throw the dice*

Will it be free to just decide where to step? is there not a specific way you have to walk?

Is there a sensor in the game board? do we need to make it more analog?

4. *You throw one and take one step towards any tile*

5. *The middle will display the challenge you step on*

6. *You do the challenge and get to share someting personal about yourself.You get one clue to the main riddle*

Figure 113: Use scenario with insights concept 1

The Prototype

The prototype exists out of:

- Challenge cards (5 different) shown in Figure 114
- Stepping tiles (5 different) shown in Figure 115
- Clue center and clues shown in Figure 115

It is partly made out of paper and partly uses a Wizard of Oz approach, as the central display is intended to be digital in the final concept. Each time a challenge is completed correctly, I place one of the clue numbers in the center, simulating how the digital system would function in the final version.

As shown, each challenge category is represented by a different color. The central clue station has not yet been digitally prototyped; instead, participants read the challenges directly from the challenge cards.

Figure 114: Challenge cards prototype

Figure 115: Stepping tiles, clue center and clues prototype

Concept 2: Same wavelength (Figure 116)
As in the original idea, the core concept of the Same Wavelength game is preserved, but the format has been redesigned to be more physically present in the space. Instead of a tabletop half-circle scale, the scale becomes a standing element within the play area, increasing visibility and encouraging spontaneous participation and movement.

Players can join the scoreboard via a QR code, which keeps track of scores throughout the game.

Multiple sliding pins allow several players to make their guesses at the same time, adding a physical and collaborative layer, as well as a personal touch, similar to selecting a character in a video game.

The prompt cards are designed around topics that reveal personal preferences and values. These cards are presented in the prototype.

Core criteria check

Challenge based game

- ***Inclusivity***: the motivation of getting a high score in the competition will nudge everyone to mingle and get as many wavelength questions correct.
- *Entertaining & social dimension*: the concept is built on an already existing viral game on tiktok and the prompt cards have a social dimension of comparing views on certain subjects
- ***Motivation to join***: visually large presented score board and also a novel standing game station which will attract attention

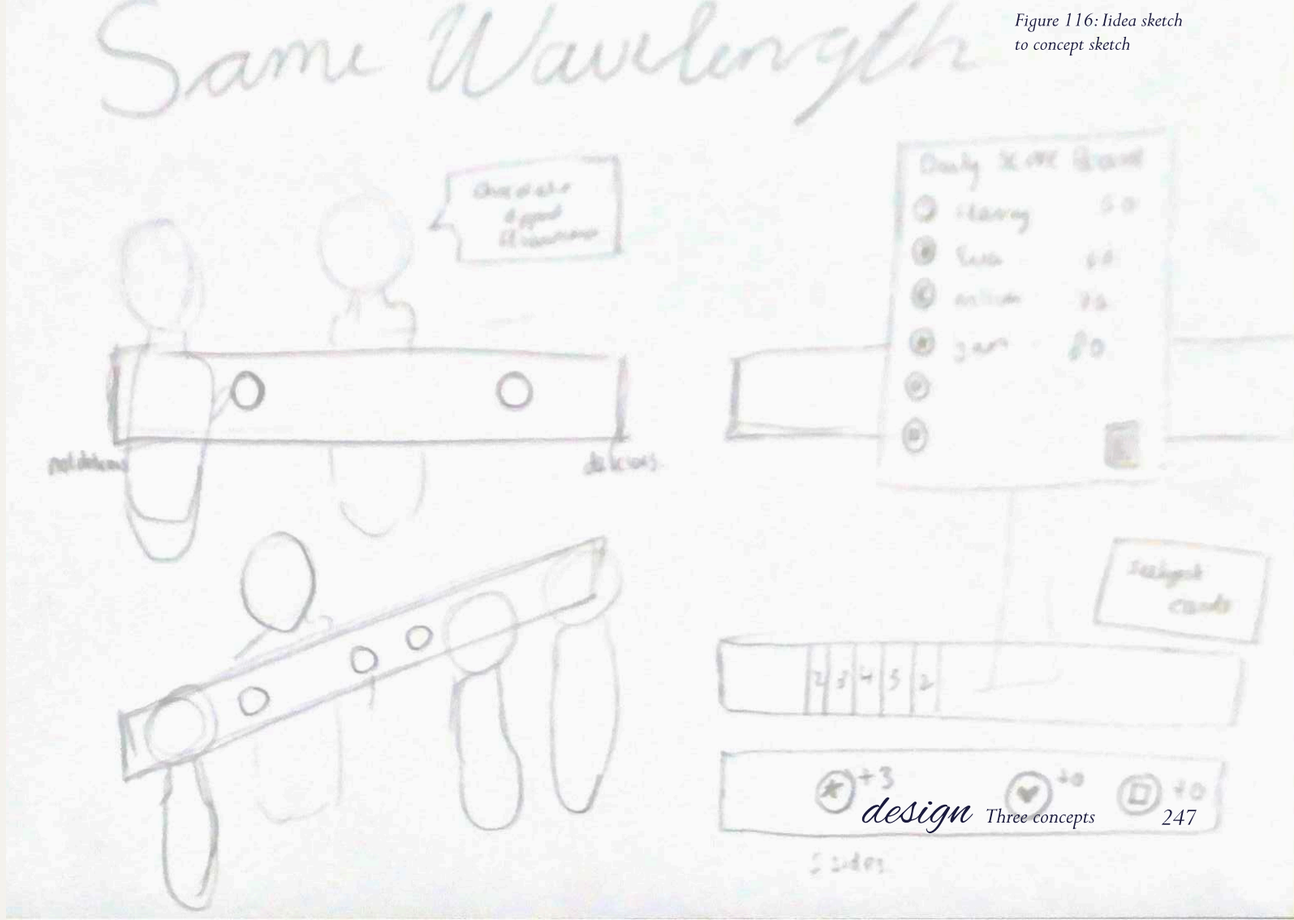
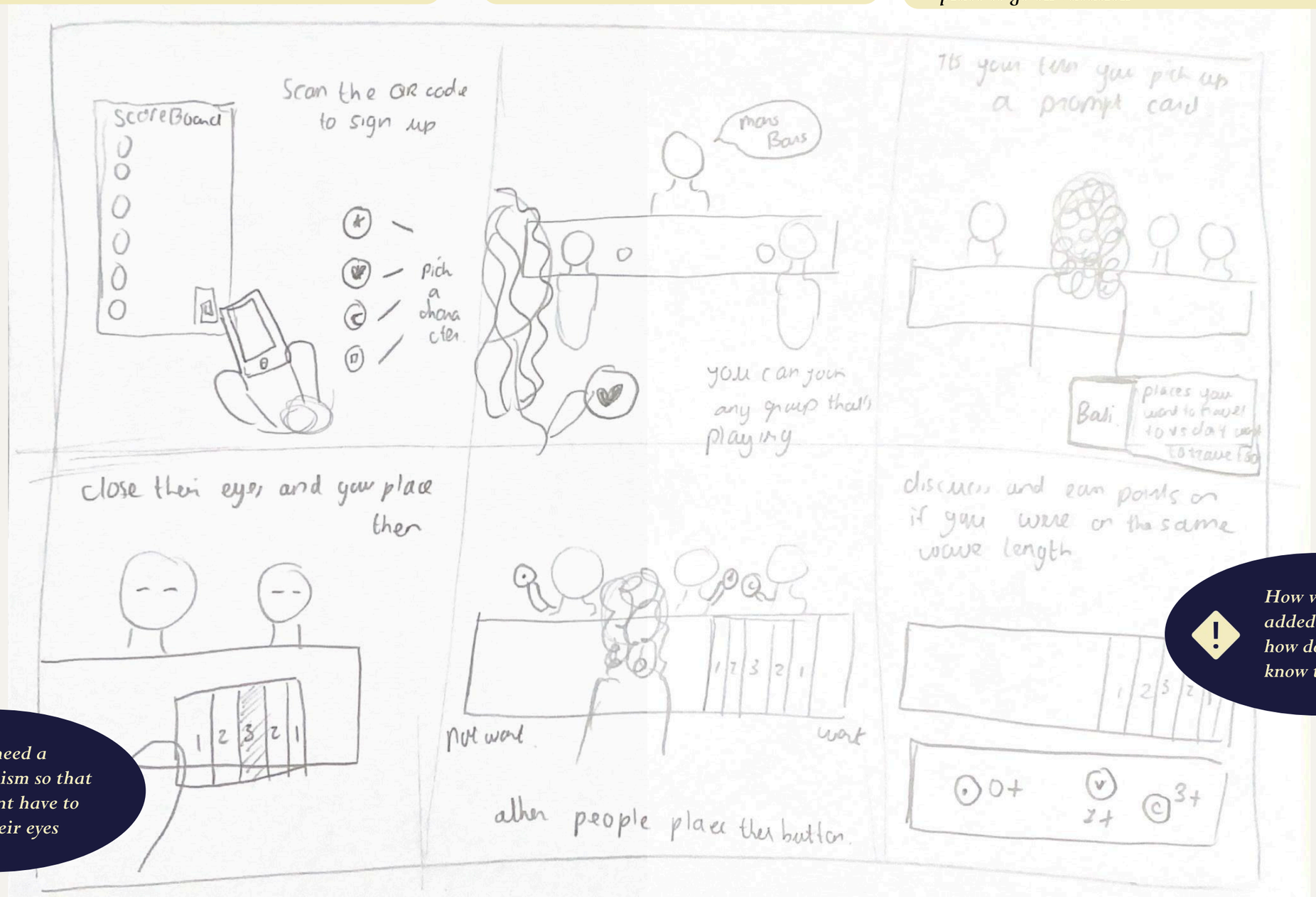


Figure 116: Iidea sketch to concept sketch

1. *you see the score board and you can sign up with the QR code, choose a symbol and you will appear on the digital screen*

2. *You can join any group that is playing*

3. *It's your turn to choose a prompt card. you get Bali. you have to think is this a fun place or not a fun place to go on vacation*



Do we need a mechanism so that they dont have to close their eyes

How will they be added to the account, how does the pin know that?

4. *They close their eyes and you place the scale somewhere you would think it fits*

5. *They guess the place on the scale based on what they think, is it a fun place or not?*

6. *You can reveal where you put it and discuss the outcome. Points will be added to your and their score*

Figure 117: Use scenario with insights concept 2

The Prototype

The prototype exist out of:

- Player buttons shown in Figure 119
- The scale shown in Figure 118
- The standing station shown in Figure 121
- The prompt cards shown in Figure 120

It is partly made out of paper and partly uses a Wizard of Oz approach.
During prototyping, I realized that the experience becomes more engaging when the scale is placed randomly and players have to come up with a word that fits that position, rather than first receiving a word and then placing the scale themselves. This adds an extra layer of thinking and creativity to the game.

The scale slider on the one-person side therefore needs to be randomized for each turn. Instead of using a mechanical solution, this was done manually by placing the scale in a random position while asking participants to close their eyes.

At this stage, the game was still played at a table rather than in a standing setup. This was due to practical limitations in the library, as the prototype could not yet be attached to the space. Nevertheless, the core gameplay and interaction were still clearly communicated.

The prompts are written on cards, and the pins used to guess the position on the scale for the other player are fitted with tape so they can stick to the frame.

Figure 119: The player buttons prototype

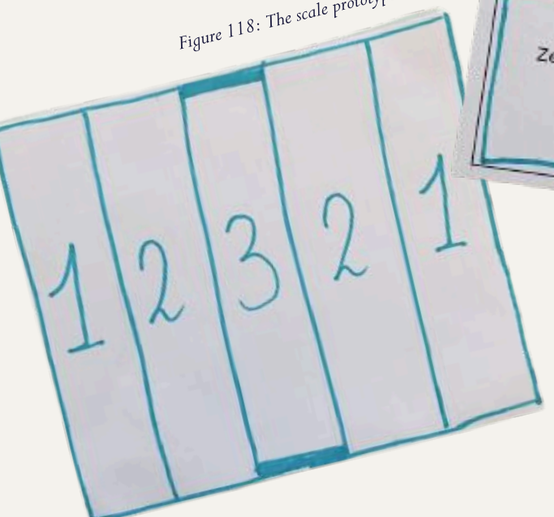


Figure 118: The scale prototype

Figure 120: The prompt cards prototype

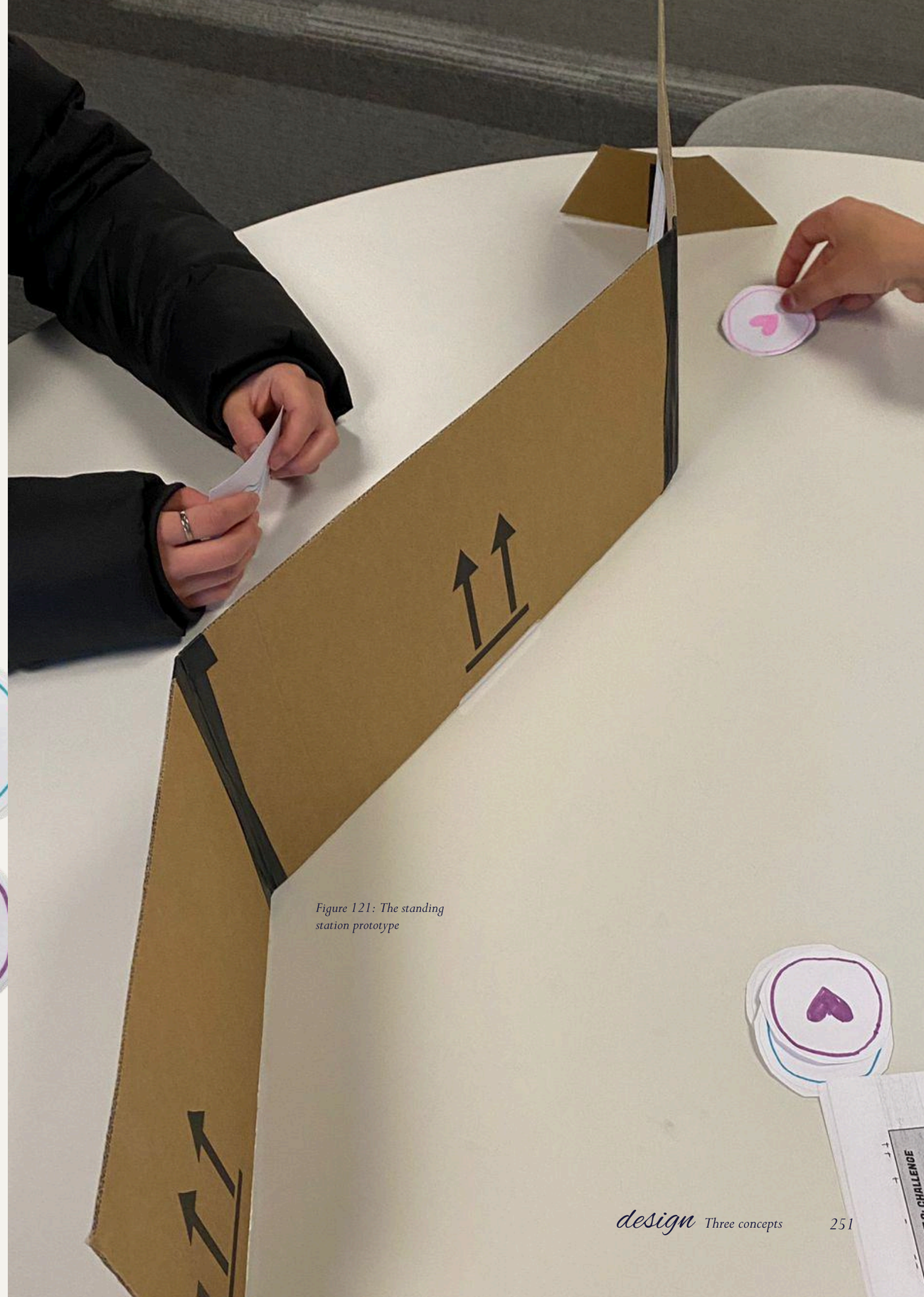


Figure 121: The standing station prototype

Concept 3: The doodle together (Figure 122)

Doodle Together is an iteration of the classic chain drawing concept, where participants continue drawing on each other's work. In this version, participants draw side by side at a standing table, rather than sitting separately. The table includes side panels that allow each person to temporarily cover their drawing while the next participant adds to it, preserving an element of surprise.

Each drawing sheet features a theme or prompt, such as "Draw a table filled with your favorite vacation food" or "What does your vacation view look like?" These themes change regularly and can be adapted to the season.

Once the artwork is completed, participants can place it on a large display board themselves, making the results visible to others in the library.

During the drawing process, participants are encouraged to talk, by asking questions about each other's drawings or by discussing how they interpret the prompt, allowing conversation to emerge naturally through the shared activity.

Core criteria check

Co-creation

- ***Inclusivity***: both individuals and friend groups can join the activity as you can play with multiple
- *Entertaining & social dimension*: simple creative exercises reveal similarities or different perspectives without requiring advanced skills.
- ***Motivation to join***: results are displayed on a library board, making the activity visible and attracting participation. in addition the standing stations will also attract attention

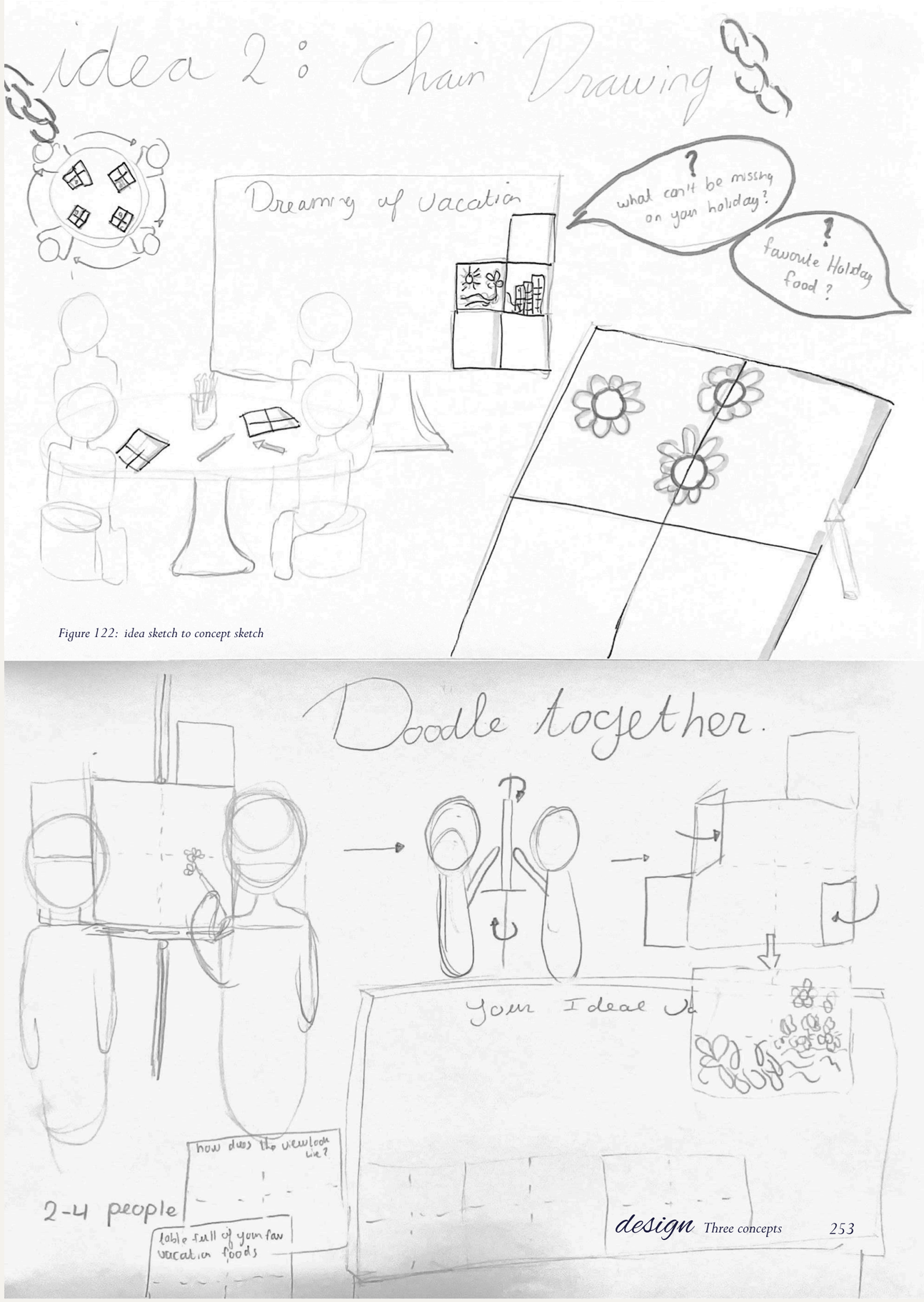
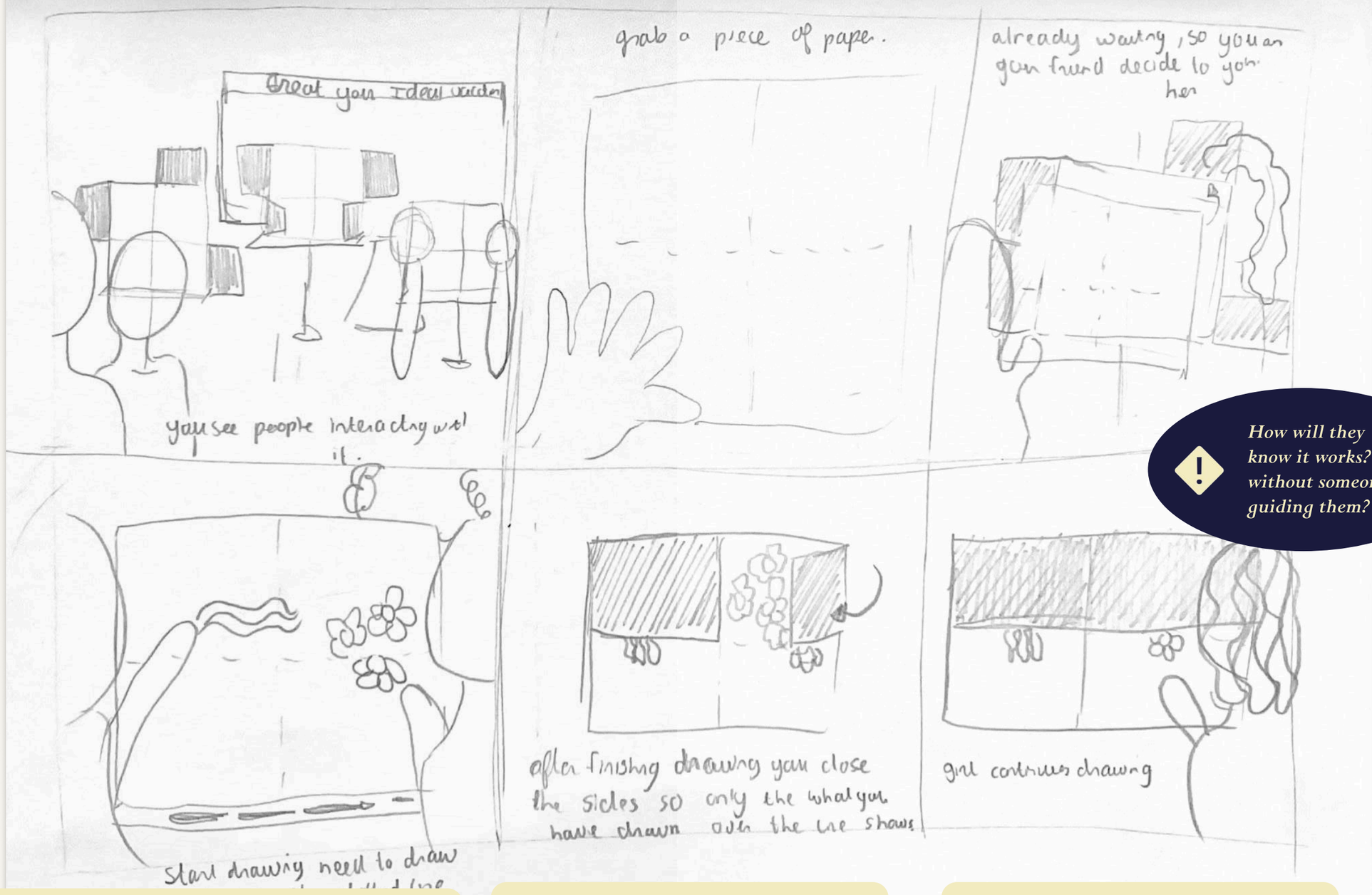


Figure 122: idea sketch to concept sketch

1. *You see people are drawing and you want to join together with your friend*

2. *You grab a piece of paper with a subject to draw*

3. *You see someone is drawing alone, you and your friend join this drawing stand*



4. *You both start to draw on the squares and a bit over it, so the other person knows where to continue*

5. *When done drawing you close the sides*

6. *You rotate with places, so the other person draws further on your side. after wards you can see eachothers results and discuss*

Figure 123: Use scenario with insights concept 3

The Prototype

For this prototype, I mainly wanted to test whether people would spontaneously join in, even when there was no actual event or facilitator leading the activity. To do this, I created a standing drawing setup using large sheets of paper and two whiteboards, and placed a wide variety of pens and colors around it (Figure 125).

The setup was not focused on explicitly finishing each other's drawings, but it still encouraged participants to draw in the same shared space and respond to similar prompt questions. This created a more open and intuitive interaction. As shown in Figure 124, this approach was chosen because finishing each other's drawings seemed to require more explanation and structure, which works better in a guided event. This became clear while developing the scenario.

I also added a few example drawings to give participants an immediate sense of how the setup could be used and to lower the threshold for joining in (Figure 124).

Figure 124: The drawing paper prototype

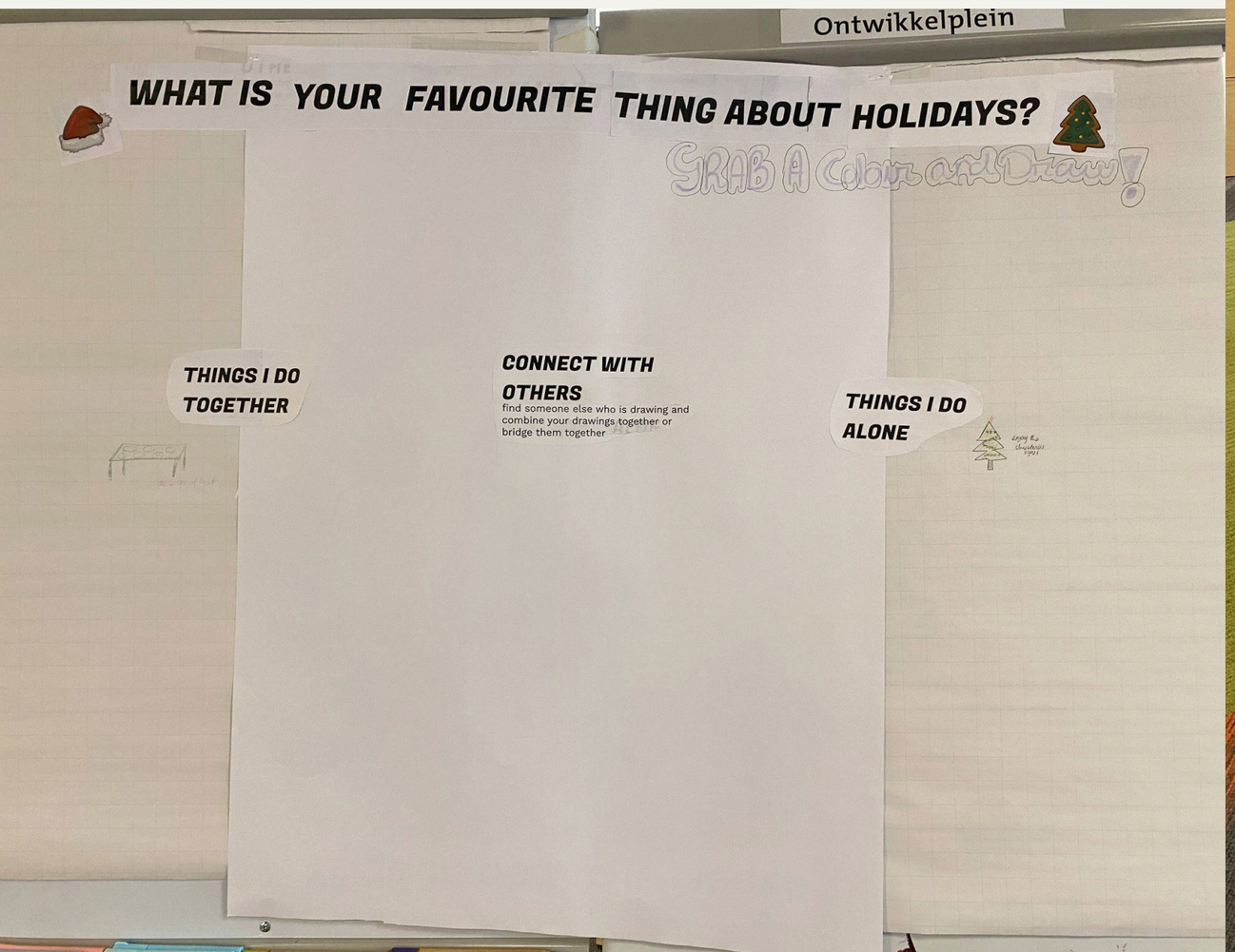
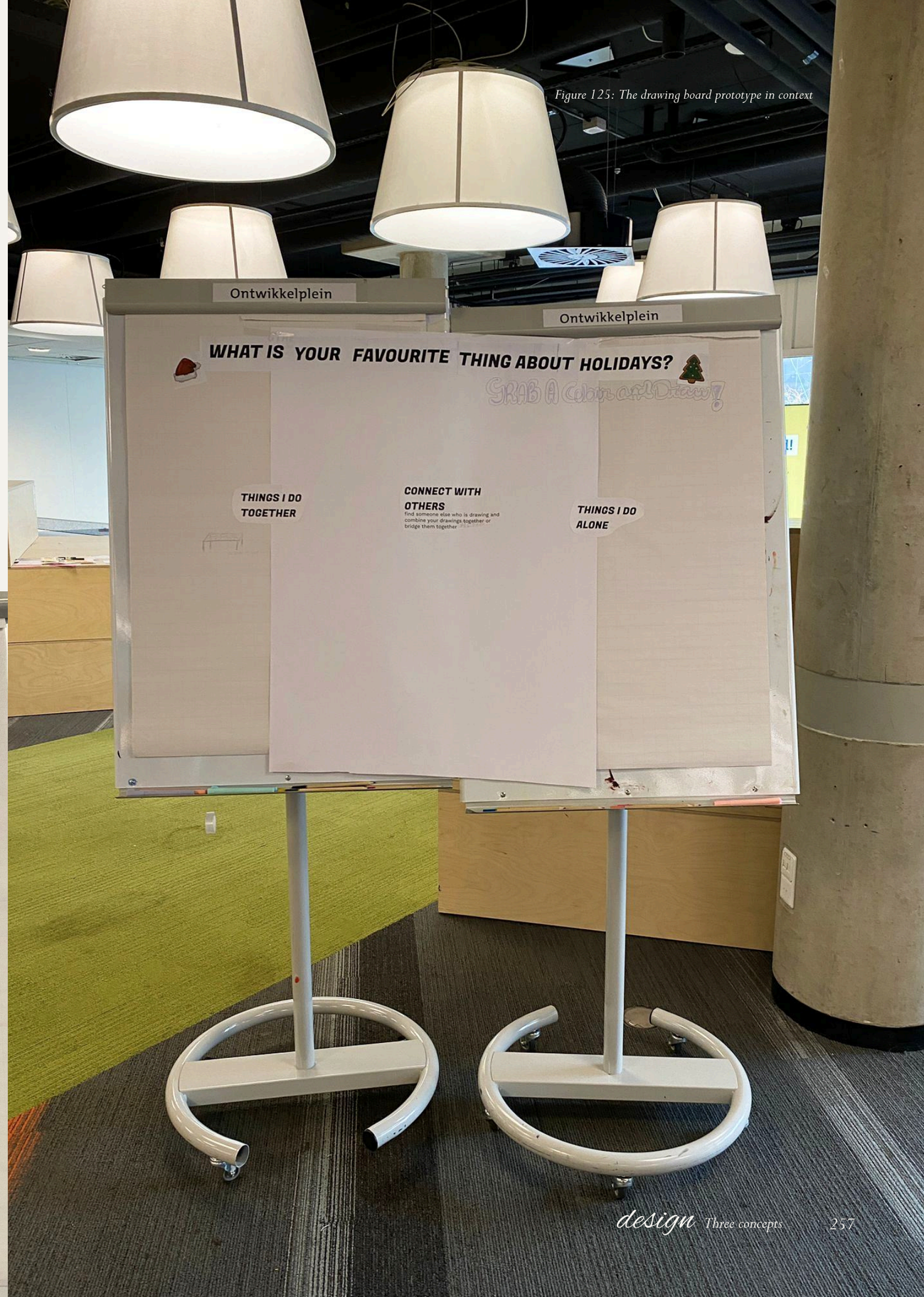


Figure 125: The drawing board prototype in context



4.2.3 Evaluation method: concept 1 & 2 paper prototyping

Conducted: 3 times
With whom: with 6 reoccurring participants (group of 3, 2 and 1 participant)
Goal: Too understand how they react to a full scenario of gameplay and experiment with physical shape
Interactables: paper prototypes of elements of the concept (seen on the concept explanation pages)
Location: library

The session began with a brief introduction to the project, giving participants a clear context for their feedback. They were asked to imagine the following scenario: "You are going to study in the library, either alone or with friends. During a break, you come across each of the following games…"This allowed them to evaluate the concepts in a realistic and relatable way.

Concepts 1 and 2 were then presented using the paper prototype. Participants were first encouraged to think aloud, explaining what they thought the game was and how they might interact with it. If they were unsure, guidance was provided, and rounds of the game were played. Throughout this process, participants shared their immediate thoughts and reactions.

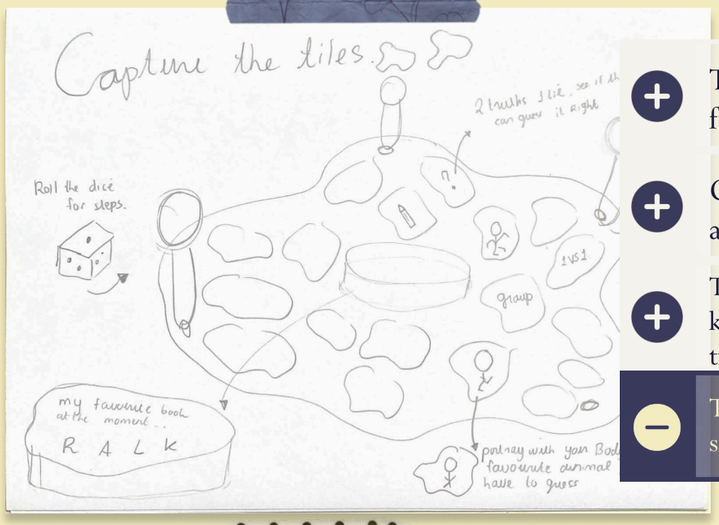
Figure 126: Picture of paper prototype test concept 1

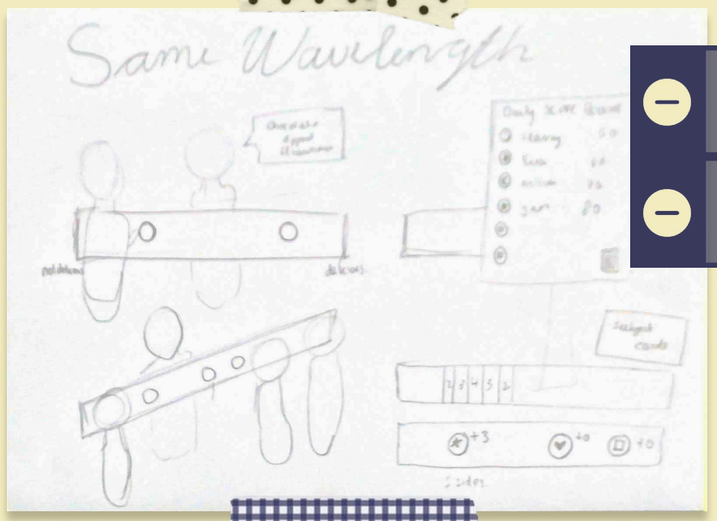
4.2.4 Evaluation method: concept 3 paper prototyping

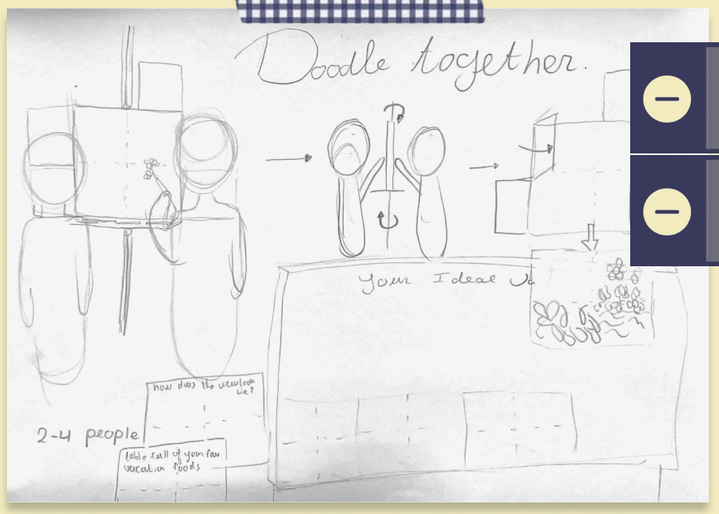
Conducted: 1 times
With whom: Everyone on the youngsters floor
Goal: Too understand if they would join an collective drawing board and if they would take it seriously when it is un attended
Interactables: paper prototypes of elements of the concept (seen on the concept explanation pages)
Location: library on the youngsters level

In this session, I left the drawing board prototype unattended from Friday to Monday to observe how participants would interact with it when they thought no one was watching. Afterwards, I checked the results to see whether they had engaged with it and in what way they participated.

Figure 127: Picture of paper prototype test concept 3







- ⊕ They laughed and had a lot of fun while doing the challenges
- ⊕ Could imagine it standing their and gave lots of suggestion
- ⊕ The challenges do help in getting to know eachother better in a low treshold way
- ⊖ The main riddle did not really make sense because of the numbers
- ⊖ Difficult to think of prompts while playing making it too superficial
- ⊖ Would feel more comrotable and fun to play with people you already know well
- ⊖ People can easily srew up the art in a bad way
- ⊖ Not motivated to join on their own

4.2.5 insights

This section presents the positive and negative aspects discussed by the participants while testing:

The previous page summarized the positive and negative feedback on the concepts; this section provides a more detailed explanation of the key insights.

Concept 1: Capture the Tile

During testing(Figure 128), Concept 1 emerged as the strongest option for fostering spontaneous and socially meaningful interaction in the library. Participants consistently described it as the most enjoyable and suitable activity for their breaks, largely because the variety of challenges prevented the gameplay from feeling repetitive. The mix of drawing tasks, question prompts, one-on-one moments, group activities, and simple physical exercises created multiple social entry points, allowing participants to gradually get to know each other in a natural way.

The challenges that were most appreciated were the very short, unexpected ones, as these caught participants off guard and created quick, fun moments (Figure 129). In addition, the connect-type questions that encouraged personal stories were highly valued. In contrast, more abstract questions were less well received, as participants felt they could not express themselves clearly in response to them, such as the challenge shown in Figure 129.
The concept also generated visible enthusiasm. Participants laughed, collaborated, and exchanged comments about the challenges, indicating that the design successfully encouraged social bonding.

Participants expressed interest in seeing the concept further developed, suggesting the addition of three-dimensional structures or larger interactive elements to make the physical presence of the game more immersive.

However, the "main riddle" mechanic, particularly the numerical puzzle tested in the prototype, was perceived as un-engaging and not sufficiently rewarding. Participants also felt that the full game duration was too long for a typical break and recommended offering both shorter and longer gameplay modes.

Figure 128: Picture at one of the user test while interacting with the capture the tile prototype

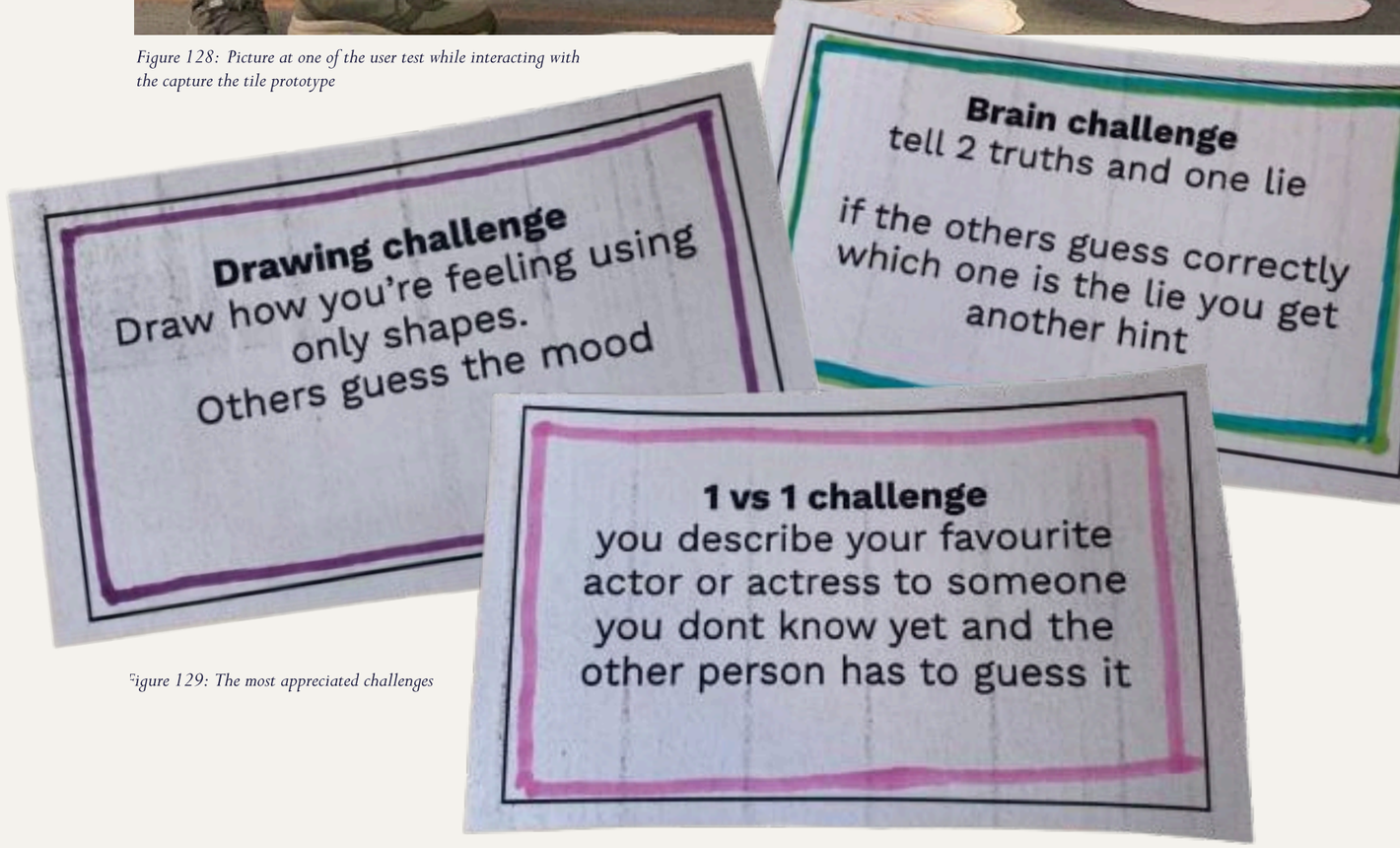


Figure 129: The most appreciated challenges

Concept 2: Same wavelength

Participants generally enjoyed Concept 2 (Figure 130) but felt it was better suited for playing with close friends. When used with strangers, the prompts often seemed too broad or impersonal, making it harder to spark deeper conversation. Players also struggled to generate meaningful reference words, which disrupted the flow of interaction.

One participant reacted to the prompt card ("No drama, zero drama") by saying:
"Wait, let me think, I can't think of anything good. Should I just say something easy instead?"

This illustrates that when participants couldn't come up with something personal, their responses became superficial, especially because they were cautious about being misunderstood by someone they didn't know well.

Although the concept was liked, it did not have enough strength to function as a standalone social game in this context. Participants did, however, see potential in using its challenge cards to complement Concept 1.

Concept 3: Doodle Together

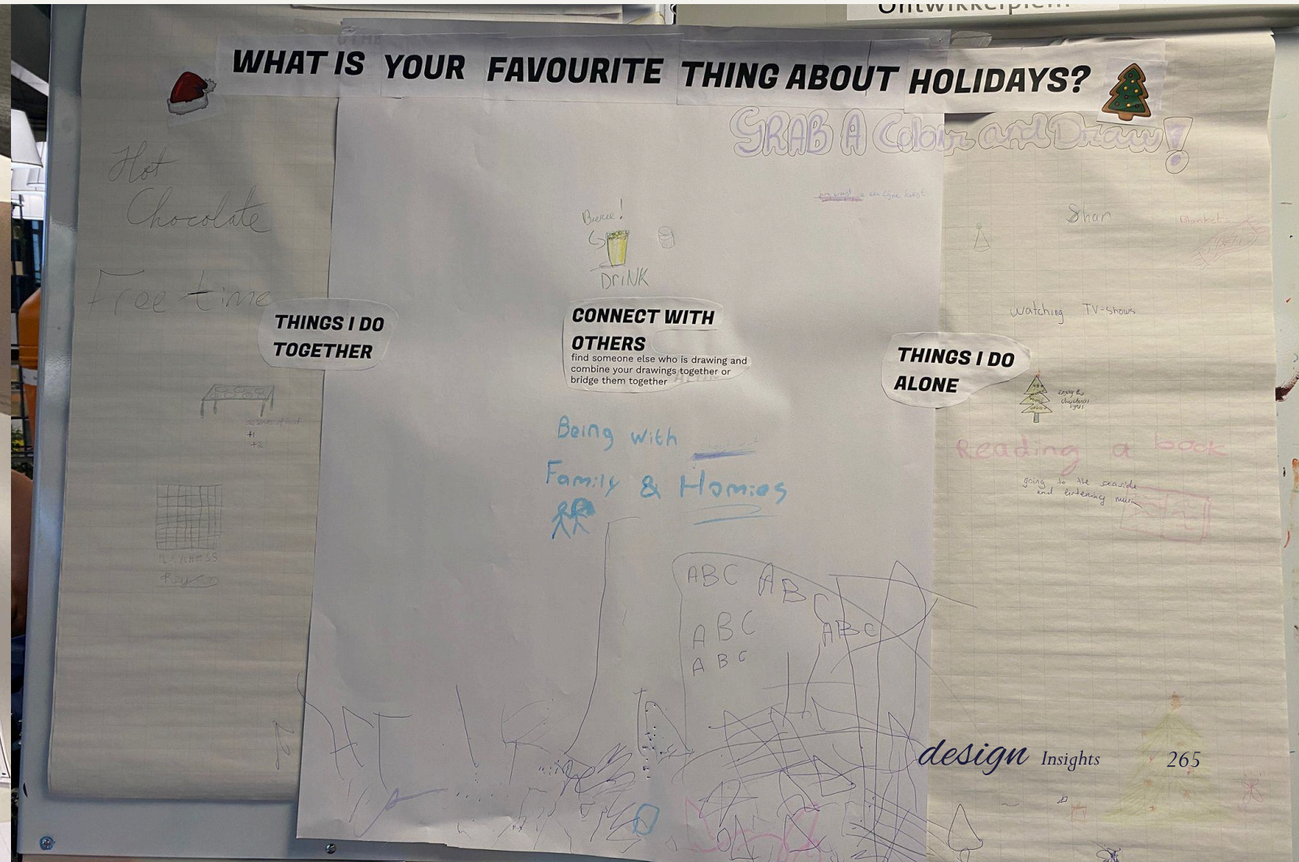
The third concept received the weakest engagement during free interaction. Participants rarely drew, opting mostly to write words instead (see Figure 131). Library visitors also largely ignored the "draw together" nudges on the paper prototype, resulting in minimal actual drawing.

This suggests that the open-ended drawing activity lacked sufficient structure or purpose to motivate participation. Without guidance or facilitation, the installation blended into the environment rather than actively inviting social interaction. If this concept is to be developed further, this issue would need to be addressed.

It is also possible that the low-fidelity prototype contributed to the limited engagement, as participants may not have taken it seriously. Unlike the other concepts, which naturally require interaction to progress, this concept did not inherently encourage people to engage with each other, making spontaneous participation more difficult.

Figure 130: Picture at one of the user test while interacting with the same wave length concept

Figure 131: Picture of the drawing board after standing in context for four days



4.2.6 Key takeaways

Based on the evaluation, ***Concept 1 (Real-Size Path) is the most promising direction*** moving forward. It was the most effective at engaging participants and ensuring they had fun. Small activities like moving and drawing made it easy to form social connections, while the deeper layer of questions helped participants get to know each other while enjoying the activity.

The next steps (Figure 132) involve exploring how this concept can be shaped spatially, experimenting with the physical form, adding three-dimensional elements, and integrating visually appealing components that match the aesthetics preferred by adolescents without becoming childish.

Further refinement is needed regarding the types of challenges, the structure of the main riddle, and the overall duration of gameplay to ensure it fits within a 5–20 minute break, as well as determining where the different game components will be stored or integrated into the overall design.

In addition, attention must be given to how to attract users to the play area, including exploring graphic styles, material choices, and interaction cues that feel inviting and suitable for the target age group.

Figure 132: improvement points of concept 1 for next iteration round

4.3

one concept direction

Based on the previous paragraph, one concept direction was selected to further explore in the design phase (Figure 133). First, multiple smaller concepts were developed to test different aspects of the overall idea. After defining and refining these elements, the concepts were combined and tested as a whole through two low-fidelity prototypes. This iterative process helped ensure that the final concept could effectively address the design goal derived from the context research.

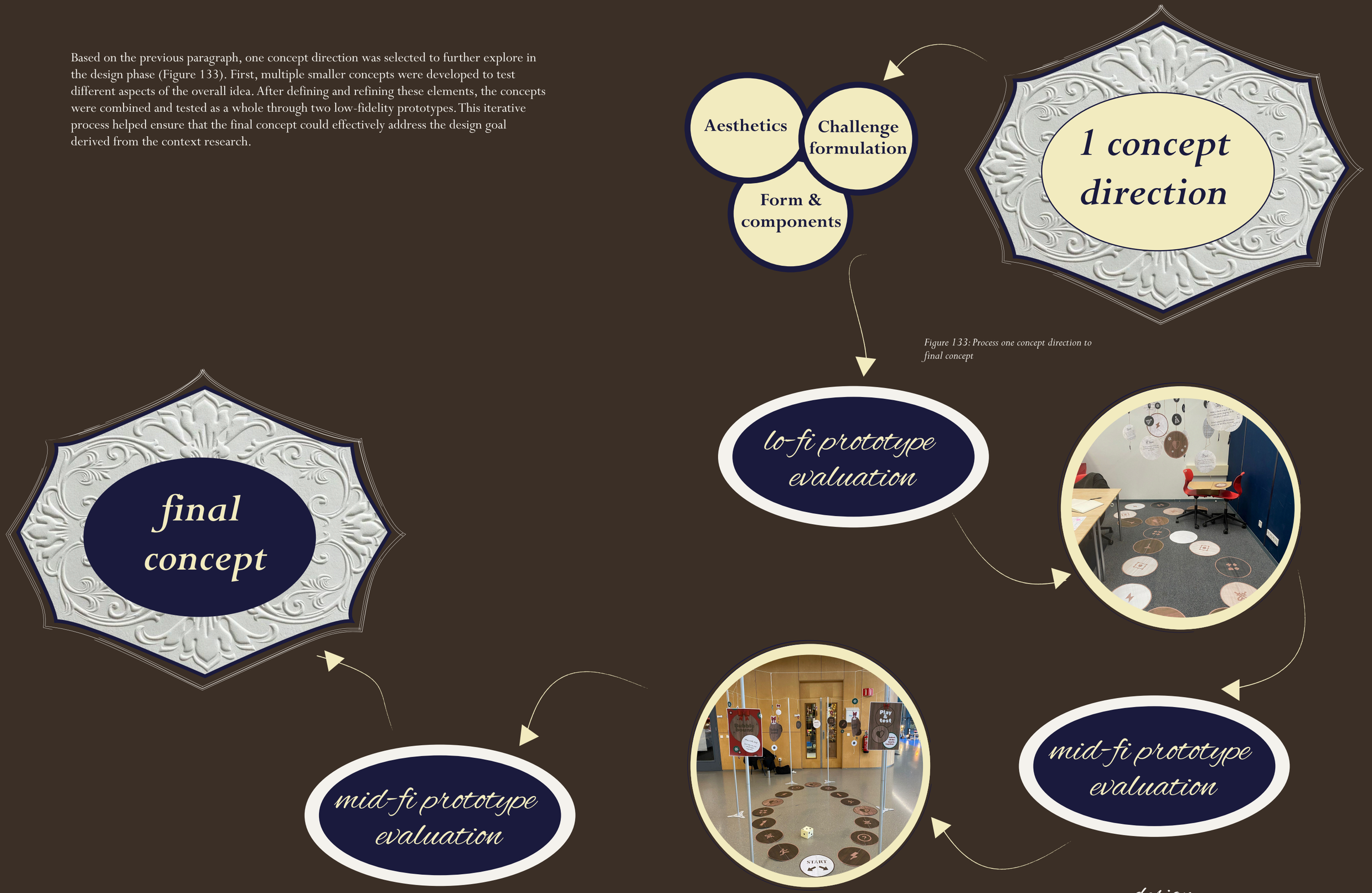


Figure 133: Process one concept direction to final concept

4.3.1 Explore parts of the concepts

The previous paragraph concluded that the chosen concept direction is a life-sized board game with challenges, which will be further developed. Before testing the full interaction as a complete concept, several parts of the concept needed to be detailed and explored, as identified in the previous key takeaways. In Figure 134, the different components of the concept are presented, along with the corresponding questions that still need to be addressed.

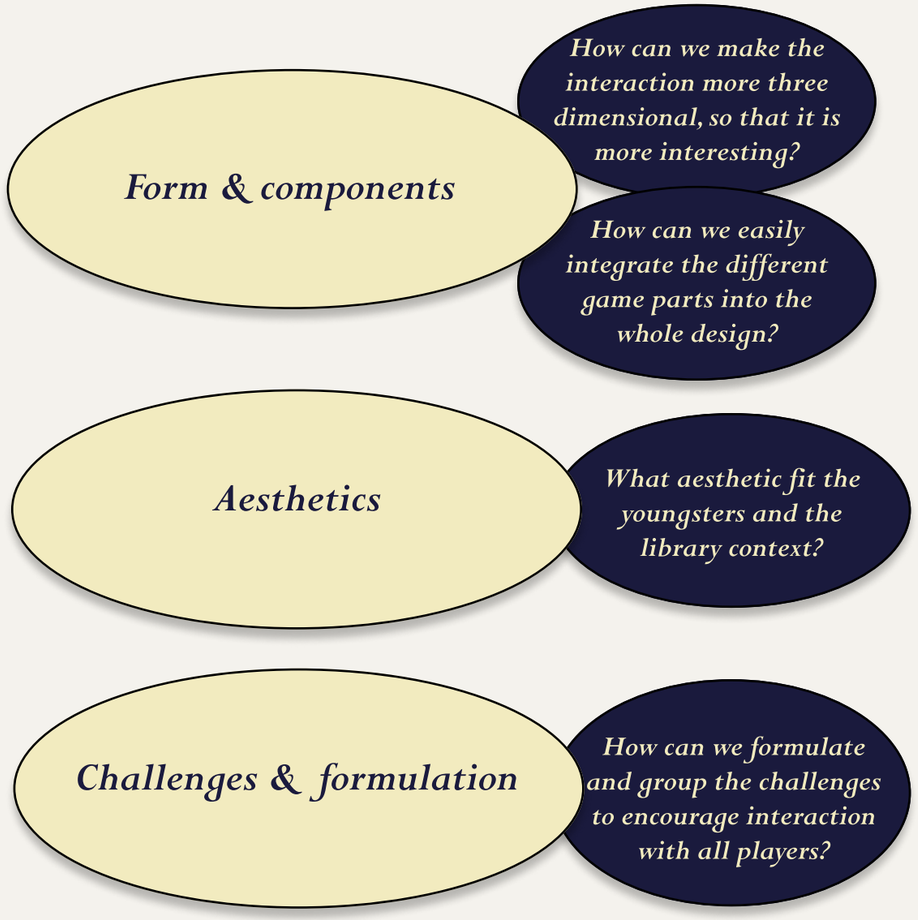


Figure 134: Parts of concept with improvement questions

4.3.2 Evaluation method: different concept parts

Conducted: 4 times and 8 times (questionnaire)
With whom: with reoccurring participants
Goal: Too understand their preferences on each part of the concept that needs detailing
Interactables: paper prototypes and questionnaire
Location: café

The session (Figure 135) began with a brief introduction to the project, giving participants a clear context for their feedback. They were asked to imagine the same scenario as before. The form and components were prototyped using sketches and paper models. I first explained the concept with the sketches and then elaborated further using the paper prototypes, allowing participants to interact with them. Feedback was collected afterward for each of the concepts.

Options for aesthetics and formulation were tested through a questionnaire, which was completed by the four participants in the session as well as four other recurring participants.

Figure 135: Photo of different concept part test

4.3.3 Form & components

To generate ideas for this part, I brainstormed with inspiration from other installations that attract attention through their three-dimensional presence. I experimented by sketching different shapes to explore how form could enhance engagement (Figure 136).

In addition, I explored ways to integrate the various components, the stepping tiles used to reach challenges, the challenge cards, clue display, dice, and drawing supplies, into one cohesive design.

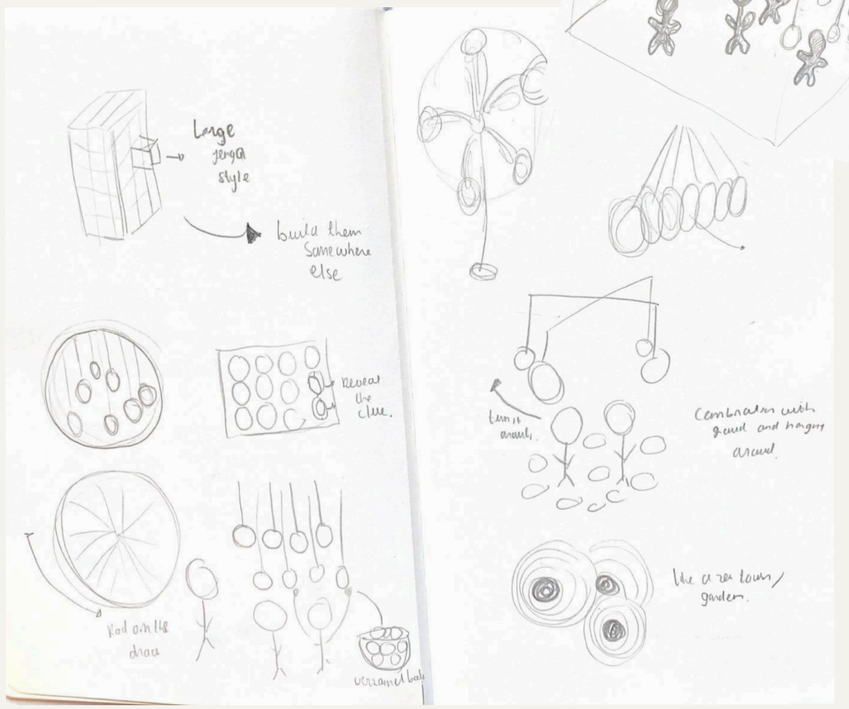
Brainstorm Form

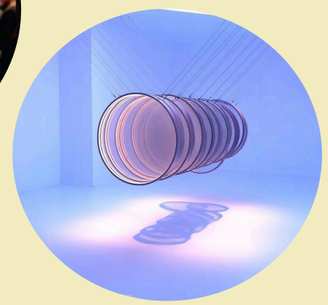
I gathered inspiration from Pinterest focused on overall shape, which resulted in several categories, as shown in Figure 137. These categories were then used to further develop and sketch concept ideas. When selecting inspiration, I also considered how easy the design would be to build and dismantle, as this is important for library use.

Brainstorm Components

After the brainstorm of the form i realised that the challenge cards can be naturally integrated into a three-dimensional design. I also explored the idea of incorporating them into a central base, shaped like a table, where all components could be brought together and stored in one place.

Figure 136: Sketches of different shapes





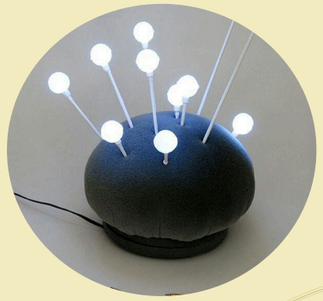
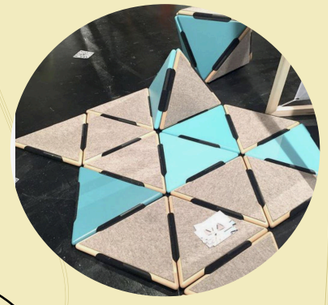


Figure 137: Cluster groups of inspiration form other installations



Hanging

Inspiration Form

Floor

Blocks

Concept 1: Bubble Forest

This concept was inspired by the hanging installations shown on the previous page.

Bubble-Shaped Challenge Card Trees

The bubble-shaped challenge cards are suspended in a tree-like structure. Players can unhook a card from the type of tree that corresponds to the tile they are standing on. Each challenge card is initially closed and can be opened to reveal the challenge inside. Once the challenge is completed, a clue appears on the back of the card. Each tree is surrounded by tiles representing a variety of challenge types.

Each challenge type has one corresponding clue, for example one for drawing, one for movement, and so on.

Central Clue Base

At the center of the setup, there is a base where players can place and collect the clues they earn after completing challenges.

Figure 138 shows a prototype of the bubble challenge cards, which was created to better understand the overall shape and form of the concept.

Figure 138: Bubble forest sketch and prototype

Concept 2: Hidden Shelves

This concept is inspired by the block-based forms explored earlier and fits naturally within a library setting, as it resembles bookshelves.

Challenge Dice

This concept does not use floor tiles, reducing the number of components. Instead, the type of challenge is determined by rolling a dice.

Hidden Shelves Challenge

The challenge cards are placed inside drawers. Players open a drawer and read the challenge out loud. After completing it, they open one of the shelves to see whether they have received a clue for the main riddle, creating an element of surprise.

Central Clue Base

At the center of the setup, there is a base where players can place and collect the clues they earn after completing challenges.

Figure 139 shows the prototype of one of the drawers.

Figure 139: Hidden shelves sketch and prototype

Concept 3: Origami Game Tables

The final concept was inspired by the floor-based inspiration category, particularly the origami table. The idea emerged from exploring how the design could be multifunctional and easy to store when not in use.

Table Tiles

This concept focuses entirely on the floor. The challenge cards are integrated directly into the tiles. Players lift a tile to reveal the challenge, with the clue placed inside as well.

Figure 140 on the right shows an early folding experiment used to test whether this structure would work, and on the left shown the prototype that was used during the user test.

Central Clue Base

At the center of the setup, there is a base where players can place and collect the clues they earn after completing challenges. This base is an empty version of the same clustered tiles used for the challenges, ensuring visual consistency across the concept.

Insights

These concepts were tested using low-fidelity paper prototypes in combination with sketches. This helped participants understand the core interaction of accessing and completing challenges. These were the insights found after the test:

Origami Tables

This concept was the least favored. Participants felt that constantly looking down to access challenges was not ideal for social connection and would become physically tiring. As one participant remarked,

Bubble Forest

This concept was rated as the favorite. Participants found it the most visually appealing in terms of form and attention-grabbing presence. They appreciated how the elements surrounded them, creating the feeling that the game existed all around them in their space, especially in combination with stepping on the tiles.

Hidden Shelves

Participants felt this concept fit the library context best, as opening drawers felt playful and secretive. However, they found it awkward to stand around without floor tiles guiding where to position themselves. As one participant noted that chairs might help, as it was unclear where to stand (figure 141). The large dice were received very positively and described as fun to throw. At the same time, participants mentioned they missed the tiles and would prefer having them included.

Conclusion

A combination of the tile-based gameplay and the Bubble Forest concept emerged as the strongest option. It was the most liked overall and avoided the key drawbacks identified in the other two concepts.

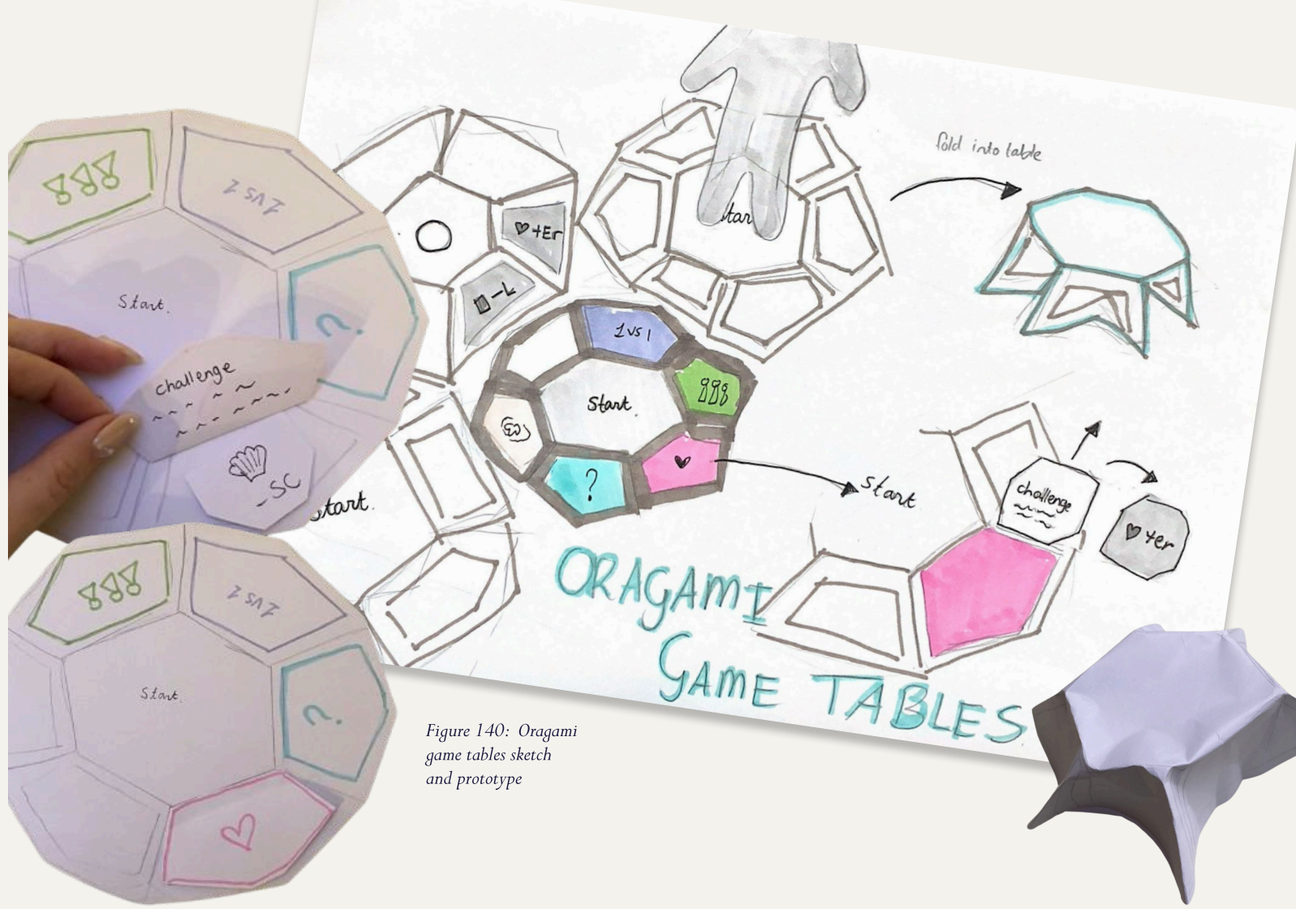


Figure 140: Oragami game tables sketch and prototype

Figure 141: Quotes during test about the form concepts

4.3.4 Aesthetics

To generate ideas for this part, I kept the following points in mind:

- Consider aesthetics that young people would find appealing
- Ensure the designs fit within the library context
- Create visuals that are playful and fun without feeling explicitly aimed at children

With these points as a guide, I created moodboards featuring different aesthetic styles using Pinterest. This approach also ensured variety, allowing multiple options to be tested. On the page, each aesthetic is displayed along with an explanation justifying why it was selected for testing.

Future cybercore
Very futuristic, technology aesthetic which is popular in Y2K fashion among the youngsters

Colourfull mystical pop
A lot of product and interior can still be colorful and fun and meant for older target groups, this collage is an inspiration on those aesthetics

Fairy forest
This is something very opposite of when you think of the library and it gives off a clean vibe while still being intriguing

Dark academia
This is associated with the old school library style and it comes off as cozy

Minimal statement
This is the total opposite of colorful and i wanted to see which one they would prefer

Insights

The aesthetics were tested through the questionnaire. Below are the insights found after analyzing the results:

Visibility

Participants emphasized that the design should stand out without being too loud or overwhelming.

Colourful mystical pop

Even the colorful version aimed at older audiences was still perceived as too bright and somewhat childish.

Future cybercore and fairy forest

Styles like cybercore and fairy forest were seen as very trend-driven and overly specific, leaving little flexibility to incorporate other themes.

Dark Academia

The most preferred aesthetic was Dark Academia, which participants associated strongly with libraries. They appreciated that it contrasted with the style of contemporary libraries, making it eye-catching while conveying a warm, classic atmosphere.

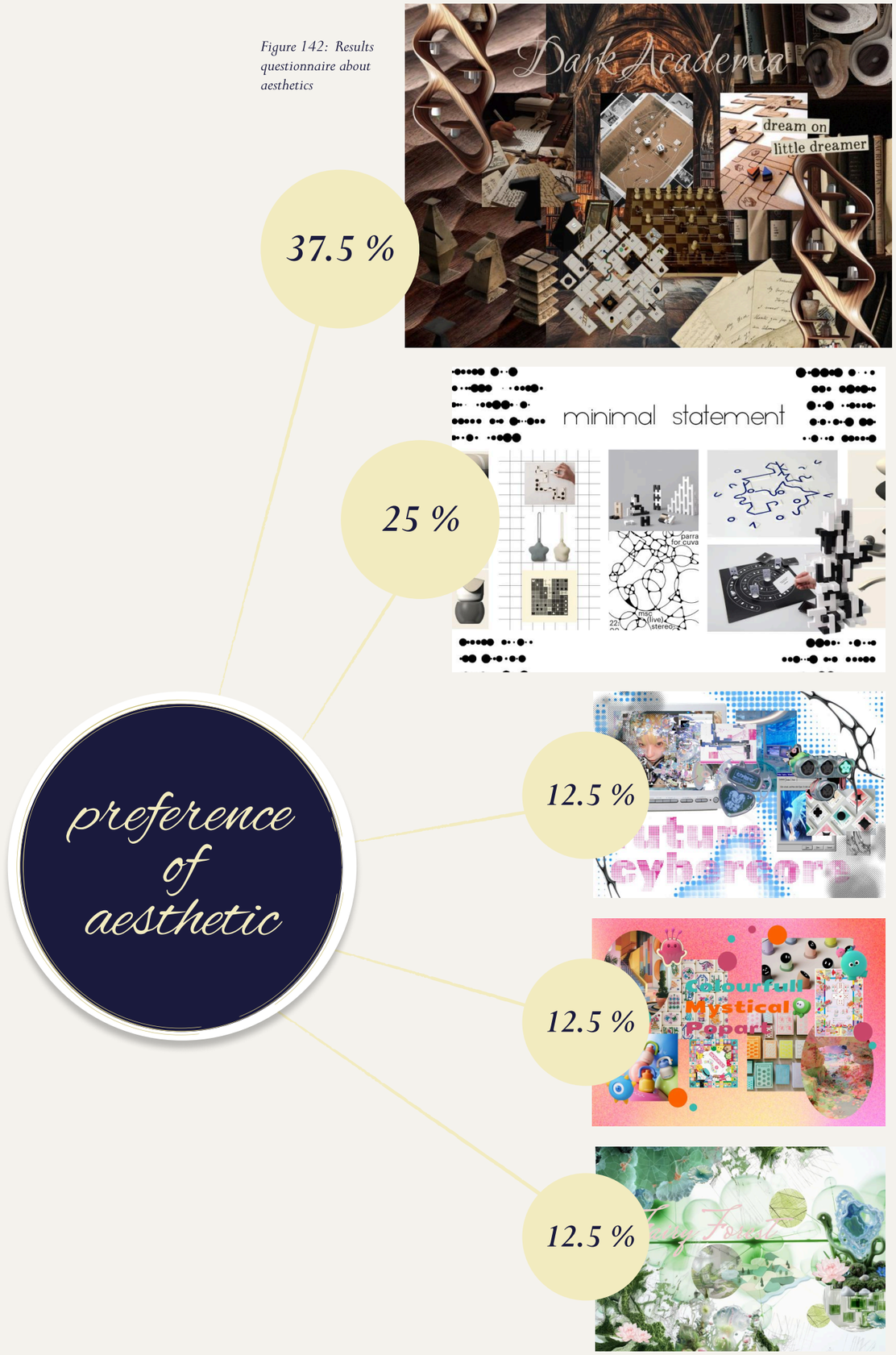
Minimal Statement

Minimal Statement was ranked second, valued for being easy on the eyes, clear to understand, and flexible enough to adapt to different themes, unlike the narrowly themed cybercore and fairy forest options.

Conclusion

Based on these insights, the design should combine Dark Academia and Minimal Statement, creating a visually warm and inviting experience without becoming overwhelming (Figure 142).

Figure 142: Results questionnaire about aesthetics



4.3.5 Challenges & Formulation

To brainstorm ideas for this part, ChatGPT was used as a sparring partner.

Challenges

The challenge categories had already been defined and tested earlier, with the addition of Chaos, which was identified in the previous phase as an effective category for creating fun, shared moments that support connection. However, these categories had not yet been fully written out or clearly defined, making it difficult to see what was missing or what each category actually included.

Based on insights from earlier testing, it was clear that some question types and categories worked better than others. In this iteration, the goal was to reflect on all categories more critically: to check whether they were all still relevant, whether together they covered everything participants could think of, and which categories were perceived as most effective for getting to know another person. This step was taken to ensure that the set of challenge types was complete and well-balanced before moving on to testing them in the next prototype (Figure 143).

Figure 143: Definition of challenge with an example (out of the questionnaire)

Formulation

To generate ideas for the formulation of the challenges, several considerations were taken into account. The focus was on what would motivate participants to interact more with others and get to know each other better, while still fitting naturally within a game context. Another important factor was which type of formulation would encourage participation the most, especially when the challenge involved more vulnerable questions. As seen in earlier testing, participants sometimes hesitated to answer questions that felt too personal, so the wording and structure needed to lower that barrier.

As with the challenge categories, ChatGPT was used again as a sparring partner to explore and compare different ways of formulating the challenges.

The following game formulations were tested through the questionnaire (Figure 144):

- ***Option 1: Open sharing,*** where participants can share anything they want, with no points earned.
- ***Option 2: Guided sharing***, where participants must share a specific thing, with no points earned.
- ***Option 3: Collaborative gameplay***, where everyone in the group participates together to earn points.
- ***Option 4: Competitive gameplay***, where everyone in the group participates and earns points through competition.

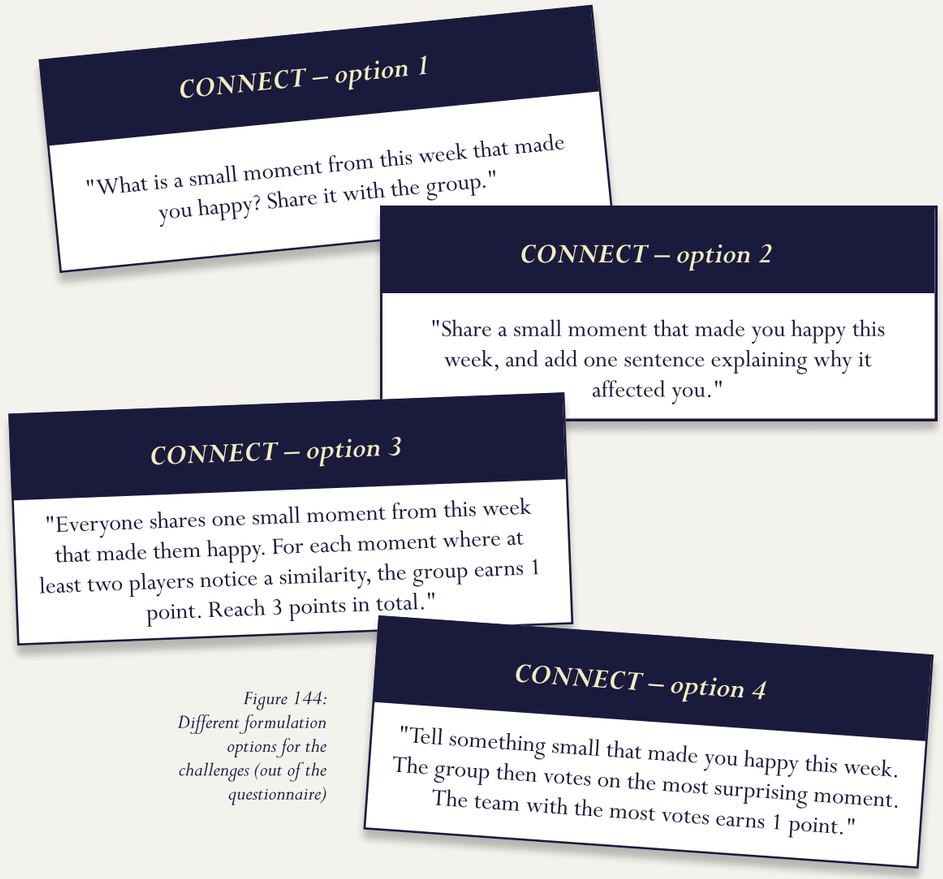


Figure 144: Different formulation options for the challenges (out of the questionnaire)

Insights

The challenge type and formulations were also tested in the questionnaire. Below are the insighsts after evluating the results (Figure 287):

Challenges

Participants indicated that all of the presented challenge categories were appreciated. They felt that the Connect challenges were most effective for getting to know another person, while the Duel challenges were also seen as valuable because they create direct one-on-one interaction. The Chaos category was considered the most attractive and fun, as it was unexpected and easy to imagine creating spontaneous, playful moments. Many of these insights aligned with findings from the previous evaluation, with the added confirmation that the variety of categories is a key strength of the game, as it offers multiple ways for participants to engage.

Formulation

Option 3 was rated highest in terms of motivation to join, with 50% of participants preferring this formulation. The collaborative nature, where everyone needs each other to earn points, was seen as motivating and helped participants feel more connected. Option 4 was selected by 37.5% of participants as the formulation that best supports getting to know others, as it encourages discussion and reflection after making choices. The main concern raised was that this format could take more time, highlighting the need for a balance between including everyone's perspective and keeping the game short and accessible.

Conclusion

Overall, all challenge categories were valued, with Connect, Duel, and Chaos standing out as the most effective for fostering connection. This suggests that these types of challenges could be emphasized more frequently in the final game design. Regarding formulation, collaborative point-based gameplay proved more motivating than open sharing, which can feel too vulnerable for some participants. Designing challenges that encourage participants to work things out together appears to lower the threshold for participation and strengthen social connection.

CONNECT – Getting to Know Each Other

"Everyone shares a relaxation ritual. You earn 1 point for each unique ritual. The goal is to reach 6 points."

DUEL – Short One-on-One Challenges

"Create a story together where A says one word, B says the next, until you reach 20 words."

CHAOS – Fast, Chaotic, and Funny Tasks

"Throw a random object as quickly as possible from hand to hand (stay in the same spot). The object must not fall. Keep it going for 10 seconds."

Best to get to know the other players

CONNECT – option 3

"Everyone shares one small moment from this week that made them happy. For each moment where at least two players notice a similarity, the group earns 1 point. Reach 3 points in total."

Best to motivate to join

CONNECT – option 4

"Tell something small that made you happy this week. The group then votes on the most surprising moment. The team with the most votes earns 1 point."

Best to get to know the other players

Figure 145: Conclusion of the insights of the different challenges and formulation

4.3.6 Key takeaways

Based on the evaluation of the ideas and concepts across the three parts that still needed refinement, the following key takeaways (Figure 146) will be applied in the next prototype to be tested.

Form & Components

The Bubble Forest concept will be further developed. It is important that the installation includes elements both around the participants and on the floor, clearly indicating where to stand and how to engage. This concept was experienced as the most interesting, engaging, and visually appealing in terms of form. The next step will be to determine how many tiles and challenge cards are needed, as well as the overall size of the play area.

Aesthetics

The next prototype will combine a minimal and dark academia aesthetic. The dark academia style will contribute warmth, comfort, and an old-school, book-inspired atmosphere that contrasts with the contemporary look of modern libraries. The minimalist approach will ensure that the design does not become overwhelming and remains flexible enough to support different themes within the game.

Challenges & Formulation

All challenge categories will be retained, with increased emphasis on Connect, Duel, and Chaos, as these were most effective in fostering interaction. The challenges will be formulated as collaborative activities, where participants complete tasks together and are rewarded with points, reinforcing shared engagement and connection.

Figure 146: Visual of the conclusions of form & components, aesthetic and challenges & formulation

4.3.7 Concept iteration 2

After testing the separate elements of the concept that still needed clarification, the next step was to integrate all the insights into one coherent whole. Each component of the game was further developed and refined, as explained below.

Form

The initial idea was to use tree-like structures to create an immersive environment. However, these shapes proved difficult to construct and reposition. A more practical and realistic solution was to suspend the elements from the ceiling (Figure 147). Since every library has a ceiling structure available, this approach maintains the intended effect of having "bubbles" surrounding the players while eliminating the logistical challenges of moving large objects. Hanging the elements also enhances the feeling of immersion, as players are visually and spatially enveloped by the game.

Challenges

Feedback showed that participants preferred a greater variety of challenges, more options were clearly better than fewer. Therefore, the six challenge types identified earlier in the questionnaire were incorporated into the game: Connect, Duel, Move, Create, Chaos, and Unite.

These challenges (Figure 148) were further specified based on earlier testing insights. For example, the "two truths and one lie" format proved effective, as it naturally invites storytelling and reveals personal preferences. Building on this structure, each challenge was designed to encourage participants to share something about themselves. Importantly, many challenges require players to make decisions together or collaborate to earn points. This aligns with findings from the formulation test in Chapter 4.2, which emphasized the importance of collective action and shared outcomes.

Because this concept was developed in December, the game board was designed with a winter theme. In addition, suitable illustrations were created for each challenge to strengthen the visual identity and coherence of the game.

Pattern of the Tiles

The layout of the tiles (Figure 149, next page) required careful consideration. Multiple sketches were made to determine how to organize the board, especially since the game includes several starting points and seven different challenge types.
Key considerations in designing the layout included:

- Clear starting positions
- Creating movement paths that guide players toward one another
- Ensuring a balanced distribution of challenge types
- Repeating challenges throughout the board to maintain variety and engagement

No challenge appears only once; instead, they recur to keep the experience dynamic and unpredictable.

Figure 147: Challenge cards hanging front view iteration 2

Figure 148: Example challenge cards

Figure 149: Tiles lay-out topview iteration 2

Riddle
During testing, participants indicated that using numbers felt too difficult or abstract. Therefore, the riddles were redesigned to use words instead. Inspiration was drawn from classic riddles many of us grew up with, as some participants in the Chapter 4.2 test mentioned that this nostalgic element made the experience more enjoyable and accessible (Figure 150).

Clue Table
The design of the clue table (Figure 149) also required detailed consideration. A key question was where to store and reveal the clue cards. The solution was to integrate them directly into the table by designing it as a "grab box."This way, the cards are physically embedded in the setup, making them easy to access while reinforcing the playful nature of the game.
The table also includes a designated space for the rulebook, allowing players to quickly consult it whenever they are unsure about the next step. This ensures clarity and supports a smooth game flow without disrupting the experience.

interchangable
To keep the experience fresh and engaging, the game content is updated every two months. This renewal ensures that returning players continue to encounter new prompts, challenges, and stories, maintaining curiosity and replay value.
The update process is designed to be simple and practical. New card designs are printed and then inserted into the reusable circular sleeves. This system allows the content to change without replacing the entire physical setup, making the concept both sustainable and easy to maintain.

Aesthetics
As seen in the form and design of the cards and tiles, wood textures and warm colors are combined throughout the concept. This is also reflected in the typography on the back of the cards, which resembles an old book page.

The general shapes and emoticon-style icons are infleunced by the minimalistic moodboard, especially the way the bubble strings are assembled. these are inspired by one of the shapes sketched in the minimal aesthetic moodboard.

Figure 150: Clue cards

4.3.8 mid-fy prototype 1

In Figure 151, the cardboard and paper prototype is shown. This prototype represents only half of the final intended size of the playing board.

The component prototypes are:

- The hanging paper challenge cards, which were suspended using string together with decorative elements
- The stepping tiles, which were printed and placed on the floor
- The central clue station with clue cards
- A dice, provided via an online website on a laptop

During this prototyping phase, I also explored the desired scale of the elements for the first time. The sizes of the challenge cards and stepping tiles were tested, and these dimensions are shown below.

Figure 151: Picture of the set-up of the lo-fi protoype 1

4.3.9 Evaluation method: mid-fy prototype 1

Conducted: 4 times
With whom: with reoccurring participants and students at Tu delft
Goal: Too understand how they interact with the whole concept
Interactables: cardboard and paper prototype
Location: Tu delft

The session began with a brief introduction to the project, providing participants with a clear context for their feedback. They were then given the opportunity to freely interact (Figure 152) with the prototype and think aloud about what they observed and understood.

Afterwards, I offered a more detailed explanation and we played the game together.

Following the interaction, I asked participants questions to gather feedback on their actions and to better understand the reasoning behind their choices and reactions.

Figure 152: Photo during mid-fy prototype 1 test

4.3.10 Insights

Ice Breakers and Connect Challenges
Some questions were perceived as too direct or too serious to answer early on, which caused hesitation among participants. They indicated that they needed lighter ice breakers before moving into more personal topics.

One participant mentioned, *"Chaos is a good way to start something less personal,"*

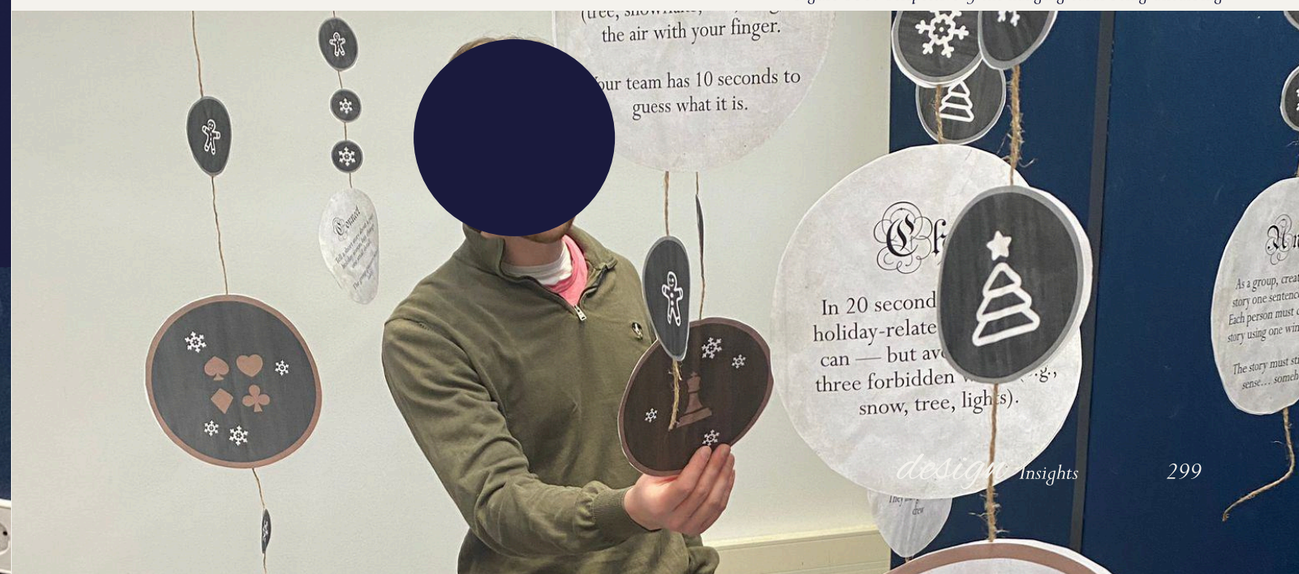
highlighting that playful and unexpected challenges help lower the threshold for participation.

Based on the testing, it became clear that Connect questions should focus on creating stronger bonds once participants are more comfortable. These could include giving compliments, sharing moments of truth, or other deeper prompts that feel meaningful and memorable. However, these should be preceded by fun, low-stakes ice breakers that allow participants to bond in a light and humorous way first.

Difficulty Connecting Face-to-Face
The challenge cards were positioned in the center, which made it difficult for participants to maintain eye contact with each other (Figure 153). This negatively affected face-to-face connection. During the sessions, it was observed that participants often moved their heads to the side of the cards while reading challenges out loud in order to make eye contact, indicating a need to rethink the placement of the cards.

Capturing Attention
The installation did attract attention: people often looked at it and seemed intrigued. However, many did not take the next step to interact with it. This was partly due to the location in a separate room, but also because it was not immediately clear what to do next. The design needs to better communicate that it is a game and clearly guide passersby toward the first action.

Figure 153: Perspective of the hanging cards being disturbing



Rethinking the Goal of the Game
The clue-based mechanic felt too detached from the challenges themselves. Participants experienced the challenges as fun on their own, but the additional layer of collecting clues made the game feel unnecessarily long and complex. This reduced the low-threshold nature of the interaction.

One participant suggested, *"Why not make it about completing all the tiles, like crossing them off?"*

Finishing all challenges was perceived as a satisfying goal in itself.

Including People Outside the Game
An additional opportunity lies in involving people outside the immediate group. Inspired by feedback from my coach, introducing challenges that actively invite strangers to join could strengthen the social aspect of the game. Challenges that require interaction with others could naturally expand the group, reinforcing the idea that the more people participate, the richer the experience becomes.

Hand Drawing Felt Too Intimate
Participants were visibly uncomfortable with drawing on the hand of a stranger (Challenge shown in Figure 154). Observations showed that they preferred to avoid this interaction, as it felt too intimate for an initial or casual social encounter.

Figure 154: Challenge bubble drawing on hand

Figure 155: Photo during user test of mid-fi prototype 1

4.3.11 Key Takeaways

In conclusion, testing this mid-fidelity prototype at the university with 4 students provided many valuable insights. Both the positive and negative findings are summarized again in Figure 156.

These insights will be implemented in the next iteration:

- Introduce icebreaker challenges before the connect challenges
- Redefine the goal of the game to be less complex than collecting clues and more integrated into the overall design
- Adjust the placement of the hanging challenge cards
- Add challenges that actively involve strangers

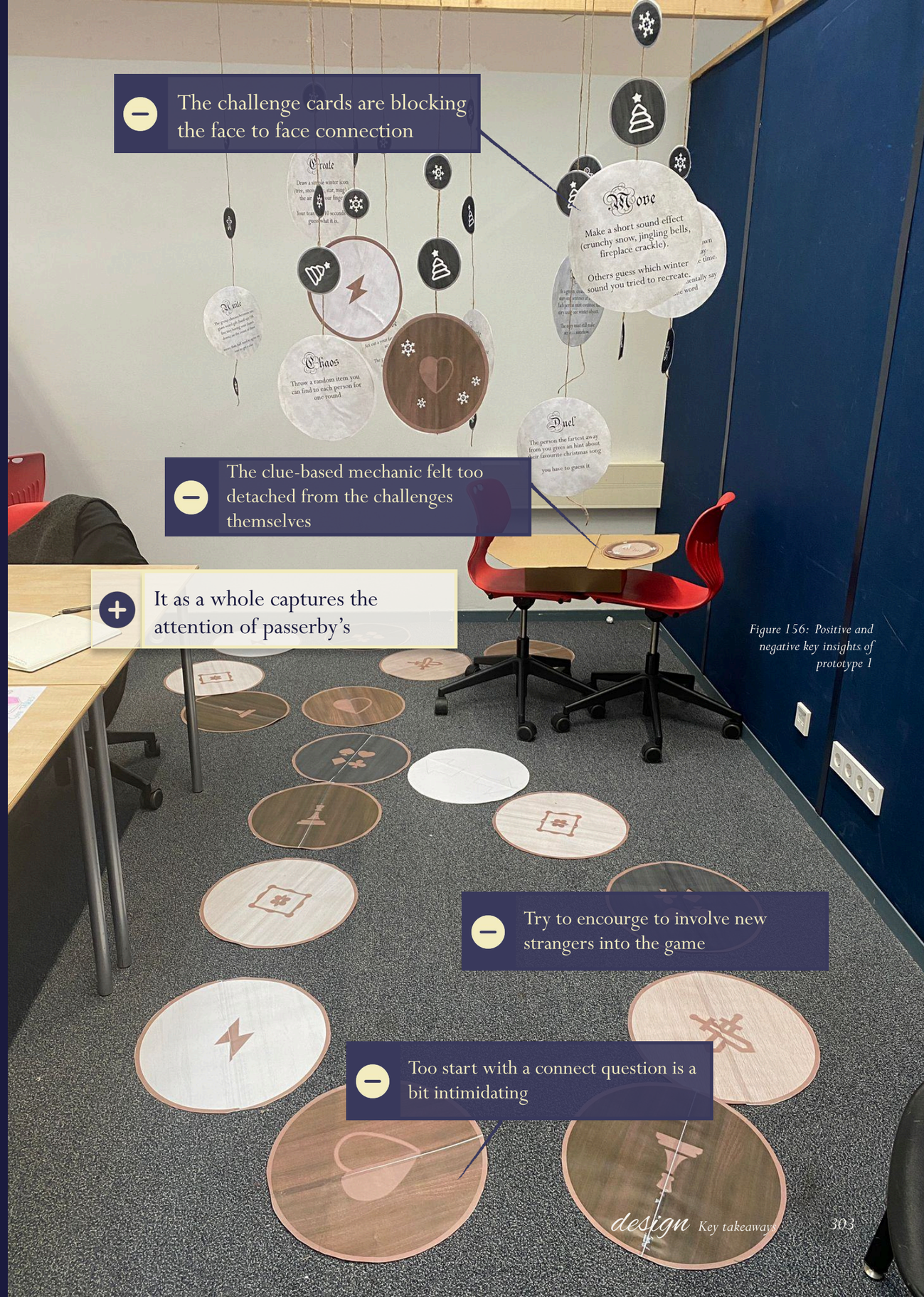


Figure 156: Positive and negative key insights of prototype 1

4.3.12 Concept iteration 3

In the previous prototype test, extensive feedback was gathered and carefully integrated into the next iteration of the concept. The adjustments made based on these insights are outlined below.

Form

Previously, the challenge cards were suspended in the center of the setup. However, this arrangement limited visibility and made it harder for participants to maintain eye contact and connect with one another. To improve interaction, the challenge cards are now hung on the outside, forming a dome-like structure around the players (Figure 159). This creates a more open center space, allowing participants to see each other clearly while still feeling enclosed within the immersive setting. The new form of the hanging challenge cards are shown in Figure 157.

Challenges

An additional challenge type emerged from the testing phase: Dilemma. These challenges present players with preference-based questions framed in a playful, thought-provoking way (Figure 158). Compared to the earlier, more direct question format, which some participants experienced as repetitive or less engaging, the dilemma structure adds energy and encourages spontaneous discussion.

.

Pattern of the Tiles

Testing revealed that starting immediately with deeper, more personal questions felt overwhelming. Participants expressed a preference for beginning with lighter icebreaker-style challenges before progressing into more meaningful conversations.
This insight led to the introduction of a new structure: Capture the Hearts (explained on page 309). As a result, the tile layout was redesigned into a heart-shaped formation. Icebreaker challenges such as Chaos and Move appear earlier in the game path, easing players into the experience. Additionally, since the cards now hang around the outside and no longer move inward, the board pattern was adjusted accordingly. The updated layout is shown in Figure 159.

Figure 157: Challenge cards hanging front view iteration 3

Figure 158: Example dilemma & drawing cards

Figure 159: Tiles lay-out topview ieteration 3

Capture the Hearts
The original riddle component was removed, as it risked taking up too much time and functioning as a separate challenge rather than supporting the main goal. Instead, the objective of the game is now to collect all the heart challenges (Figure 160, top).
Each collected heart represents a meaningful interaction. By completing these challenges, players gradually engage in deeper conversations and strengthen their connection. The mechanic simplifies the structure while reinforcing the core intention of the concept: fostering genuine interaction.

Information Cards
An additional hanging card was introduced to make the experience more accessible. This information card briefly explains, in a single, clear sentence, what participants are invited to do. Its purpose is to lower the threshold for joining once the installation has captured their attention (Figure 160, bottom).

Changes Every Month
To increase flexibility and keep the experience dynamic, the update cycle was shortened from two months to one month. New sets of challenge cards can now be prepared monthly and stored in the library, ready to be swapped out when needed. This also creates more opportunities to experiment with different decorative shapes and subtle thematic variations, keeping the concept fresh while remaining adaptable to its environment.

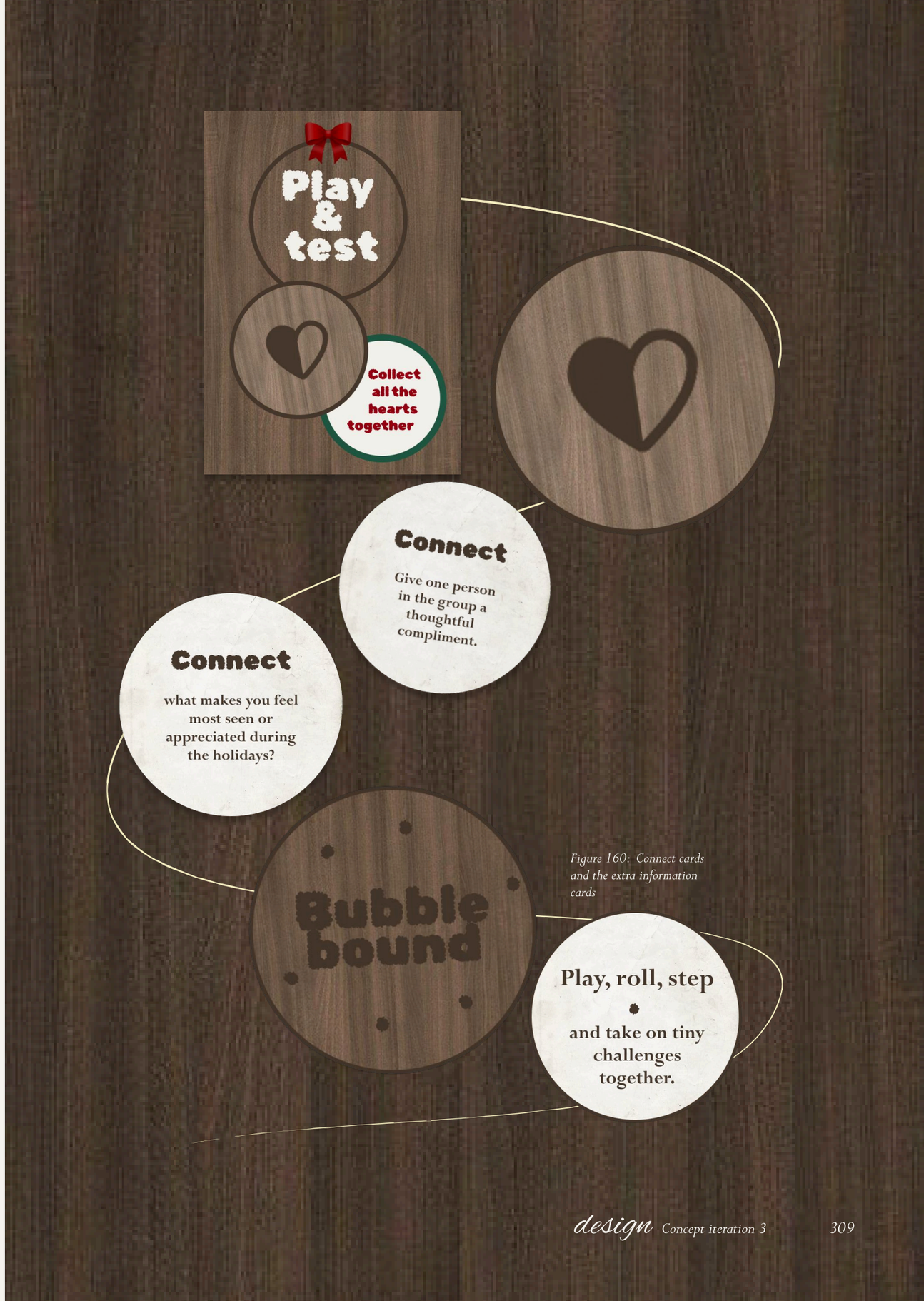


Figure 160: Connect cards and the extra information cards

4.3.13 mid-fy prototype 2

In Figure 161, the cardboard and paper prototype is shown. This prototype represents only half of the final intended size of the playing board.

The component prototypes are:

- Hanging paper challenge cards, suspended using string together with decorative elements
- Stepping tiles, which were printed and placed on the floor
- The central clue station with clue cards
- Additional posters used to introduce the game and provide information to participants
- A dice, added as part of the gameplay

As shown, pillars were used as a temporary solution to hang the challenge cards. This will not be part of the final concept, as the cards are intended to be attached to the ceiling instead.

The same dimensions as in the previous prototype were used, as no issues had been identified with the sizing so far.

Figure 161: Picture of the set-up of the lo-fi prototype 2

Figure 162: Photo during mid-fy prototype 2 test

4.3.14 Evaluation method: mid-fy prototype 2

Conducted: 12 times
With whom: Students at Tu delft
Goal: Too understand how they interact with the whole concept
Interactables: cardboard and paper prototype
Location: Tu delft main hall

The session began with a brief introduction to the project, providing participants with a clear context for their feedback. They were then given the opportunity to freely interact with the prototype and think aloud about what they observed and understood.

Afterwards, I offered a more detailed explanation and we played the game together.

Following the interaction, I asked participants questions to gather feedback on their actions and to better understand the reasoning behind their choices and reactions.

4.3.15 Insights

Stranger and Chaos Challenges
The challenge that required involving a stranger worked particularly well (Figure 163). It encouraged participants to connect beyond their own group, and people genuinely enjoyed giving compliments. Receiving a compliment was also experienced as something positive, which helped lower social barriers.
Chaos challenges once again proved to be an effective ice breaker. Participants laughed together and clearly had fun. The need to react quickly or give a spontaneous compliment increased adrenaline and excitement, which contributed to a lively and engaging atmosphere.

Collecting Hearts as the Main Action
The main goal of the game was changed to collecting hearts together. However, participants were sometimes unsure what physical action was expected after completing a challenge.

One participant asked, *"And do I now pick up the tile or not?"*

This indicates that the action of collecting a heart needs to be more explicit and clearly linked to a tangible interaction, such as picking up a tile or removing a card.

Visibility and Clarity of the Hearts
The hearts did not stand out enough visually. The change in color alone was not sufficient, and some participants did not notice that they were meant to be collected.

One participant commented, *"The hearts... okay, which one do we need to collect then?"*

This shows that the hearts need stronger visual separation and clearer emphasis.

Figure 163: Challenge bubble good chaos example

Drawing on the Back
Another challenge that worked very well was drawing on someone's back (Figure 164). This activity created an immediate connection between participants without causing discomfort. Normally, physical contact with someone you do not know might feel awkward, but because it was clearly framed as part of the game, it felt natural and acceptable. I observed that participants relaxed quickly and had fun during this challenge, which further strengthened the sense of connection.

Introducing Each Other
During one session with a stranger, the interaction gradually became more personal through the game.

Afterward, the other player suddenly said, *"I don't think I even know your name, my name is…"*

This suggests that a moment of introduction could be valuable, either at the start of the game or as something that is earned along the way.

Communicating the Purpose of the Game
Although information boards were added to explain that it is a game and what action to take, they were often overlooked. Their shape was too similar to the challenge boards, and from a distance it was not clear what kind of game it was.

One participant noted that it would be helpful to understand the purpose of the game more clearly, asking, "Why am I playing this?"

This highlights the need for clearer communication of the game's intent and value.

Intimacy Around the Game
Several participants mentioned that they liked the overall shape and setup of the game. They described it as feeling intimate, almost like a private moment shared between the players. This sense of closeness made them feel more comfortable and safe while playing.

The Theme Was Noticed
Many participants complimented the overall feel of the prototype and its decorations. They immediately noticed that it was themed around Christmas, which contributed to a warm and pleasant atmosphere and added to the overall ambiance of the experience.

Figure 164: Photo during drawing on back challenge of lo-fi prototype 2

4.3.15 Key Takeaways

In conclusion, this second round of mid-fidelity testing at the university with 12 groups of students again provided many valuable insights. The positive and negative findings are summarized in Figure 165.

These insights will be implemented in the final iteration:

- Design a clear action for collecting the hearts instead of leaving this moment inactive
- Make the hearts visually distinct from the other challenge cards and tiles
- Add a moment where players introduce themselves to one another
- Communicate the purpose of the game more clearly to participants and passersby
- Further develop the decoration concept and adapt it for use throughout the other twelve months of the year

Figure 165: Positive and negative key insights of prototype 2

5

final concept

BubbleBound • *game to meet and connect*

Figure 166: Drawing of BubbleBound in use

5.1

use scenario

5.1.1 Introduction BubbleBound

Bubble Bound is a life-sized board game designed to be played at any moment and time of the day, it is a stand-alone onbject. You can join either individually or in small groups. The installation is located on the youngsters' floor of the Central Library at Blaak, where it invites young adults to take a break from studying and engage in a shared activity.

The game is not only meant to be entertaining, but also to create opportunities for meeting new people in a natural and low-threshold way. Through playful interaction, participants can discover interesting similarities and learn more about one another.

This happens through a series of challenges that function as icebreakers. Some prompts encourage light and fun interaction, while others invite players to share personal preferences, experiences, or stories. In this way, the game combines enjoyment with a deeper social layer, supporting meaningful connections between strangers.

players
2-8 people

BubbleBound

game goal
Collect all the hearts together by doing the challenges

underlying goal:
Get to know strangers and connect with them through gameplay

game components **(See figure 167):**
- Stepping tiles
- Challenge card
- Rules board
- Heart collector
- dice (1-3)

game time:
15-30 minutes

Figure 167: Drawing of Components of BubbleBound

5.1.2 use scenario

The following photos of the interaction with the prototype and text show how the final concept is intended to be used during a normal library visit.

Not open to socializing

A student arrives at the library to study. She sits alone in the study area and focuses on her work. Like many others around her, she is not open to social interaction during study time and feels hesitant to disturb others.

Creating awareness

While studying, she notices a sticker on the table that she has not seen before. It mentions a game on the youngsters' floor. She becomes curious.

When it is time for a break, she decides to go and check it out.

Catching attention

As she walks by, she recognizes the same rounded shapes from the sticker. The visual connection catches her attention. She sees other young adults playing and laughing together. The atmosphere feels open and welcoming — much more natural than approaching someone during focused study t

Introduction & ice breakers

She walks toward the installation and is welcomed by a short explanation of the rules. She quickly reads what the game is about and understands that the goal is to collect all the hearts.

She chooses one of the starting arrows, greets the other players, reads the introduction board, and briefly introduces herself.

Getting to know each other

It is her turn. She rolls the dice, throws a three, and takes three steps forward. She lands on a create challenge. The unexpected task creates a funny bonding moment, and the group laughs together.

As the other players take their turns and complete different challenges, she gradually learns small things about each of them through the activities and conversations that emerge.

Collecting the hearts together

It is her turn again. She rolls a one and lands on one of the heart tiles. She feels excited. After reading the prompt, she answers the question and notices that she is able to share something a bit more personal.

She collects the heart and places it in the middle. It feels good to contribute to the team and help move the game forward.

Finishing the game

Eventually, the group collects all the hearts. Through the challenges, she has learned that one of the players is very interested in fashion.
After the game, she continues talking with him for a while. They exchange social media details before returning to their own activities.

The following week

The week after, she meets up with the girl she connected with during the game. They decide to go study together in the library

The following month

When she visits the library again a month later, she notices that the game has a new theme and different questions. Curious about the updated version, she joins again — this time playing with a new group of people who are available at that moment.

5.2

game components

5.2.1 Components

Bubble Bound consists of three main elements: the floating bubbles, stepping tiles and communication stickers.

Floating Bubbles

Challenge Cards

The floating bubbles create a cocoon-like space hanging on the outside of the board, forming a warm and intimate area for players to interact. When a player steps on a tile, the corresponding challenge card is the one they read, matching the icon on the tile (Figure 383). There are six types of challenges in total:

- Chaos – quick and unexpected challenges, sometimes involving non-players
- Dilemma – choose between two difficult options
- Create – draw in the air or on someone's back
- Move – physical movement challenges
- Unite – collaborate on a challenge
- Connect – deeper questions or tasks designed to foster connection.

Decorations can be added to modify the setup, and page 339 shows all twelve monthly themes.

Hearts Collection

In the center of the game board, a hanging heart collector is placed. It includes empty hooks where the heart challenges can be collected during gameplay (Figure 182).

Figure 182: Heart collector

Figure 181: Challenge cards BubbleBound

Communication Stickers

Before interacting with the game, youngsters can find promotional stickers on the study tables to create awareness of the game (Figure 183).

Stepping tiles

The tiles are made of dark wood and include an extra layer underneath to make them slip-resistant. Each of the six challenges and starting points has its own uniquely designed tile. The layout of the board game evolved throughout the iterations, and in the final concept it forms a circle with multiple points of engagement.

To ensure smooth and comfortable gameplay, icebreaker challenges such as Chaos, Move, and Drawing are placed before Connect, Dilemma, and Unite challenges. Some challenges were more popular than others, so those are emphasized. To maintain a game duration of 15–30 minutes, players must collect four Connect questions in total across the board.

The game board includes four different starting points, making it easier for multiple participants to join and play simultaneously. A top-down view of the final layout is shown in Figure 184.

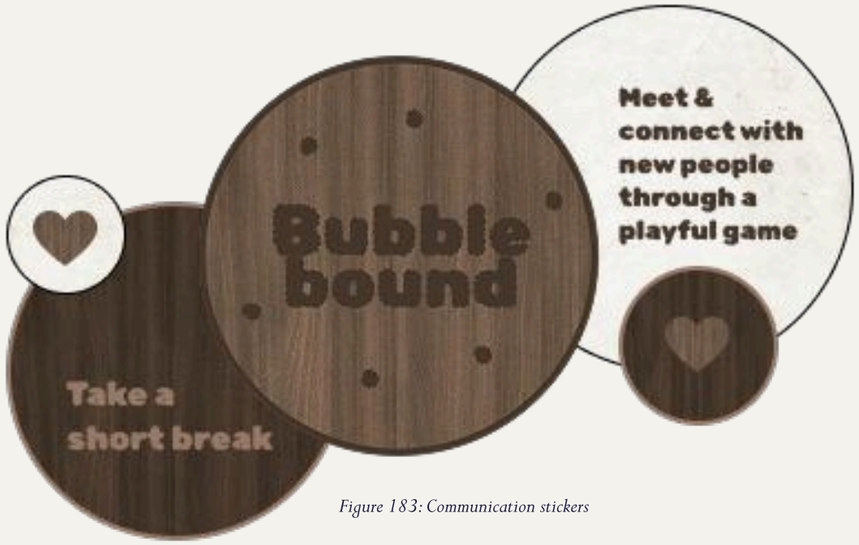


Figure 183: Communication stickers

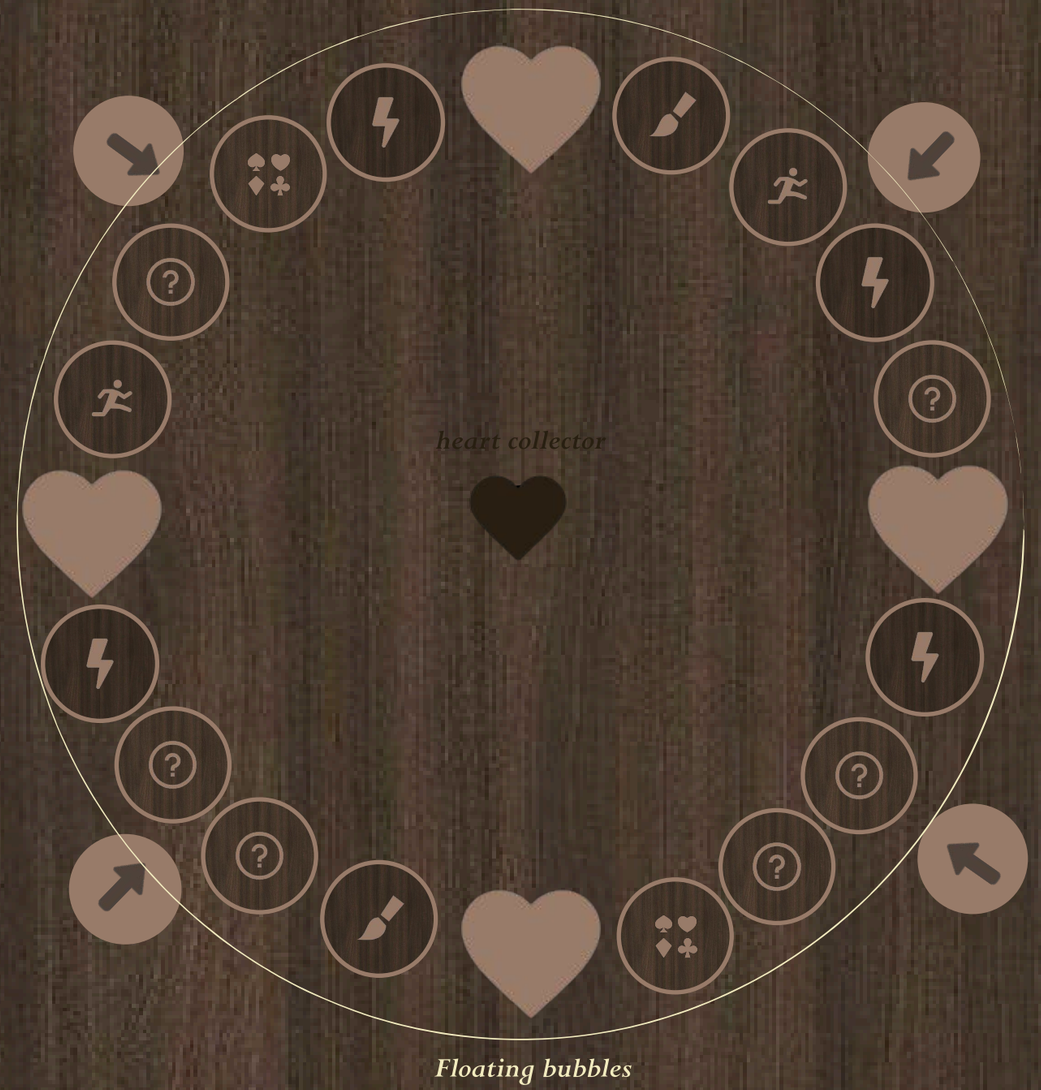


Figure 184: Stepping tiles layout BubbleBound

Board & Explanation

The board serves to make the purpose of the game clear before players start, while also capturing attention with its large, eye-catching presence. The rules are displayed underneath for quick understanding, ensuring participants can start playing without delay. It also acts as a central meeting point for players (Figure 185).

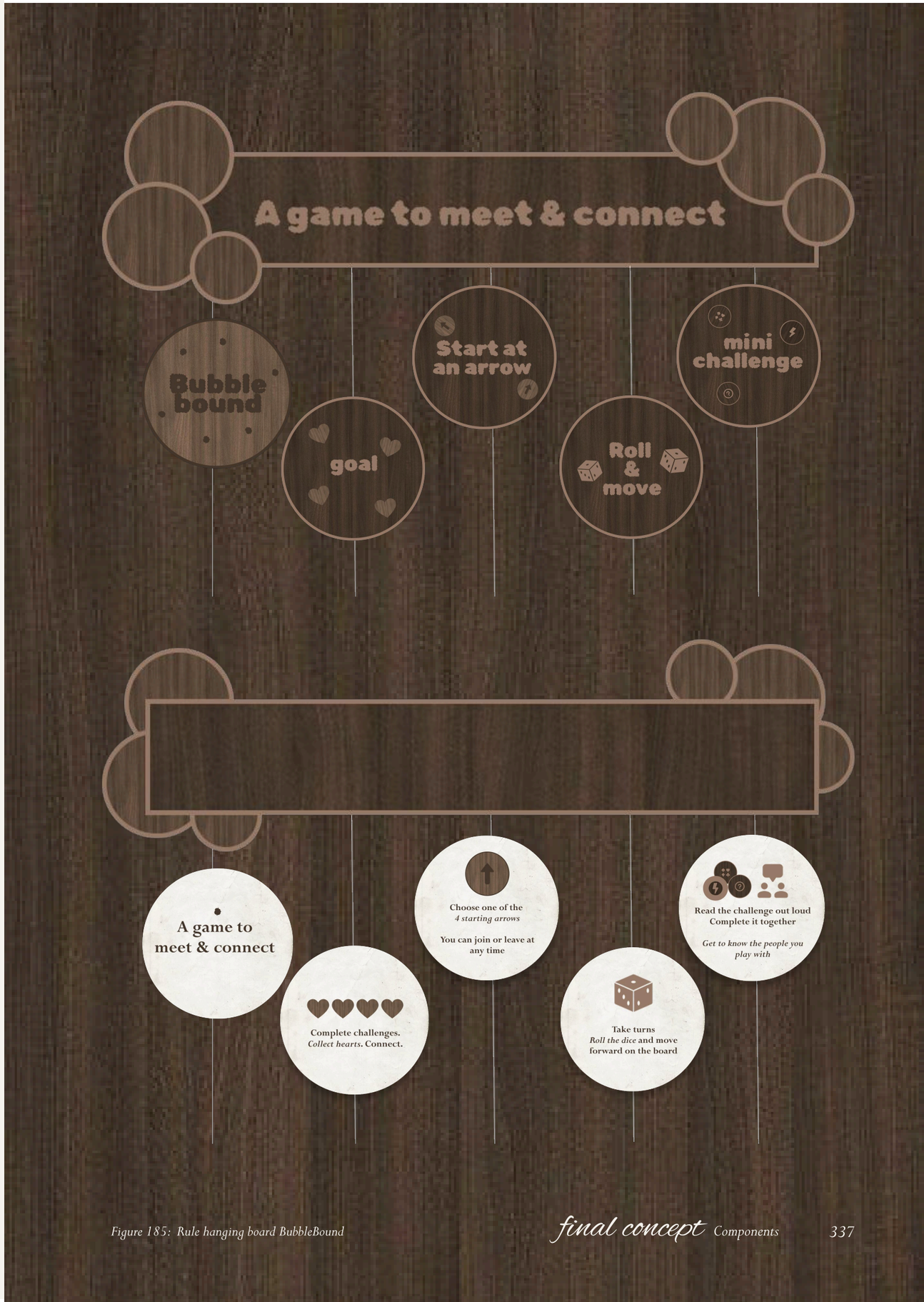


Figure 185: Rule hanging board BubbleBound

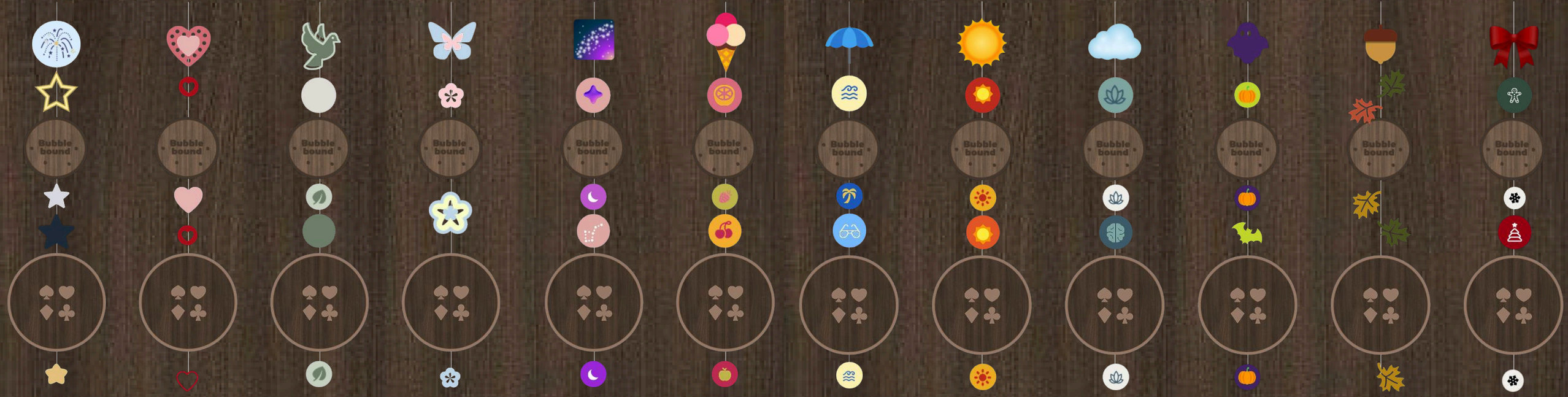


Figure 186: Decorations of the 12 themes

5.2.2 Monthly themes

In the game, each of the 12 months comes to life with its own unique theme, color palette, and decorative elements, designed to keep young players engaged and curious (Figure 186). Every month features a change in style and challenges of the floating bubbles. These themes are inspired by the moods, seasons, and emotions associated with each time of year.

January – Soft Reset
Questions about beginnings: What new things do you want to try this year? How can you start fresh?

February – Close Circles
Exploring relationships: Who are the important people in your life? How do you show you care?

March – In Between
Thinking about change: What is ending and what is beginning? How do you adapt to transitions?

April – Playful Reborn
Ideas of renewal: What brings you joy? How do you make old things feel new again?

May – Dreaming About Summer
Anticipation and planning: What are you excited for? What dreams are you looking forward to?

June – Freshness of Summer
Exploring energy and freedom: What makes you feel alive and free? How do you enjoy new experiences?

July – Chillness of Summer
Relaxation and reflection: How do you slow down and enjoy calm moments? What helps you feel peaceful?

August – Golden Nostalgia
Memories and gratitude: What are your favorite memories? What have you worked hard for this year?

September – New Chapters
Learning and growth: What new things can you try? How do you start something important?

October – Hidden Sides
Curiosity and discovery: What mysteries or secrets fascinate you? What can you explore that you haven't before?

November – Gratitude
Appreciation and reflection: What are you thankful for? How do you show appreciation to others?

December – Cozy Chaos
Celebration and connection: How do you share joy with others? What traditions or fun moments do you treasure?

5.2.3 Aesthetics

The core form of the game, independent of the monthly themes, is inspired by ***dark academia*** aesthetics combined with a ***minimal look*** (Figure 187). This balance allows the design to remain adaptable and visually compatible with different thematic variations.

The rounded, bubble-like shapes evoke a subtle sense of magic and a forest-like atmosphere, creating a playful and slightly mysterious feeling without becoming overly ornate or decorative.

The use of wood contributes warmth and tactility, offering a soft contrast to the often structured and neutral environment of the library. At the same time, the material choice evokes a sense of nostalgia traditionally associated with library interiors. Figure X illustrates the overall aesthetic of the game.

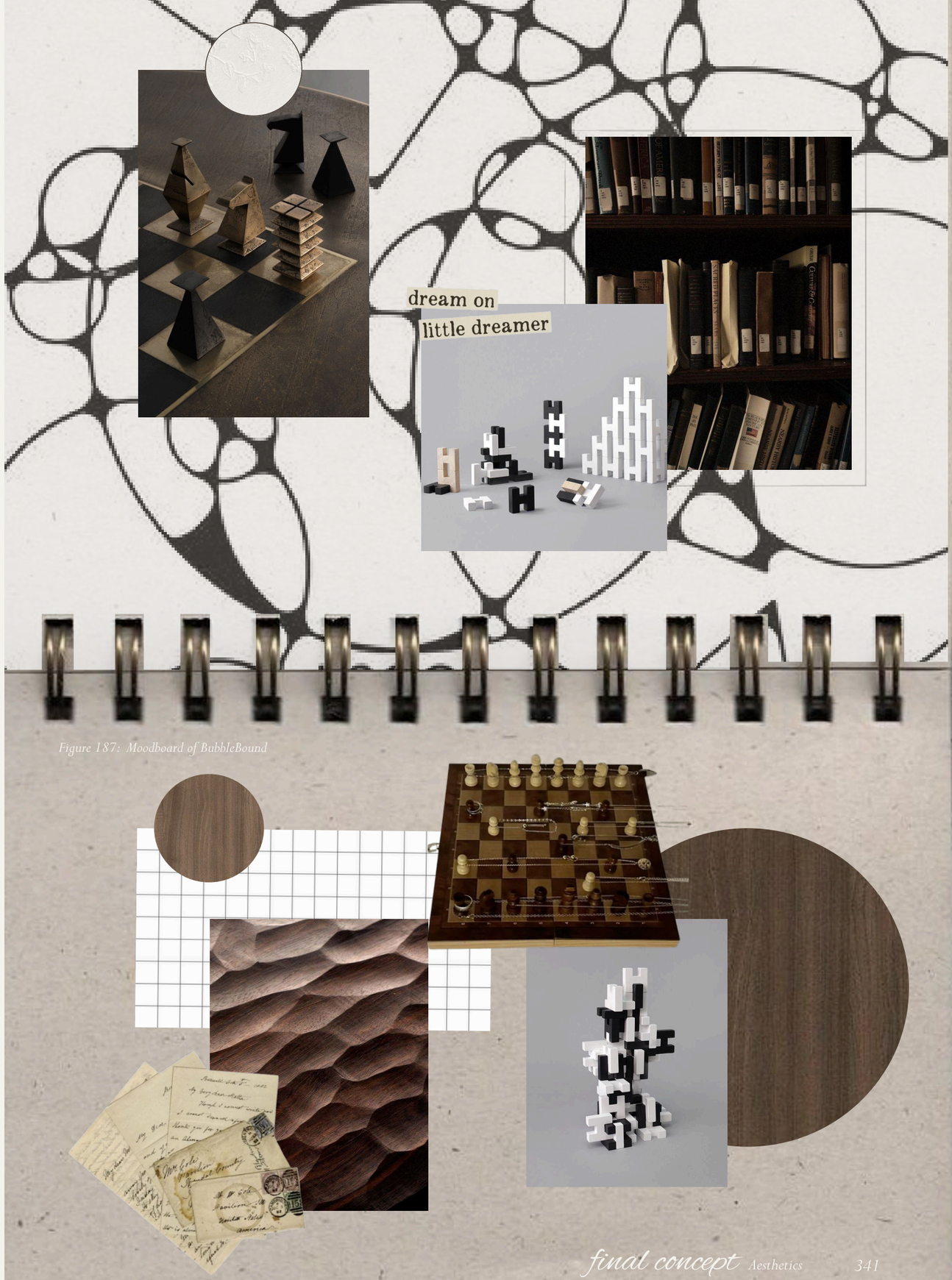


Figure 187: Moodboard of BubbleBound

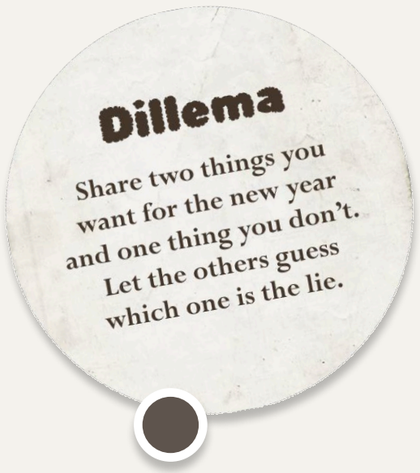
5.3

prediction design goal & criteria

5.3.1 Design goal & Buhblebound

Figure 11 illustrates how Bubblebound aligns with the design goal by introducing a playful, life-sized social board game. The following pages explain in more detail how the concept supports spontaneity, enjoyment, and opportunities for meeting others, and how it fulfills the core design criteria.

Figure 181: Design goal & Bubblebound



motivation to join

- It needs to be joined spontaniously
- It needs to be aesthetically attractive to youngsters
- it needs to have a game subject youngsters find attractive

motivation to join

The game can be joined spontaneously at any time from multiple entry points. Stickers on study tables create awareness and inform users about the activity.

The aesthetic was perceived by young adults as mature rather than childish, with a warm appearance that fits the library environment. The challenges are designed to be appealing and enjoyable specifically for young adults. By using familiar, playful formats, such as light challenges and "choose between two" questions with truth-or-dare-like energy

Figure 182: Parts of Bubblebound that belong to the requirements

entertaining & social dimension

- It needs to be entertaining to play
- It needs to create a deeper bond between the players
- It needs to create "aha-moments" during the game
- It needs to create an opening for social interaction between the players

entertaining & social dimension

Players can enjoy the game, especially the chaotic, drawing, and movement challenges, which are designed to be fun.

At the same time, these challenges reveal personal preferences, like hobbies, music, and pop culture, and encourage deeper sharing, reflection, or giving compliments.

inclusivity

The game can be joined individually or in a group, automatically forming a team with all players.

The challenges appeal to different skills, and introverts aren't pressured to share more than they want.

inclusivity

- It needs to include people that join alone as well as with friends
- It needs to be comfortable to join for different personality types

durability

- It needs to be able to stand/integrated on the youngsters floor in the library
- It needs to take between 15-20 minutes, so they can play in the break
- It needs to be able to be played multiple times in a month
- It needs to be able to adapt so it keeps being interested during the year

durability

The game is easy to set up and remove on the youth floor. the steps are light and moveable and the bubble strings can be removed from the ceiling,

Monthly themes keep it engaging for repeated play.

A full game lasts 15–20 minutes, and players can leave anytime.

6

evaluation

The *evaluation* forms part of the Deliver phase, in which the final user test is conducted, the concept is assessed against the design goal, and insights are gathered for the recommendations.

This phase began with revisiting the design goal and core criteria to determine how the final concept should be tested and which questions needed to be answered.

Next, the prototype for the final user test was developed. During this process, additional feedback was gathered regarding technological and contextual aspects that would need improvement for the concept to function effectively in the library setting.

Finally, the user test was conducted in the library over two days, during which eight different groups participated. Based on these sessions, the concept was evaluated against the design goal and core criteria, and key insights were collected.

Figure 183 provides an overview of the main steps taken during this phase.

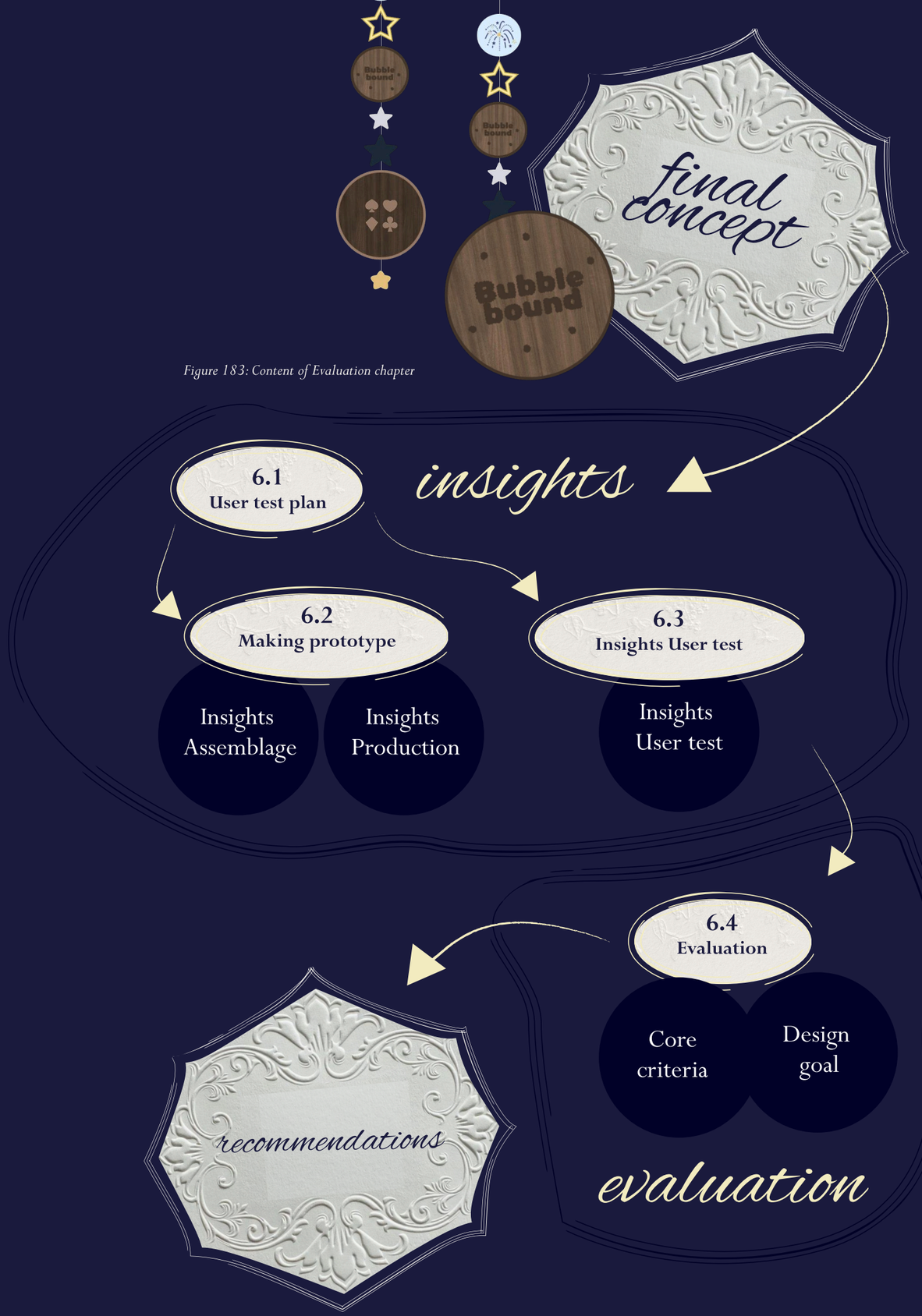


Figure 183: Content of Evaluation chapter

6.1

user test plan

Figure 184: Design goal & core criteria of the define phase

6.1.1 Research questions

This section explains the main research question for the final user test, the related subquestions, and how they were tested.

The main question is whether the concept achieves the design goal (Figure 184). Specifically, it examines whether young people feel they can engage with it spontaneously and whether it makes it easier to form social connections.

To assess whether the key criteria (Figure 184) are met, several ***subquestions*** were defined:

Social game or play

- ***Do participants understand the game, and do the interaction cues feel natural?***
  This was tested by asking participants to think aloud before any explanation was given and by observing how they initially approached the game.

Motivation to join

- ***Are participants motivated to join on their own?***
  This was observed by noting whether young people joined the game without being prompted, showing curiosity and initiative.
- ***What do participants think of the aesthetics?***
  This was discussed during the initial observation phase, while participants were still exploring the game, and was also asked briefly to passersby.

Inclusivity

- ***Is the game inclusive, and do participants feel comfortable engaging alone or with friends?***
  This was explored by observing whether individuals or friend groups joined and by discussing participants’ comfort levels when playing with strangers.

Entertaining & social dimension

- ***Do participants experience the game as fun to play?***
  This was explored by observing whether they laughed a lot during playing
- ***Do participants experience shared “aha moments” and feel connected to one another?***
  This was tested by observing interactions between strangers, such as laughter and collaboration, and by asking participants afterward how they experienced the interaction.

In addition, a questionnaire was used to support these findings with quantitative data. Each subquestion was translated into a statement that participants rated on a scale from 1 to 7. For example:
“The game made it easier for me to connect with people I did not know before,” rated from strongly agree to strongly disagree.

6.1.2 Evaluation method: final concept user test

Conducted: 8 times during 2 days
With whom: with reoccurring participants and yongsters in the library
Goal: Too evalaute the concept on the design goal and the three core components and find recommendations
Interactables: Final prototype (explained in 6.2.1) and questionnaire
Location: Temporary location of the library, on the second floor next to the escalator

I spent two mid-days in the library, from 13:00 to 16:00, testing the final prototype in its real context.

First, I introduced myself and briefly explained what I was doing, without revealing the exact goal of the project. I asked participants to think aloud and describe what they saw and what they thought the installation was. I then invited them to start playing the game, letting them know they could ask questions at any time. Depending on the situation, I either played the game together with them or observed them playing with others.

After the interaction, I asked follow-up questions to gather feedback and to understand why they behaved in certain ways.

Finally, participants were given a QR code linking to a questionnaire, allowing them to reflect on and evaluate their overall experience.

Figure 185: Photo during the final concept user test

6.1.3 Evaluation method: final concept expert discussion

Conducted: 1 time
With whom: with Gino van Weenen
Goal: Too evalaute the concept on the persepctive of the library
Interactables: Final prototype (explained in 6.2.1)
Location: Temporary location of the library, on the second floor next to the escalator

I presented the final concept through a walkthrough of the prototype and then asked how he felt about it, particularly from the perspective of it being developed by the library.

Figure 186: Photo during the explanation expert discussion

6.2

making prototype

6.2.1 prototype components

To move from the final concept on paper to a testable design, the sketches were translated into a physical prototype. The aim was to make the prototype as close as possible to the envisioned concept in both appearance and functionality. The only aspect that was not fully addressed at this stage was long-term durability, as the prototype was developed specifically for short-term testing and feedback collection in relation to the research sub-questions, rather than prolonged installation.

Figure 187 shows the prototype that was developed to test the final concept.
The prototype consisted of several components.

Floating bubbles
The challenge cards, instruction hanger board, and decorative elements were printed on paper and laminated to improve durability and visual quality. This allowed them to withstand handling better than untreated paper. These elements were attached to transparent string using tape. The transparent string contributed to a floating, lightweight visual effect, reinforcing the playful and "magical" character of the installation.

Stepping tiles
The stepping tiles were laser-cut from 3.2 mm plywood (triplex), chosen as a lightweight and low-cost material suitable for prototyping and transport. The tiles were stained to create darker areas that visually matched the challenge cards. Each tile had a diameter of 32 cm, making them large enough to comfortably stand on.

Dice
Finally, the dice was made from foam, making it lightweight, safe, and easy to throw. It was customized to include only the numbers 1, 2, and 3, preventing participants from moving too quickly through the game and ensuring a more controlled interaction flow.

Heart collector
A hook system for collecting hearts was also developed (Figure 188), using door jacket hooks. The hearts were perforated so they could be easily attached and detached from one another, allowing for smooth interaction and collection.

A poster
A poster was designed and placed near the installation to provide passers-by with a clear first impression of the concept and its purpose, supporting user understanding during testing.

promotional cards
Promotional cards were created to attract students at the study tables and guide them toward the installation. These were also printed and laminated to increase durability and usability in the library environment.

Figure 187: Prototype set-up for user test

Figure 188: Heart collector in prototype

6.2.2 Insights Prototyping

During the making of the prototype, several design and production aspects emerged that require further refinement in future iterations of the concept. The prototyping phase became an important moment of reflection, revealing both conceptual and material challenges, especially in relation to scaling the design to a full-size version.

Anti slip options

One of the first practical issues concerned the non-slip underlayer. Multiple materials were tested, including EVA foam, cork board, and anti-slip carpet underlay (Figure 189). These options were selected because they were affordable and suitable for creating friction. EVA foam and cork board also aligned well with the aesthetic direction of the design, while the anti-slip carpet underlay was visually minimal due to its thinness. Although the anti-slip underlay performed well functionally, it added no thickness to the stepping tiles. In contrast, EVA foam added volume and visual presence, which improved the overall appearance and sense of completeness. This highlighted the importance of material thickness in how grounded and finished the tiles feel in the space.

Thickness stepping tiles

The thickness of the stepping tiles themselves also emerged as an issue. In the current prototype, they lie too flat on the floor, which makes the installation feel visually incomplete. Additional thickness would improve both the physical presence and the perceived quality of the object.

Prepearation laser cutting

The process of creating the laser-cut files involved significant trial and error. The first batch was produced at an incorrect scale due to an error in converting the drawn templates into laser-cut files, resulting in tiles that were much smaller than intended. After correcting this, the tiles were successfully produced at the desired size. This process highlighted the importance of allowing time for testing and iteration in digital-to-physical production workflows.

Assemblage cards

The manual production process was also highly time-intensive. Assembling the cards and decorative elements required extensive hand-cutting and finishing, which took many hours (Figure 190). For real-world implementation, more efficient production methods would need to be explored to reduce fabrication time and increase scalability.

Colour consistency

Finally, colour consistency between materials emerged as a challenge. The intention was to match the wood tones of the tiles with the cards, but the final colours differed, resulting in a visual mismatch (Figure 190). In future iterations, material selection and finishing processes will need to be more carefully aligned to ensure visual coherence across all components.

Figure 189: Testing the anti-slip option for of the tiles

Figure 190: The making off the stepping tiles and floating bubbles

6.2.3 Insights assembly

During setting up the prototype in the test location in the library, arised further practical insights into the spatial and technical requirements of the concept.

Implication of hanging the floating bubbles

The ceiling in the prototype environment happened to be suitable for suspending the installation (see Figure 191), which allowed the prototype to be mounted using simple temporary solutions such as paper clips. However, this also revealed a limitation: not all ceilings will support this type of hanging method. To ensure flexibility in different environments, a dedicated hanging system will need to be designed as part of the concept.

Even in this favourable setting, the ceiling structure only allowed suspension at specific points, limiting the freedom to position the hanging cards optimally. This made it difficult to align the cards precisely beneath the corresponding tiles without interfering with user movement. This highlights the need for a more adaptable and adjustable suspension system.

Another issue concerned the attachment of the cards to the strings. During assembly, the cards frequently detached, indicating that the current solution lacks durability and stability. More robust attachment methods, such as rings, clips, or integrated string systems, should be explored to improve reliability and long-term use.

Material finishes also created unexpected usability issues. When exposed to light, the laminated surfaces of the cards caused reflections that made the text difficult to read. This suggests that alternative finishing techniques or matte materials should be considered to improve legibility.

Lastly, the strings, especially those with hooks, were prone to tangling, particularly during storage. If the installation is to be stored or transported, a dedicated storage or bundling system will be necessary to keep components organised and prevent damage.

Figure 191: Floating bubbles prototype

6.2.4 Key takeaways

In this paragraph, the process of developing the prototype and assembling it in the library for the user test was described. The prototype, shown in Figure 192, consisted of floating bubbles, a heart collector, stepping tiles, promotional stickers, a poster, and a dice. During this process, several practical insights emerged visualized in Figure x that can inform future iterations of the concept.

For both the stepping tiles and the floating bubbles, the material choice and assembly method need to be more durable for real-life use. The current prototype functioned well for testing purposes but would need stronger and more robust materials to remain in place and function properly over a longer period of time.

Figure 192: Key Insigts of the prototyping

6.3

user test insights

6.3.1 Insights user test

Do participants understand the game, and do the interaction cues feel natural?

clear that it is a game
At first glance, most participants understood that the installation was a game. The tiles and dice immediately suggested a board game, and several participants quickly recognized this.

Rules were un-noticed
However, many were not aware that the rules could be read on the cards hanging from the sign "A game to meet and connect." I often had to guide them toward this. Once they read the instructions, the main goal of the game became clear. Some participants still asked questions such as whether they could start anywhere, which may be because they read the instructions quickly. In addition, the rule board was difficult to read for several participants, so their attention did not naturally go to this element. The hanging cards also distracted them from noticing the rules.

Unclear way of moving
Another aspect that remained unclear was how players should move across the board. Many participants assumed they needed to walk in one direction and complete a full round. Some even asked if the game would finish once they completed the circle, which felt like the most logical structure to them.

Hitting the cards
Because the installation had to be attached to the ceiling, it could only be placed in certain locations. As a result, some of the hanging elements were positioned along walking paths, which occasionally caused them to hang in the way. In some cases, the bubbles also hung too low, touching the bodies or faces of participants (Figure 193), which is not ideal for comfortably playing the game.

Hearts collecting action still unclear
The action of collecting the hearts is still unclear to the participants (Figure 194). Without being instructed to perform the hanging action in the middle to collect the hearts, none of the participants thought of doing it or recognized that the hearts needed to be hung in the center. This may be due to unclear instructions or because the feature is not noticeable enough.

Figure 193: Photo during user test - hitting the face

Figure 194: Photo during user test - confusion about collector

Are participants motivated to join on their own?

Initial intention, no next action

The installation clearly attracted attention (Figure 195). Many young adults who walked past briefly stopped or looked at it. However, most participants only joined the game after I actively approached them. This suggests that, without guidance, people might not immediately engage with it. This finding was also reflected in the questionnaire results, where participants rated the installation lower on how low-threshold it felt to join spontaneously.

Some participants approached me themselves and mentioned that they were curious about the installation because it looked interesting from a distance. In particular, the hanging elements moving slightly in the air drew their attention.

As one participant noted:

"It immediately caught my attention when I walked up the stairs."

However, the location likely also influenced participation. The installation was placed in a passage area where people mainly move between study spaces rather than stay for longer periods. Several participants mentioned that they would be more likely to join if the installation were placed in a more open or social area, such as the youngsters' floor. Some also said that at first glance the installation looked somewhat like an art piece, which made them unsure whether they were allowed to interact with it. Clearer cues indicating that the installation can be touched and played, as well as seeing other people actively playing, would likely make it easier for new participants to join.

What do participants think of the aesthetics?

Participants generally appreciated the aesthetics of the installation and described it as novel and visually interesting. Many specifically mentioned liking the hanging elements, which made the installation attractive and noticeable. At the same time, some participants described the visual experience as slightly chaotic at first, as there are many elements to take in. However, this was not necessarily perceived negatively; rather, it often sparked curiosity and encouraged people to look more closely at the installation.

Figure 195: Cattching attention when walking by it

Is the game inclusive, and do participants feel comfortable participating alone or with friends?

Comfortability of different questions and challenges
During gameplay, I monitored which challenges were effective and which were less successful (Figure 196).

First of all, I also noticed that some participants did not feel entirely comfortable answering certain questions. Their responses often remained quite surface-level and lacked detail, which made it harder for players to truly get to know one another. In several cases, I had to initiate follow-up questions to encourage deeper responses. However, I was able to do this because I understood the purpose of the game and the type of information it aimed to uncover. In a situation where strangers are playing together, this might happen less naturally if participants are not yet very engaged with each other. This observation was also reflected in the questionnaire results, where the statement about getting to know each other better received relatively lower scores.

Some questions were clearly harder for participants to answer. Looking back, this may be related to the way the questions were formulated. This insight highlights how strongly the phrasing of questions can influence the depth and openness of participants' responses. In contrast, some questions were easier to respond to and naturally led to storytelling. As one participant said: "Oh yeah, I remember last year it was so chaotic." Moments like this often triggered spontaneous stories and further conversation.

One particular challenge type also created some awkwardness. The task that required players to approach someone who was studying was often avoided, as participants did not want to disturb others. In hindsight, this aligns with earlier research findings showing that young adults are hesitant to interrupt people during study time. In contrast, the challenge where players had to find someone and give them a compliment was more positively received. Participants indicated that they would feel more comfortable approaching a passerby in this way, as giving a compliment is generally perceived as a friendly gesture.

Friends encourage participation
Interestingly, participants who played the game together with their existing group of friends while I joined as a stranger appeared more open in their responses. The friends also encouraged each other to react more, ask follow-up questions, and engage in the conversation.

Introduce cards were not used
Finally, the instruction board located at the starting arrows, which asked players to introduce themselves, was skipped most often. Many participants did not notice it or did not expect that such an introduction step was part of the game.

Figure 196: Comfortability of the challenges

Do participants experience the game as fun to play?

They enjoyed the game
Although some of the deeper questions did not always lead to strong connections, participants generally experienced the game as enjoyable. Many players laughed during the challenges and reacted enthusiastically to both the questions and the physical tasks, indicating that the activity itself was entertaining (Figure 197). In addition, the questionnaire results showed that the game scored highly on the statement "I find it fun to play."

Missing competing element
However, some participants mentioned that they missed a stronger "game element," such as competition between players, which could create tension and motivation to continue playing. One participant asked: "So do I need to collect all the hearts myself? Can I steal some from others?" Because of this, some players also questioned the purpose of moving across the tiles if they could simply read the cards directly. The current cooperative goal, collecting hearts together, did not always feel like a strong enough motivation for players to continue stepping on the tiles and progressing through the board.

Do participants experience shared "aha moments" and feel connected to one another?

Feeling social and connected
The questionnaire results indicate that participants generally felt more sociable and somewhat more connected after playing the game, as these aspects received relatively high ratings. However, the resultsof the questionaire also showed that the game was less successful in helping participants truly get to know each other on a deeper level. This aligns with earlier observations that some answers remained rather surface-level, which limited opportunities for deeper conversations.

Teambuilding
Despite this, participants did perceive the game as a way to get to know others and build a sense of connection. Several described it as something that could work well as a team-building activity.

One participant noted:
"I could see this as something you do with a new team you are working with, as a way to start."

Not observed "aha moments" yet
While playing with strangers, I did notice that participants learned small things about one another and began to see each other in a different light. However, I did not yet observe a clear "aha moment," where participants discovered a strong shared interest or viewpoint. Such moments likely depend on naturally occurring similarities in hobbies, experiences, or perspectives.

Figure 197: Photo during user test - having fun

6.3.2 insights expert discussion

These insights were gathered from the feedback talk with Gino van Weenen.

Language of the game
He suggested using Dutch in the game, as it fits better with the library's goal of encouraging participants to speak and integrate into Dutch society. Figure 198 shows that the cards are now written in english. The game could also help language course participants practice Dutch through simple reading and conversations about different topics. I noticed some participants from the language course were interested in playing for this reason.

Sustainability of the game
Gino also provided feedback on the hanging system, noting that it might not work in every library setting. A more flexible design would therefore be needed to ensure the installation can be adapted to different locations. He also mentioned that many people prefer simpler setups, such as using only cards, because hanging installations require more effort to design and install.

Regarding materials, he suggested considering alternatives to wood, as it can be relatively heavy, difficult to clean, and less durable over time. During the testing phase, I also observed that the current materials were not yet durable enough. The challenge cards occasionally fell down, and the tiles moved around even though they had an anti-slip layer. While the prototype was not intended to remain in place for several weeks, the final design of the concept would need to be robust enough to stay installed for a longer period of time.

Presentation: 12 themes & name
He supported the idea of 12 monthly themes to keep the game relevant and engaging for repeat players. He also liked the name "Bubble Bound," highlighting its double meaning: the bubble shapes of the game and the idea of connecting people.

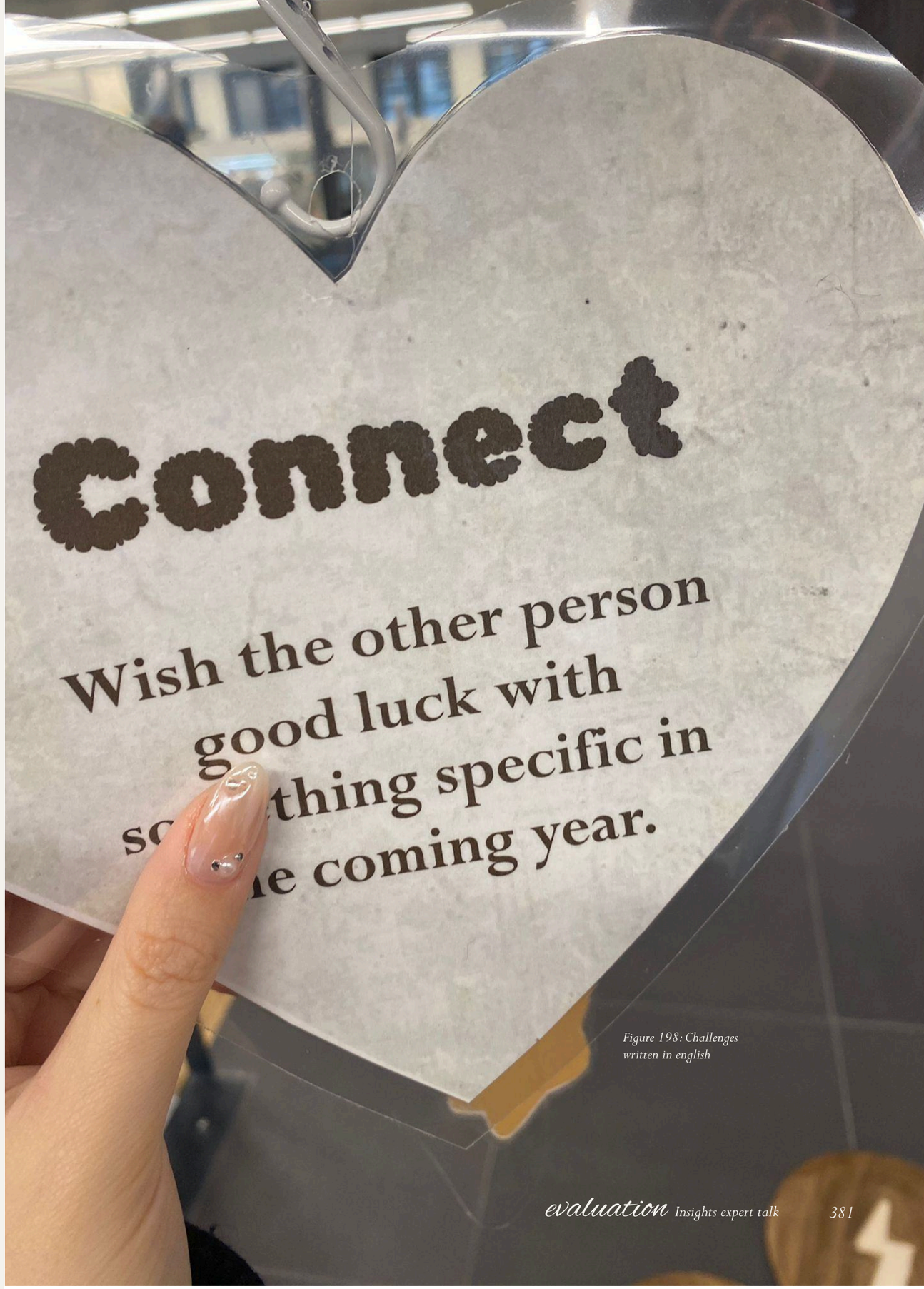


Figure 198: Challenges written in english

6.3.3 Key takeaways

In this paragraph, the insights from the user test and the expert discussion were presented. These resulted in several findings that can help further improve the concept (summarised in Figire 199). These will be mentioned in the next chapter: recommendations

Social game or play

- ***Understanding the game and interaction cues***: Participants recognized it as a game due to the tiles and dice, but the rules and walking direction were not immediately clear.
- ***Clarity of the heart-collecting mechanic***: The heart-collecting action was unclear to participants, as most did not realize they were supposed to hang the hearts in the center.
- ***Material and durability considerations:*** Feedback from the expert discussion highlighted that the current materials and hanging system may not be durable or flexible enough for long-term use in different library spaces.

Motivation to join

- ***Motivation to join spontaneously***: The installation attracted attention visually, but most participants did not join without encouragement, indicating the entry threshold was still too high.
- ***Aesthetic perception:*** The hanging elements were visually appealing and attracted attention, although some participants experienced the overall look as slightly chaotic.

Inclusivity

- ***Inclusivity and comfort when participating***: Participants felt more comfortable playing with friends and people that already joined the game, while challenges that required approaching new studying strangers felt uncomfortable.

Entertaining and social dimension

- ***Depth of interaction and getting to know others***: Although the game initiated conversations, many responses remained surface-level unless someone actively asked follow-up questions.
- ***Perceived enjoyment of the game***: Participants experienced the activity as fun and engaging, but some suggested that adding competition could increase motivation.
- ***Sense of connection between participants:*** The game helped participants feel more sociable and connected, though deeper "aha moments" were rarely observed.

Figure 199: Key Insigts of the user test connected to the core criteria

6.4

evaluation

design goal & core criteria

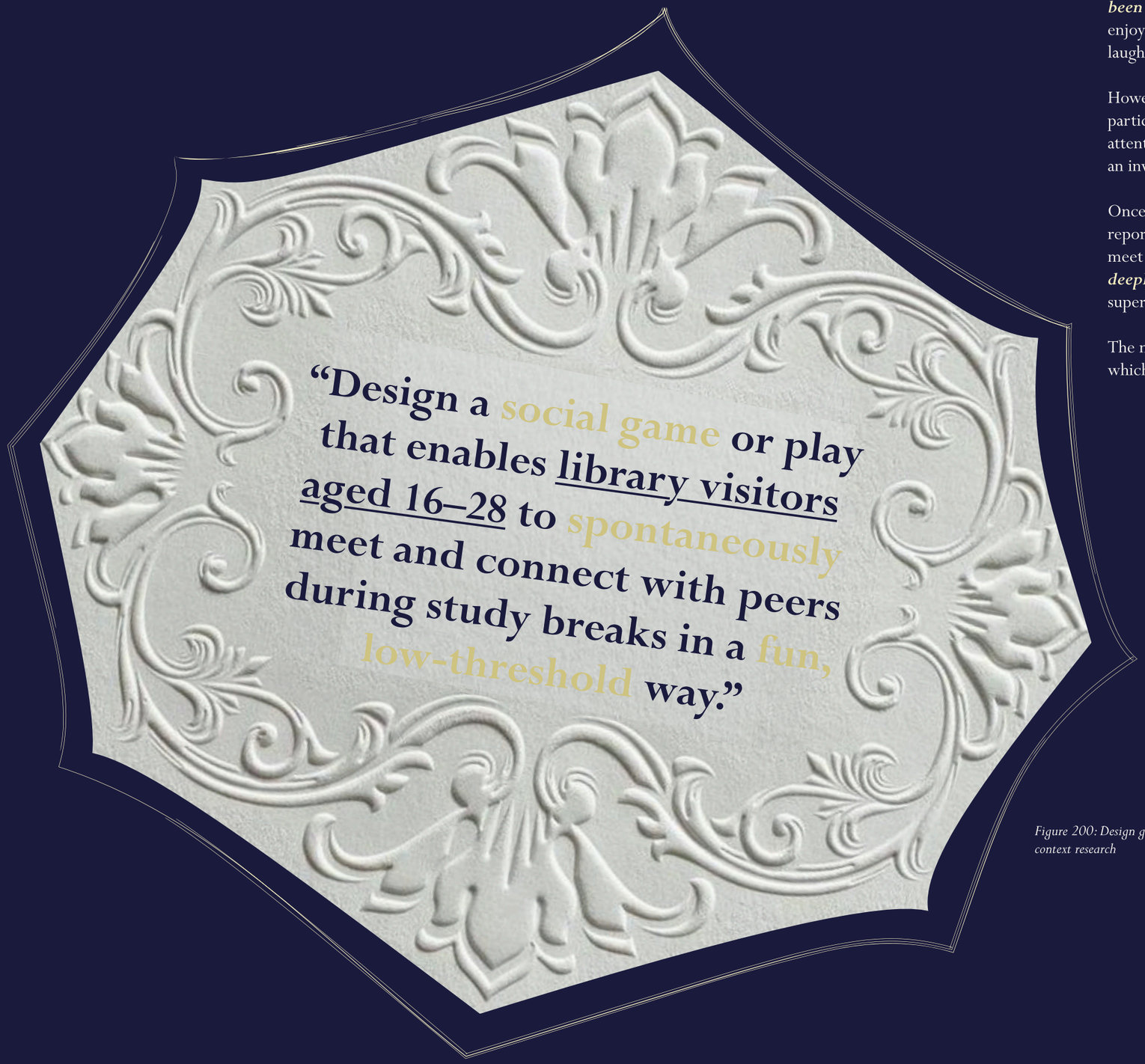


Figure 200: Design goal defined after context research

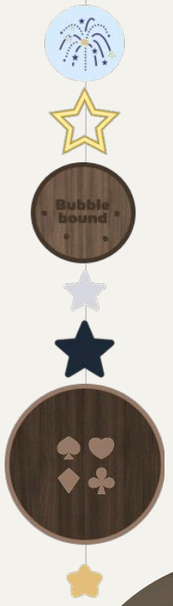
6.3.3 Evaluation design goal and core criteria

From the gathered insights, it can be concluded that ***the design goal (Figure 200) has been partly achieved***. The playful aspect of the concept was clearly present: participants enjoyed the overall idea of the game, engaged with the different challenges, and often laughed while playing.

However, when looking at the goal of encouraging spontaneous and low-threshold participation, the concept still shows limitations. Although the installation attracted attention from passersby, ***most participants did not join on their own*** and usually needed an invitation to start playing.

Once the game had started, it did facilitate social interaction to a certain extent. Participants reported feeling more sociable and experienced the game as an easier way to approach and meet new people. Nevertheless, the aspect of ***truly getting to know one another more deeply remains a challenge***. As mentioned earlier, participants sometimes provided rather superficial answers to the questions and challenges, which limited deeper conversations.

The next page evaluates each part of the core criteria, indicating whether they were met and which insights help explain these outcomes.



motivation to join

- ☒ It needs to be joined spontaniously
- ✓ It needs to be aesthetically attractive to youngsters
- ✓ it needs to have a game subject youngsters find attractive

Figure 201: Evaluation of the core criteria

motivation to join

The installation did attract attention, especially because of its aesthetics, the hanging elements, and the star shapes used during the test.

However, an extra step may be needed to motivate people to actually start playing when there is no host present to explain the game.

entertaining & social dimension

- ✓ It needs to be entertaining to play
- ☒ It needs to create a deeper bond between the players
- ☒ It needs to create "aha-moments" during the game
- ✓ It needs to create an opening for social interaction between the players

entertaining & social dimension

Participants experienced the game as fun and engaging, and it created multiple moments of laughter and shared enjoyment. Only thing that is missing is a competition component.

At the same time, the social interaction with some challenges or questions often remained at a surface level. They Find it harder to open up with strangers about deeper conversations.

Chaos

Find someone who is studying alone and wish them good luck with studying or exams.

Dillema

Pick out of the group who is you think is going to be the most succesful next year.

explain you choice

inclusivity

Participants mentioned that playing with friends made it easier to share personal information and participate in the challenges. However, not everyone felt comfortable answering some of the deeper connection questions or dilemma questions.

Finally, the challenge that required participants to disturb others who were studying was outside the comfort zone for many players.

Connect

What is one thing you truly hope will change for you this year?

inclusivity

- It needs to include people that join alone as well as with friends
- It needs to be comfortable to join for different personality types

Hang the collected hearts on here

durability

- It needs to be able to stand/ integrated on the youngsters floor in the library
- It needs to take between 15-20 minutes, so they can play in the break
- It needs to be able to be played multiple times in a month
- It needs to be able to adapt so it keeps being interested during the year

durability

social game or play
In general, the game was well understood and participants knew what they were supposed to do. Only a few parts remained unclear: Heart collector, The rules & introduction board and direction to play

Regarding sustainability, the concept of using 12 themes was considered strong because it keeps the game relevant and encourages repeat play. However, wood may not be the most practical material in a library setting, as it is heavier and harder to clean; lighter materials such as plastic could be easier to maintain. If implemented in multiple libraries, a universal hanging system would also be needed so the installation can be mounted on different ceiling types and remain durable over time.

7

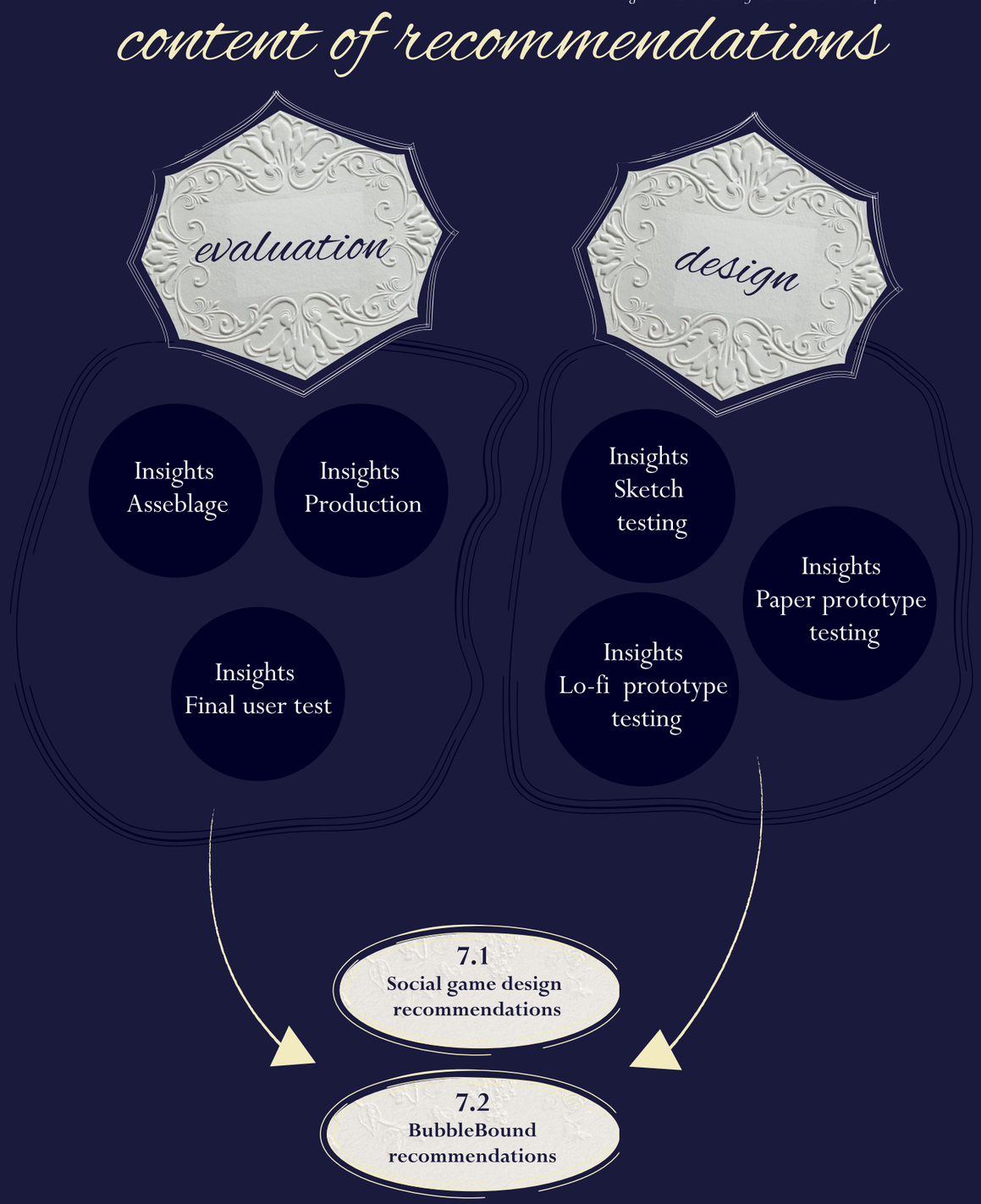
recommendations

The *recommendations* form part of the Deliver phase, in which the insights from the final user test and all other research are combined into a list of recommendations.

In this chapter, different sets of recommendations are discussed (Figure202). In section 7.1, general recommendations are provided for the library if they want to design a social event for youngsters. Additionally, more specific aspects are discussed that should be considered when designing a social game.

Next to that, recommendations are given specifically for the future development of Bubble Bound and what is needed for it to be further developed or better aligned with the design goal.

Figure 202: Content of Recommenation chapter



7.1

social game design recommendations

7.1.1 Designing a social game for youngsters

Based on the insights gathered from the generative session, questionnaire, conversations with participants, and the final user tests, several recommendations can be formulated for designing social games aimed at youngsters in public spaces such as libraries. These recommendations highlight factors that influence whether young people feel comfortable joining and interacting with others.

Attract to the activity

Respect the study environment

Since the activity takes place in a library environment, disturbing people who are studying can create discomfort. Some participants mentioned that making noise or interrupting others would push them out of their comfort zone, so the activity should remain in the more active areas rather than study areas

Combine socializing with an activity

Many participants mentioned that talking becomes easier when they are doing something at the same time. The activity acts as a natural conversation facilitator and reduces the awkwardness of directly approaching someone to talk.
Use creative activities to create a relaxed atmosphere

Choose a topic that interest youngsters

Participants indicated that they would be more motivated to join an activity if the theme connects to something they are personally interested in. When the topic feels relevant, the activity becomes more appealing and worth their time.

Design for short interaction

5 min

Many participants indicated that they would be more likely to try an activity if it does not require a large time commitment. Short and flexible interactions make participation feel accessible and low threshold.

Provide conversation starters

Questions and prompts helped initiate conversations between participants. However, the test also showed that participants sometimes answered very briefly, meaning the prompts should encourage more than just short responses.

Creative activities works calming

Creative actions such as answering questions, writing responses, or completing small challenges created a calm and playful atmosphere during the sessions. Participants were often laughing and engaging with the tasks, showing that creativity can support relaxed social interaction.

Keep the rules simple and easy

If the game is difficult to understand at first glance, people are less likely to join spontaneously. Clear and simple instructions make it easier for newcomers to quickly understand how to participate.

Attract attention, then invite

The installation successfully attracted attention visually, but this did not always lead to spontaneous participation. This suggests that after drawing attention, a clear invitation or call to action is needed to guide people toward joining.

Use 3-dimensional elements

During the test sessions, the installation itself attracted attention because it was hanging in the space and visually different from the surroundings. Participants often noticed the installation first before understanding the game, showing that physical presence in the space can be effective for attracting curiosity.

Avoid overly childish aesthetics

Although visual elements attract attention, several participants associated bright colours and playful designs with something meant for children. A more balanced aesthetic can help the activity feel appropriate for young adults..

Engaged during activity

Involve friends in the activity

The tests showed that participants felt more comfortable revealing personal thoughts or answering questions when they were playing together with friends. Friends lower the social barrier and make it easier for participants to engage with the activity and open up during conversations

Include an icebreaker element

Participants often needed a first simple action before feeling comfortable engaging further in the game. An icebreaker can reduce initial hesitation and help participants ease into the activity.

Balance group and one-to-one

The tests showed that participants enjoyed interacting with the whole group, but deeper conversations were easier in smaller interactions. Including both forms of interaction can therefore help participants connect in different ways.

Inlcude a variety in action

Participants mentioned that repeating the same type of action for a long time can become boring. A mix of challenges and tasks helps maintain engagement and keeps the activity interesting.

Avoid using activity with phone

The tests showed that when phones are involved, attention quickly shifts away from the group interaction. Keeping the activity phone-free helps participants focus on direct social interaction.

Avoid uncmfortable physical contact

Discussions showed that physical interaction with strangers can feel uncomfortable. However, light contact, such as a pat on the back, was generally accepted and even created a sense of connection. Therefore, designs should allow physical interaction without crossing personal boundaries.

Leave & comeback

Allow them to leave something behind

Participants liked the idea that their actions resulted in something visible that stayed in the installation. Leaving an answer, object, or contribution creates a sense that they are part of the collective experience.

Make it easy changeable

If the activity takes place repeatedly, make sure the content is easy to change. Participants appreciated novelty, and updating the content or appearance can create new curiosity each time they encounter it.

7.2

bubblebound

recommendations

7.2.1 Further development of BubbleBound

In addition to the general recommendations for designing social games, several insights specifically address the further development of BubbleBound. These recommendations are based on observations from the final user tests and participant feedback. In some cases, suggestions are provided to address issues identified during testing; however, these should be considered initial solutions that would benefit from further exploration and testing if more time were available.

Bubble bound as a whole

Direction of walking

As insights from the user test show, many participants were confused about whether they had to finish the round or not. Round walking can indicate that the person wants to walk in circles instead of exploring the different options. To make it more playful, because going in a circle is not very exciting, it needs to be further tested how we can still keep the cocoon feeling of the round while making movement through the board more interesting (Figure 203).

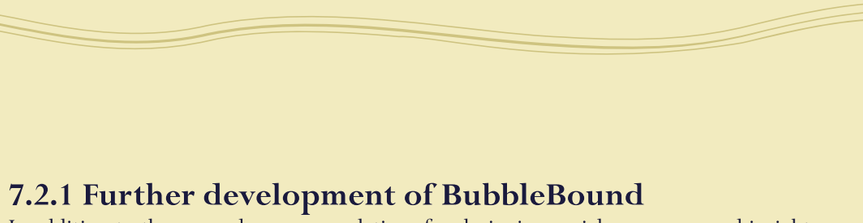


Figure 203: Form varations to test

Make the heart-collecting action clearer

During the test sessions, participants did not immediately understand that the collected hearts needed to be hung in the middle. Only after being told about this action did they perform it, which indicates that clearer visual cues or instructions are needed. A suggestion might be to add a competition level, as participants mentioned that they had fun playing but missed a competitive spirit. This could be "who can collect the hearts the quickest" and collecting stickers of the hearts, which could also be taken home as a small reward to make participation more fun (Figure 204).

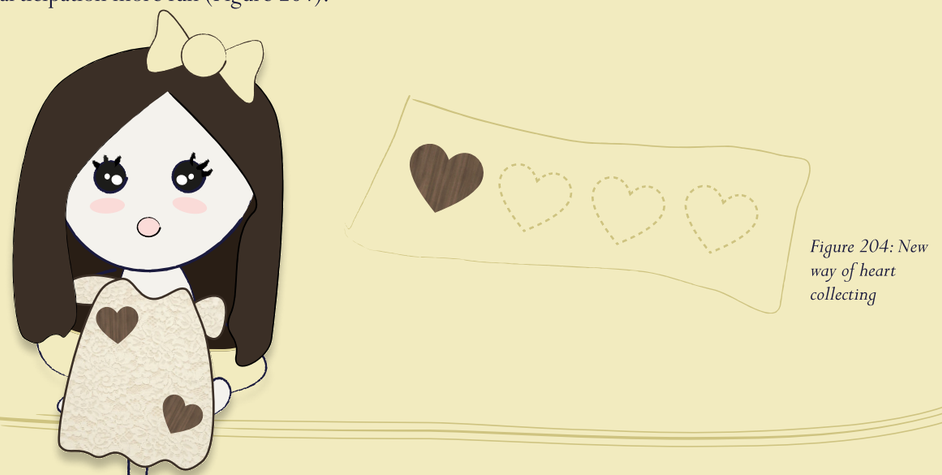


Figure 204: New way of heart collecting

Add a stronger invitation to start playing

Although the installation attracted attention, most participants did not start interacting with it without guidance. This suggests that a clearer entry point or instruction could help people understand that they are invited to participate. The user test was conducted in a different context next to the youngsters' floor, while the concept was designed for a place where youngsters gather and stay, rather than in a transitional space. To test if it really attracts people spontaneously, it needs to be set in that context. Nevertheless, a video instruction at the installation with moving visuals would catch attention more effectively and explain the rules, as no one really read the rule board during the user test (Figure 205). This also ensures that a person does not need to be constantly available to explain the game.

Figure 205: invitation to play video

Keep the monthly theme concept

The concept of using twelve themes throughout the year creates variation and keeps the experience fresh. This approach encourages people to return and experience new topics over time. In the final concept, there are recommendations on what themes to use during the 12 months to ensure every theme is enjoyed by youngsters.

Consider using Dutch as the main language

Using Dutch within the game could align with the library's aim of supporting language learning. It may also provide an opportunity for participants from language courses to practice speaking in a relaxed way.

Floating bubbles

Introducing to one another also as a challenge

From the insights of the user test, this board was often skipped by participants because they did not expect anything to happen if they had not rolled yet. We can add a challenge where participants introduce themselves in a fun way, as shown in Figure 206.

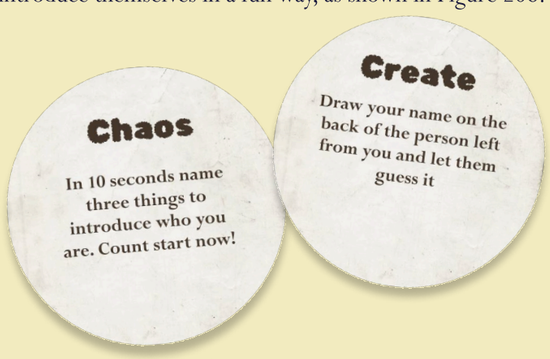


Figure 206: Introduce thtough challenges

Encourage deeper conversation

During the game, many participants responded to questions in a very short and surface-level way. Adding prompts that encourage follow-up discussion could help create more meaningful interactions (Figure 207). For now, my recommendation would be to add additional follow-up questions to one challenge, allowing participants to flip through them as they continue the activity.

Figure 207: Recommendation getting deeper

Develop a flexible hanging system

If BubbleBound were to be implemented in different library locations, it should be easy to install in various spaces. A universal or adjustable hanging system would make the installation more practical for real-world use. In addition, more technological research needs to be done on how to attach the cards to the strings to make it more durable, as well as to test the appropriate height for hanging the bubbles.

Stepping tiles

Reconsider the material choice for stepping tiles

The current wooden elements provide a natural aesthetic but may not be the most durable option in a public environment. A lighter and easier-to-clean material could improve long-term usability while still maintaining the visual aesthetics of wood. Wood with a plastic finish could make cleaning easier. The tiles could also be made thicker so that they actually feel like stepping onto something, or even have different textures underneath to make stepping more fun and interactive (Figure 208). Currently, participants hardly notice the difference between the floor and the tiles.

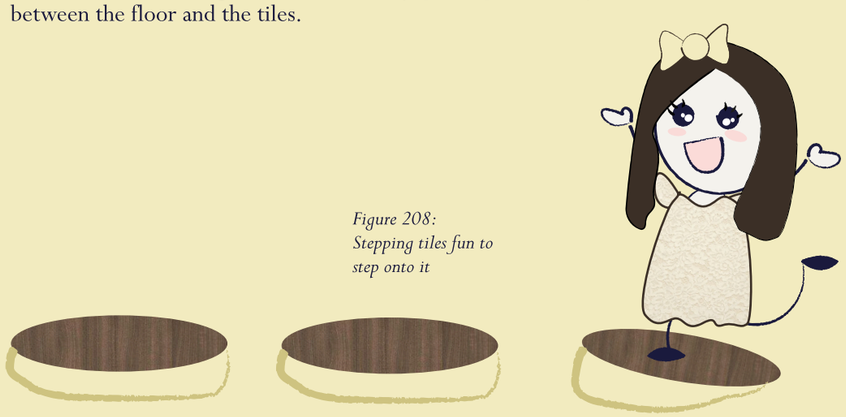


Figure 208: Stepping tiles fun to step onto it

8

reflection

experience & learning points

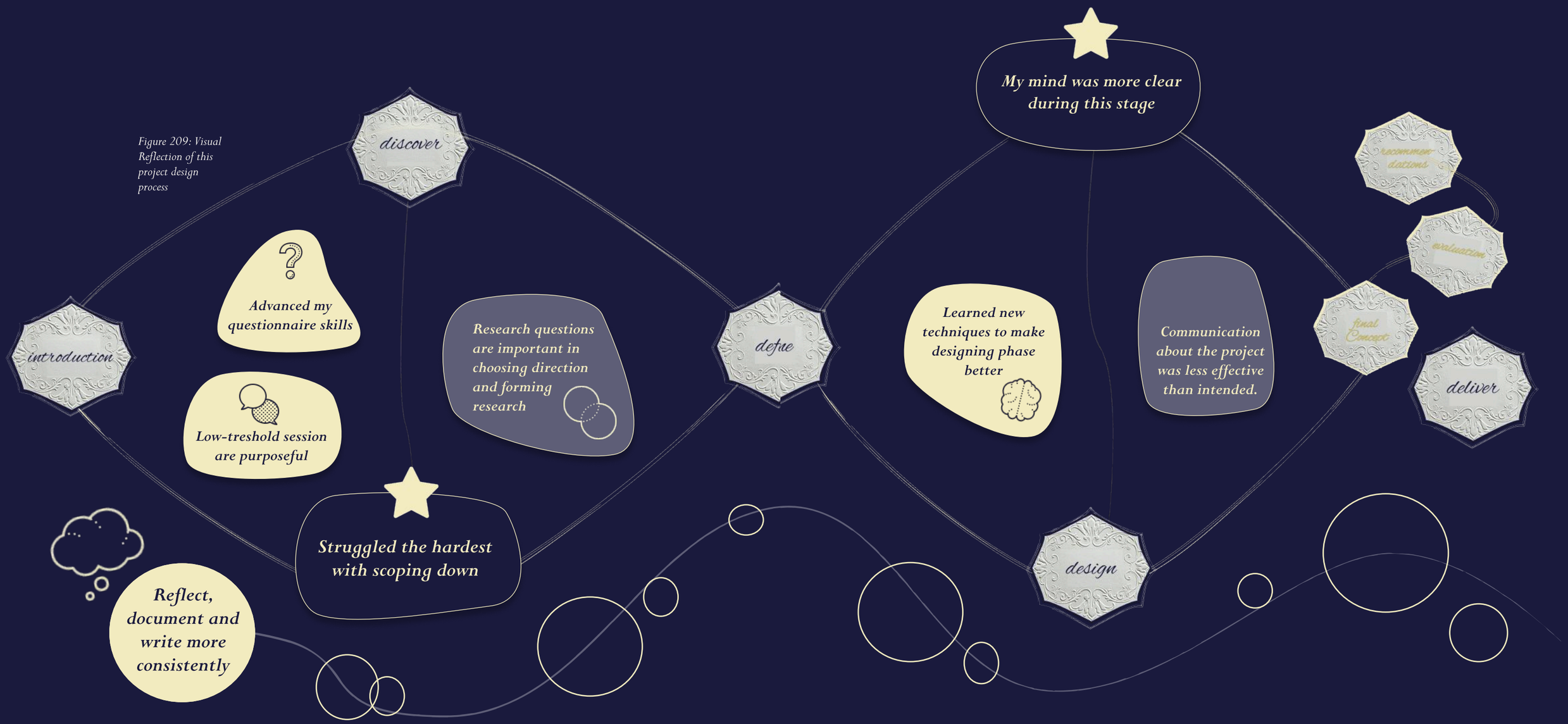
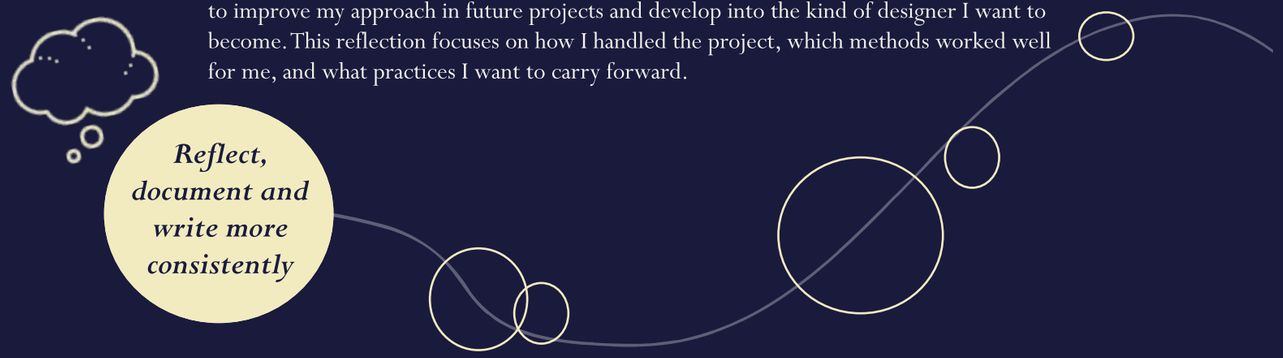


Figure 209: Visual Reflection of this project design process

Throughout this project I experienced several challenges and learning moments that helped me reflect on my design process. Reflecting on these moments is important, as it allows me to improve my approach in future projects and develop into the kind of designer I want to become. This reflection focuses on how I handled the project, which methods worked well for me, and what practices I want to carry forward.



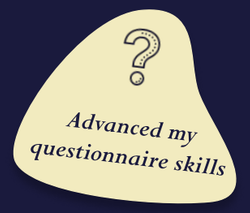
One of the first things I noticed was the importance of ***consistently documenting and organizing data throughout the project***. In the first few weeks I kept my documentation up to date, which made it much easier to revisit findings and translate them into written insights later on. However, as the project progressed I became less consistent with this process. As a result, I had to gather and organize a large amount of information at the end of the project, which required significantly more time and effort. This experience showed me how valuable continuous documentation is for both analysis and reporting.

Closely related to this was the challenge of writing the report. Because much of the documentation had to be reconstructed afterwards, writing the report became a difficult task. When writing while actively working on the project, the details and reasoning behind decisions are still vivid, making it easier to accurately describe the process. Writing everything at the end requires looking back and reconstructing decisions, which is less efficient and sometimes less precise. In future projects I would therefore ***aim to write short sections continuously during the process*** and later refine them, rather than leaving most of the writing until the end.

Another aspect that I found important is ***scheduling structured reflection moments*** during the project itself. During intensive design phases it is easy to move quickly from one activity to another without pausing to evaluate whether the project is still moving in the right direction. Without these moments of reflection, certain insights or potential issues can easily be overlooked. To avoid this in the future, I would dedicate one day per week to reviewing the project: organizing collected data, updating documentation, and reflecting on whether the project direction still aligns with the intended goals.

When conducting user research, I also learned that ***shorter and more spontaneous testing moments can be very effective***. Planning longer testing sessions of an hour or more often made it difficult to recruit participants and schedule sessions. In contrast, quick tests of around ten minutes conducted on location allowed me to gather valuable insights more easily. These quick interactions also helped with recruiting participants for follow-up tests or questionnaires, since people were already engaged in the process. This showed me that if participation is requested on the spot, the activity needs to be simple and not too time-consuming.

Another skill that I developed during this project was creating questionnaires. ***Designing good questionnaires*** requires careful consideration: questions need to remain neutral while still providing meaningful data that complements other research methods. Previously I rarely used questionnaires, but during this project I discovered that they can be a useful way to quantitatively validate insights gathered from interviews or observational tests.



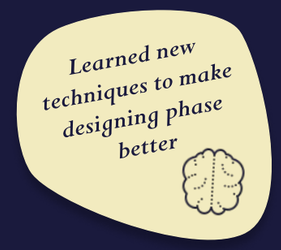
Another important learning point was the ***need to always start research with clear questions***. Instead of immediately thinking about what results could be gathered, it is more effective to begin with: What do I want to know? and What are the research questions? During this project I sometimes started collecting data without clearly defining these questions first. As a result, I gathered a variety of results that were interesting but not always directly useful for deciding on a design direction.

Choosing a clear direction was therefore one of the most difficult phases of the project. I struggled with interpreting the different results from multiple tests, partly because I had not always formulated the research questions clearly beforehand. A key question that proved valuable during analysis was simply asking why. When observing certain user behaviors, asking why users behave in a particular way helps uncover the underlying motivations and needs that should guide the design.

This project was longer and more intensive than most of my previous projects, lasting approximately half a year. Because of this, I initially decided to completely disconnect from the project during the holiday break. Normally, even when it is not required, I tend to keep thinking about a project or occasionally work on it. This time I intentionally did not. However, returning after two weeks of completely disconnecting made it difficult to regain momentum and motivation. For future long projects I think it would be beneficial to remain lightly engaged during breaks, for example by briefly reflecting or thinking about the project once a week, so that restarting afterwards feels less abrupt.

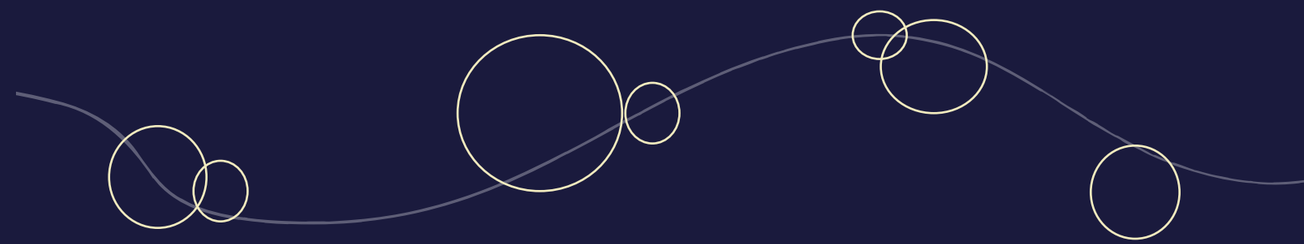
The prototyping and design phase is a part of the process that consistently works well for me. I enjoy the moment when ideas can finally be explored and developed into tangible concepts. However, I noticed that I often wait until this phase before actively generating ideas. In the future it might be ***beneficial to start noting down ideas earlier***, even during the discovery phase. This could help me build on initial thoughts over time. At the same time, I need to be careful that early ideas do not limit exploration by making me prematurely commit to a direction.

Prototyping and testing ideas quickly is something that suits my working style well. Starting with simple paper prototypes and later moving towards mid-fidelity prototypes allowed me to test concepts efficiently. For example, testing a prototype in the main hall at the faculty turned out to be easier to organize than expected and provided valuable insights.



Another learning moment occurred during the major project milestones. Early in the project I prepared presentations or materials to support these moments, but for the green-light meeting I did not prepare as thoroughly. This meeting required me to convince others of the project direction, and the lack of preparation made that more challenging. In future projects I would make sure to ***always prepare clear materials for these key moments***.

Communication with stakeholders was also an important consideration. When the project is initiated by the designer rather than the company itself, it becomes the designer's responsibility to actively keep stakeholders informed and involved. During this project I sometimes found it difficult to balance communication with the intensive design work itself. In the future I would plan regular updates to ensure stakeholders remain involved and aligned with the process.



Finally, this project confirmed something about the type of work I enjoy most as a designer. I am particularly motivated by creating tangible interventions in large social environments. Through this project I also discovered a stronger interest in game design. I have always been interested in play and games, but during this project I realized how much I enjoy designing playful interactions, especially when they bring people together. This has revealed a potential direction for my future work as a designer.

epilogue

once upon a time

Mila was split between two not so comfortable worlds.

But then, a third world appears

Emma walks into the library and does not need a screen to start a conversation. Third places are designed so encounters are not accidental, but gently encouraged

Bubble bound is there to help

a game that offers small challenges and thoughtful questions, where she can easily share who she is and make new friends

strangers become teammates,

laughter replaces silence, and

connection begins not with a swipe,

but with a shared moment.

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appendix

Appendix A: Graduation form

TU Delft

DESIGN FOR our future

IDE Master Graduation Project

Project team, procedural checks and Personal Project Brief

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

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

STUDENT DATA & MASTER PROGRAMME

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

Family name	Jonkers
Initials	EJ
Given name	Eva
Student number	5086825

IDE master(s) IPD ☐ DfI ✔ SPD ☐

2nd non-IDE master

Individual programme *(date of approval)*

Medisign ☐

HPM ☐

SUPERVISORY TEAM

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

Chair	David Keyson	dept./section	DCC
mentor	Susie Brand-de Groot	dept./section	HICD
2nd mentor			
client:	De bibliotheek Rotterdam		
city:	Rotterdam	country:	Netherlands
optional comments			

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

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

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

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

Sign for approval (Chair)

tudelft.protect Jamf Protect CSR Identity — Digitally signed by tudelft.protect Jamf Protect CSR Identity Date: 2025.09.15 09:20:42 +02'00'

Name David Keyson Date 15 Sep 2025 Signature

CHECK ON STUDY PROGRESS

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

Master electives no. of EC accumulated in total _____ EC

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

✓	**YES**	all 1st year master courses passed
	NO	missing 1st year courses

Comments:

Sign for approval (SSC E&SA)

Name M.J.H. Neeleman-Smits Date 18-9-2025 Signature

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

Does the composition of the Supervisory Team comply with regulations?

YES	✓	Supervisory Team approved
NO		Supervisory Team not approved

Comments:

Based on study progress, students is ...

✓	**ALLOWED** to start the graduation project
	NOT allowed to start the graduation project

Comments:

Sign for approval (BoEx)

Name Paul Mommers Date 19-09-2025 Signature

DESIGN FOR our future

TU Delft

Personal Project Brief – IDE Master Graduation Project

Name student Eva Jonkers **Student number** 5,086,825

PROJECT TITLE, INTRODUCTION, PROBLEM DEFINITION and ASSIGNMENT

Complete all fields, keep information clear, specific and concise

Project title Designing Low-Threshold Spaces for Early Romantic Connection in the Rotterdam Library

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

Introduction

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

The project explores how young adults (ages 18–30) experience the evolving dynamics of early romantic connection, with a focus on the Rotterdam Central Library as a social setting.

In recent years, dating apps such as Tinder, Bumble, and Hinge have become the dominant way of initiating romantic relationships, overtaking traditional introductions through friends, family, or local communities (Potarca, 2020; Rosenfeld et al., 2019). While these platforms provide convenience and access, they often replace in-person encounters in so-called third places, informal public spaces beyond home and work where people can naturally meet and socialize (Haines, 1991). These types of spaces are increasingly disappearing from urban life. We need more low-threshold third places, as they are vanishing in many cities. As Saxena (2025) notes, most places today are too planned and controlled; you already know what you will do or eat, leaving little room for spontaneity.

The Rotterdam Central Library at Blaak presents an interesting counterpoint. Once primarily a place for accessing knowledge through books, it has been actively redefining itself as an accessible, low-threshold cultural hub. In recent years, the library has expanded its programming to include activities such as Friday game nights, and workshops, with the aim of attracting younger audiences and fostering social connection.

The main stakeholders in this project are young adults in Rotterdam seeking meaningful ways to meet and connect, and the library itself, which is aiming to become more relevant to younger people and more than just a place to access knowledge. The opportunity lies in designing the library as a space where young adults can meet new people in a low-threshold, low-risk way. A limitation, however, is that while libraries can support early encounters and casual connections, they are not typically used as places for actual dating.

→ *space available for images / figures on next page*

introduction (continued): space for images

image / figure 1

image / figure 2

Personal Project Brief – IDE Master Graduation Project

Problem Definition

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

Online dating platforms have expanded access to potential partners, but they also bring emotional and psychological challenges. Many young adults report burnout, rejection fatigue, and disappointment after repeated experiences of ghosting or shallow matches (Bonilla-Zorita et al., 2021; Topino et al., 2025). The process of swiping often feels superficial and transactional, leading to short-lived interactions and reduced trust in forming meaningful bonds (Huang et al., 2022; Hutson et al., 2018; Finkel et al., 2012). Individuals with anxious attachment or rejection sensitivity are particularly vulnerable, sometimes engaging in compulsive app use that diminishes well-being (Topino et al., 2025). Despite being designed for connection, digital platforms often keep interactions confined to screens, rarely leading to meaningful in-person experiences (Ahmed et al., 2024; Frost, 2013).
This project does not aim to recreate a version of Tinder in public space. Instead, it explores how romantic interest might emerge through low-pressure, non-digital experiences, especially in unexpected places like the library. Everyday environments such as parks and libraries offer more organic opportunities for interaction, supporting quiet observation, shared presence, and subtle cues of interest (Cattell et al., 2008; Audunson, 2005). This project seeks to understand what young adults value when meeting new people, how they recognize the potential for romantic connection, and how the library space can support them in taking the first step toward building new relationships.

Assignment

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

Investigate how young adults navigate romantic attraction and dating fatigue in a digital-first culture, and explore how public libraries can support emotionally meaningful first meeting encounters that open the possibility for (romantic) connection.

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

Conduct three design sprint in total, where each sprint consist of multiple iteration rounds.
Sprint 1: desirability - Understanding the contexts, vales and needs
Conduct qualitative research through literature review, cultural probes, interviews, and generative session to understand young adults' experiences and needs in online dating.
Sprint 2: feasablity - Experience concepts
Facilitate co-creation workshops with target users to generate concepts for offline social experiences that encourage natural, low-pressure interactions.Develop low-fidelity prototypes based on workshop outcomes.
Test prototypes in real-life settings through iterative user testing and field experiments to observe behaviors and gather feedback.
Sprint 3: Viability - stakeholders & business model
conduct cost vs value matrix, stakeholder impact map and discuss business model with the library.
Final deliverable: Final experiential prototype and develop a toolkit of design principles for fostering deeper offline connections.

Project planning and key moments

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

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

Kick off meeting	11 September 2025
Mid-term evaluation	19 Nov 2025
Green light meeting	17 Dec 2025
Graduation ceremony	11 Feb 2026

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

Part of project scheduled part-time	
For how many project weeks	
Number of project days per week	

Comments:

Motivation and personal ambitions

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

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

I'm motivated to start this project because I've personally experienced the challenges of finding meaningful connections through digital dating, and I know many others face similar struggles. Dating can be a complex and often frustrating part of transitioning into adulthood, so I want to create a natural, fulfilling alternative that truly addresses this need.

On a professional level, I'm eager to develop my skills in facilitating co-creative sessions where users actively help shape the solutions. I believe this collaborative approach uncovers deeper insights and leads to more impactful, meaningful concepts.

Additionally, I plan to enhance my ability to clearly and confidently present ideas.

Lastly, recognizing that AI is an inevitable part of the future, I'm excited to explore its potential in offline dating experiences. Specifically in ways that avoid the negative effects seen in current dating apps, such as over-filtering and limiting authentic connections.