Museum Shopping Experience Design

For Museum Catharijneconvent

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Preface

This report is one of the final deliverables of my graduation project for the Design for Interaction master program of the Delft University of Technology.
This project cooperates with Museum Catharijneconvent. It is a national museum of Christian art and culture in the Netherlands. This project focuses on shopping experience design and aims to integrate the shopping experience to the overall museum experience of visitors. This is a very interesting and challenging project. There are a lot of amazing visiting experience museums create. However, shopping experience design in the museum is not a popular topic. Because of this, I feel excited and passionate about this topic.

This project was completed with the support of the mentor team. Therefore, I am very grateful to my mentor team. Arnold provided me with a lot of support during the whole project process and gave me a lot of constructive suggestions. Agnes gave me a lot of research suggestions, and carefully coach me about research organization, problem sets, and data analysis. Sylvia not only gave me a lot of opinions from the perspective of museum staff but also provided me with a lot of museum research materials that I needed. I am very grateful that the efficient and fruitful discussions from the three mentors in the mentor meeting which helped me think outside the box and saw clarity in the chaos.

During the course of the project, the COVID-19 broke out all over the world, which had a lot of influence on this project. Some research and design activities have to be done online. Although this has brought a lot of inconveniences, I also learned a lot of new design knowledge in the process. For me, this is also a very special experience.

Chenhui Peng

Contents

Executive summary

The overall museum experience consists of the visiting experience and shopping experience. Visiting experience is normally the focus of the museum, however, the shopping experience is often ignored. This leads to that the shopping experience is separate from the overall experience.

This project cooperates with Museum Catharijneconvent and aims to integrate the shopping experience to the overall museum experience of visitors.

Therefore, the assignment is "Redesign the museum shopping experience so that it fits the overall museum experience of Museum Catharijneconvent".

After research, there are the following main insights:

A. The focused user group of this project is determined which are professionals, explores, and facilitators (based on the five identities of the museum visitor identities proposed by Dr. John H. Falk). And users enter the museum shop for two different needs, "visit and purchase". Because they have different needs, their actions in the shop are also different.

B. Communication and reflection on the exhibition can make their museum journey more meaningful.

C. Museum expects that visitors visit and explore the shop.

Based on the research, the design goal is proposed. "Design a shop that allows users efficient purchase, communicate, and reflect their impressions in the exploration of the shop after visiting exhibitions."

In order to achieve the design goal, a shop design plan is proposed. The shop is composed of a basic area and multifunctional areas. The basic area includes shelves and checkout counter, and the multifunctional areas include an entertainment area, relax area, and communication area. The final concept not only takes into account the interaction of users in the store, at the same time the flexibility of the shop is also taken into account. The flexibility of the shop allows the shop to be easily adjusted when the needs of users or museum change.

In the testing phase, the test plan is formulated to know whether the concept can achieve the design goals. And, the modification suggestion is based on the test results.

Process summary

- Context research
- Pre-research
- Research
- Analysis
- Design direction
- Ideation
- Conceptualization
- Final concept
- Evaluation
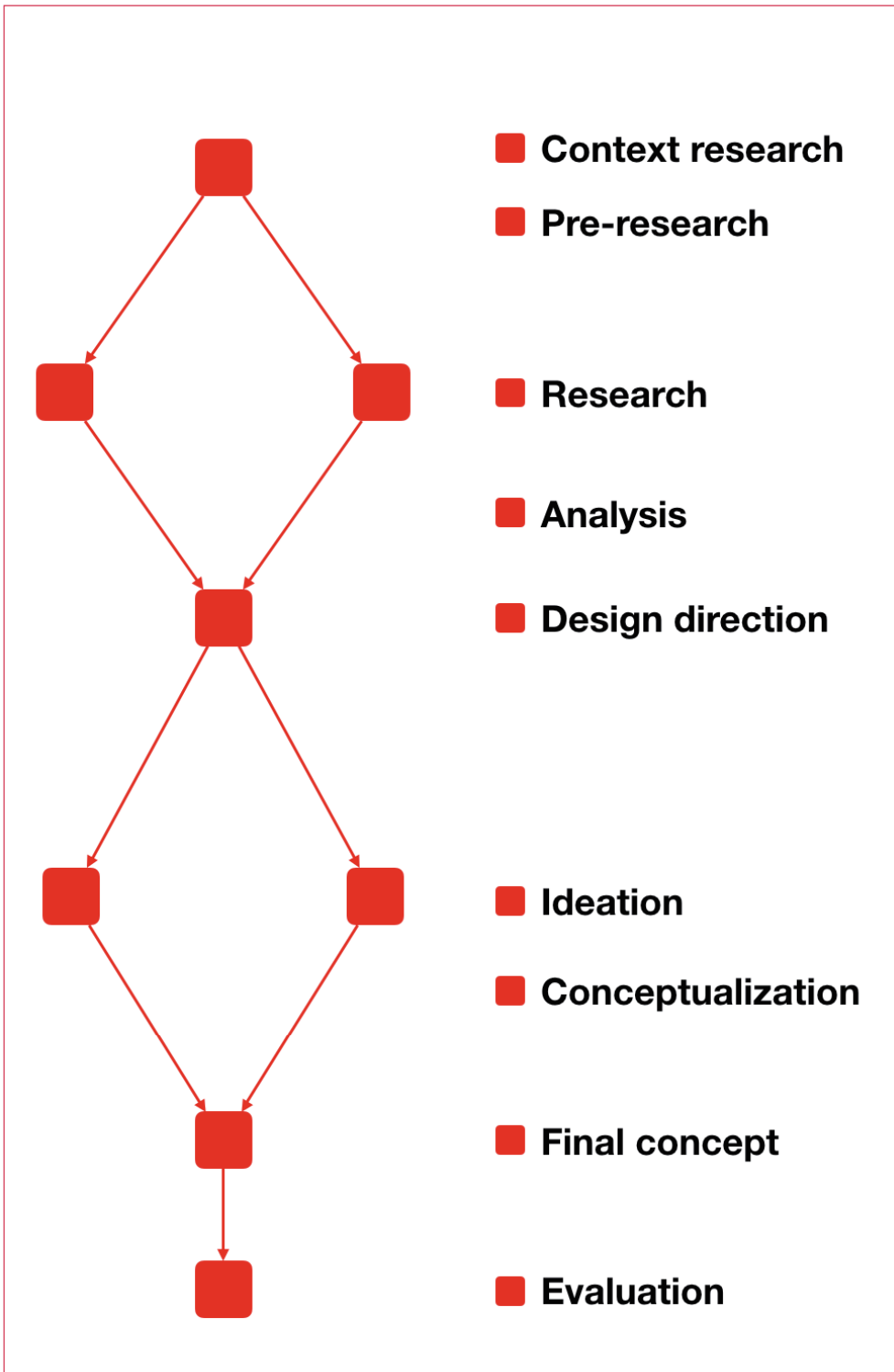
Chapter 1

Context: Museum Catharijneconvent

The first step is to discover the context. Since this project is the shopping experience design for Museum Catharijneconvent. Therefore, in this chapter, the background, location, current situation, and identity of Museum Catharijneconvent will be described.

1.1 Intro

1.1.1 The identity of Museum Catharijneconvent

The identity of a museum refers to its unique characteristics which can be recognized by visitors. Therefore, this identity should be reflected in every corner of the museum, including museum shops.

Museum Catharijneconvent is a national museum of Christian art and culture in the Netherlands. It has a unique profile, both in the Netherlands and in the world. It awakens and deepens the interest of the public in Christian heritage, that culturally and historically significant interest. **It highlights the aesthetic, cultural, and historical values of Christian heritage, with the aim of more insights to get into our current world.**

This museum manages a lot of important collections of historical arts of the Christian heritage (See Figure 1). Their collection is made up of seven sub-collections which are sculpture, painting, manuscripts and ancient prints, textiles, goldsmith's art, a cultural-historical collection, and a collection of memory stories. The collection covers the full width which is from Roman Catholicism to the Orthodox movements of Protestantism. The collection is part of the (art) history of Christianity worldwide and extends in form, function, and story across national borders.

1.1.2 Museum Catharijneconvent is not only a museum

A. Interactive place

Through temporary exhibitions, the museum connects with the fascination and interest of our (future) visitors, they respond to current events and form the link between scientific research and the general public. Family exhibitions which are part of the temporary exhibitions are built for families Families want to have fun together in an accessible way, spend quality time and learn something.

"Our visitor is central to our museum want to give the visitor an unforgett experience. "

B. Knowledge center

Through the permanent presentation, the museum tells the story of Christianity. The permanent presentation is positioned in the monastery complex. The historical buildings can also become props in storytelling. The rich collection and professional knowledge allow the museum to fulfill a crucial function in keeping the Christian heritage alive. We want to make more use of this role and must be physically visible in the museum. It is a place for the exchange of knowledge.

Figure 1: The collections of Museum Catharijneconvent

1.2 Building

Museum Catharijneconvent which is a unique building is located in the center of Utrecht. It is one of the best preserved late medieval monastic complexes in the Netherlands. (See Figure 2 and 3)

The museum collaborates with the adjacent Catherine Cathedral, with the parishioners and the Archdiocese. The cathedral is not owned by the museum and is in religious use.

The cathedral is a substantive part from the monastery complex, has a turbulent history and is formally the most important Roman Catholic church in the Netherlands. And museum wants to involve the church in the permanent presentation.

They think to restore the physical connection between the monastery and the church can help increase the public accessibility of the cathedral and to promote the importance of this important religious building together with the ecclesiastical owner.

They want a sense of quality and clarity throughout the building in the future museum. **The museum can have a contemporary look and at the same time does justice to the historical architecture.** This principle is leading in all architecture and (interior) design.

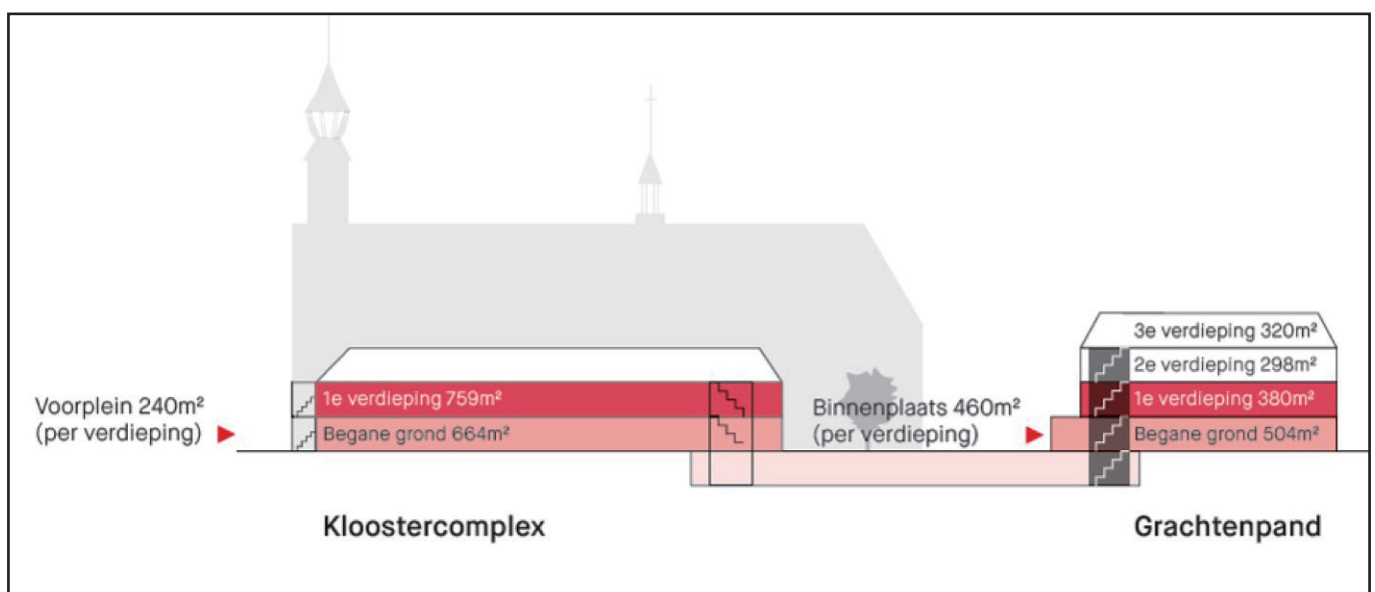"We cannot tell the story of the monastery complex without a cathedral "

Figure 3: The sketch of Museum Catharijneconvent buildings

Figure 2: The buildings of Museum Catharijneconvent

Figure 4: Museum Catharijneconvent shop

1.3 MCC Shop

In the Museum Catharijneconvent, there is a small souvenir shop (See Figure 4). Some products are displayed in there.

1.3.1 Strengths

Now, the shop is doing well financially. And, for the museum, it is not a core business, but they think this shop is an essential part of the total visitor experience for museum visitors.

In museum research, the positive impacts of the shop are proved. It shows a souvenir shop provides a better overall experience for all visitor identities. This means a better shopping experience is meaningful for the museum.

1.3.2 Weakness

However, the visiting experience is normally the focus of the museum, and the shopping experience is often ignored. This leads to some problems within this shop and the museum indicates the shop brings NPS (Net Promoter Score) of overall museum experience down (based on the research MCC provided).

1.3.3 Problem definition

One of the possible problems is defined as the shopping experience is separate from the overall experience. And this sense of separation is reflected in the location selection, the space of the shop, product display, etc. For example, the location of the shop is not optimal, in Museum Catharijneconvent. After entering the

museum, you will be in the museum's lobby. The ticket office is in front of you. Cafe and exhibition entrance are located on both sides of the lobby. And the shop is located behind the ticket office (See Figure 5). Also, the location of the store is not on the visiting route. The visitors do not see the shop when they are buying the ticket and afterward they can not naturally walk through it. In terms of product display design, products are now displayed according to different categories, such as books, decorations, cards, and so on. This traditional display method can more effectively help consumers who have a clear purchase goal to choose products. However, this shopping experience is significantly different from the visiting experience.

Therefore, I aim to integrate the shopping experience to the overall museum experience of visitors.

1.3.4 Assignment
My assignment is "Redesign the museum shopping experience so that it fits the overall museum experience of Museum Catharijneconvent based on the research about users, the museum missions, examples from other museums and other shopping experiences."
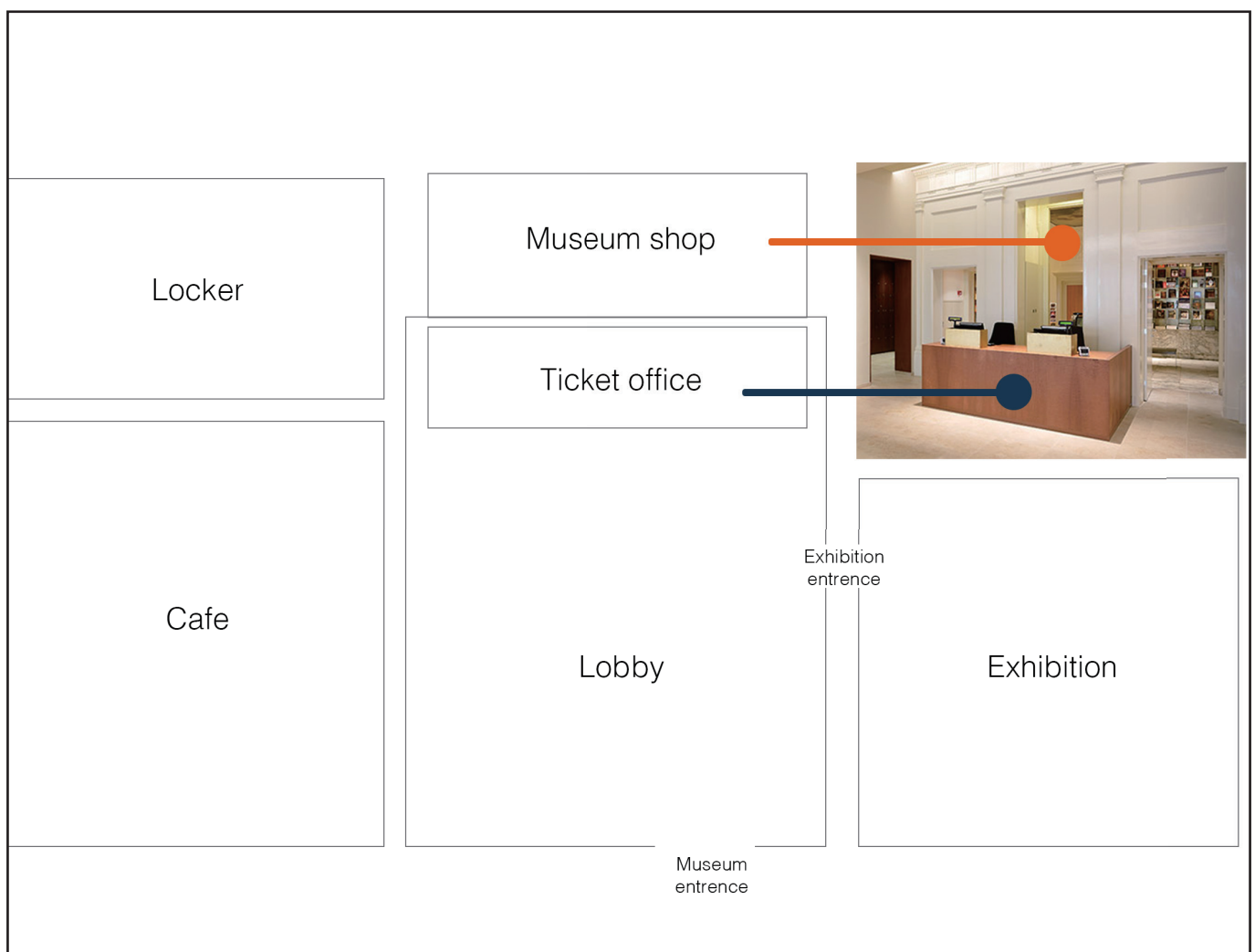

Figure 5: The location of the main shop in the Museum Catharijneconvent

1.4 MCC Visitors

According to the museum's current research, the current museum visitors are mainly 5 types (See Figure 6): Adults (50+), Tutorial Groups, Families, Foreign Tourists, and Visitors to Private Events.

A. Adults (50+)
They come to the museum for temporary exhibitions and sometimes attend a lecture or permanent presentation. They come alone, in pairs, or in groups.

B.Tutorial Groups
They are guided in groups of 15 students through the permanent presentation. They come 40 weeks a year.

C. Families
They come to the museum for the family exhibitions, especially in the autumn during Sinterklaas and Christmas.

D. Foreign Tourists
They mainly come alone or in pairs during the holiday period (May to August and December / January). They come to view the highlights in the permanent presentation.

E. Visitors to Private Events
They come by invitation, during or outside the museum's opening hours.

In terms of the number of people, adults, tutorial groups and families are the three main types of visitors. Among them, the tutorial groups are not the target user of the shop, so adults and families are the focused group of the museum shop.

A. Adults (50+)

B. Tutorial Groups

C. Families

D. Foreign Tourists

E. Visitors to Private Events

Figure 6: 5 Types of MCC Visitors

Chapter 2

Pre-research

This project involves museum visitors and consuming behaviors. Therefore, before formulating the research plan, I conducted literature research in these two areas.Through literature research, I quickly constructed theoretical knowledge about users and shopping. At the end of this chapter, I summarize a hypothetical model. At the same time, research questions and research methods have also been proposed.

2.1 User

In this project, users have multiple identities. Users can be museum visitors, tourists, and shoppers. For each identity, there are many scholars to study it.

2.1.1 Shopper
Guiry, Magi, & Lutz (2006) based on the level of involvement with shopping, identified three different segments of shoppers—shopping enthusiasts, normal shoppers, and shopping aversives.
And the shopping experience is different for them. For example, compared with normal shoppers, shopping enthusiasts have realized higher levels of leisure experience, similar to that seen in other leisure activities.

2.1.2 Tourist
Regarding the identity of tourists, different scholars have a different way to research which lead to different classification methods.

Loker and Perdue (1992) classify tourists according to their travel style. They proposed six tourist styles: excitement and escape, pure adrenalin excitement seeking, family and friends-oriented, naturalist (those who enjoyed nature surroundings), escape (those who valued the escape by itself), and an all encompassing group that liked all benefits.

I have also found that some scholars establish a connection among the type of tourists, the motivation of travel, and the type of souvenirs purchased. This matches my project even more. Initial research on souvenir purchase behavior was conducted by Littrell et al. (1994) who developed four tourist profiles: ethnic, arts, and people; history and parks; urban entertainment; and active

	Motivation	Souvenirs they are likely to purchase
Ethnic, arts, and people	Travel as an opportunity for education and personal development.	jewelry, local foods, antiques, and books
History and parks	Travel for history or nature's beauty	crafts, postcards, books about the area, local foods, and items chosen as part of a collection
Urban entertainment	They were motivated by being constantly active.	markers such as T-shirts or other mementos
Active outdoor	Their motivation was to be vigorous outdoor enthusiasts	T-shirts, sweatshirts, and items that originated in nature

Figure 7: The motivations of these four tourist profiles and the souvenirs they are likely to purchase

outdoor.

The motivations of these four tourist profiles and the souvenirs they are likely to purchase have also been studied and summarized (See Figure 7).

2.1.3 Museum Visitors

Dr. John H. Falk has a lot of experience in research on museum visitor studies. He summaries five basic identity related categories of leisure benefits that they perceived emerged: Explorers, Facilitators, Experience Seekers, Professionals/Hobbyists, and Rechargers.

A. Explorers: visit museums because it interests them and appeals to their curiosity. They highly value learning but are not an expert. This is the group most likely to be attracted by a new exhibit and the rare items on display appeals to their desire to expand their horizons. They comprise a large number of visitors.

B. Facilitators: visit museums in order to satisfy the needs and desires of someone they care about rather than just themselves. This group is price conscious and aware of time. The primary objective of this motivation is to ensure their companion is satisfied.
Two sub-groupings which are Facilitating Parents who come with kids or grandkids and facilitating Socializers who come with another adult (spouse, friend, visiting relative).

C. Experience Seekers: are 'collecting' experiences. They want to feel like they've 'been there' and they've 'done that' – they want to see the destination, building, or what's iconic on display. They are often tourists but could just be looking for fun things to do on the weekend.
It is worth mentioning that except for the large iconic museums and most museums don't attract large numbers of

Experience seekers.

D. Professional/Hobbyists: Represent the smallest category of visitors but they are very influential. Could be museum professionals, art and antique collectors, teachers, artists, etc. They come with a goal in mind and are on a mission.

E. Rechargers: visit in order to reflect, rejuvenate, or just bask in the wonder of a place. Art museums, botanical gardens, aquariums have lots of these visitors. See museums as places that afford them the opportunity to avoid the noisiness of the outside world.

Key takeaway

This project involves users and consumption. Therefore, before formulating the research plan, I conducted literature research in these two areas. Through literature research, I quickly constructed theoretical knowledge about users and shopping. At the end of this chapter, I summarize a hypothetical model. At the same time, research questions and research methods have also been proposed.

2.2 Consumer behavior

> "Consumer behaviour…… is the study of the processes involved when individuals or groups select, purchase, use or dispose of products, services, ideas or experiences to satisfy needs and desires.
>
> ---(Solomon,Bamossy et al. 2006, p6). "

Many scholars have studied the consumption process, and many shopping models have been proposed for special scenarios. However, there are few literatures that study and analyze the shopping process of museum stores. Therefore, the goal is to adjust the basic shopping process and apply it to this project.

2.2.1 EKB model

The Engel-Kollat-Blackwell (EKB) model (See left side of Figure 8) is a decision-making process. The EKB model is considered one of the most important works in the field of consumer behavior (Schiffman and Kanuk 2008).

It describes consumers' decision process and how decisions are made when choosing among a list of alternatives available.

EKB model basically consists of five sequential steps where information is processed before consumption decisions are made. The first stage starts with the need or problem recognition. This is followed by a search for alternative solutions that involve obtaining relevant information from various sources; both the external environment as well as the internal self (e.g. memory and experiences). The third stage involves the evaluation of alternatives that is subjected to the consumer's personal criterion in deducing the preference. Once the decision is made, the consumer moves onto the fourth stage where the purchasing of the selected alternative takes place. The final step involves post-purchase evaluation.

So I tried to apply this model to my project. I conducted a small-scale informal interview. I asked the participants (n=5) to describe the process of buying a souvenir at a time. Through this investigation, two problems (See right side of Figure 8)were found, which means that this model cannot be perfectly applied in this project.

The first problem is that we can see the basic framework of the EKB model begins with the state of unfulfilled needs and wants (Benjamin Appiah Osei & Ama Nyenkua Abenyin 2016). However, some tourists do not have clear needs.

The second problem is, because of the unfulfilled needs, so customers will buy it. However, in this project, some tourists do not necessarily purchase souvenirs.
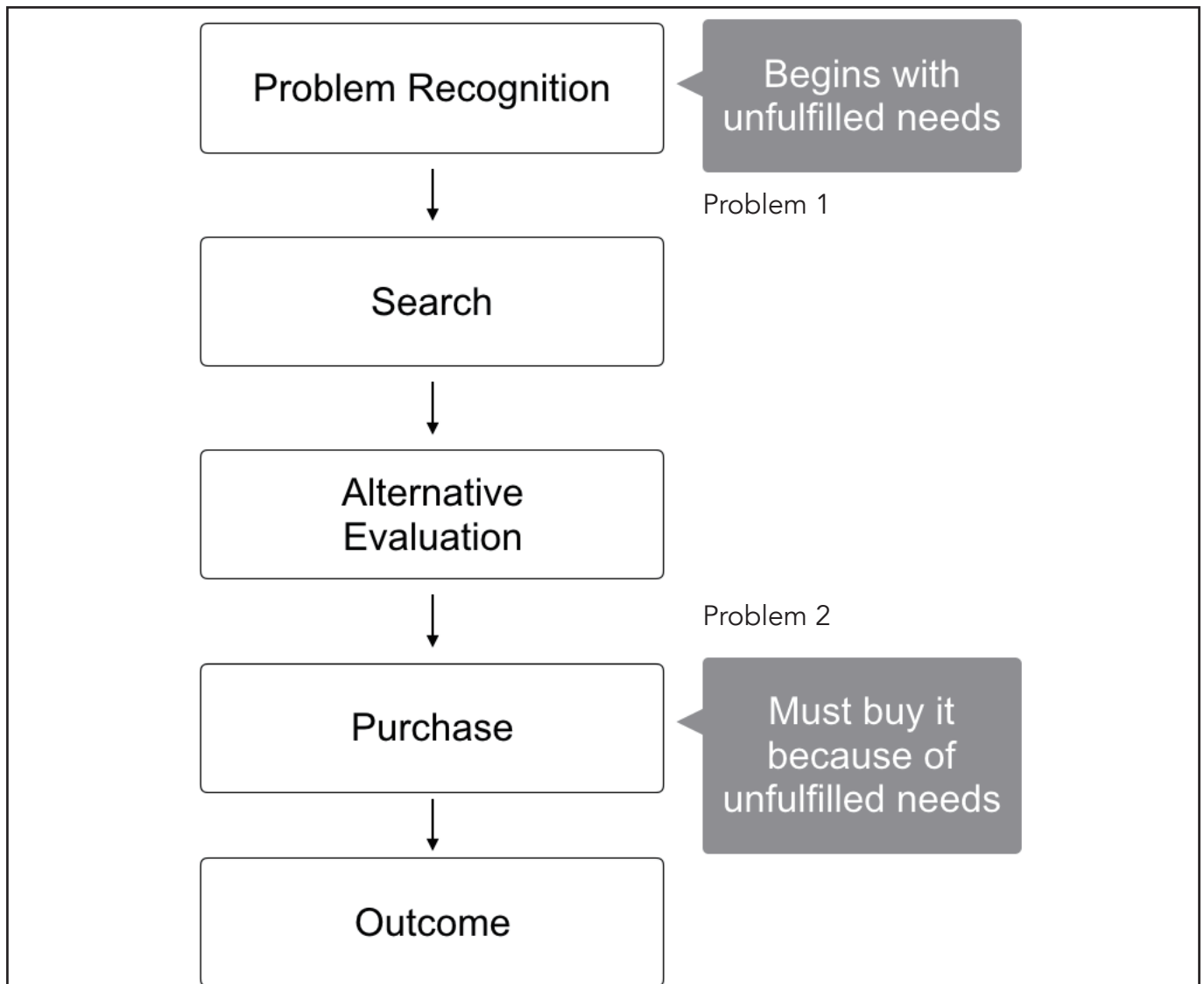
2.2.2 Leisure shopping

Figure 8: EKB Model

In further research, I found that many scholars have proposed the concept of leisure shopping.

They think non-essential shopping is seen by consumers as being a leisure activity. They pointed out that new market models can be developed which could be a synergy by combining leisure with shopping.

Key takeaway

Therefore, although EKB model is widely accepted, because of these two problems which are mentioned before, it does not suit to all visitors. Therefore, the concept of casual shopping can complement it well. Both will be considered in the hypothetical model.

2.3 Effect factors

With the EKB Model, environmental factors are additional variables that influence the formation of consumer decisions. In the research of many scholars, various influencing factors have been proposed. I will collect these factors and summarize them to better influence the project. Therefore, in the following model, instead of the structure of the model, I would like to focus on the factors which be mentioned.

2.3.1 literature review

Figure 9 shows the Theory of Buyer Behaviour (Howard ANDSheth 1969), factors are divided into two parts. The environmental influences identified include culture; social class; personal influence; family and situation. While the individual influences include: Consumer resource; motivation and involvement; knowledge; attitudes; personality; values and lifestyle (Blackwell, Miniard et al. 2001).

In figure 10, the model of Buyer Behavior (Howard ANDSheth 1969 and Loudon ANDDella Bitta 1993).
Input variables are the environmental stimuli that the consumer is subjected to, and is communicated from a variety of sources. Significative stimuli are actual elements of products and brands that the buyer confronts (Loudon ANDDella Bitta 1993), while symbolic stimuli refer to the representations of products and brands as constructed by marketers through advertising and act on the consumer indirectly (Foxall 1990) (Howard ANDSheth 1969). Social stimuli include the influence of family and other peer and reference groups. The influence of such stimuli is internalized

by the consumer before they affect the decision process.

Exogenous variables (as depicted at the top of the model; figure 10) outlines a number of external variables that can significantly influence decisions. As these factors are likely to depend, to some degree, on the individual buyer they are not as well defined by Howard and Sheth (Loudon ANDDella Bitta 1993).

2.3.2 Classification

By classifying the collected factors (See Figure 11), I summarized four types of factors: personal value, social influences, situational factors, and economic factors.
A. Individual differences or characteristics such as motives, values, lifestyle, and personality
B. Social-cultural factors such as culture, social class, reference groups, and family
C. Situational factors such as staff, environment, location, and exterior shopping environment
D. Economic factors such as price

Key takeaway

The four types of factors I summarized will be used in the hypothetical model.
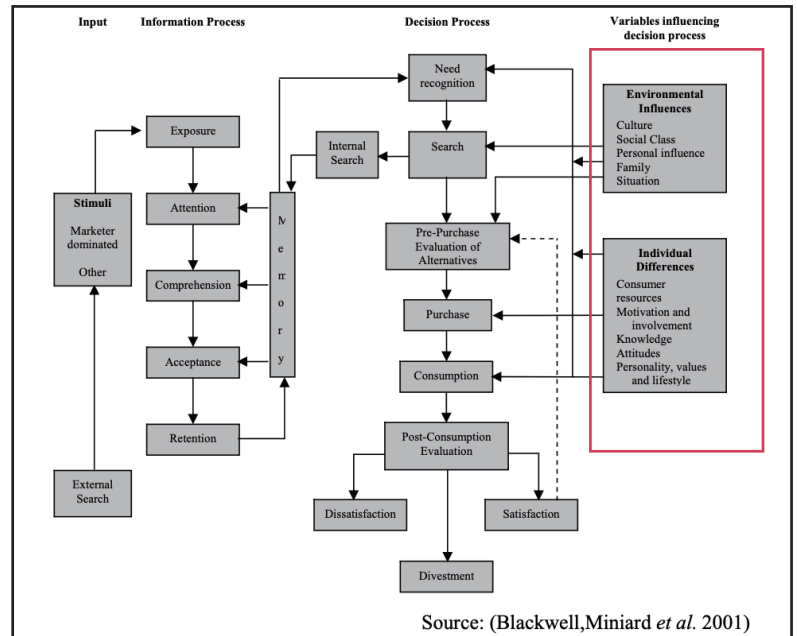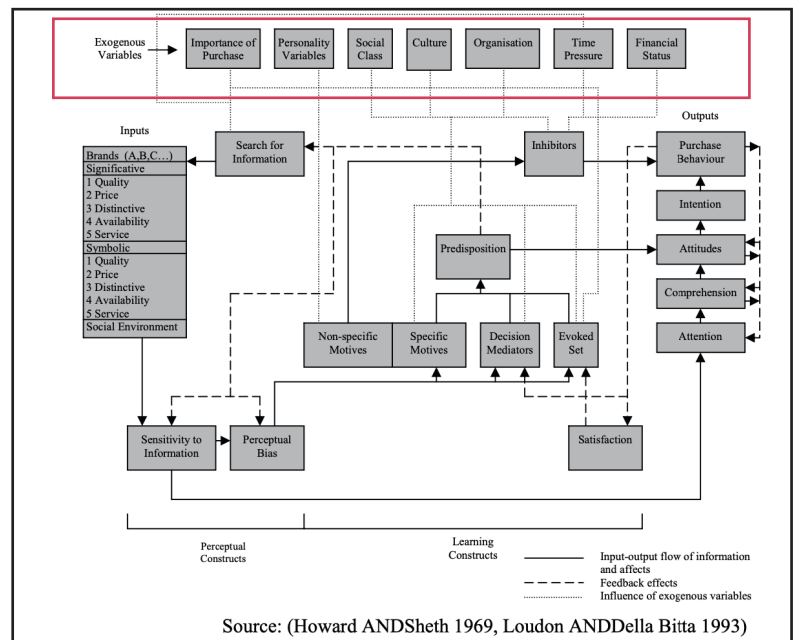
Figure 9: The Theory of Buyer Behaviour
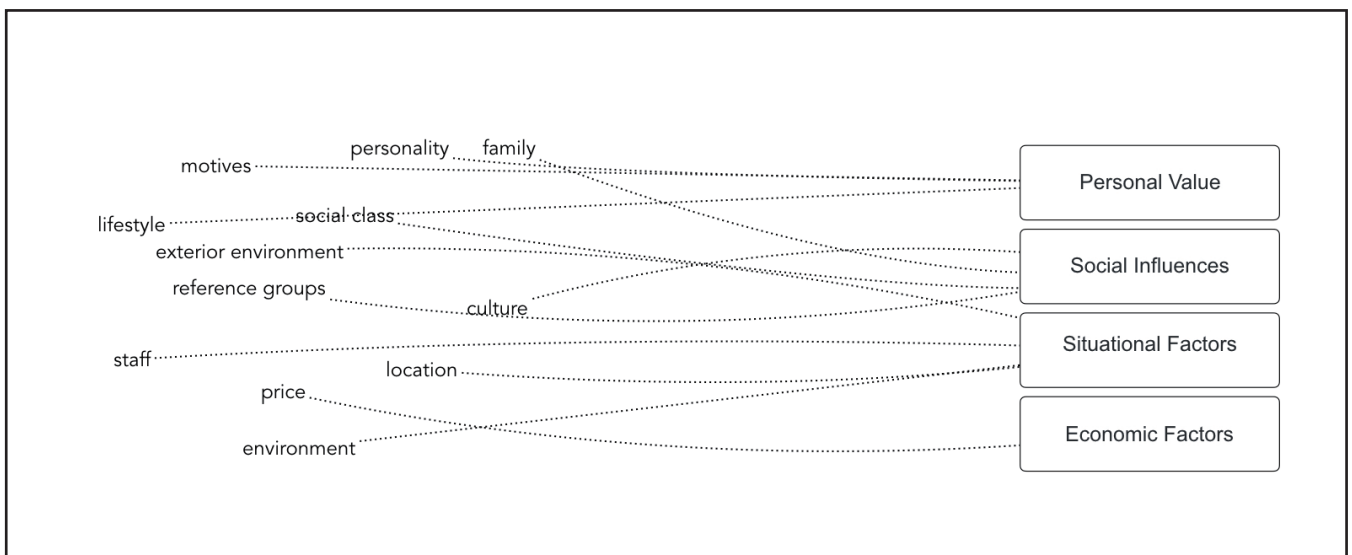

Figure 10: The Model of Buyer Behavior

Figure 11: Classification of Collected Factors

External Factors

Decision-Ma

Personal Value

- Individual Characteristics
- Motivations
- Attitude Towards Shopping

Social Influences

- Culture
- Reference Group
- Family

Situational Factors

- In-Stores: products, staff, environment
- Out-Stores: location, exterior shopping environment

Economic Factors

A. Shopping with needs

Problem Recognition

↓

Search

↓

Alternative Evaluation

↓

Purchase

↓

Outcome

Figure 12: Hypothetic Model

2.4 Hypothetic Model

aking Process

B. Leisure shopping

Hang around
↓
Attracted
↓
Search
↓
Alternative Evaluation
↓   ↓
Purchase   Not Purchase
↓   ↓
Outcome   Outcome

Based on the previous literature research, a Hypothetical Model (See Figure 12) is to be developed. This model contains two parts: the decision-making process and external factors.

2.4.1 Decision-making process
It contains two processes that are suitable for different user groups. If the user has a clear purchase requirement, the EKB model can be used very well (left side of Figure 12: Process A). The process on the right side of Figure 1(Process B) is designed for users who do not have a clear purchase need.

There are two main differences.
The first difference is at the beginning of the process. In Process B, user hang around, then they are attracted by a product. However, Process A begins with user needs.
The second difference is at the end of the process. Obviously, in Process A, users will purchase products after selecting and comparing them. However, in Process B, it is possible that consumers do not purchase.

2.4.2 Effect factors
Effect factors are broken into 4 parts: personal value, social influences, situational factors, and economic factors.

However, this is only a rough model, for example, these effect factors affect which stages of the decision-making process has not been reflected. This will need to be researched.

Key takeaway

This hypothetical model maybe not correct, but it is a good overview for me to formulate research questions and research plans. And after research, I can make adjustments and improvements.

2.5 Research Questions

Based on my hypothetical model and assignment, I formulated research questions for 3 aspects. (Redesign the museum shopping experience so that it fits the overall museum experience of Museum Catharijneconvent for museum visitors.)

2.5.1 User
What are user identities for the shop of Museum Catharijneconvent?

2.5.2 Shopping experience
What are the shopping processes for users?
What are the external factors which affect the shopping process?

2.5.3 Overall Museum experience
What is the process of overall museum experience for users?
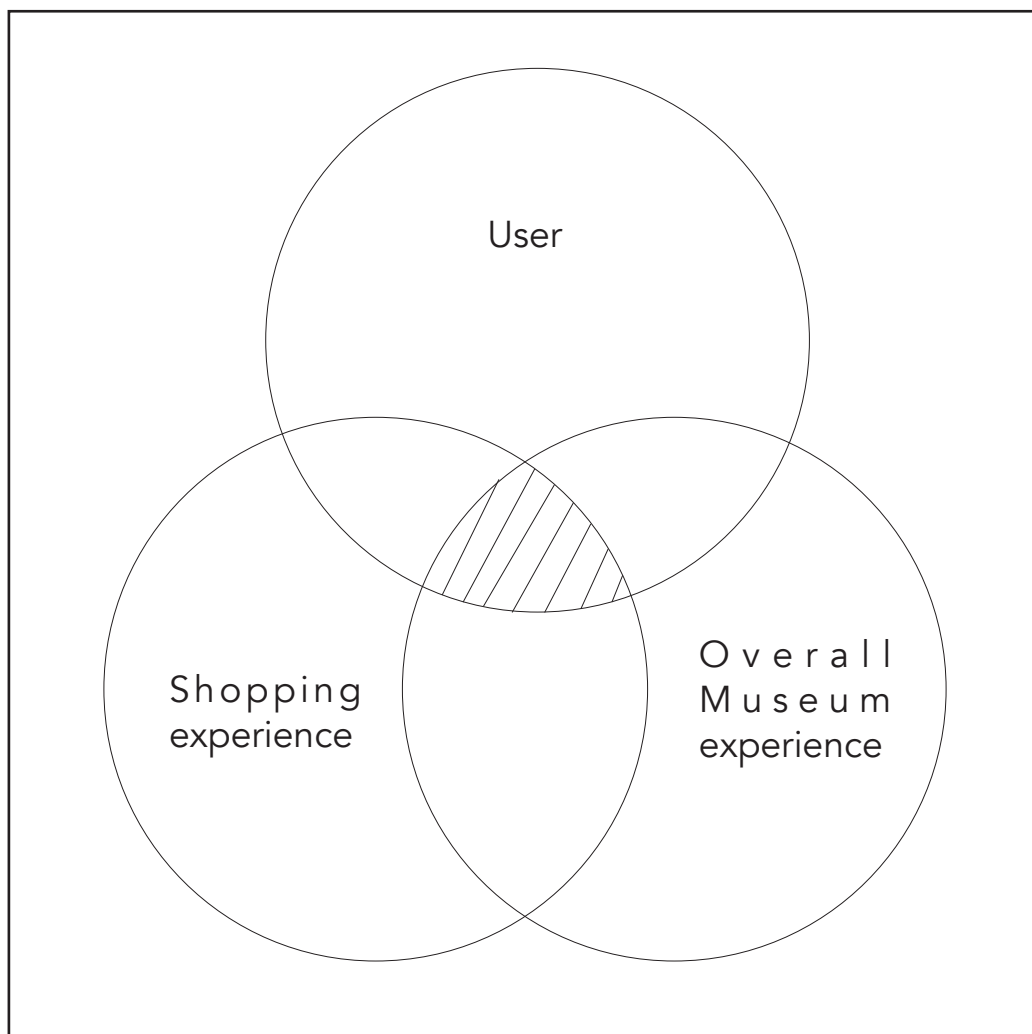What are the problems in the overall museum experience?

Figure 13: 3 Aspects of Research Questions

2.6 Research Plan

In order to obtain cohesive and convincing results. I used the following multiple methods.

2.6.1 Questionnaire
The questionnaire research makes it possible to cover a large group at the same time. It can be used as a preliminary tool because data and insights which are gained from it are very helpful for conducting a depth study later.

2.6.2 Literature research
Literature research will be used to help in-depth understand of specific content. For example, in designing the questionnaire, a lot of information needs to be collected in order to form better and comprehensive options for participants. In understanding the existing museum experience, literature research is also the best choice.

2.6.3 Interview
Because the questionnaire research lack Personal Contact, it is not possible on the part of the researcher to collect the data of the feelings and reactions of the participants. In order to obtain more convincing insights, interviews are used in this project.

2.6.4 Online videos reviews
The video material contains more information than the article and recorded materials. Contexts, user behaviors, and even the emotions of people can be collected. When these types of information are needed, this method is used.

Chapter 3

Research and analysis

This chapter conducts in-depth research around the research question. Who is the user of the museum store? What does the user's shopping process look like? What external factors will affect the user's shopping process? Through analysis of literature research, online questionnaires, interviews and video materials, I got answers to these questions.
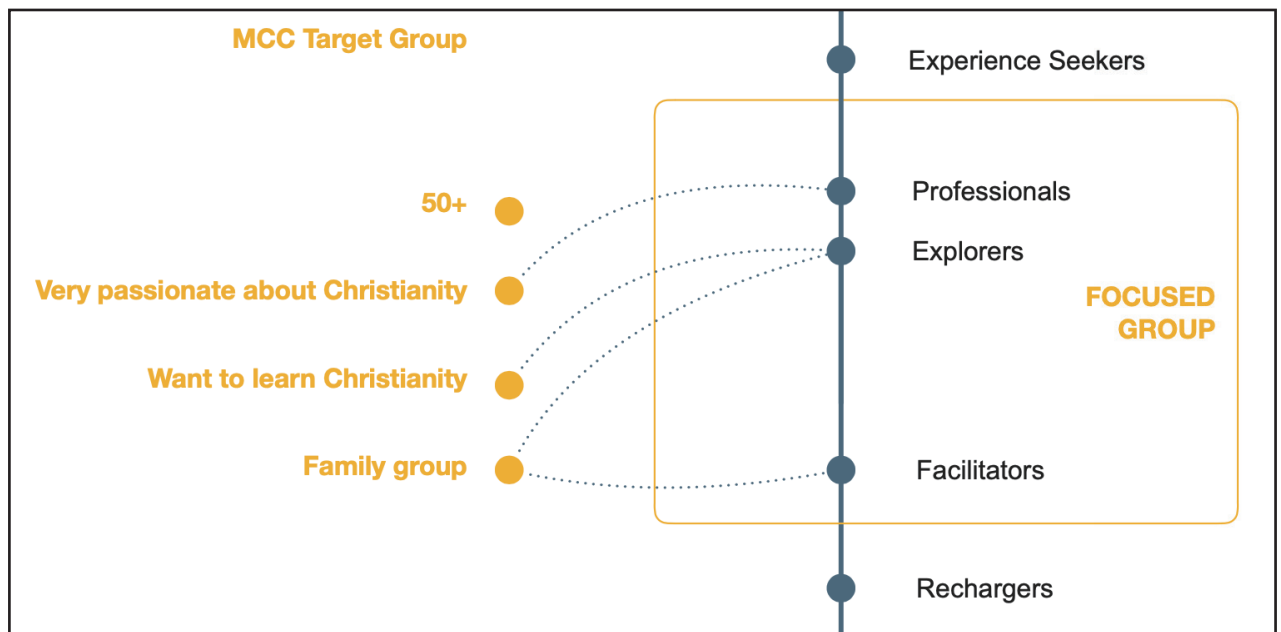
3.1 Questionnaire

Figure 14: 3 Aspects of Research Questions

3.1.1 Goal:
Quantitative research, research users, and summarize the user group through a large number of participants. (The complete Questionnaire is in Appendix E.)

3.1.2 Research questions:
a. What are the individual characteristics of users?
b. What are the motivations for visiting a museum and museum shop?
c. What are the motivations for buying souvenirs in a museum shop?
d. What is the attitude towards shopping?

3.1.3 Pre-analysis:
Focused group: MCC visitor
Because this is an assignment for MCC, it is necessary to understand the existing users of MCC. The focused group are formulated, there are two reasons. First, I

can know whether the participants in the online questionnaire survey match the users of MCC. Second, according to the focused group, research insights can be presented more efficiently.
The left side of Figure 14 shows the high-frequency keywords that describe MCC users (from Chapter 1). The right side of Figure 14 shows the five identities of the museum visitor identities proposed by Dr. John H. Falk in Chapter 2.
By analyzing and matching the keywords, the focused groups of the project are summarized. They are professionals, explores, and facilitators.

3.1.3 Recruitment
In the questionnaire research, in order to obtain sufficient data for quantitative analysis. Therefore, the requirements for participants are very relaxed. Visitors to any museum are welcome to participate in the research. Question

Name: Lily
Age: 25 years old
Education: Master degree
Job: Teacher
Hobbies: Reading, Photographing, Watching movie, Traveling

"
*I **love** visiting the museum shop.
I will **buy one or two souvenirs** there.* ”

The souvenirs I usually buy are:

Pictorial image(e.g., picture postcards) | **Markers depicting by symbol the place** | **Symbolic crafts(e.g., Eiffel Tower)**

Before buying, Those elements I will consider:

Price | Size | Portability | Usable upon returning home

Explorers
I am curious about Christianity. Visiting the MCC is a great learning opportunity.

Name: Henry
Age: 62 years old
Education: Bachelor degree
Job: Retired
Hobbies: Climbing, listen music

"
*I **love** visiting the museum shop. I don't buy souvenirs every time, but sometimes, I buy 1 or 2 souvenirs as gifts for family and friends.* ”

The souvenirs I usually buy are:

Pictorial image(e.g., picture postcards) | **Gemstones or jewelry** | **Local products(e.g., foods and clothing)**

Before buying, Those elements I will consider:

Usable upon returning home | Portability | Fragility | Size

Facilitators
Visiting MCC is a good way to spend time with the family. They can learn so much.

Name: Mark
Age: 43 years old
Education: Bachelor degree
Job: Assistant accounting
Hobbies: Reading, Going to Church, Running

"
*I hope to **discover and purchase** products related Christian.* ”

The souvenirs I usually buy are:

Markers depicting by symbol the place | **Collectibles**

Before buying, Those elements I will consider:

Size | Fragility | Portability | Price

Professional/ Hobbyists
I am passionate about the history of religion.
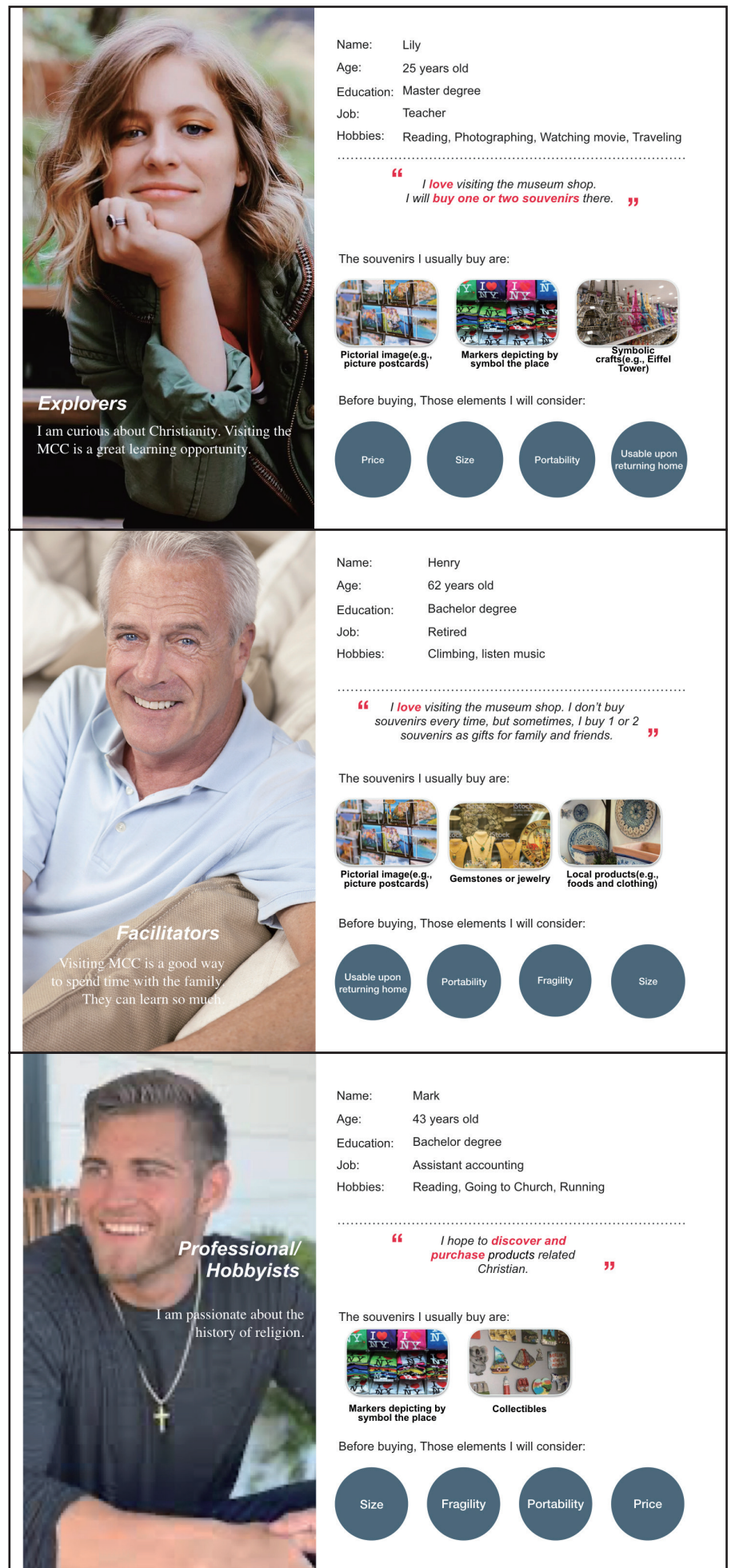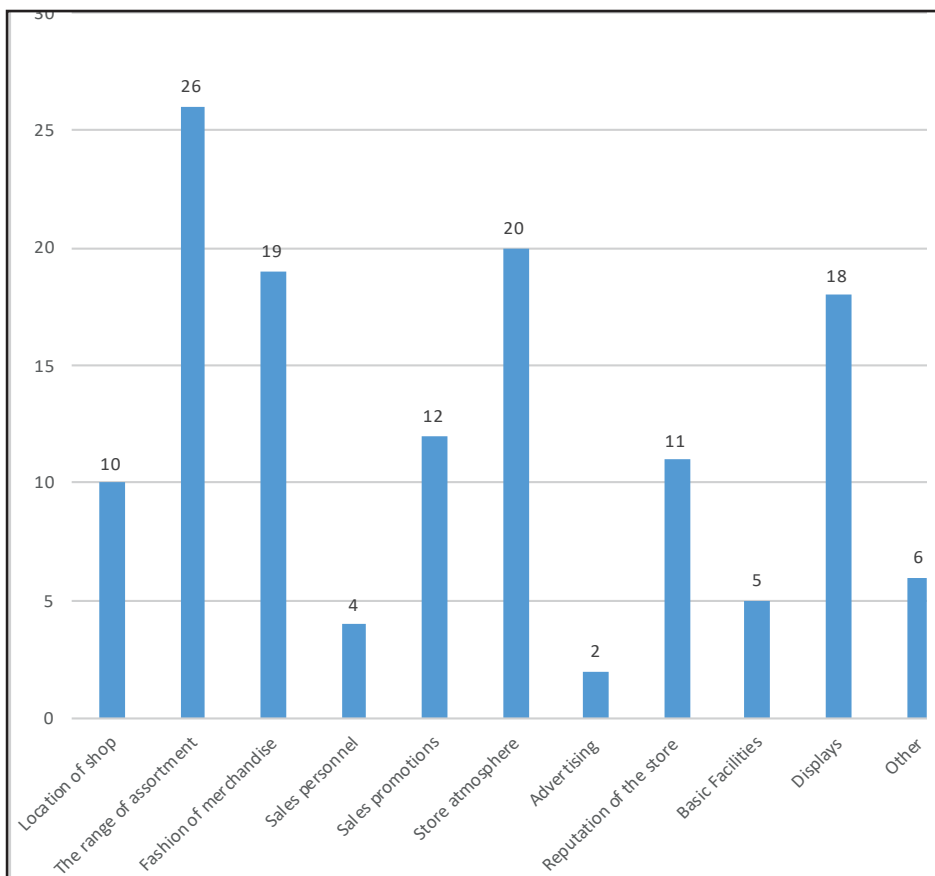
Figure 15: Personas

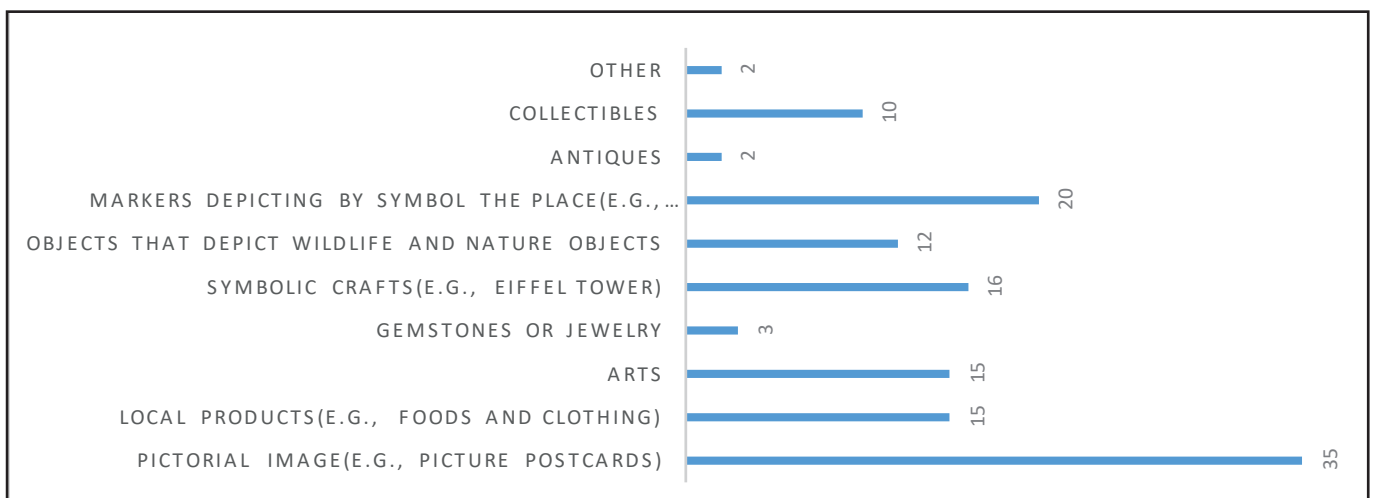Figure 16: 3 Elements of shop affect users

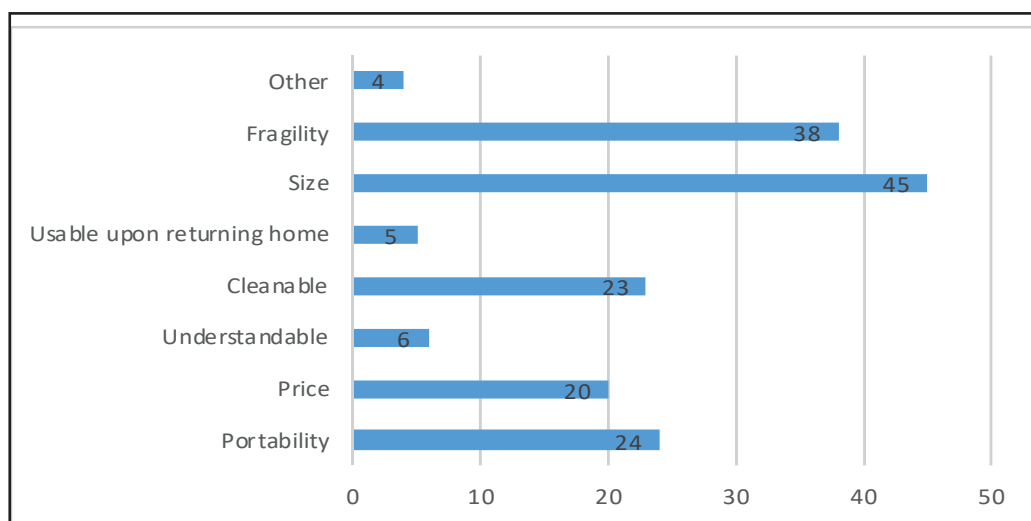
Figure 17: Types of products

Figure 18: Elements of products

1 in questionnaire (See Appendix E) is a question to filter participates.

However, some channels for distributing questionnaires may cause too many participants are the same type, which leads to inaccurate data. Therefore, the diversity of participants is considered when analyzing the questionnaire. The diversity of participants can be checked through the analysis of the questions in questionnaire(see Appendix C2 for more information).

In the end, 68 participants participated in the test.

3.1.4 Result
A. Personas
Persona is a tool that is used to build up a picture of users. It can help me understand user. Three personas of the user (See Figure 15) group are formulated.

The questionnaire data is classified and analyses based on 3 visitor identities. And 3 personas are summarized after analysis. The persona contains the following kinds of information: Motivation to visit MCC, Name, Age, Education, Job, Hobbies, Quotes, the souvenirs they usually buy, and elements they will consider before buying.

Among them, the motivation, name, and quotes are made by me, which is to make persona more real. The rest of the information is obtained through the analysis of the questionnaire.

B. Elements of shop affect users
As can be seen in Figure 16, the range of assortment is the most important factor, followed by the Store atmosphere. Displays and Fashion of merchandise will also have a relatively large impact. We can also find that the Research of the store and Advertising are the least important, which is very different from ordinary retail stores. This insight will play a big role in the design of the store

C. Products with local characteristics are the most popular
In insight B, the range of assortment was found to be a very important factor. Figure 17 shows the analysis of souvenir types. Obviously, of all types (which are summarized by literature research), Pictorial image, Markers depicting by symbol the place and Local products are very popular. These three factors are all related to local characteristics.

D. The portability of goods is very important to users
In Figure 18, many people think that size, fragility, and portability are the reasons they will consider. This means that products that are easy to carry are very important to participate. This insight may not be very useful to design. But it is good for understanding user psychology when shopping.

Key takeaway

Three user images are drawn. In the interview, the three identities of persona are a standard to find participants. Of course, these persons will also be used in the conceptual design later.

3.2 Interviews

3.2.1 Goal:
In-depth understanding of users and collect qualitative data.

3.2.2 Research questions:
a. What is the user purchase process?
b. What factors have affected user purchases?
c. How does the user's emotion change?

3.2.3 Recruitment
Participants of the interview are from questionnaire research participants. The questionnaire research allows participants to leave contact information if they are interested in participating in the interview. In the end, 6 participants participated in the interview.

3.2.3 Result
I summarize the data into the user journey (See Figure 19). This user journey includes stages, actions, emotions, and also factors.

A. Visiting user and purchasing user
The first insight is that users enter the museum shop for two different needs, "visit and purchase". P3 said, I don't want to buy anything, I like to look around in the store. But P2 does have a completely different behavior. He likes to collect fridge magnets. As soon as he enters the souvenir shop, he will start searching for fridge magnets.
So in this journey, two different types of users are summarised: visiting user and purchasing user. Because they have different needs, their actions in the shop are also different.

B. There is a difference between the stages of entering the shop and searching.
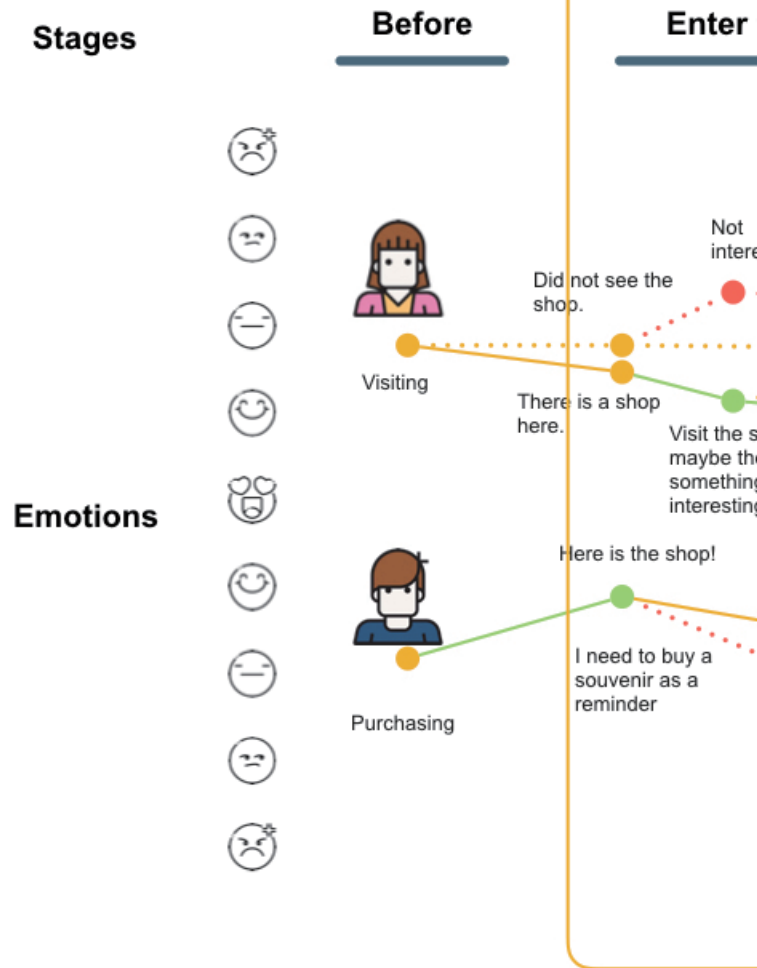For example, Purchasing Users are

Figure 19: Shopping journey

happy when they see the shop. However, visiting users are natural. Purchasing Users feel tired when searching for products for a too long time, but Visiting users enjoy the searching.
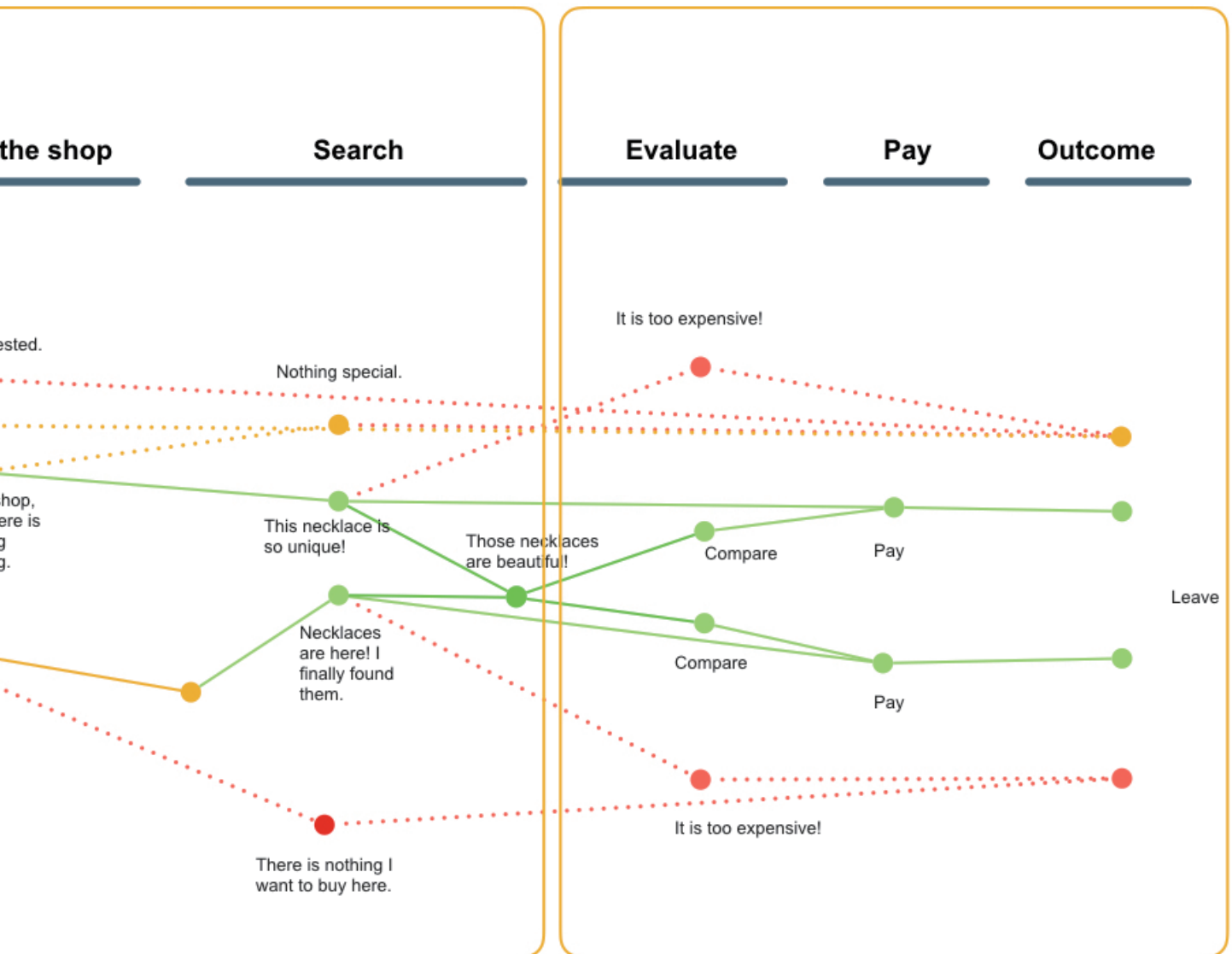
C. Actions are similar in the rest of the stages.
When users start to consider buying products, the difference in initial needs will not be reflected.

D. Main effect factors are different in different stages
In the beginning, personal value led to the different needs of users. In the next stage, Location, the Exterior and Interior shopping environment have a great influence. After that, the four factors of the shop affect the searching phase. This is based on the data of the

the shop | Search | Evaluate | Pay | Outcome

It is too expensive!

ested.

Nothing special.

shop,
ere is
g.

This necklace is
so unique!

Those necklaces
are beautiful!

Compare

Pay

Leave

Necklaces
are here! I
finally found
them.

Compare

Pay

There is nothing I
want to buy here.

It is too expensive!

questionnaire.
During evaluating, user more focus
on product factors such as size, price,
and quality of the product. I also found
out social factors affect the stages of
searching and evaluating.

Key takeaway

After analyzing the user journey, I decided
the scope that I will focus on the stage of
entering the shop and searching. There are
several reasons. First, the design effect can be
maximized. In these two stages, user emotions
can be greatly influenced by shop design,
because Situational Factors play an important
role in these two stages. Second, these two
stages are the basis of the remaining stages.
Therefore, they are very important Third,
when users start to evaluate products, the
main factors are about the products itself and
economics which are difficult to improve by
shop design.
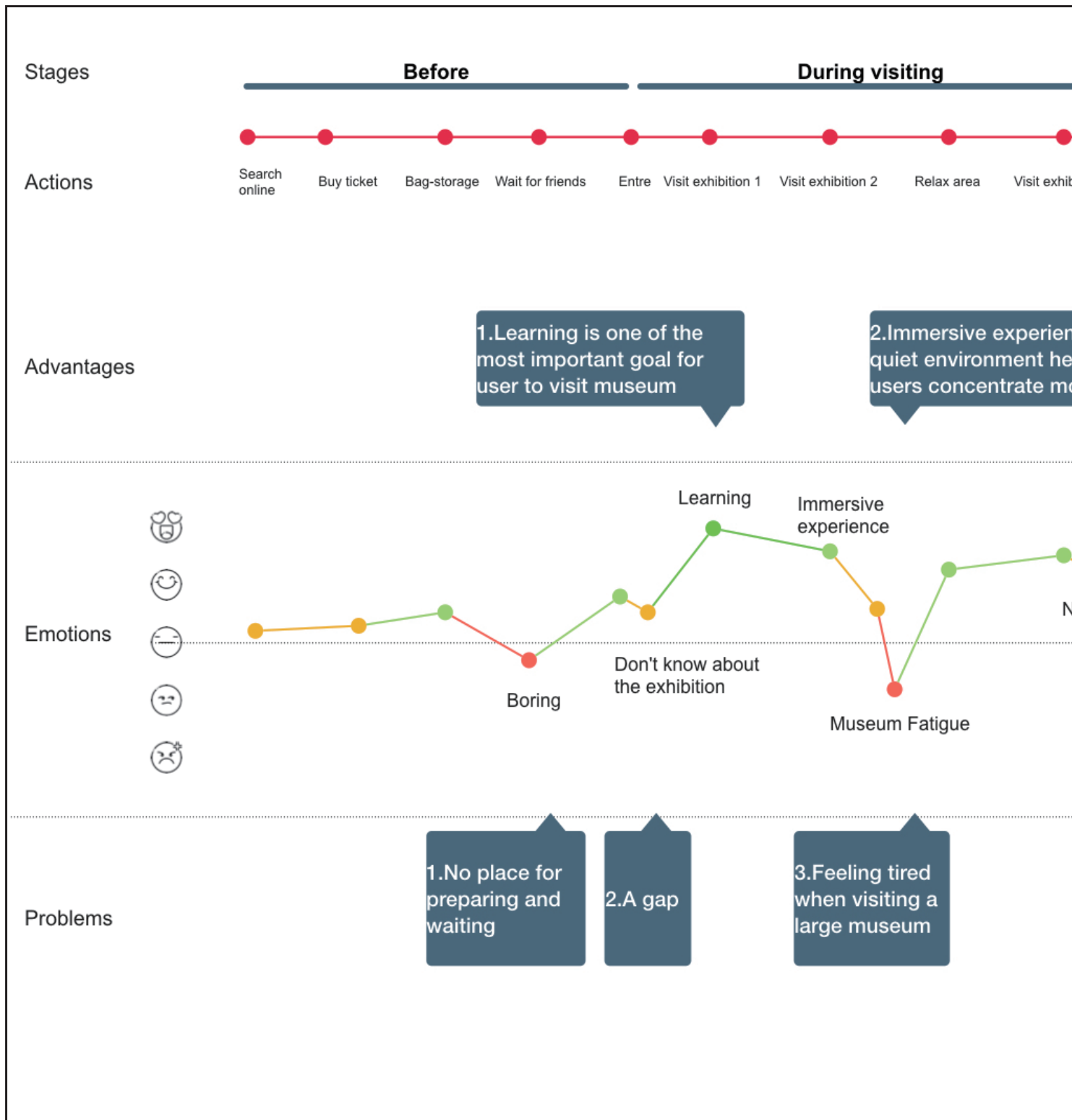
Figure 20: Overall Museum Journey

3.3 Video materials analysis + literature research

After

... | ...ition 3 | Finish visiting | Eat/Drink | Shop | Leave | Share

3.Social factors can trigger positive emotion

Relaxing and talking about exhibitions

...ce / ...lps ...re

...o highlight

Can't find interesting souvenirs

Do not remember anything

4.No gap here

5. No happy ending
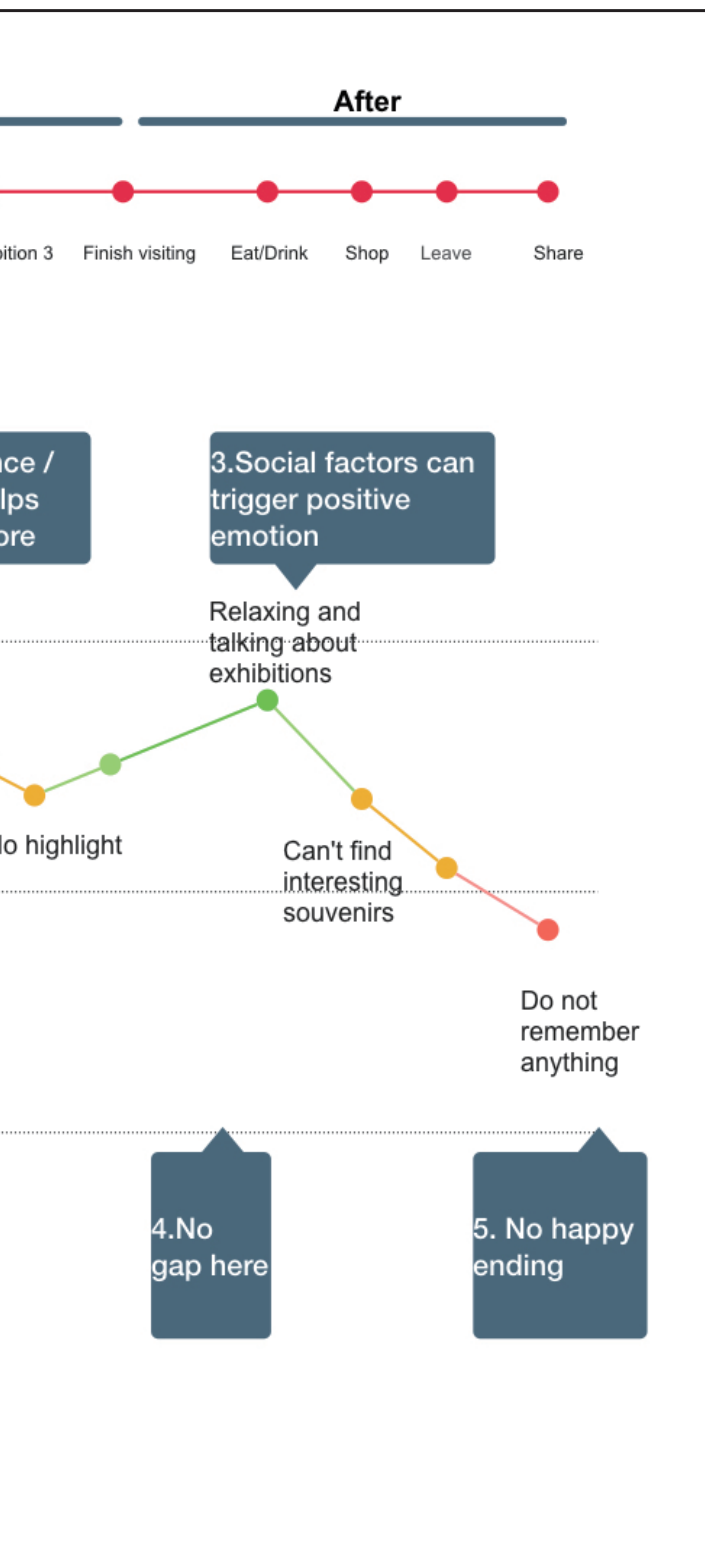
3.3.1 Goal:
Learn overall museum experience

3.3.2 Research questions:
a. What is the current process of a museum experience?
b. What are the problems in the current process?

3.3.3 Video material selection
On online video platforms, such as youtube, I search with the keyword "visit museum". When choosing a video, the video playback amount is not a factor that I will consider. The completeness of the video is the important factor I consider. This is because, in the end, a journey will be summarized, if the video is not complete, then the data may be not accurate. For example, people may only share the happy part of the video, which means that the problem is difficult to find in the entire journey. Finally, 3 videos were selected.

3.3.4 Analysis
First, I watch the video and write down some findings. After that, I summarized the findings into the journey. After the classification and summary, several insights are summarized.

3.3.5 Results:
This journey (See Figure 20) contains 3 stages and multiable actions. The emotions are also reflected. Based on the changes in emotions, the problems and advantages are summarized.

A. Learning is one of the most important goals for users to visit the museum.

B. Immersive experience / quiet environment of an exhibition can help users concentrate more.

C. Social factors can trigger positive emotions.

D. Lack a place for preparing and waiting

First, in the stage of before, some museums do not provide visitors with a place to prepare. So, users do not have the opportunity to plan the visit. Therefore they usually enter the exhibition directly without a lot of knowledge about the exhibition.

E. A small gap between the stages of before and during visiting

Insight D leads to this problem. When suddenly entering the exhibition, it is overwhelming for the user because of the unfamiliar environment and various artworks around the user. So, here is a small gap.

F. They may feel tired when visiting a large museum

G. Feel relax after visiting exhibitions

The next one is an insights that is very different from my expectations. I think that changes in the environment will make users feel there is a gap.

However, after research, I found that users have positive emotions after visiting the exhibition. Because the traditional museum exhibition environment is serious and quiet. This helps users to

Key takeaway

After analyzing this journey, I can decide, in my project, when museum visitors enter the shop in this overall journey. I decided the shop can in the stages of before or after visiting. There are several reasons. First, MCC is a medium-scale museum. It does not make sense to interrupt visiting. Also, the problems are concentrated in these two stages. It means there are opportunities to improve. .

Chapter 4

Design direction

After the research phase, the project enters the design phase. In this chapter, the design goals and interaction vision are presented. The storyboard is also used to establish a clear ideal situation.

Figure 21: Research Insights Summary

4.1 Design goal

Based on the research insights (See Figure 21), initial design goal is proposed.

4.1.1 Initial design goal
In the beginning, two design goals were proposed.
a. Design a shop/area that allows users efficient purchase and explore spontaneously for preparing the visit before entering exhibitions.
b. Design a shop that allows users efficient purchase, communicate and reflect their impressions in exploration of the shop after visiting exhibitions.

4.1.2 Explore
A small brainstorm was organized to explore these two design goals. In total, 3 designers participated in the brainstorming. The advantages and disadvantages are listed from the designer's perspective. At the end the feedback and comments received were summarized.

Design goal 1:
+ It is nice to have a preparation area
+I may buy products related to the exhibition in the shop.
-I want to visit the exhibition first because this is my main purpose.
-Visiting the shop first may cost me too much time.
-I don't know what to buy because I haven't seen any artwork

Design goal 2:
+Enter the store, usually the last trip. This seems to be common sense.
+It seems to be a sign that this is the end of a journey

Key takeaway

So, I chose the second design goal. Because this is more common for visitors.

4.2 Interaction Vision

The interaction vision (See Figure 22) is "Audiences are watching Easter Eggs"

For Easter Eggs: it is the post-credit scene which is played after the main movie. It usually plays some informal extra film fragments or a small clip to arouse viewers' expectations for the coming movie.

There are 4 feelings that can be seen.

A. Relaxed: The main film has been watched.

B. Surprise: This is the unexpected part.

C. Free: The audience can choose to leave or continue to watch.

D. Happy: The content of the Easter eggs is interesting.

I hope the museum shop can be Easter Eggs after visiting the exhibition. Visitors are relaxed, surprised, and happy in the shop. And they are also free and can leave at any time.

Figure 22: Interaction Vision

4.3 Storyboard

The storyboard is used to show the ideal situation.

Visitors plan to visit the museum.
After the visit.

They want to enter the shop. They can buy things and leave quickly.
But If they have time, they will be willing to spend a little more time visiting the shop.

They can find interesting things, they will share their views on the exhibition, they may also find something they want to buy.
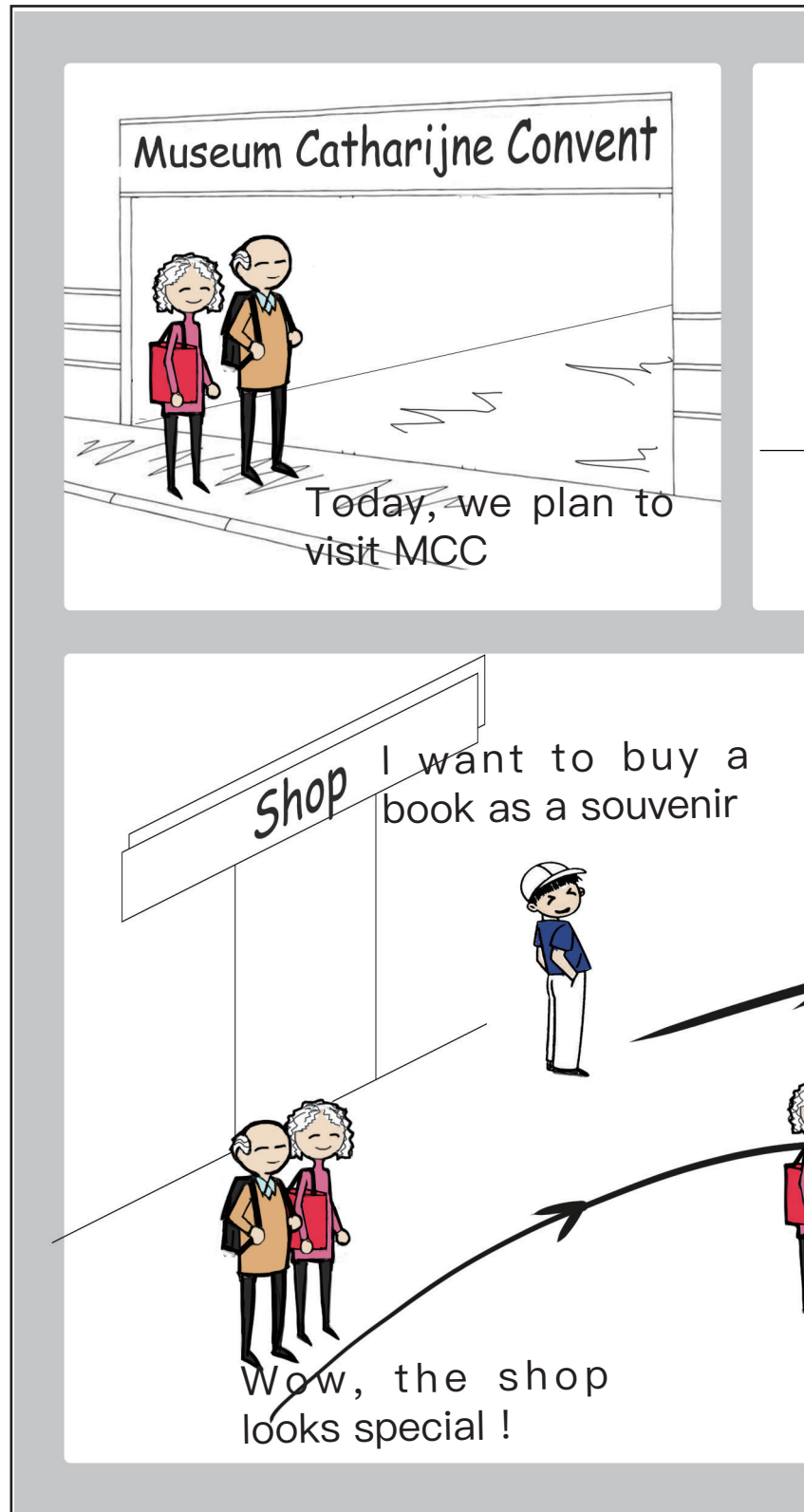
Figure 23: Storyboard

46

Exhibition

As plan, we enter the exhibition

Visiting the exhibition

Find it !

Checkout counter

hhh, Interesting

What is the difference between Christianity and Catholicism?

I want to buy this

Chapter 5

Ideation

At the beginning of this chapter, I propose the process of ideation (Figure 24).In the first step, some specific questions are set. After that, brainstorming and co-create session were used to get a lot of ideas. After that, I review and analyze all ideas. Finally, I formulate a complete concept.
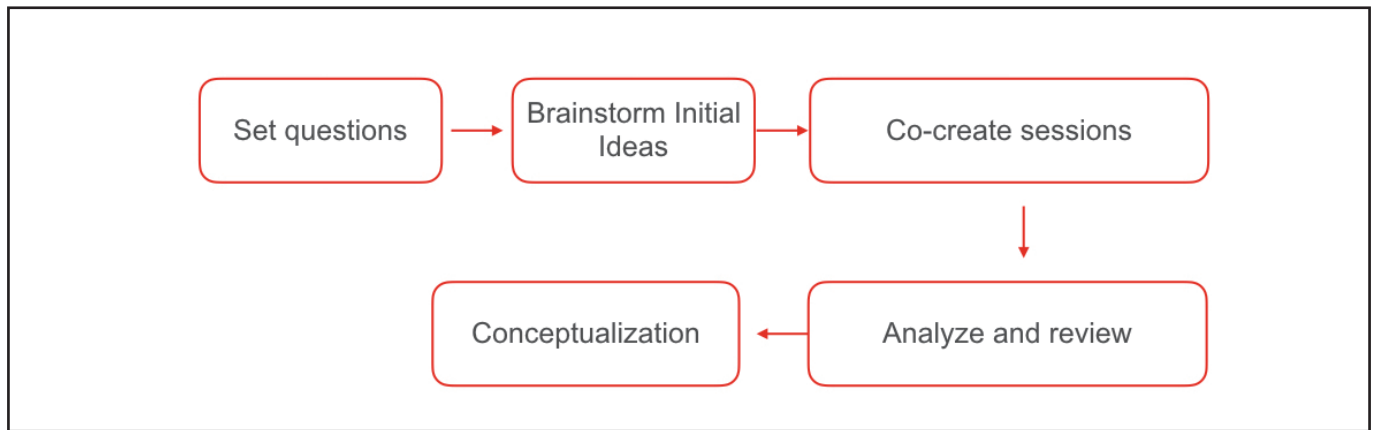
Figure 24: The Process of Ideation
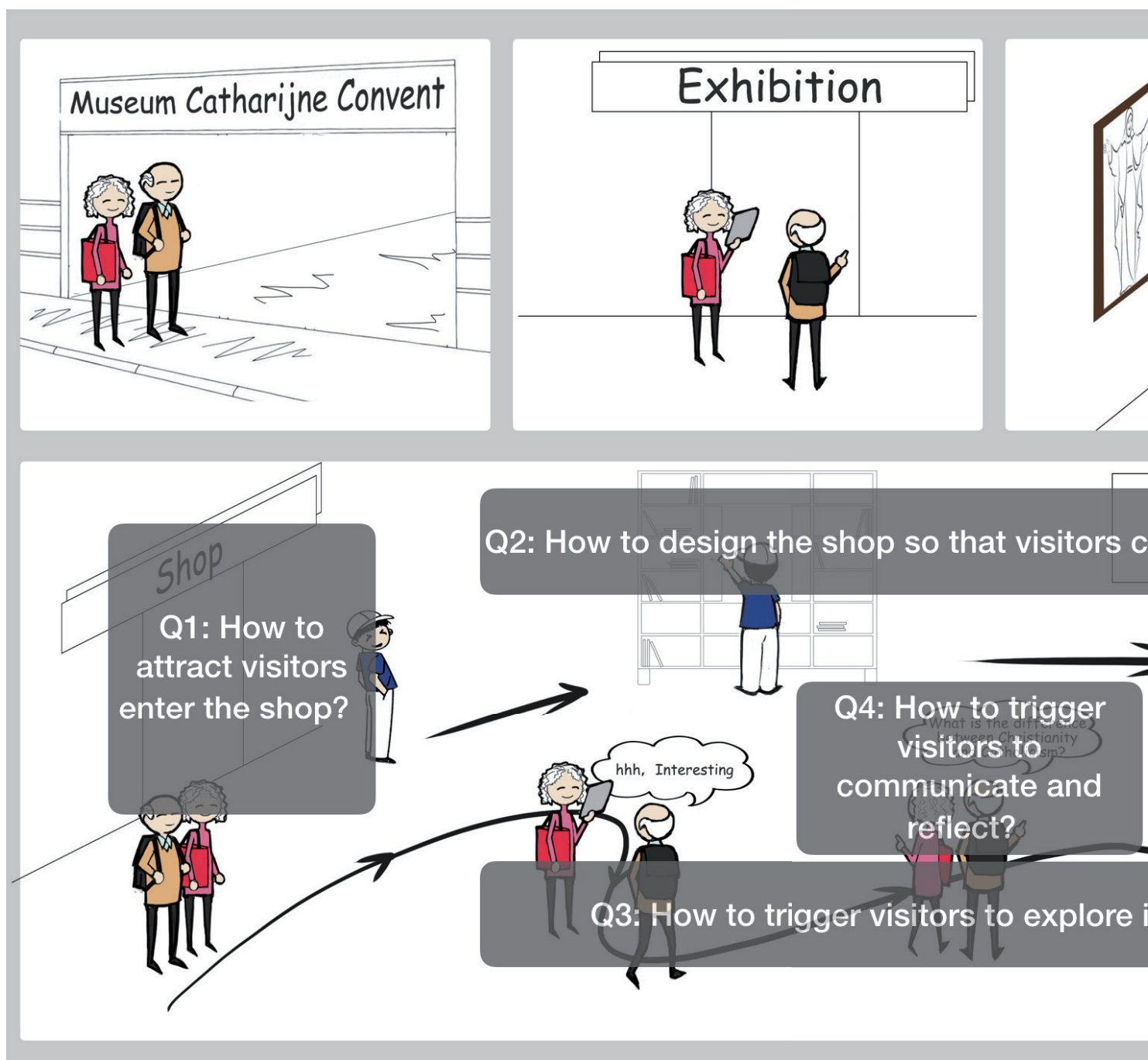
Figure 25: Set Questions

5.1 Set up questions

In order to achieve the ideal situation, four questions are formulated (See Figure 25).

Q1: How to attract visitors enter the shop?
Q2: How to design the shop so that visitors can buy efficiently?
Q3: How to trigger visitors to explore in the shop?
Q4: How to trigger visitors to communicate and reflect?

Checkout counter
an buy efficiently?

I want to buy this

n the shop?
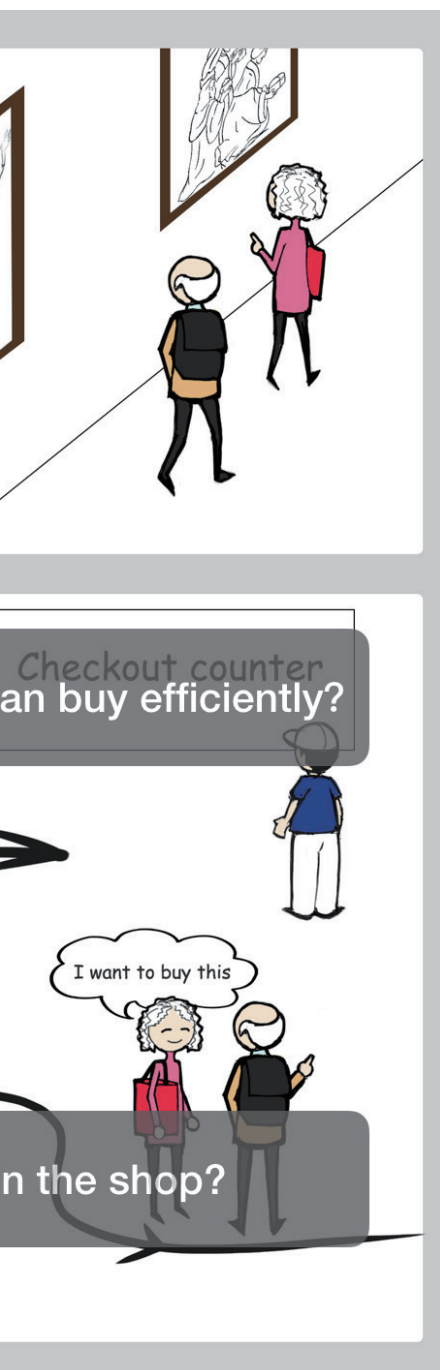
5.2 Collect ideas

5.2.1 Goal
In order to gain more ideas.

5.2.2 Set up
Co-create sessions are arranged online. Miro is an online tool that is used. In total, 6 designers participate these sessions.

5.2.3 Process
First I introduce my project, before brainstorming ideas, I propose a problem which needs to be solved, then participants brainstorm. After that, everyone shared their ideas and we discussed together. At the end of the session, we grouped, selected, or evaluated ideas. (more information can be found in Appendix I).

5.2.4 Results
A lot of ideas are collected (See Figure 26). These will be elaborated in the rest of this chapter.

Figure 26: Ideas which are collected

5.3 Review and analyze ideas

Idea A — Strange/special products
Idea B — Interesting/beautiful products — it is beautiful
Idea C — Curiousness — what's this? The door to future
Idea D — Meet the needs of users — I want to buy a cup. There is a cup here! show me!
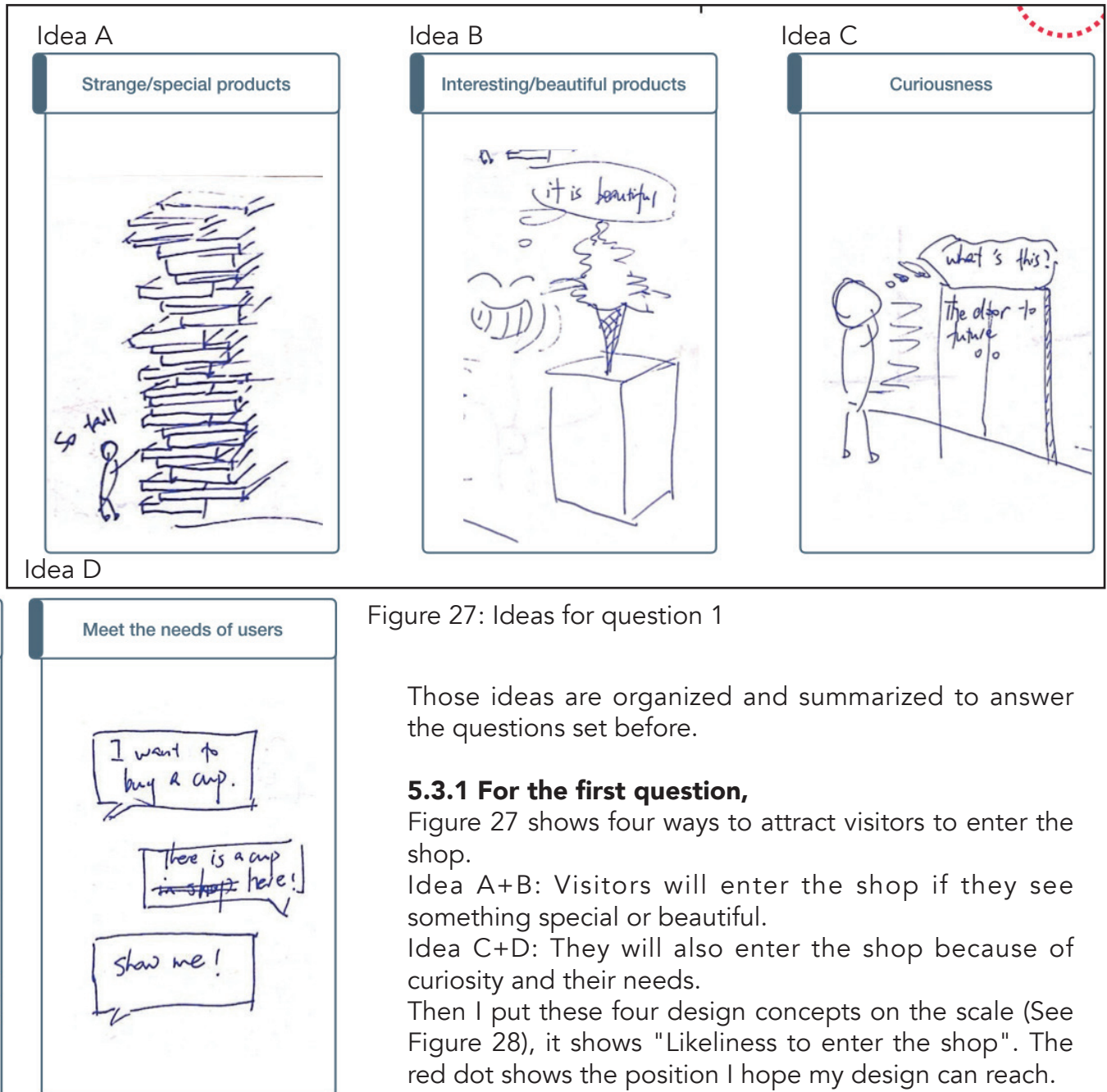
Figure 27: Ideas for question 1

Those ideas are organized and summarized to answer the questions set before.

5.3.1 For the first question,
Figure 27 shows four ways to attract visitors to enter the shop.
Idea A+B: Visitors will enter the shop if they see something special or beautiful.
Idea C+D: They will also enter the shop because of curiosity and their needs.
Then I put these four design concepts on the scale (See Figure 28), it shows "Likeliness to enter the shop". The red dot shows the position I hope my design can reach.

Likeliness to enter the shop

Low — Idea A — Idea B — Idea C — Idea D — High
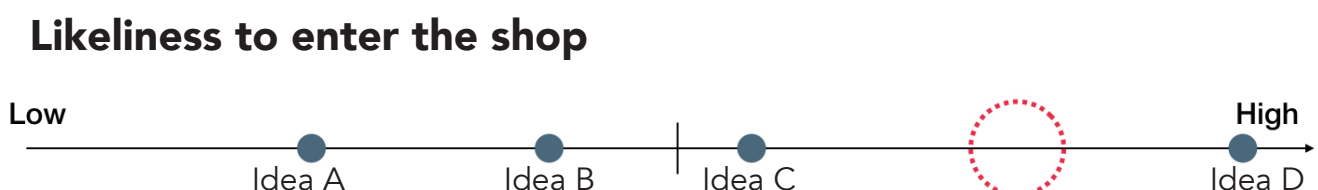
Figure 28: The scale of likeliness to enter the shop

Idea A   Idea B   Idea C

Clear guidance   **Clear classification**   **Short route**
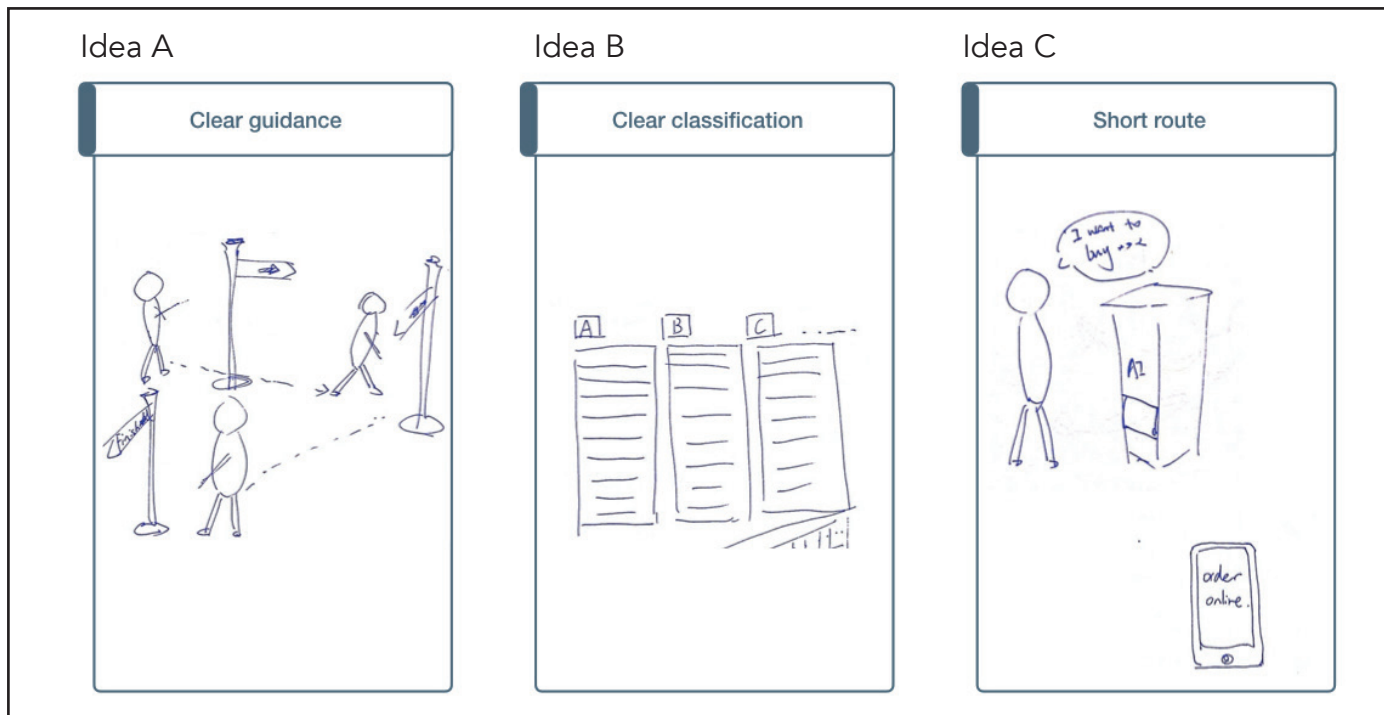
Figure 28: Ideas for question 2

Idea A   Idea B   Idea C

Fixed route   **Gifs**   **Curiosity**

Figure 29: Ideas for question 3

Idea D

Help users to find what they want to buy
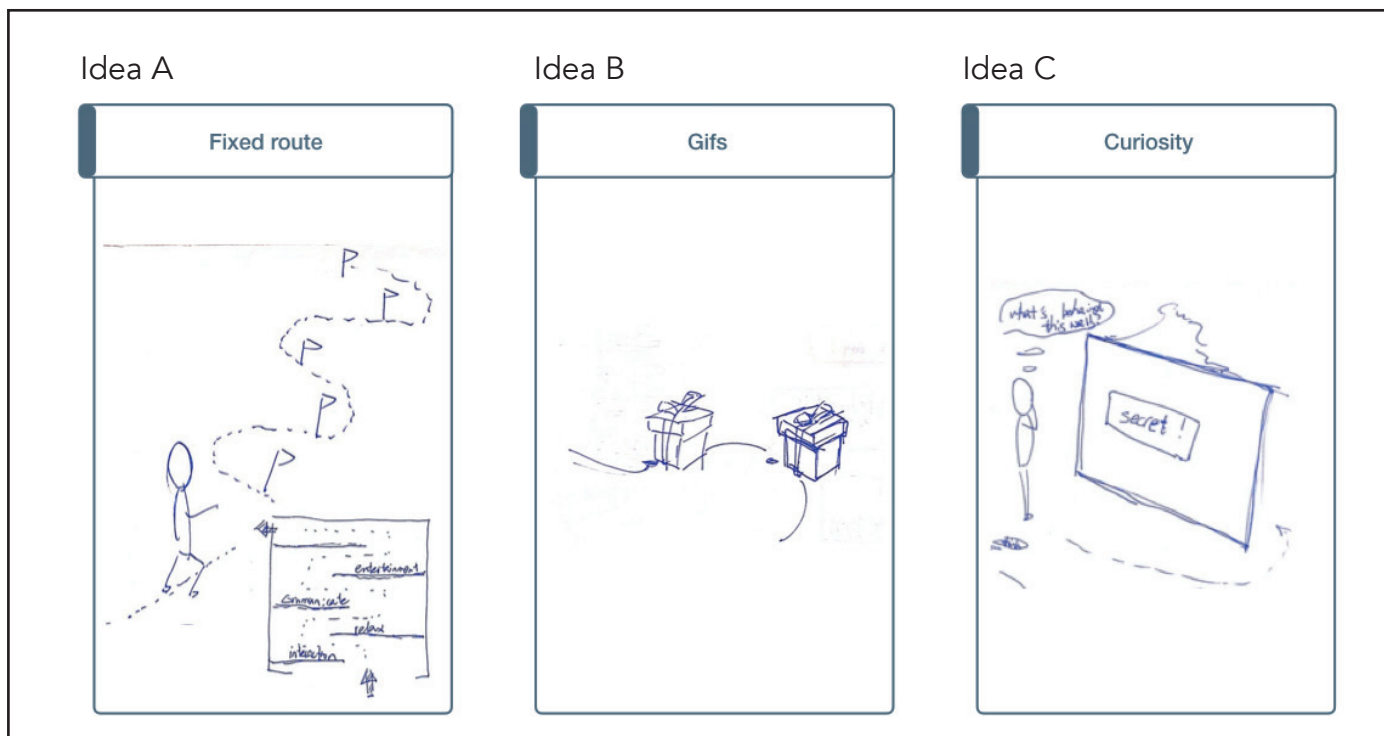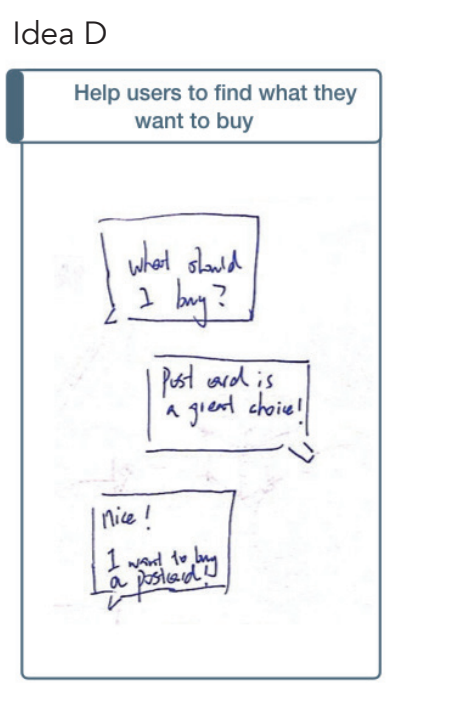
5.3.2 For the second question,
Idea A+B: Appropriate guidance and classification are important.
Idea C+D: Of course, the route the user moves in the store will also affect the efficiency of the purchase.

Idea D

Area with different features/ functions
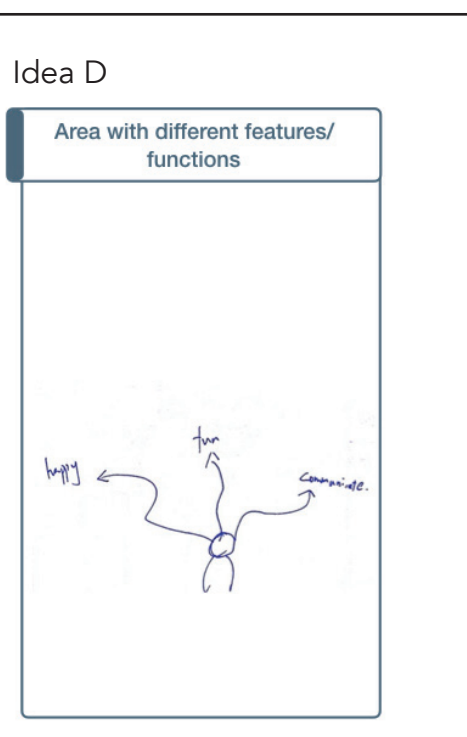
5.3.3 For the third question,
Idea A: Although setting a fixed one-way route allows users to explore the entire shop. But this is contrary to the free space that I want to create. Therefore, I will not use this concept.

Idea B: Gifts are also a good way to motivate tourists, but this requires additional costs. Therefore, this concept is also passed.

Idea C: Curiosity is a good way to guide visitors to explore

Idea D: Areas with different features/ functions can attract visitors. This is different from a traditional shop because traditional shop have only a single function.

5.3.4 For the last question,

Idea A+B: Setup questions and topics that can make visitors want to communicate.

Idea C+D: The communication itself and the different options can make visitors reflect.

Communication is the keyword here. So, additional research was done about the relationship between communication and personalities.

I found that people with different personalities have different ways of communication.

People A do not want to communicate with others in person

For people B, they feel comfortable when they communicate with one or two people.

Of course, some people who are people C always like to chat with a group of people

My design should include multiple communication ways
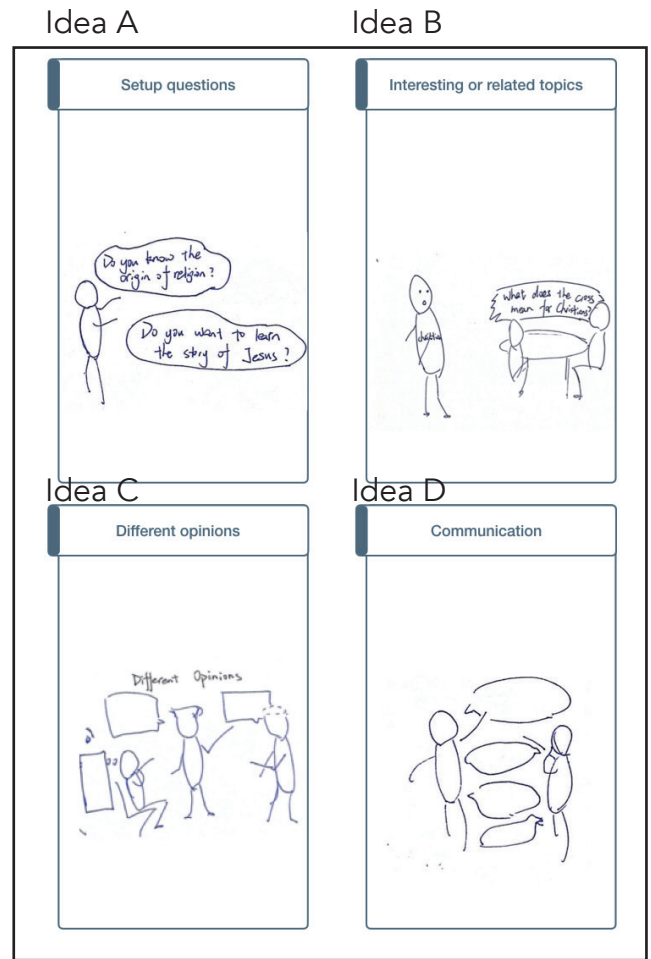
Figure 29: Ideas for question 4

Figure 29: Ideas for question 4

56
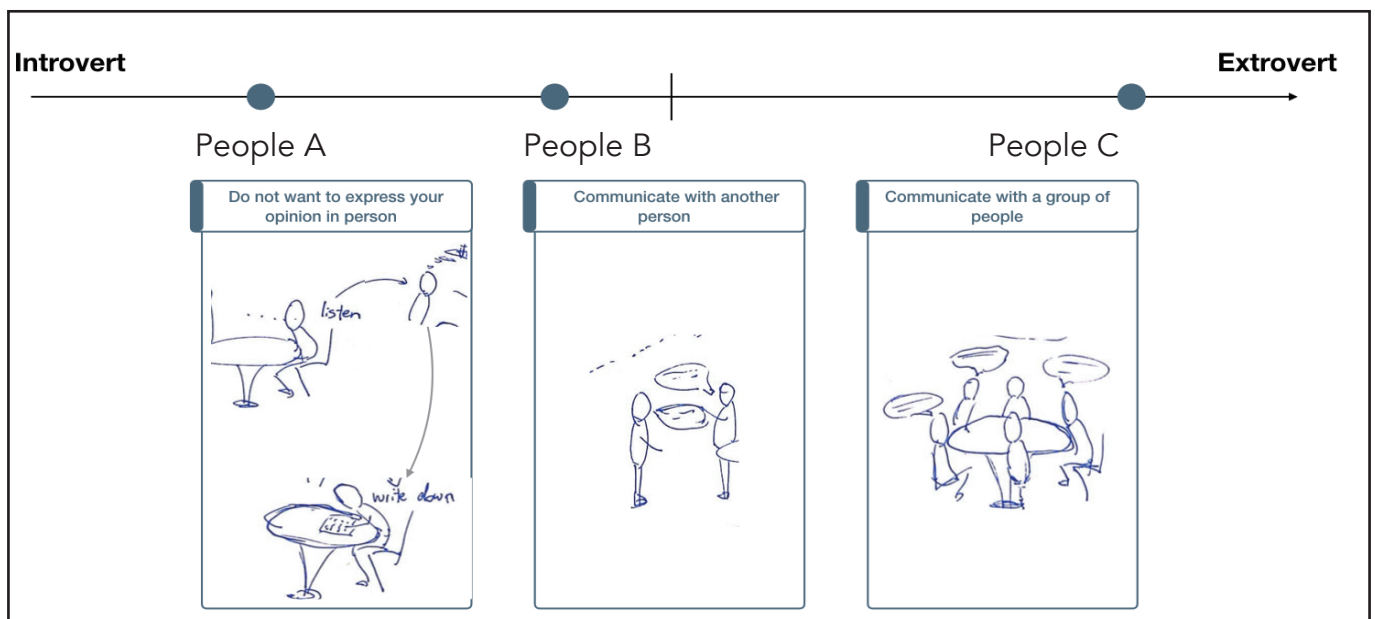
Key takeaway

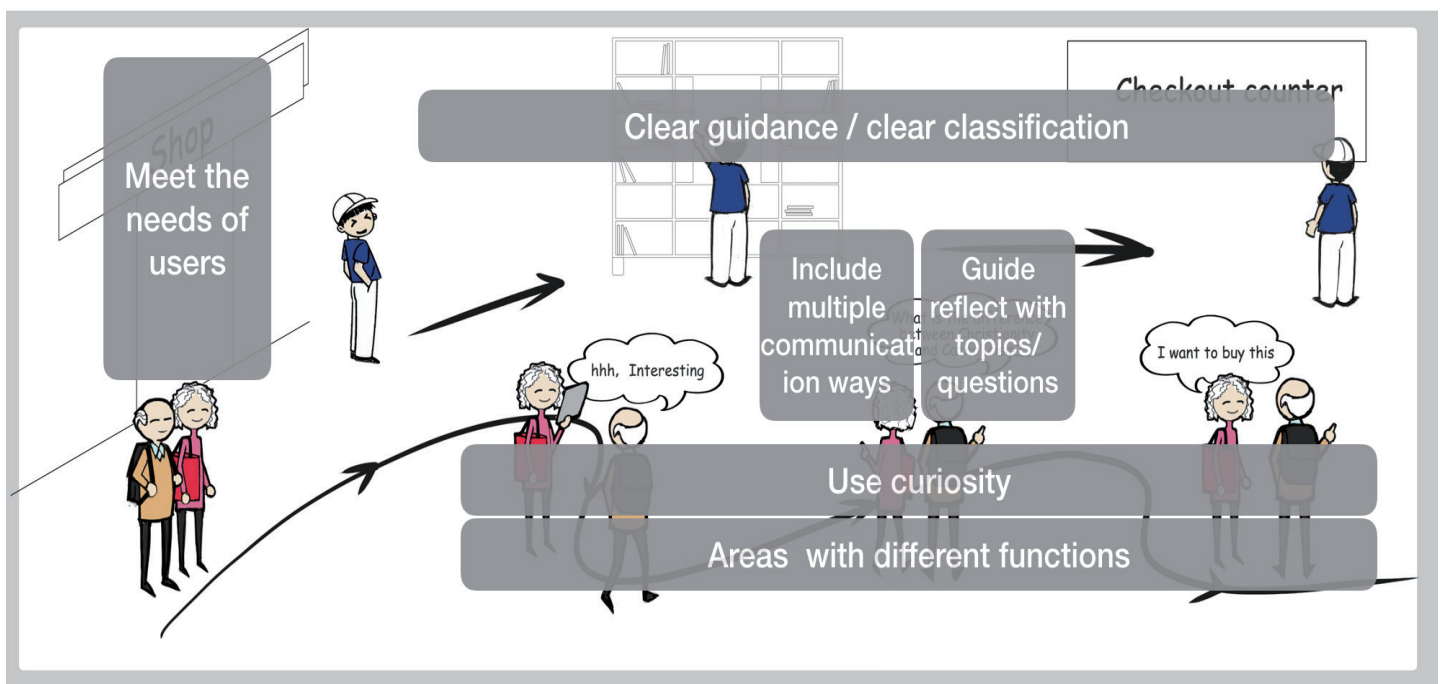Design gulidines are summarized (See Figure 30).

Figure 30: Design guidelines

Chapter 6
Conceptualization

In this chapter, the ideas and design guildlines which are summarised in the previous chapter are applied comprehensively. A complete concept is proposed.
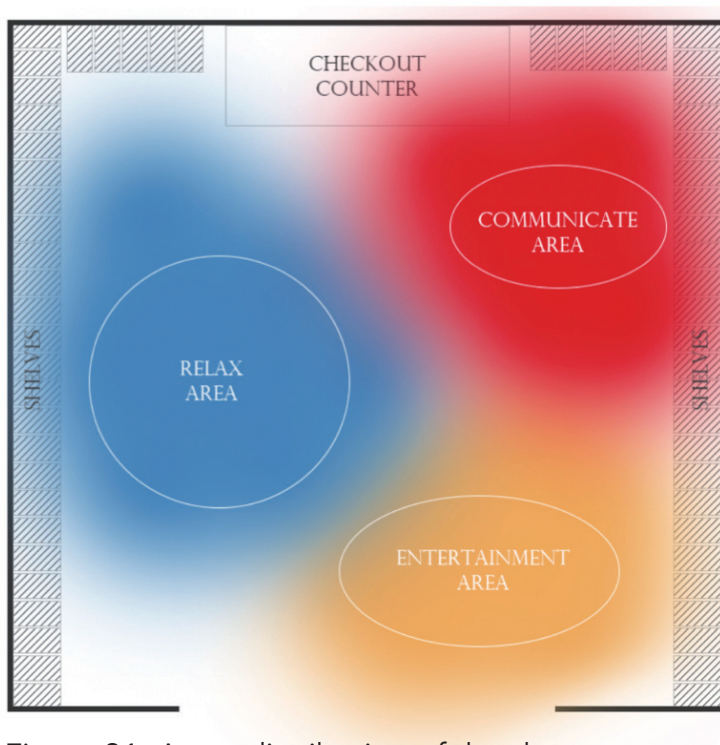
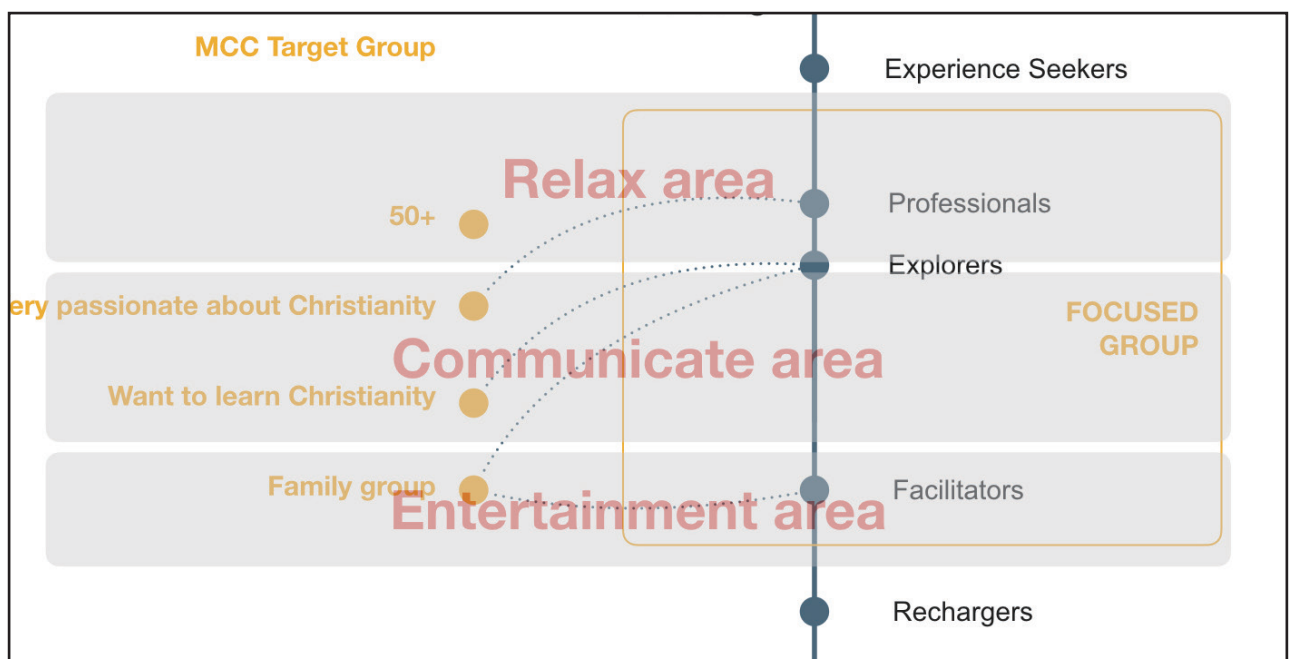# 6.1 Areas design

Figure 31: Areas distribution of the shop

Figure 32: Mutifactional areas design

Figure 31 is Areas distribution of the shop.

The **basic areas** of the shop are Checkout counter and Shelves.

Three multifunctional areas are designed based on my focused group (See Figure 32).

They are:
Relax area: Provides visitors with an area where they can sit and rest.
Communicate area: This is an area for users to communicate.
Entertainment area: This is an area where users can try to use some products or interact with them.

Souvenirs are displayed in Shelves according to these areas (See Figure 33). Souvenirs need to involved in when user have interaction in the relax, communicate and entertainment areas. Therefore, souvenirs display near the area which it involved in.

In concept, books and decorations in relax area, postcards in communicate area and playful products in entertainment area.

Figure 33: products display rules
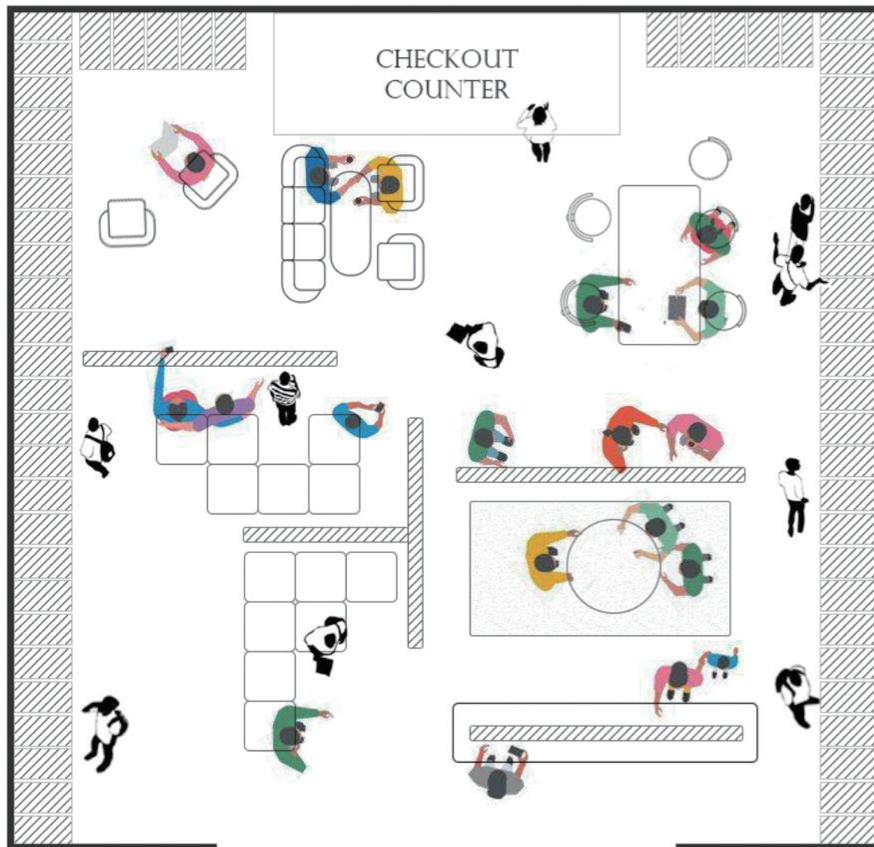
6.2 Interactions in areas

Figure 34: Interactions in the shop

Because the functions of these areas are different, users interact in different areas in different ways (See Figure 34).

First, in the entertainment area (Figure 35), users can try these interactive products.
In the communication area (Figure 36), users can vote on an opinion, discuss questions, or share their experience. Postcards can be seen at any time, and they can be used as triggers for communication.
In the relax area (Figure 37), users can read and chat. Or take a rest and look at the souvenirs displayed around them.
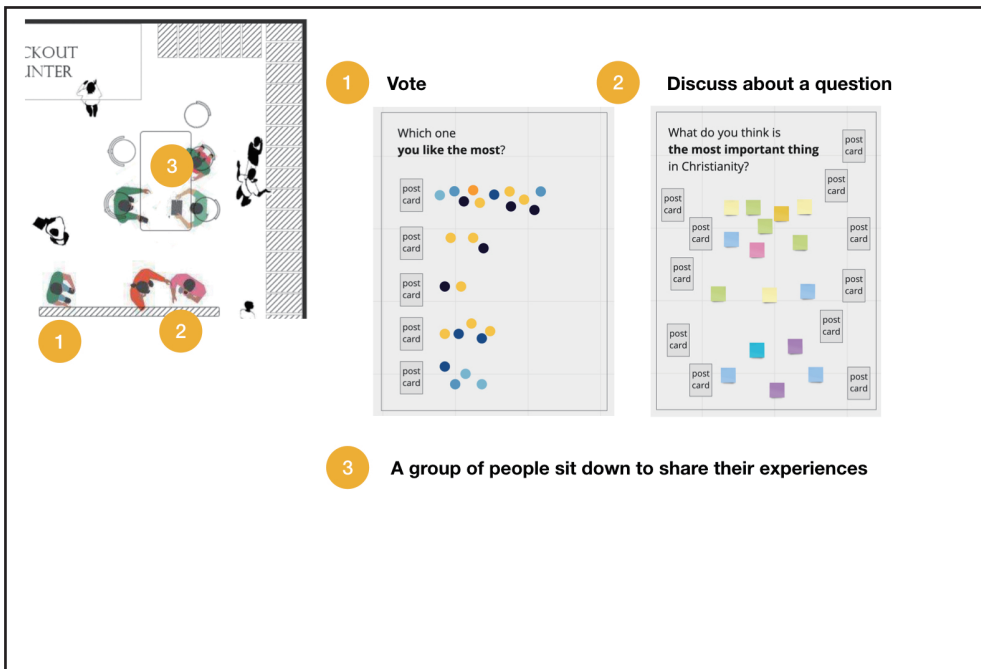
Figure 35: Interactions in the entertainment area

1 Try alone

2 Cooperate with other person

3 Play a game together

Figure 36: Interactions in the communication area

1 Vote

Which one you like the most?

2 Discuss about a question

What do you think is the most important thing in Christianity?

3 A group of people sit down to share their experiences
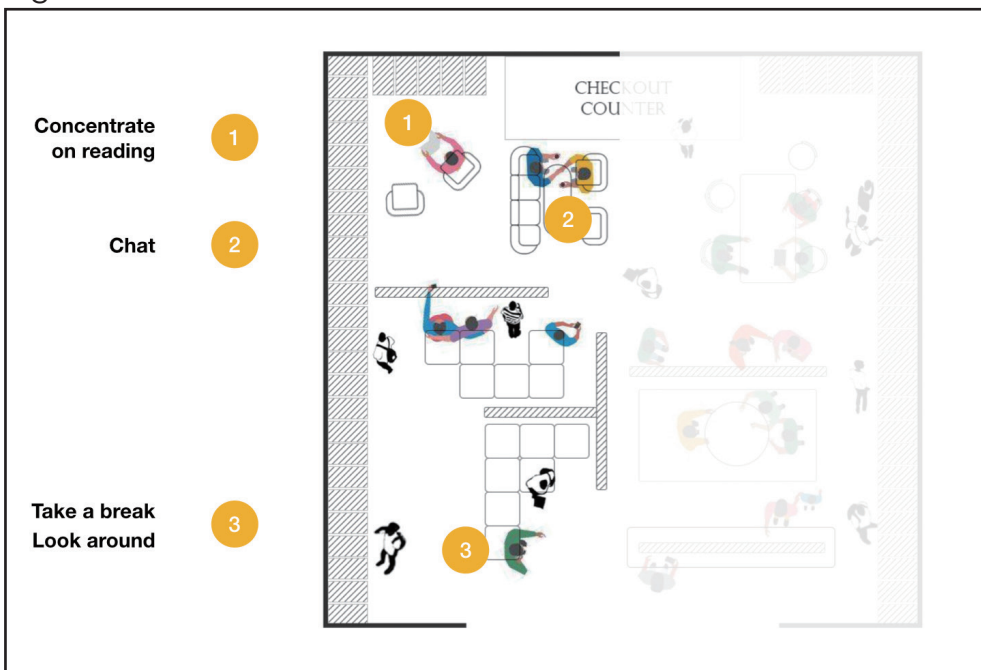
Figure 37: Interactions in the relax area

Concentrate on reading 1

Chat 2

Take a break Look around 3
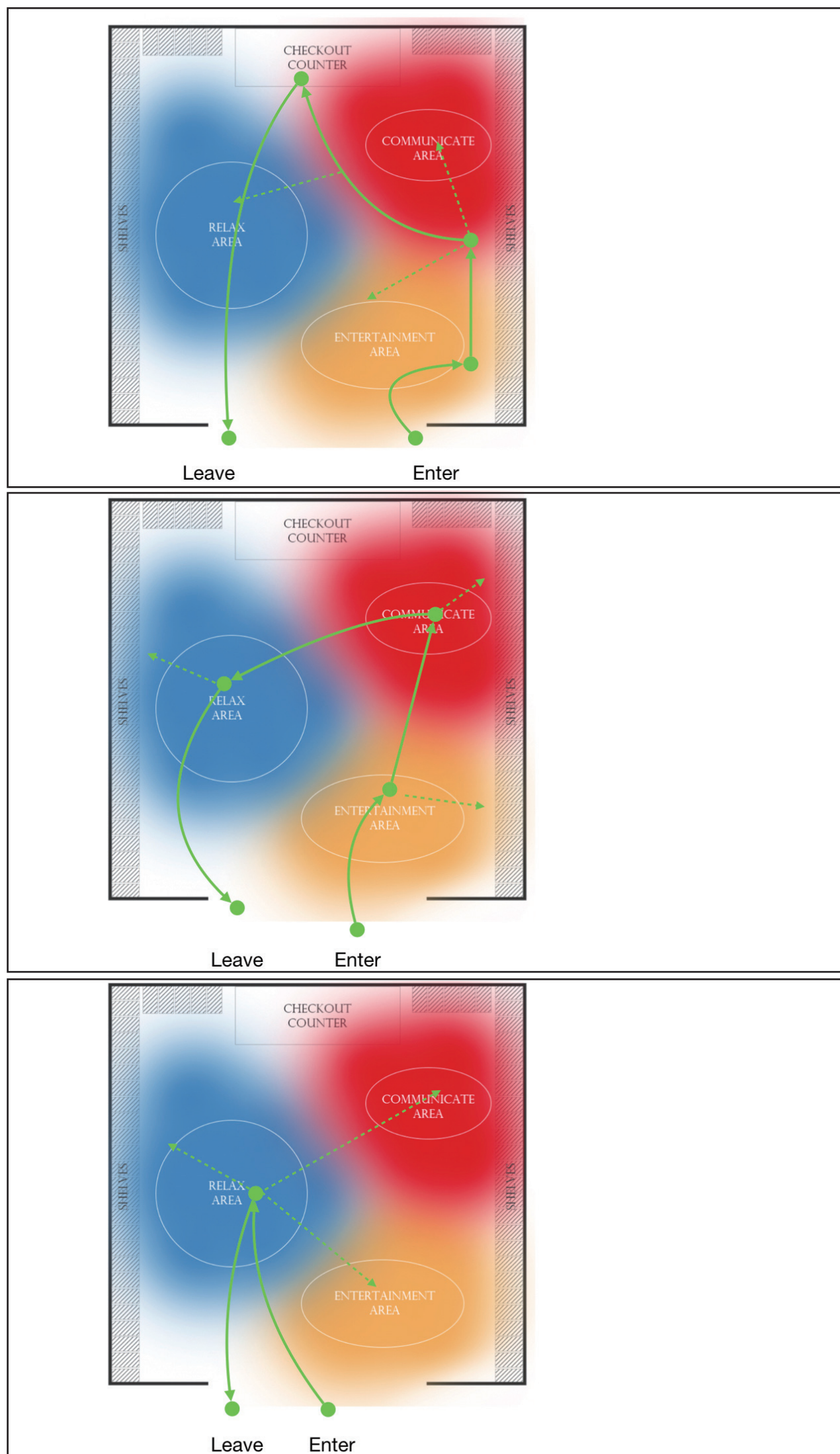
Figure 38: 3 routes in the shop

I want to buy a postcard as a gift.

Travel alone

Let's see what is in the shop!

Family

We feel tired after visiting the exhibition.

Elder

6.3 How do users move in the shop?

Different types of users (See Figure 38) have different routes within the store. So three possible routes are formulated.

For visitors with a clear purpose, so they hope to find a special souvenir quickly. They can directly search for goods, pay, and leave.

When a family walks to the museum shop, they are easily attracted by the entertainment area which is just located at the entrance. For them, exploring the shop is fun, so, they can explore every area.

The elderly feel very tired after visiting the exhibition. For them, it is important to find a place to rest. and so, they can also just take a break and leave.

6.4 How to trigger users to explore in the shop?

Since the goal is to trigger user to explore in the shop, so some partitions inside the shop are designed.

First, I designed this wall (See Figure 39). I combined glass and colored windows in the church. In this way, users in the entertainment area can see blurry shadows (See Figure 40), so they want to go there and see what is in there

The second is that I designed this bookshelf (See Figure 41),

This painting makes people feel that Jesus is on the other side. So I placed this picture in the bookshelf. When people look at it from here, they will see this painting. So maybe they want to go to another side to take a look.
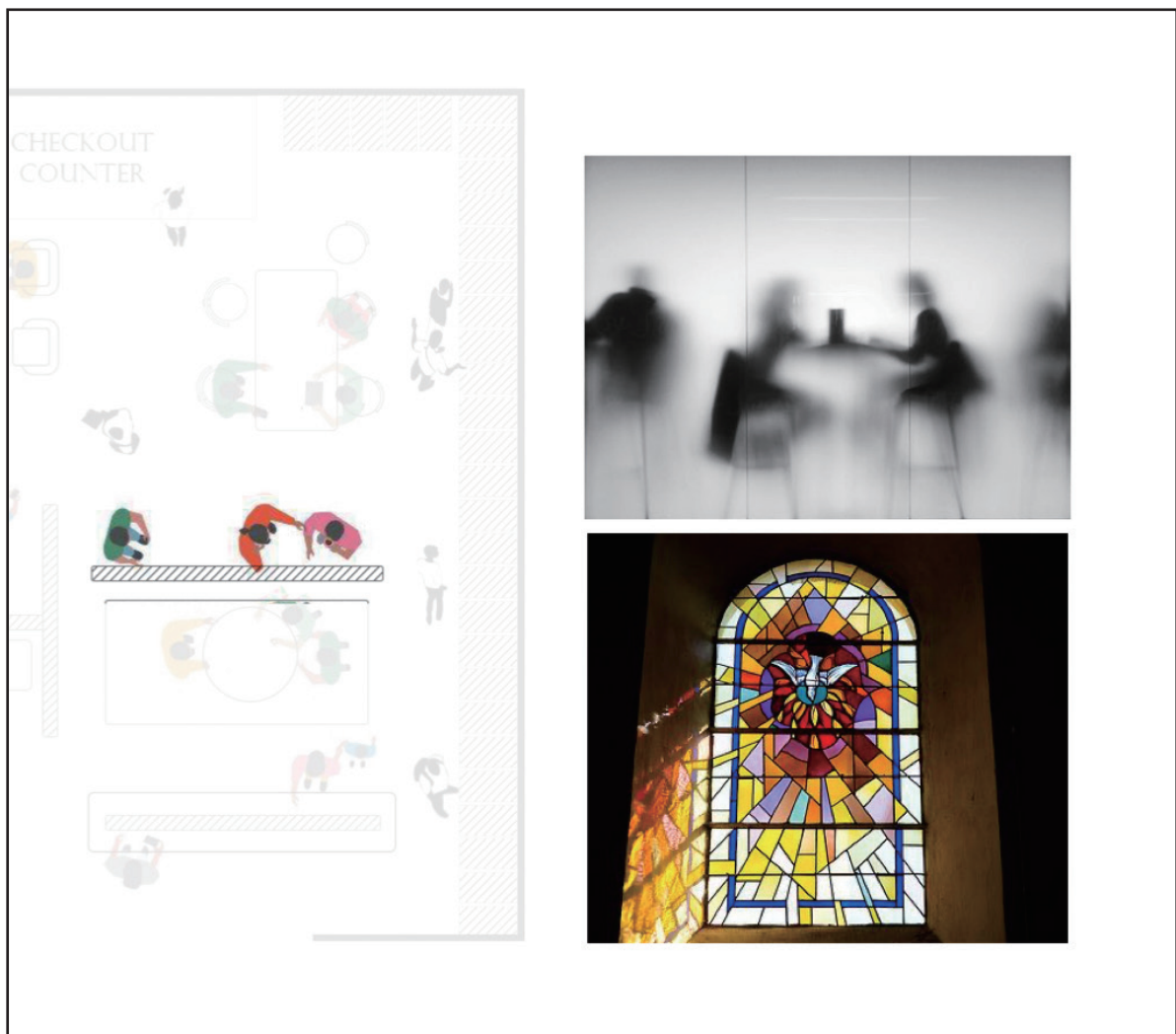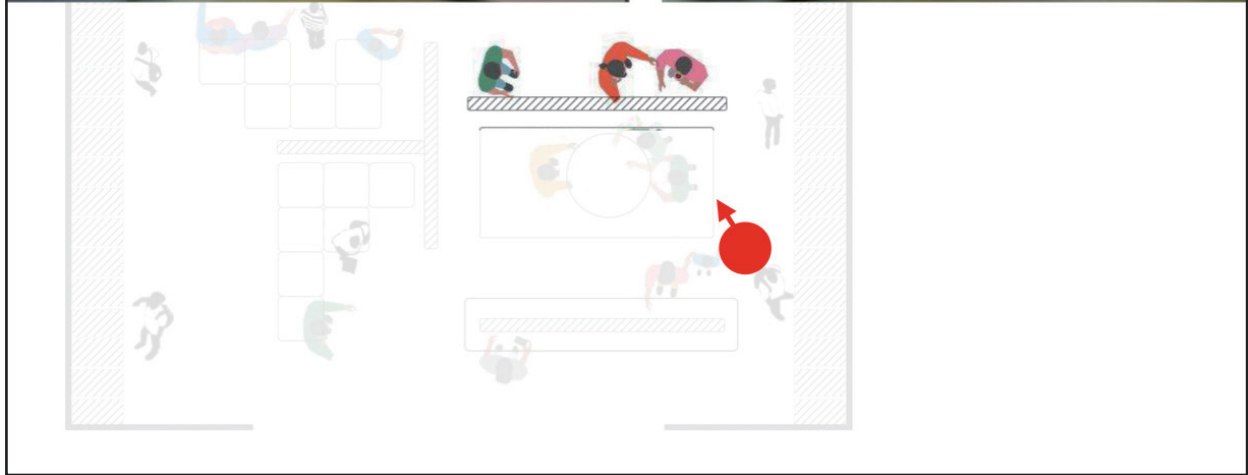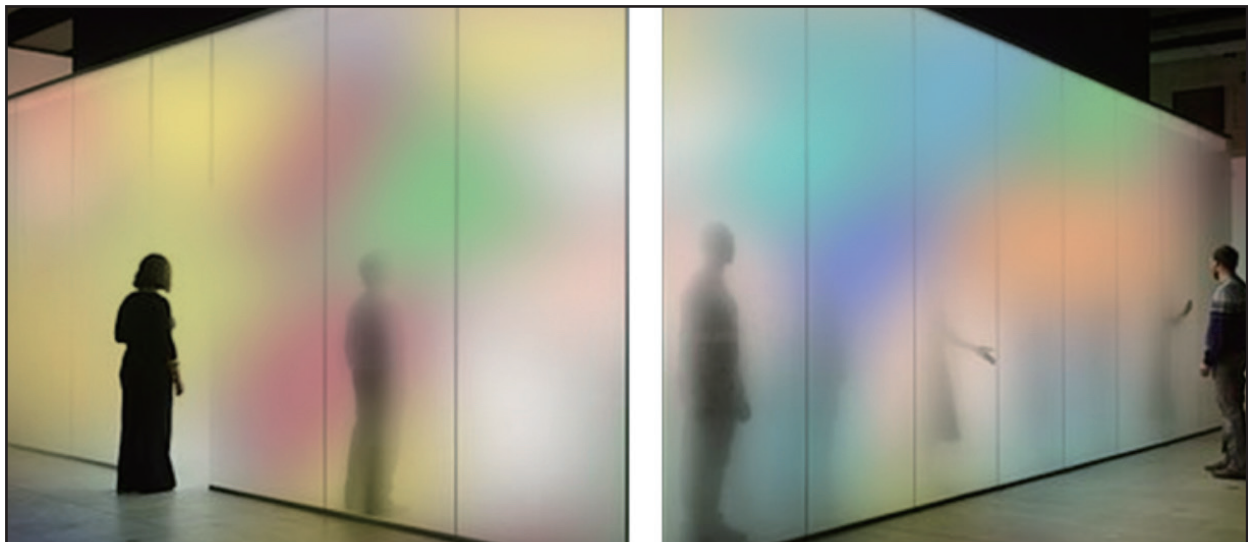

Figure 39: Glass Wall

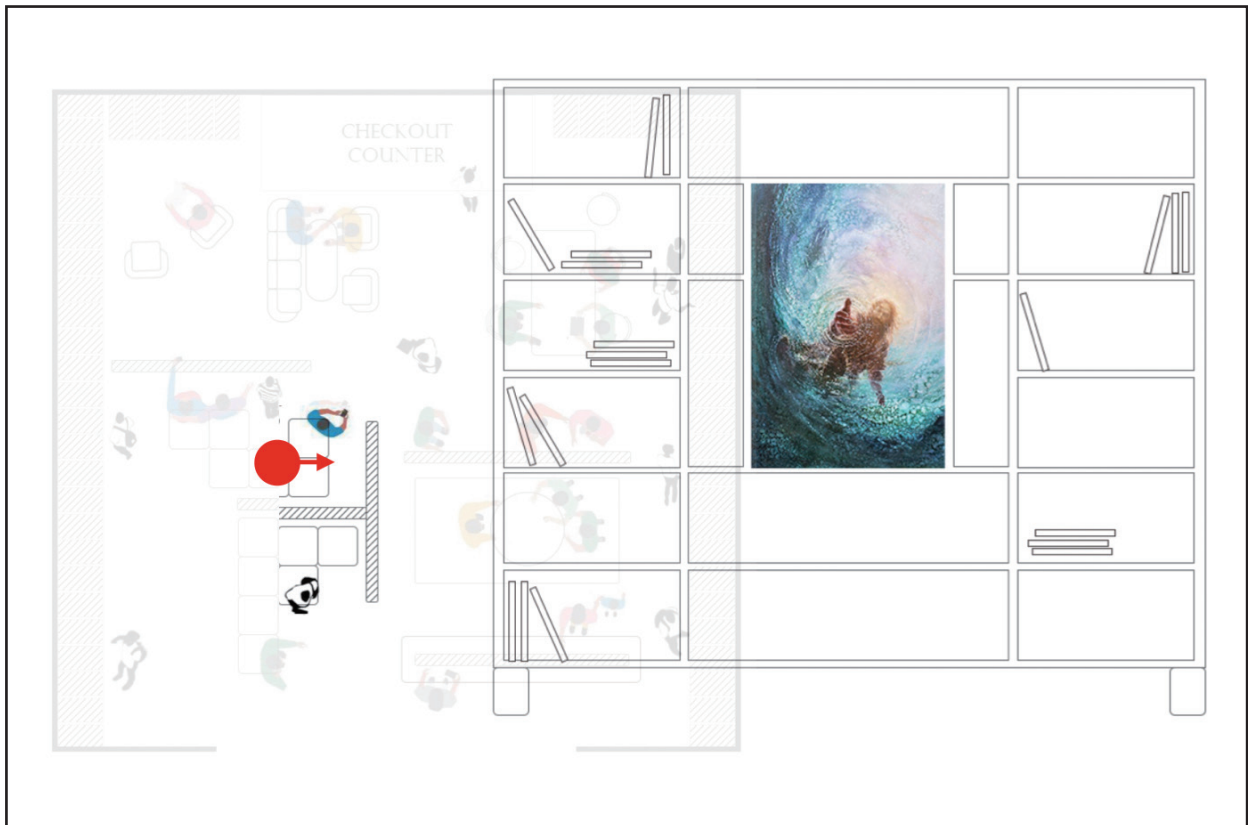Figure 40: Blurry shadow through glass

Figure 41: Bookshelf

Chapter 7

Final concept

The shop is composed of basic areas and multifunctional areas. The basic areas include shelves and checkout counter, and the multifunctional areas include entertainment area, relax area, and communication area. In this chapter, I will introduce them separately. In addition, the user's routes in the shop, and the flexibility of the shop will also be introduced.

7.1 Shelves design

In the shape design of the shelves, some elements of the exhibition are borrowed (See Figure 42). There are three elements: the rectangular frame for display, the style of the texts, and lighting.

Figure 43 and 44 show the rectangular frames are used to display products, with lighting inside. The text on the wall is designed in the style of an exhibition

The rectangular frames are located between 1 meter and 2.6 meters, which is ergonomic

Figure 43 is on the right side of the shop and is used to place clothing, postcards, and interactive products.

Figure 44 is on the left side of the store and is used to place books and decorations.

Figure 43: Shelf wall 1
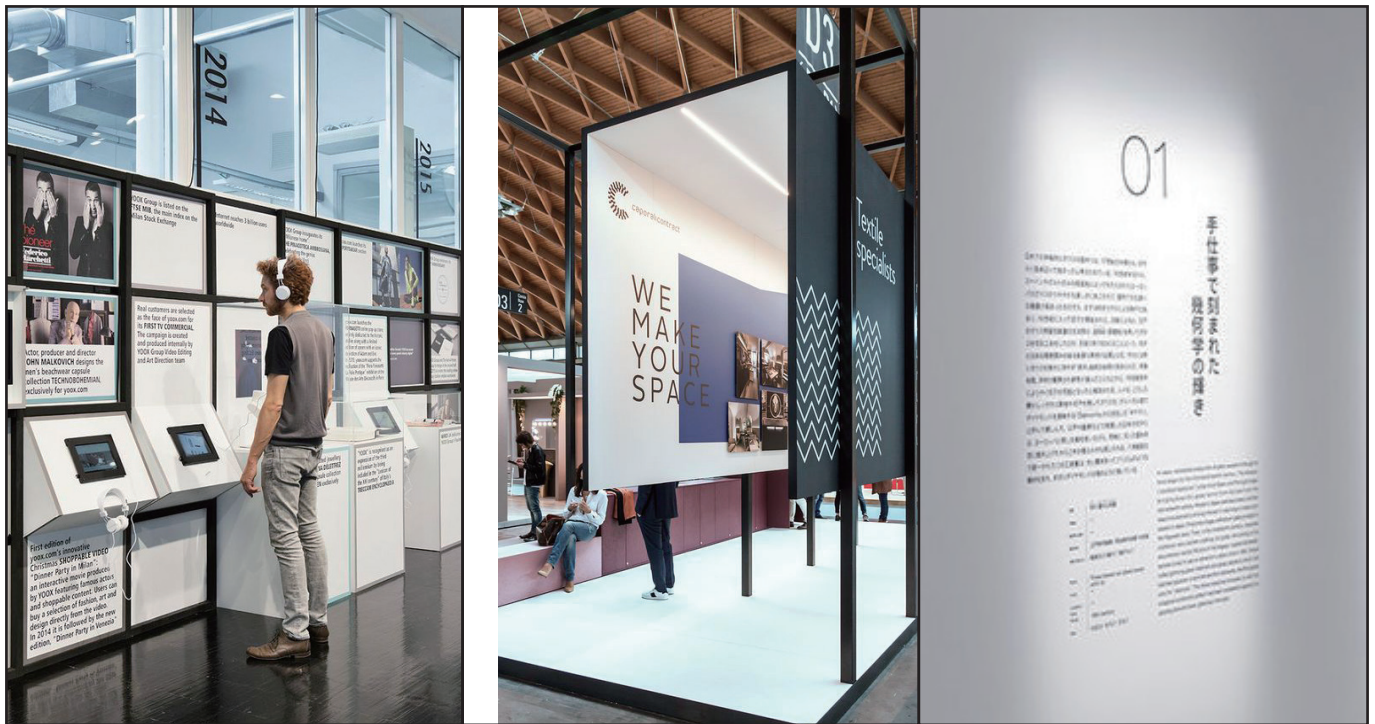

Figure 44: Shelf wall 2

Figure 42: Elements of the exhibition

Figure 45: Checkout counter

7.2 Checkout counter

A similar style is applied to the design of the checkout counter (See Figure 45). But it is not the focus of this project, so it will not be elaborated here.

Figure 47: The example of interaction with spotlights

7.3 Entrance

At the entrance of the shop, whether the user enters the store is a very important question. So, at the entrance of the shop, an interactive projection is designed. It plays a role in attracting users. When users pass by the shop, the projection appears on the ground. To guide users, arrows and text are used in combination in the projection. The projection shows that you can take a break and join a group game (See Figure 47).

At the same time, as you slowly move away from the shop, the projection becomes weaker, and as you slowly approach the shop, the projection becomes stronger. This feedback can arouse the curiosity of the user, so they would be more likely to walk in the shop.
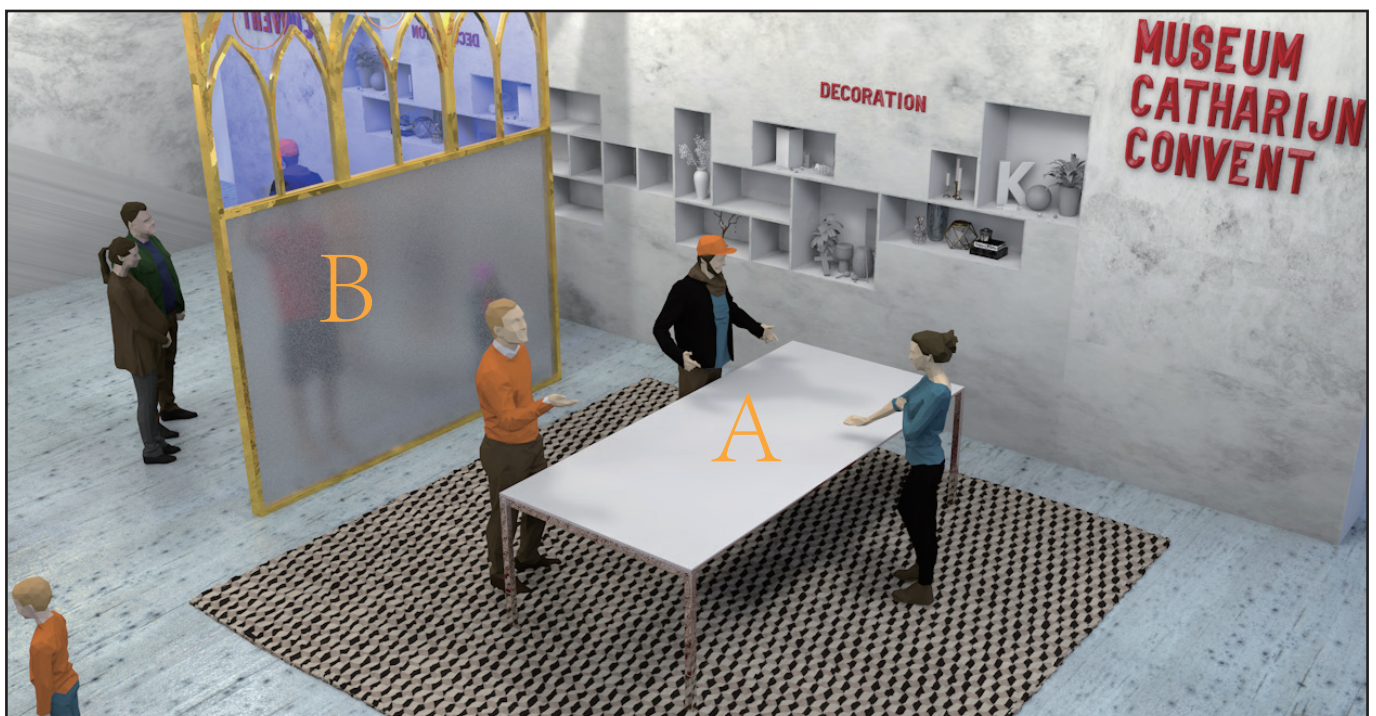

Figure 46: Entretainment area

Figu

7.4 Entertainment area

Area A of figure 46 can be used as a trial space for interactive products. Since the products are different, this area has some flexibility. A table or carpets (See Figure 48) can be placed according to different needs. Related products are easy Can be found on the shelf next to it.

Area B of figure 46 is a partition. This design was inspired by the church glass. In addition to the role of space segmentation, it can also attract users to explore. Because of the glass, the blurry shadows of people and objects can be seen (See Figure 49) when users are in the entertainment area, which will arouse their curiosity. So they want to go there and take a look. Therefore, this can stimulate users to further explore the shop and enter the communication area.

Figure 48: The flexbility area

re 49: The blurry shadows of people and objects

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7.5 Communication area

Figure 50 shows the communication area, it is difficult to be found when users are at the entrance (See Figure 51). This is because the communication area requires more effort from users than in the other two areas. The research shows that users want to enter a leisure area after visiting the exhibition. That is why users first enter the leisure areas and then selectively go to the area that requires more effort.

In the communication area, expressing and accepting opinions are hoped to be seen. However, this communication does not necessarily have to be a face-to-face chat. In the communication area, three communication methods are included.

Therefore, a discussion board with questions are set. Figure 52 shows users can vote on an opinion, discuss questions. On the wall, postcards can be seen at any time, and they can be used as triggers for communication.

Users can share their experiences (See Figure 53). This is a good place for group discussions.

Figure 50: Commun

Figure 52: Vote and

nication area

Figure 51: Users stand at the entrance

discuss

Figure 53: Group discussion

7.6 Relax area

The relax area provides seats. Users, especially the elderly, can sit down and rest after visiting the exhibition (Figure 54, area A).

In area B in Figure 54, users can communicate face-to-face with others. They can also take a book and concentrate on reading in area C of Figure 54.

In the relax area, the semi-partitioned design is used. The design of partitions in the relax area use some elements of the church (See Figure 55). The partitions can also do more than just partition off space. Figure 56 shows what users can see when they are sitting in the relax area. It is obviously part of the entertainment area and the communication area can be seen when users are sitting in the relax area. Because users can still see the activities in other areas while resting which can trigger users to explore space.

The message board with texts (See Figure 57) allow the user to read and users may also flip the circular plate and try to read text on the other side.
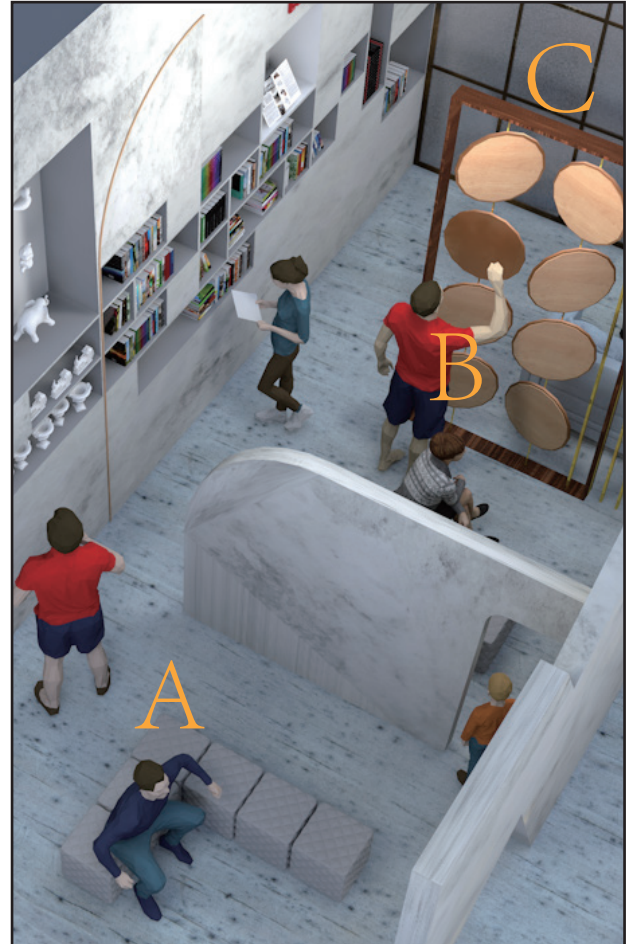

Figure 54: Relax area

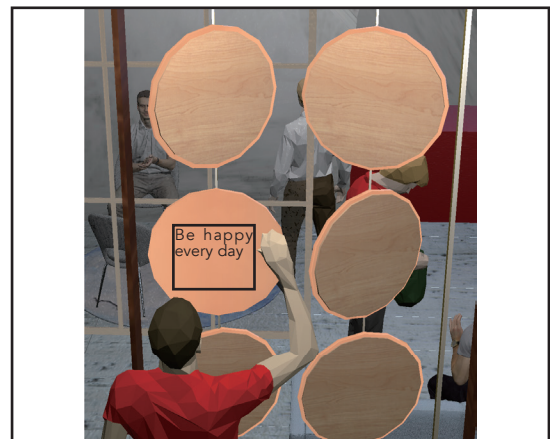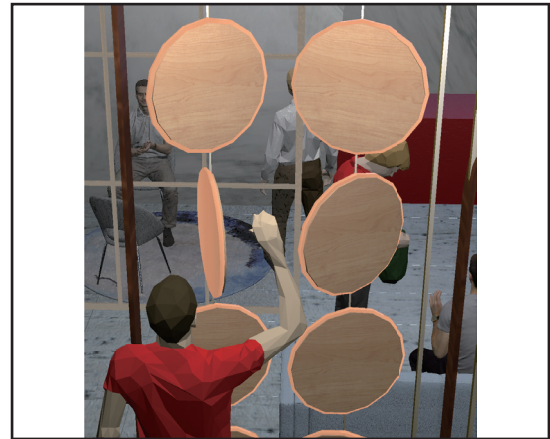

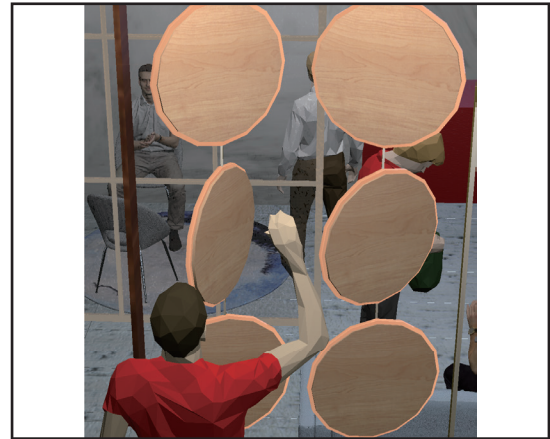Figure 55: The design of partitions

Figure 56: Interaction with circular plates

Figure 57: Interaction with message board

7.7 The flexibility of the shop

Flexibility is considered in this project. There are three reasons. The first is that the focused group is not a foreign tourist who may only visit once but a local who is likely to visit many times. So the fixed shop design may make them rarely enter the shop. And changes in the shop can keep them curious and visit the shop more often. The second reason is that the museum often organizes temporary exhibitions. The adjustment of the shop can be done for temporary exhibitions, especially for some large temporary exhibitions. Third, some good products maybe not discovered by users. It would be nice if they have been shown in front of users more often. So we can achieve this goal by adjusting the recommended products. Therefore, in the design, the flexibility of the shop is considered in the following aspects.

1. The multifunctional areas can be adjusted.
These three areas are initial designs based on the research I did. When more data is collected or new requirements are found, this may no longer match. Figure 57 shows the possibilities for adding areas.

2. The texts in the space can be adjusted
Figure 58 shows the text distributed in various locations in the store. These are easily adjusted.
A is built by magnetic letters, which can quickly change. The questions at B is handwritten, which can also be easily changed by changing the letters.
At C, it needs to be replaced by printing new materials. Because this requires more effort, they are more suitable for quarterly iterations, or for changes when new temporary exhibitions are coming.

3. Adjust the display of products
According to the needs, select the goods that need to be displayed (See Figure 59). This allows more products to appear in front of users.
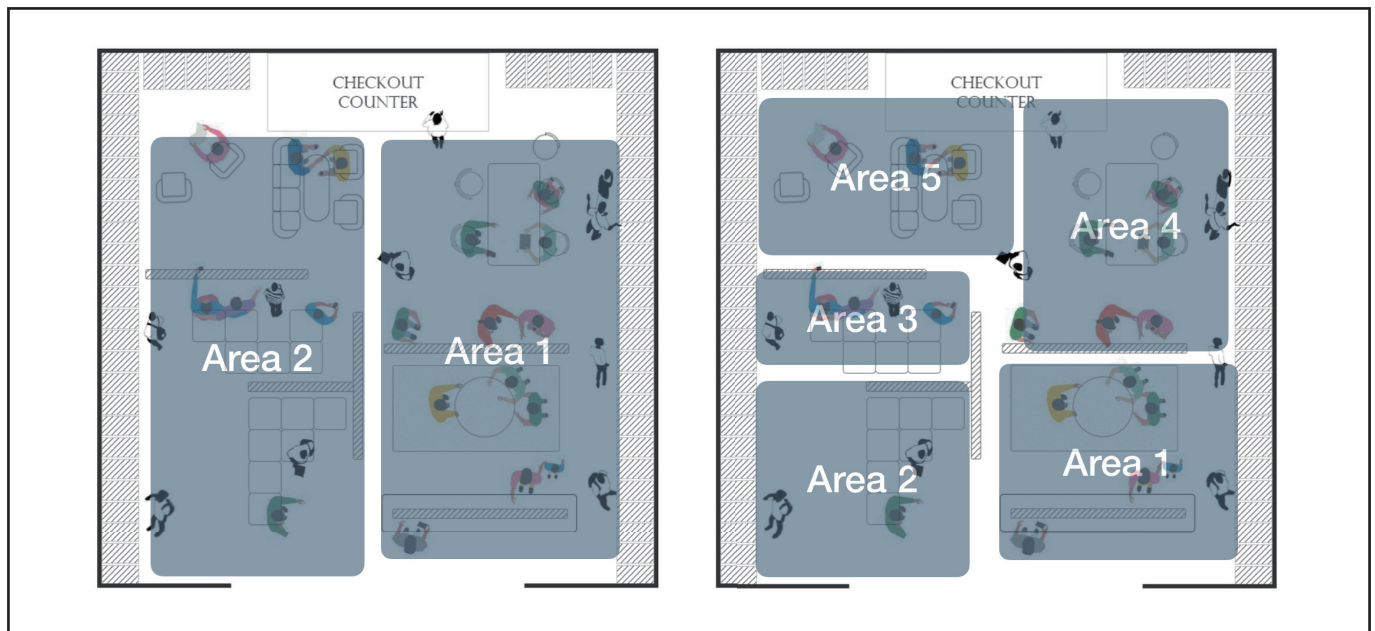
Figure 57: The possibilities for decrease or increase the number of areas

Figure 58: Glass wall in communication area

Figure 59: The display of products

Chapter 8

Evaluation &
Recommendations

In the previous chapter, the final concept was introduced in detail. In this chapter, user testing for the final concept will be explained. By analyzing the test data, insights are summarized. And based on the conclusions, the recommendations are pointed out to improve the design.

8.1 Research set-up

The entire concept evaluation uses online testing. There are two main reasons. First, due to COVID-19, online testing can ensure the safety of the test. Second, online testing makes it easier to recruit more diverse participants for testing. Therefore, in this project, online testing is used. But online testing also has certain limitations and challenges. For example, the lack of context information, abstract user behavior, and other issues, which are considered in advance when developing the test process.

8.1.1 Research aim
The test goal is to know whether the final plan can achieve the design goal through user testing (Design a shop that allows users efficient purchase, communicate and reflect their impressions in the exploration of the shop after visiting exhibitions.).

8.1.2 Research questions
The three keywords in the design goal (efficient purchase, exploration of the shop, and communicate and reflect) need to be considered in the concept evaluation. Three research questions are set.
Q1. How does the concept help users purchase more efficiently?
Q2. How does the concept guide users to explore in the shop?
Q3. How can concepts stimulate user communication and reflection?

8.1.3 Evaluation Process
There are 4 steps in the test.
Step 1. Background introduction:
In this step, relevant background information is introduced. This is to help participants understand the context of the project. In subsequent tests, users can imagine themselves in the context of a museum.
Step 2. Test the prototype:

Because of the limitations of online testing, I assist participants in prototype testing. The user's interaction in the shop is recorded into many video clips. In the test, after a video clip is played to the user, I ask participates questions about their next behaviors (Figure 60). Based on the answer, I play the next video clip. In this step, the movement of the participant in the shop is recorded.
Step 3. Self-assessment:
In this step, participants need to finish a self-assessment form (Figure 61). The form collects data of the participates' emotions.
Step 4. Interview:
The interview questions are different among participates. I ask questions based on their self-assessment form. At the same time, I also ask the participants their opinions on the final concept.

8.1.4 Recruitment
The participant needs to belong to the 3 personas which be summarized in Chapter 3. At the same time, the diversity of participants also need to be considered. In the end, 5 participants participated in this test.
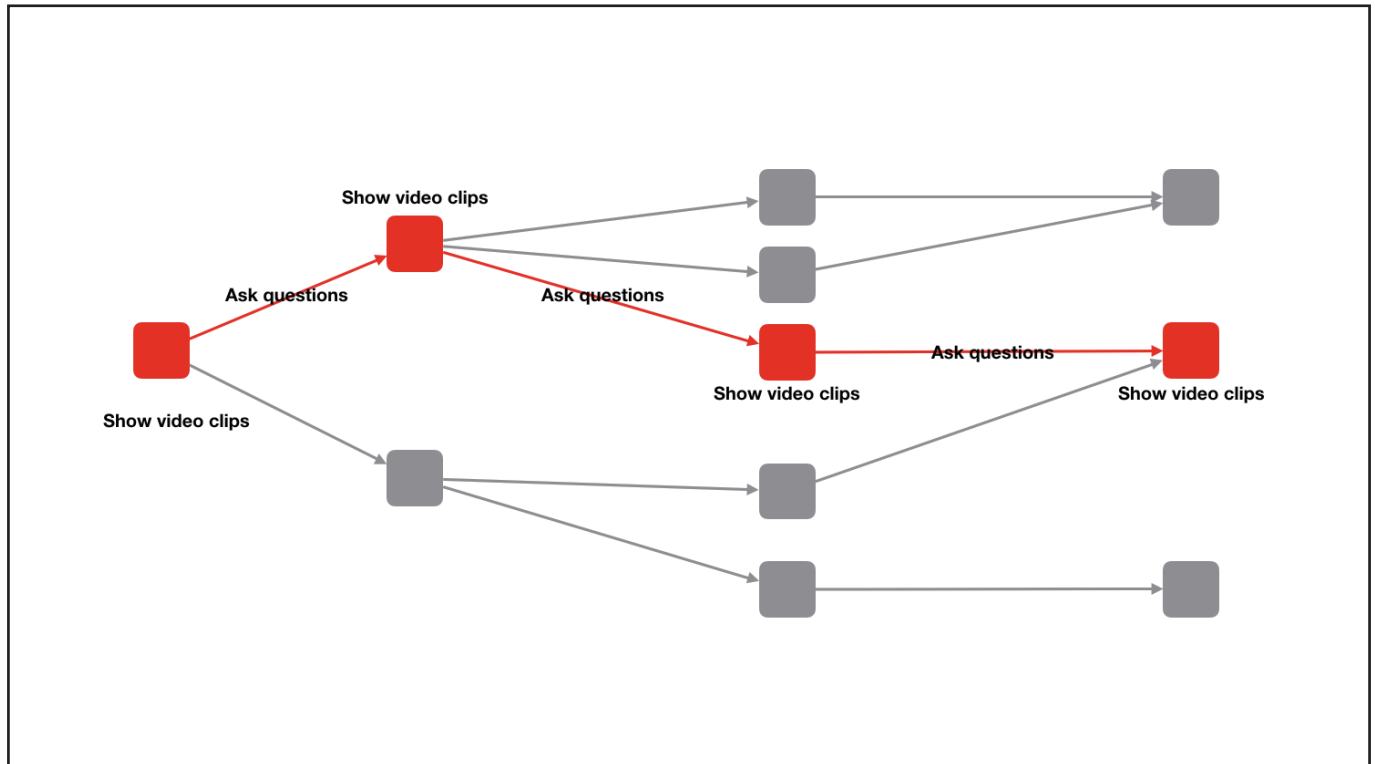
Show video clips

Ask questions

Ask questions

Show video clips

Show video clips

Ask questions

Show video clips

Figure 60: The methods of online prototype test

Scenes

Emotions

Figure 61: Self-assessment form

8.2 Results

A. For Q1: How does the concept help users purchase more efficiently?
Among the participants, P2 and P5 have clear purchase needs before entering the shop. They think that compared with the traditional shop design, this design does not help them to buy more efficiently. P2 said: "The shelf design is very distinctive, but this kind of shelf display has certain limitations. I think traditional shelves can allow users to quickly browse and select items. " P5 said: "I can quickly find what I want to buy in the test, but I think it is because in the test, very few products are displayed in the prototype. If there are more products, I may need more time."
For participants P3, P4, and P5 who have no clear purchase needs, after they selected the goods, they can quickly find the place to check out and leave. P3 said: "After I saw the beautiful postcard on the glass wall. Then I quickly found them on the nearby shelves, which is very convenient." P1 and P4 felt that the design was nothing special in terms of purchasing efficiency. P4 said: I think it is almost the same as the regular shop.
In addition, P4 mentioned that this space carries too many interaction devices, which may affect purchasing efficiency.
In general, through testing, it is obvious that the design does not better help users improve purchasing efficiency. However, the purchase system still can be used without complaints. Therefore, for purchasing efficiency, there are rooms for improvement, but the current concept does not affect the user's shopping experience.

B. For Q2: How does the concept guide users to explore in the shop?
Figure 62 is a routes map drawn based on the data of 5 participants in the test. The entertainment area and the communication area are popular areas, but the relax area is rarely visited by tourists in the following part.

Entrance
At the entrance of the shop, interactive projection is designed to attract users into the shop. 4 participants gave positive comments on the interactive projection at the entrance of the shop. Among them, P3 stated, at the beginning of the test, that she rarely visited stores because she opposed consumerism. She said that this light guidance made her know that this is not just a store, so she wants to enter it. However, one participant (P4) said that he was surprised about the appearance of the projection, but it was difficult for him to see the content of the projection during the prototype test.
Therefore, in general, the interactive projection can have a positive impact on users. However, the readability of the projection needs to be taken seriously.

Entertainment area
In Figure 2, it is obvious that 4 participants directly enter the entertainment area. P2 and P1 enter the entertainment area because there are many people there, which attracts them. This may because people have a herd mentality, so the crowd itself may attract users. However, I think this data may not be accurate. First, the

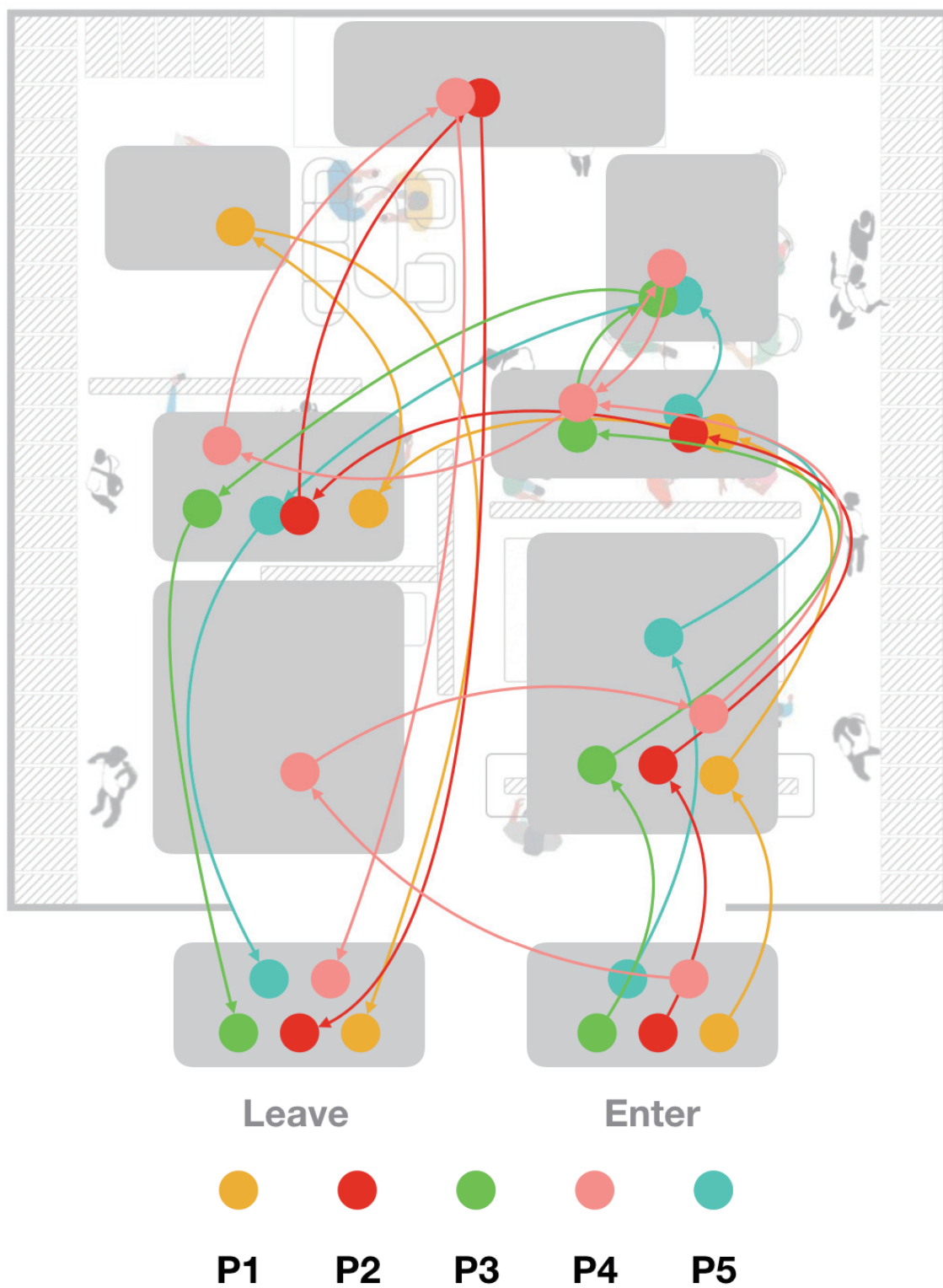Leave   Enter

P1   P2   P3   P4   P5

Figure 62: Routes map

participants know that they are in a test. So compared to the more common places like the relax area, they may be more willing to explore other places. Second, this is an online test, which means that it is difficult for participants to feel tired, which will also lead to inaccurate test results. (This will also be mentioned in the discussion of the recreation area.)

Communication area

The glass in the communication area allows users to see the blurred shadows. This can stimulate users to further explore the shop and enter the communication area.

It is very nice to be seen that all participants visited the communication area. They were attracted by the blurry shadows through the glass when they were in the entertainment area. This means that this design has a positive impact.

Relax area

In the relax area, the semi-partitioned design is used. Because users can still see the activities in other areas while resting which guides users to explore.

In the test, the relax area is the least accessible area for participants compared to the other two areas. In the relax area, participants are more willing to enter area B, and only one participant enters A and C respectively (Figure 63). For A area, only one participant (P4) entered the relax area directly. He said that after visiting the museum, I may feel tired. So if I can, I will sit down and rest first. For C area, In concept, this area is a relatively quiet place where users can read quietly. So, although only one participant entered here, this is not a very bad thing.

There is a possible reason is that the

relax area is too large, which causes some areas to be rarely used.

However, for relax area, I think this result is not very reliable because of the limitations of online testing. Even before the test, background information is introduced, but feelings still can be ignored easily by the participants. So, it is possible that there are more people entering the relax area.

In general, there are fewer people entering the relax area than expected, so some adjustments can be done.

C. For Q3: How can concepts stimulate user communication and reflection?

Through the test, I found that communication takes place in the entertainment area and communication area. And communication about artworks takes place in the communication area. At the same time,
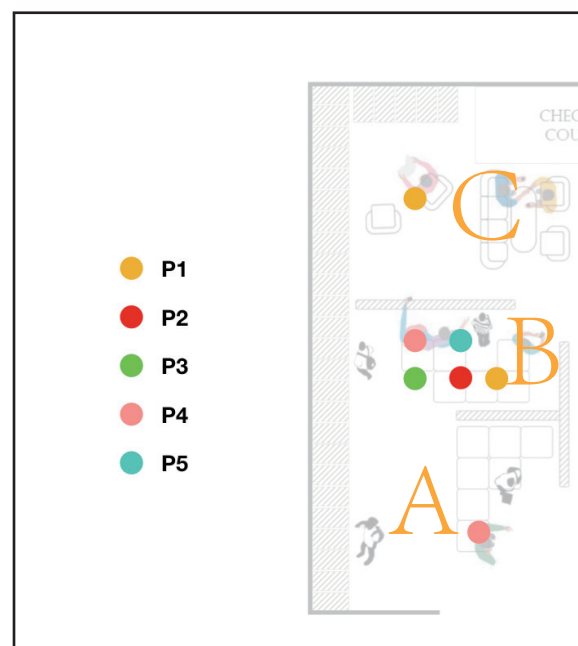

Figure 63: Relax area

this kind of communication stimulates users' reflection.

In the prototype test, all participants believe the discussion board with questions can stimulate their communication. P1, P3, P4 take the initiative to express their opinions when they see the question board. P2, P5 first accepted the opinions of others before saying anything. Besides, all participants stayed in the exchange area for a longer time (Figure 64).

In the Self-assessment after the prototype test, the communication area received the highest score (Figure 65). And, in the interview session, comments also reflected the
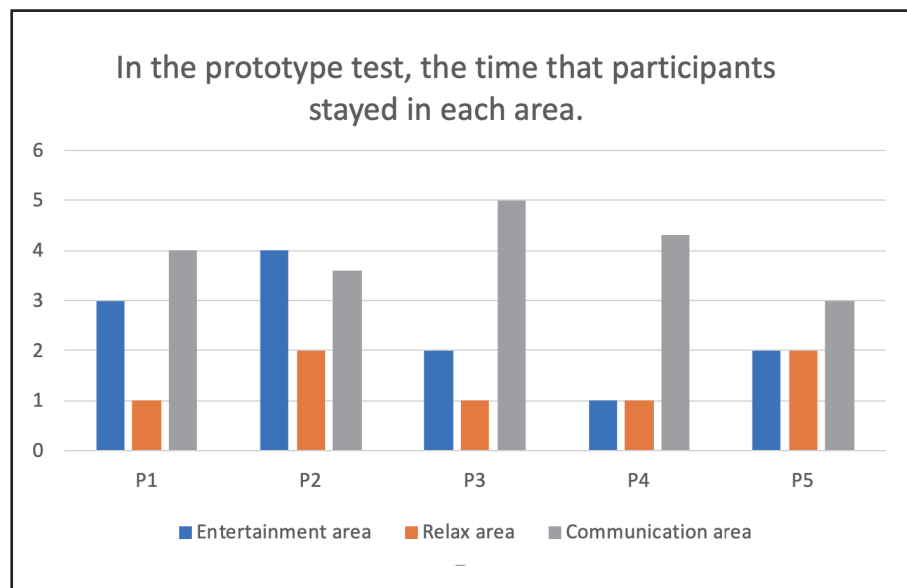

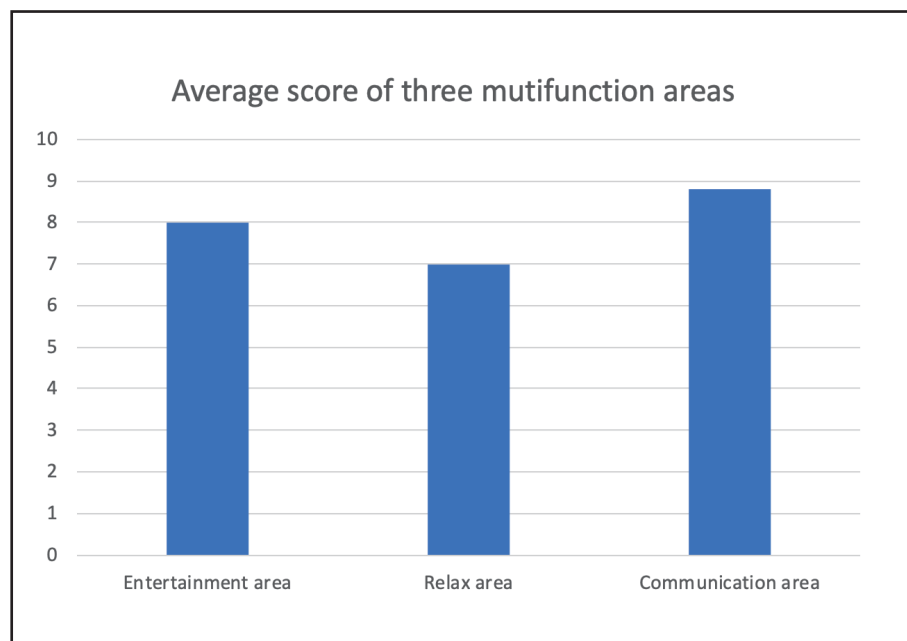Figure 64: In the prototype test, the time that participants stayed in each area.

Figure 65: Average score of three mutifunction areas

participants' love for the communication area. P1 mentioned: When I saw the question board, I was very interested. This gives me more opportunities to communicate about the exhibition rather than just about products. P5 said: I learned different opinions from others. To sum up, concepts can very well stimulate user communication and reflection.

D. Different opinions on the multifunction areas
Many participants have different opinions on the multifunction areas.
P1 believes that the shop integrates more functions. He said: this design makes me feel that I am not just shopping, it brings me a richer experience.
But some people do not agree with them. P2 said: I am worried about the multifunctional areas in a shop. For shoppers, this is a more complex space that may reduce their shopping efficiency.

E. Strengthen interior design
In the interview, some participants gave suggestions on the interior design style. P2 said that the decoration style of the shop is not very uniform. For example, the styles of glass, metal, and cement walls are very different. This may be better designed.

F. The function of the area is not clear
In the concept, the name of the multifunctional areas and interactive device are not directly marked. Two participants thought this caused their confusion about the function of the space. P4 said: the chair can tell me that this is a place to rest, but it is difficult for me to tell the function of the other areas, so I have to guess what the people in the are doing there.

Key takeaway

To sum up, the test results show that the concept can stimulate visitors to explore the shop. Some interactive devices, such as light projection and communication boards, play an important role.
However, the concept does not perform well on the purchase system. Unclear functions of areas, inconsistent styles, and too many interactive areas in the shop caused a negative impact.

8.3 Recommendations |

8.3.1 Recommendations for improving the design.

A. Show the name of the multifunctional areas and interactive devices.

Since the name of the multifunctional areas did not appear in the design, this caused the participates to be confused about the function of the area. Therefore, it may be beneficial to display the names in an obvious location. This allows users to understand the functions of the area as soon as they enter the area.

In addition, the names of some interactive devices can also be clearly presented in the shop. For example, message boards and discussion walls (Figure 1). These names can also allow users to understand the functions of these devices and interact with them.

B. Detailed interior design

The final concept is designed from an interaction design perspective, which means that the design revolves around user behaviors. Therefore, from the interior design perspective, there are many aspects that can be detailed to achieve a better result, such as background music, ceiling, color, materials, and so on.

C. Questions (which is showed in the communication area) can be set up before visiting the exhibition

In the test, I found that the questions can guide participants to communicate and reflect. They think it is a pity that they can not communicate those questions in front of artworks. P1 said that she could watch and learn the artwork more seriously if she could see these problems before visiting the exhibition.

Based on this, a hypothesis idea is proposed (Figure 66 and 67). One or two questions are set up in the lobby or printed in the visitor brochure, so visitors can see it before entering the exhibition. For interested visitors, these questions are like tasks, guiding them to stop in front of the relevant artworks and search for answers carefully. If there are other people nearby, they can communicate in front of the artwork. Of course, it does not mean those questions will be removed from the shop. The shop is still a good place for them to communicate.

D. Remove some interactive devices
Several participants mentioned that there are too many interaction devices in the shop. Although interactive devices can allow users to stay in the store longer, too many interactive devices that are not related to the shop may confuse users. Therefore, some interactive devices, such as message boards, can be removed.

8.3.2 Recommendations for further research
A. Research on MCC visitors may be helpful
In the research part, the participants are museum visitors. Although diversified participants are considered in the research, for MCC, the visitors of MCC are more valuable research groups. Therefore, more accurate research data can be collected if the participants are MCC visitors in further research.

B. Small-scale field testing is necessary
As mentioned in Chapter 8, due to some reasons, this project only uses the online test. However, since the project is the design of an offline shopping experience, field testing is necessary. Watching a video on a computer and experiencing it in a shop is completely different. This means that participation can react differently.

C. Expansion project
Extend the project by considering more user groups
In Chapter 3, the focused group is determined for this project. However, this is a way to narrow the scope of the project. Therefore, it is possible to consider other user groups, such as tourists, when the project is iterated in the further.

Figure 66: Hypothesis idea 1
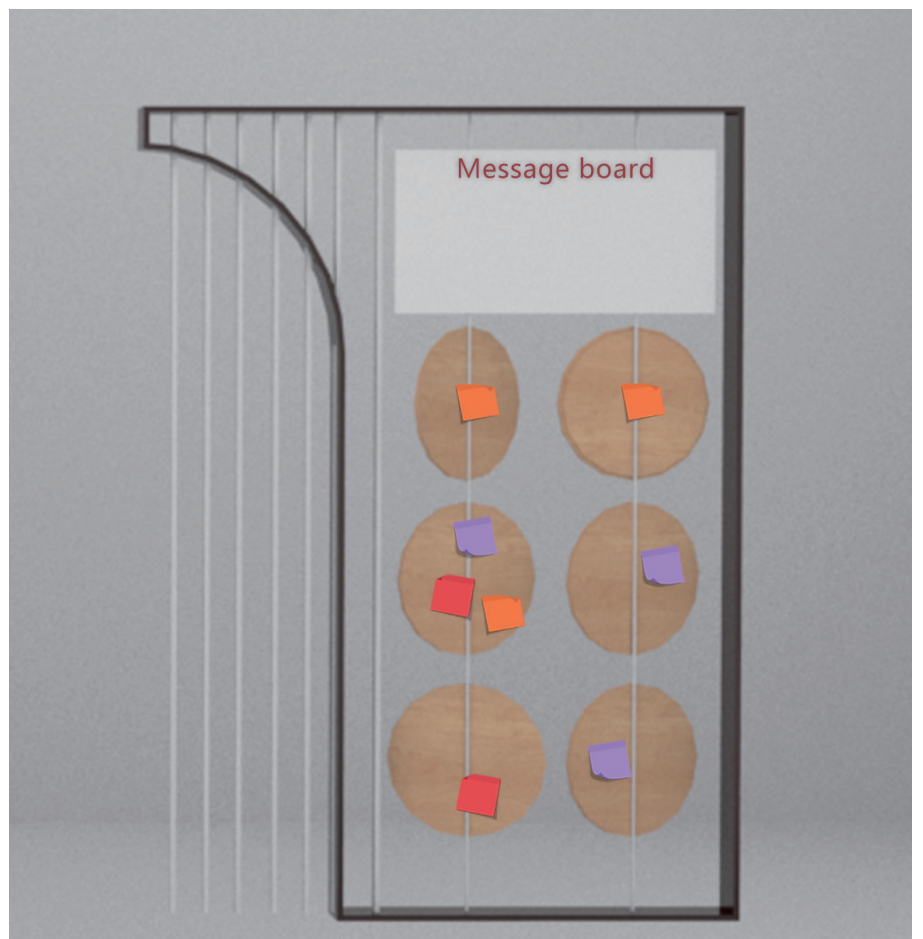

Figure 67: Hypothesis idea 2

Chapter 9

Reflection

At the end of the report, I reflect on my graduation project. I am going to reflect on the topic of the project and the design process, the design methods, and the final deliverables.

Reflection

The topic
When I wrote the project brief, I mentioned that the topic of this project is very unique, which attracts me. And I think this is a very interesting perspective to do a museum-related project. And I feel honored to cooperate with MCC to complete the master's graduation project.

Of course, this project brings many challenges for me. For example, I don't know much about museums and religion. Because of the lack of relevant knowledge, it makes me spend a lot of time to learn. And, because this topic is rarely studied, there are not many examples for me to learn. So I got inspiration from many other fields. For example, bookstore design, shop window design, creative exhibition design, etc.

The design process
In the design process, the biggest difficulty I encountered was reasonable time management. I always spend more time than expected. During the research and testing phase, I spent a lot of time recruiting participants and making appointments with them. At the beginning of the design phase, I

felt lost and confused because I did not know how to move on. And it is difficult for me to enter the design stage immediately because I have no relevant experience. I wasted a lot of time at that time. There are also many difficulties in the prototype stage. For example, I don't know what software to use to make an online prototype. Therefore, it difficult for me to do the design activities as planned.

This causes that I do not have enough time to analyze and document the research data and results. Therefore, an executable plan is very important for design projects.

The design methods
In terms of the selection and use of design methods and design tools, the biggest challenge for me is to collect useful data through online design and research activities. I learned a lot from other designers' experience. For example, I used miro for co-creation sessions and brainstorming. This is a challenge that has not been encountered before, and it is a special and valuable experience for me.

The final deliverables
In this project, the design result is a shop design. Some participants of the test think the final deliverable is like the interior design of a shop. Frankly speaking, from the perspective of interior design, there are many areas that can be optimized and improved. However, because my major is interaction design, the shop is designed more from the perspective of user interaction. So I think this project provides MCC with a new perspective for the design of the shop. MCC can combine the results of the test, according to the budget and the needs of the museum, and selectively apply the concept to the real shop design.

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Appendix

Appendix have been included in a separate document, and contain the following content:

A. Design brief

B. Hypothetic Model

C1. Research Set–Up: Questionnaires

C2. Analysis process: Questionnaires

D. Research Set–Up: Online Interview

E. Questionnaire

F1. Persona: Explorers

F2. Persona: Facilitators

F3. Persona: Professional/Hobbyists

G. Shopping Journey

H. Overall journey

I. Co–create sessions process

J. Concept evaluation data

Thank you
for watching!

Chenhui Peng