SD5018
RESEARCH AND ANALYSIS
FOR DESIGN

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INFO
ARCHI

SUMMARY OF
THE REPORT

The purpose of this report is to record the findings that the INFOARCHI research team has obtained through their three months research process. The project is focused on knowledge and book management, where we were fascinated in one of the most common questions within the creative industry; "do designers read?" Such questions remains abstract and it is a challenge to unravel the problems in order to create possible solutions that would overcome existing reading behaviors.

The research is conducted by interview towards fiver undergraduate architecture students who are currently studying in Hong Kong. The findings of the research will under go a series of analysis procedures in order to generate possible insights that would aid the team's final conceptualization to solve the problem.

With a combination of team members orginated from different disciplines of design background, the process was interactive with inspirational ideas. The process invovles with empathetic thinking as we are dealing with the problems where we might have been suffering from as well.

The INFOARCHI ultimately strives to improve the lifestyles of designers by enhancing their interaction and experience towards books. We believe that design could be highly improved in the future. As designers begin to discover innovative ways of obtaining knowledge, design processes and its outcomes on individual proects will be improved.

INTRODUCTION

The INFOARCHI is a design team consists of five members from the Masters in Design, Design Practices and Interaction Design programme from the Hong Kong Polytechnic University.

The theme of this design research project is "Knowledge Management for Designer". The main focus of this report will concentrate in discussing our research regarding to knowledge management and reading issues specifically towards designers. The objective of this project is to research on the attitudes that designers adopt towards the interaction on books in order to improve and enhance the experience of reading.

In order to gain the data, information and insights to create a solution for our study, an interview with five participants have been conducted. Our research methodology consists of secondary researches and primary researches. By employing these methods, it will enable us to identify key factors that affect designers' reading. The data we collected are mainly subjective and qualitative as we intended to discover design intervention points, focusing on each participants' reposes could provide us with qualitative insights, which posts greater portentials in order for us to develop our concepts.

The findings of this design research will be thoroughly elaborated and explained in the following sections of the report. Further elaboration will discuss upon the reason why we have selected the knowledge management question over the rest. Moreover, the process of interview conduction will be described followed by the key findings, which mainly contains of three aspects – designers' attitude towards reading, behaviors towards reading, and their book management methods.

Through this project, we aspire to generate resolutions to improve and enhance designers' reading experience, further recall the enjoyment of reading in this digital and high-pace era.

LITERATURE
REVIEW

ABOUT KNOWLEDGE

Knowledge management is a broad and abstract topic that requires us to learn from the basics, such as what knowledge is and how it is known to be categorized, so that we will be able to determine the angle of tackling the regarding issue.

Knowledge is defined as the fact, information and skills acquired by a person through experience or education. It is the theoretical or practical understanding of a subject (Oxford University Press, 2013). There are two basic categories of knowledge; coded knowledge (which is also known as explicit knowledge) and tacit knowledge. Coded knowledge is knowledge that has been articulated, codified and stored in certain media, which can be readily transmitted to others. While as opposed to coded knowledge, tacit knowledge is the kind of knowledge that is difficult to transfer to another person by written format or verbalizing for the sake that it is more related to a person's subjective feelings and experiences (Collins, H.M., 2011).

With respect to design knowledge, we defined it as the kind of knowledge that designers can apply upon during a design process. Designers are professionals who create concept solutions to solve problems and improve the lives of human beings. This to a certain extent signifies the importance of design knowledge as they require knowledge to execute individual projects. Furthermore, we understood that knowledge is able to establish a person's self-confidence and gain self-fulfillment.

KNOWLEDGE ACQUISITION

There are subjectively different ways for designers to acquired knowledge. However, most of them will fall into two categories of knowledge acquisition; through experiencing an event through a doing process and through reading.

Experiencing, either a person experiences him/herself or someone shares the experience to the learner, is a subjective way of learning and the knowledge gain through this method is mostly tacit. A design concept focusing on this aspect might not be practical and feasible because it is extremely individually specific.

Reading is a process that a person decodes the knowledge and comprehends from the given media. Either through Internet surfing, reading books or magazines, people need to read and digest in order to acquire knowledge. Additionally, the methods of knowledge acquistion mentioned above, including Internet sources, magazines and books, are the media and containers of knowledge.

THE IMPORTANCE OF KNOWLEDGE MANAGEMENT

As discussed above, knowledge acquisition is tremendously crucial for designers. Although reading is one of the main and common methods that people acquire knowledge, different people would have varied needs and purposes for their reading and here we predispose that designers would have their specific requirements and needs for readings as well.

The diversity of professional knowledge that designers need to acquire and preserve increases the difficulty in both acquiring and organizing knowledge. It is believe to be vital for reading management, keeping them in reach for easier access and review. Moreover, we believe there are potential capacities for improving the enjoyment of reading and making designers more engaged with reading as well as knowledge acquisition. Both external and internal motivations stimulated us to focus on designers' reading attitude and behaviours, which is considered to be a significant portion of design knowledge management.

RESEARCH
OBJECTIVES

The preceding sections have stated the importance of design knowledge management. As books are considered to be the media or the carrier of knowledge, the topic has been further narrowed down to reading and book management. The term "books" mentioned here do not only refer to physical books, but also including all kinds of reading sources like digital books, magazines, online journals, etc.

To this stage, we intend to investigate designers' attitudes to reading and book management including the factors that can affect the attitudes. Accordingly, the first version of our research hunt statement is:

" We are going to research on the attitude that designers adopt towards their interaction on books so that we can improve and enhance designers way of organizing books."

Based on the hunt statement, we directed our research scope into three different perspectives that revolves around our study:

ATTITUDE TOWARDS READING AND BOOK MANAGEMENT

It is essential for us to obtain basic ideas about whether designers enjoy reading or not, and how they feel about managing books. Besides that, we attempt to define the reasons behind their attitude. If they do like reading books, then what are the resons that delights them? On the other hand, if they dislike reading, what is the hinder that keeps them from reading. Discovering the reasons behind the attitudes would provide us design intervention points that would generate resolutions.

THE BEHAVIORS ON BOOK INTERACTION

Directly approaching the participants about the factor that influences their reading attitude might be difficult because often people are not aware of it. Enquiry on their reading habit and purchasing behavior will reveal the factors mentioned above and help us define the aspects on which we can make improvements and changes.

METHODS TO MANAGE BOOKS

The question of methodology posts the most interesting and insightful part of the research as we discover designers' adaptation of methods to manage their books and how they feel about the whole managing process.

RESEARCH
METHODOLOGY

RESEARCH METHODS

To being with our research, we have initially came up with three kinds of research methods; interview, body-storming and a workshop dedicated to obtain inisights through discussion.

In chronological order, we initially planned to set up an interview with our target group. In order to gain data that would relate to our reserach topic, questions are carefully constructed based on the three aspects mentioned before; management, behavior and attitude.

We then sought out a body-storm with our interviewees by having them organize both physical and digital books using their own methods. Such methods will be conducte in a planned and purposeful way where we believe would provide us with insights and observation opportunities that would reveal the very truth of knwoledge management through the participants' actions, thus providing more concrete evidences to support our final concepts. We are, at the same time very aware that such methods may post subjective judgements towards our final concepts as the observations were conductd within the group.

A workshop for open discussion will offer us inspiration that we have not covered or thought of during our secondary research. The participants will be asked to take part in an open discussion workshop, discussing their experience on knowledge and book management.

Due to time constrains, we were only able to conduct the interview with our participants.

TARGET GROUP

We have initially understood that in order to gain the most qualitative data from our participants, the target group has to be a selective group where knowledge for them is fundamental and of necessity. We have therefore identified three kinds of target groups while conducting our research; undergraduate design students, beginners in a new area of design and freshmen on their design career. We believe by tackling the research from the angles of learners could reveal their enjoyment and difficulties on reading and knowledge management.

We have however further narrowed down the target group into a smaller and specific segment; undergraduate architechture students from Hong Kong. As we realize that architects are somewhat involved in the creative business like designers, they would at the same time require a vast amount of technological knowledge on architecture and geographical foundations. We have therefore defined architecture students as our target research group, believing that their answers would provide us with useful insights from their reponses.

CONDUCTING THE RESEARCH

The interview was conducted in and architecture studio in the Hong Kong University, where five architecture undergraduate participants participated in the interview. Two of our teammates were responsible for the interviewed process, where the rest are responsible for voice recording, notes and picture taking.

As mentioned above, the interview questions are separated into three categories; attitude, behaviour and management. The questions are constructued in a planned and purposeful way as show below:

BEHAVIOR	1. On a scale of 1 – 5, how much do you enjoy reading? (1 = not at all - 5 = very much) - Why is that you don't enjoy reading? (For scaled 1 – 2) - Why do you enjoy reading? (For scaled 3 – 5) - What do you read? - And why do you read those?
	2. Share with me your reading habits - How much time do you spend on reading per week? - Where do you normally read?
	3. Do you purchase books for personal readings like magazines, novels or e-books? - Why do you purchase these books? Why don't you purchase these books?
	4. Do you purchase books for studying like textbooks and reference books? - Why do you purchase these books? Why don't you purchase these books?
MANAGEMENT	5. Where do you store your books for personal readings and studying? - Why is that?
	6. Could you describe the methods you use to organize books? - How would you describe this process to be like? Is it easy, convenient, complicated or time consuming? - (If interviewee answers in a negative response) Why do you think so? - What do you think the problem is?
ATTITUDE	7. On a scale of 1 – 5, how important is it to you to manage your books? - Why is it important/ not important?
	8. Do you prefer physical or digital books? - Why is that? - How do you acquire them?

**THE SORTING OF
RESEARCH MATERIALS**

Simply obtaining the research outcomes and diving straight into concceptualization is not enough. In order to have a more comprehended and logical way to sort out the research materials we have obtained form the interview, we have undergo a series of methods to organize our findings. Those methods go from documentation, sorting and finally, normalizing our findings.

Documentation

After vocally recording all of the interviews, we have then noted the participants' responses word by word. This is the first step to manage findings from an abstract interview. All five participants data are collected by each question. The sentences and paragraphs that are related to books and knowledge management that are deemed to be related to our study were then highlighted for the sorting process.

Sorting

Sorting, also known as the combing and coding process is a method where we have retained the keywords that are relevant to our research. As the interview transcript recorded each participant's exact response in words, there are phrases that could be deducted. And when those phrases, words or paragraphs that are not relevant to our study, whatever is left would be determined as relevant data.

Normalize

The final step is to normalize the findings. This step requires us to give summaries to our findings according to each questions laid out in the interview. We have summarized our findings and drawn on patterns and correlation within in order to make sense out of all the answers.

KEY
FINDINGS

MANAGEMENT

In general, we found out that the participants do manage books to a certain extend. As it appearerd that reading is considered as leisure, in terms of book management methods, the participants tend to manage their readings at home, where the atmosphere is comfortable.

We also found out that our participants tend to prefer physical books for their leisure readings for enjoyment. However, reading for leisure is also seen as something that students barely have to time to do due to heavy studying schedules.

BEHAVIOR

Reading is generally a favorable activity towards our participants. As they expressed their fascination towards reading as one of the methods to enhance memories, knowledge acquisitions and creativity enhancement. However, to be specific, the participants shows that they are more fascinated with story telling books, where on the other hand, they felt that mandatory reading from school is rather repulsive. Especially when they are forced to complete certain reading materials within a given amount of time.

We understood that a comfortable atmosphere for reading is extremely importnat to enhance a person's reading experience. An example from our findings demonstrated that they would prefer reading at home, where pressure is reduced to a minimum level.

ATTITUDE

We understood that our participants highly prefer physical books over didital books. As most interviewees prefer physical books, their reasons revolved around how physical books give them a sense of physical feeling by its physical properties.

FROM FINDINGS
TO INSIGHTS

In order to effectively generate concepts from our research findings, we find it extremely important to draw out insight statements from our key findings. By drawing the correlations and relationships from our key findings, we could find linkage between our problem and its solutions.

A PERSON'S EXPERIENCE AND THEIR ATTITUDE
IS TWO WAY RELATED

The reading experience is influenced conspicuously by the attitude that people adopt towards reading. Our findings regarding to reading purposes showed that designers subconsciously separate their study reading and the leisure reading. When participants responded to reading for leisure, their attitudes are more positive. While where they were being approached to respond upon study reading, they seldom mention the enjoyment of undertaking those readings as those were mandatory, required by their tutors and professors.

This indicates that the different kinds of reading experience they had will influence their attitude towards reading. So the reading experience and the attitude that people adopt toward the books is interlaced where find it compelling to tackle on.

ENVIRONMENT AND ATMOSPHERE MATTERS

Interviewees mentioned that they prefer leisure readings at home, where a minority mentioned that their readings for study is usually conducted in the studio.

From our participants' reponses towards their reading environment and atmosphere, we realize that the reading atmopshere is extremely important depending on what kind of readings their are seeking to conduct. It ultimately plays an important role in terms of affecting the person's interaction towards books.

PURCHASE DEPENDS
ON PURPOSE

Our findings showed that only a few participants would purchase reference books or textbooks for studying, while most of them would purchase their personal readings such as novels and magazines. We understood that it has less to do with the price of the book, but more about the meaning of books for them.

Books for leisure reading expresses their personal interests where by purchasing physical books, they would find an intimate connection with them. When it comes to reference books and text books, the participants expressed that they would obtain those reading materials by borrowing them from friends and libraries. We immediately see how unrelated they feel with mandatory readings.

In summary, we found out that within the different ways of obtaining books, whether through purchasing or borrowing, those methods would vary depending on their purpose of reading. Placing this topic with clarity, it is important to understand that the behaviour of where a person borrows or purchase a certain type of book does not necessarily add value or devalue the existence of the book itself. It is the purpose for the reading that determine such interaction towards the book.

ORGANIZING MAKES BOOK
MORE ACCESSIBLE

An interesting phenomenon arose from the our research findings. We found out that an organized book collection of resources would provide easier access towards books for the participants. However, in contrary, they are unwilling to manage their books and knowledge resources collections. As this issue was further elaborated, we understood that book management is extremely time consuming and physically demanding (especially towards readers who prefer to have their books in physical form.)

Placing this issue in context, we came out with a conclusion that ultimately, an organized book collection would make it easier for people in the creative industry ot obtain the resources they need. However, providing them with an organized way of book storage is vital in order to achieve a win-win outcome.

SOLUTION:
THE STATE OF MIND

By linking our insights with the existing problem we intended to solve, we generated a set of concepts where we believe could effctively tackle the mutiple difficulties designers have towards their interaction on books and knowledge management.

STATE OF MIND

By collecting and reorganizing the ideas, we summarized them to our final concept design, "State of Mind". It is a common ground designed for designers. The venue consists of different products, interiors and services designed to solve problems that we discovered based on our insights. The concept imitates the way our brains works; a logical part ad a creative and emotional part. These two parts plays their unique role in enhancing the way designers acquire knowledge.

## INSPIRATION AND KNOWLEDGE

The "Inspiration area" is an area designed to improve reading experience by implementing multi-sensory atmospheric stimulation. The intention of the interior is aimed to express a variety of design styles, aspiring to enhance inspiration by the manipulation of a comfortable and creative atmosphere. The "Knowledge area" is an area where we aim to reduce external interruptions in order for designers to focus on their readings.

Both areas aim to transform its environment into the most ideal and multi-purpose reading space.
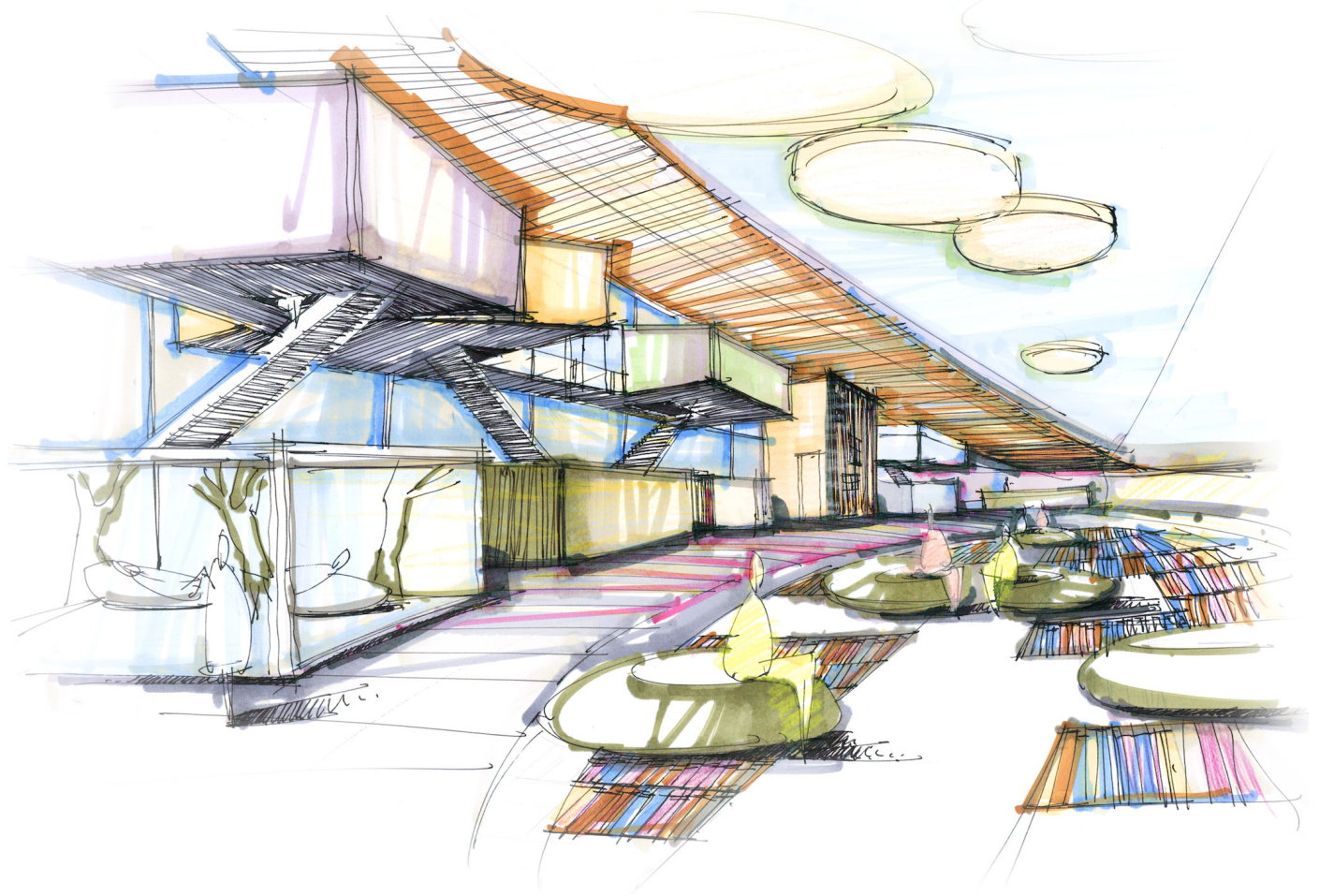
(top) the inspiration area
(bottom) the knowledge area
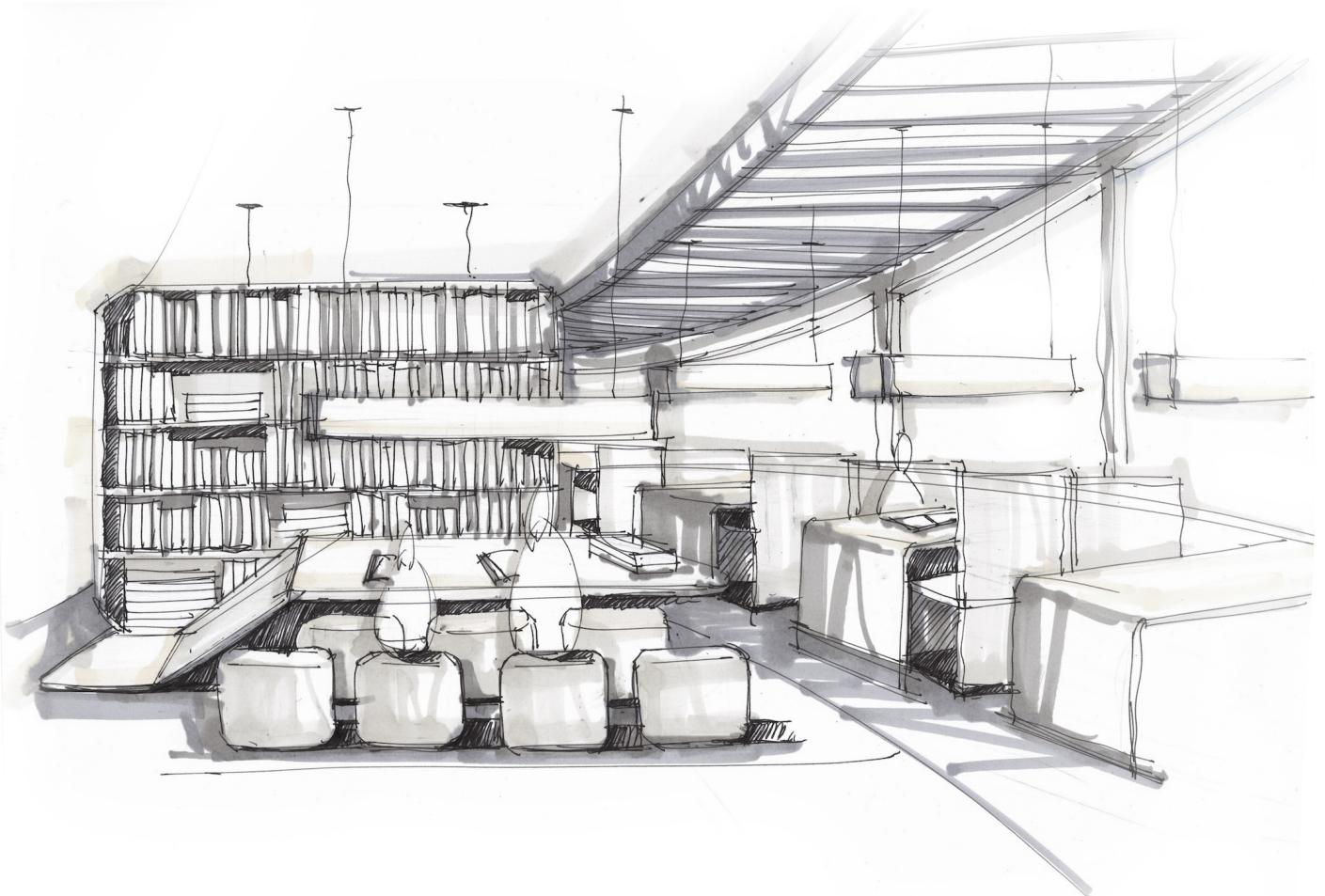
INTERACTIVE
BOOK STORAGE

Rotating Bookshelf is a smart bookshelf where recommended books are being place on a shelf that rotates. As designers are resting around the area, the rotating shelf will enable them to have an easier and a more interactive way to approach books. Flooring Storage is a creative approach to line up books on the floor. Both designs is aim to enahnce a more interesting and a more proactive way to approach knowledge acquisition.

flooring storage concept sketch
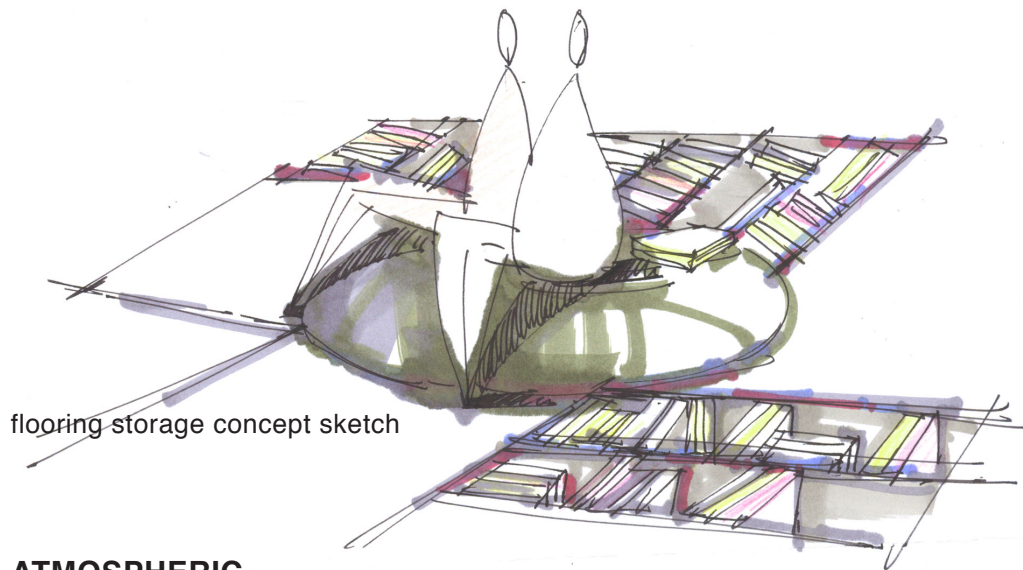
ATMOSPHERIC
READING ROOMS

Drawing inspirations from our insights and understanding that different atmospheres and environments could have an affect on a person's reading attitude and behavior. In this concept, we aim to construct different rooms with different themes, hoping to provide a more inspiring environment for readers to utilize for their readings and studying.

rotating book shelf
concept sketch

16
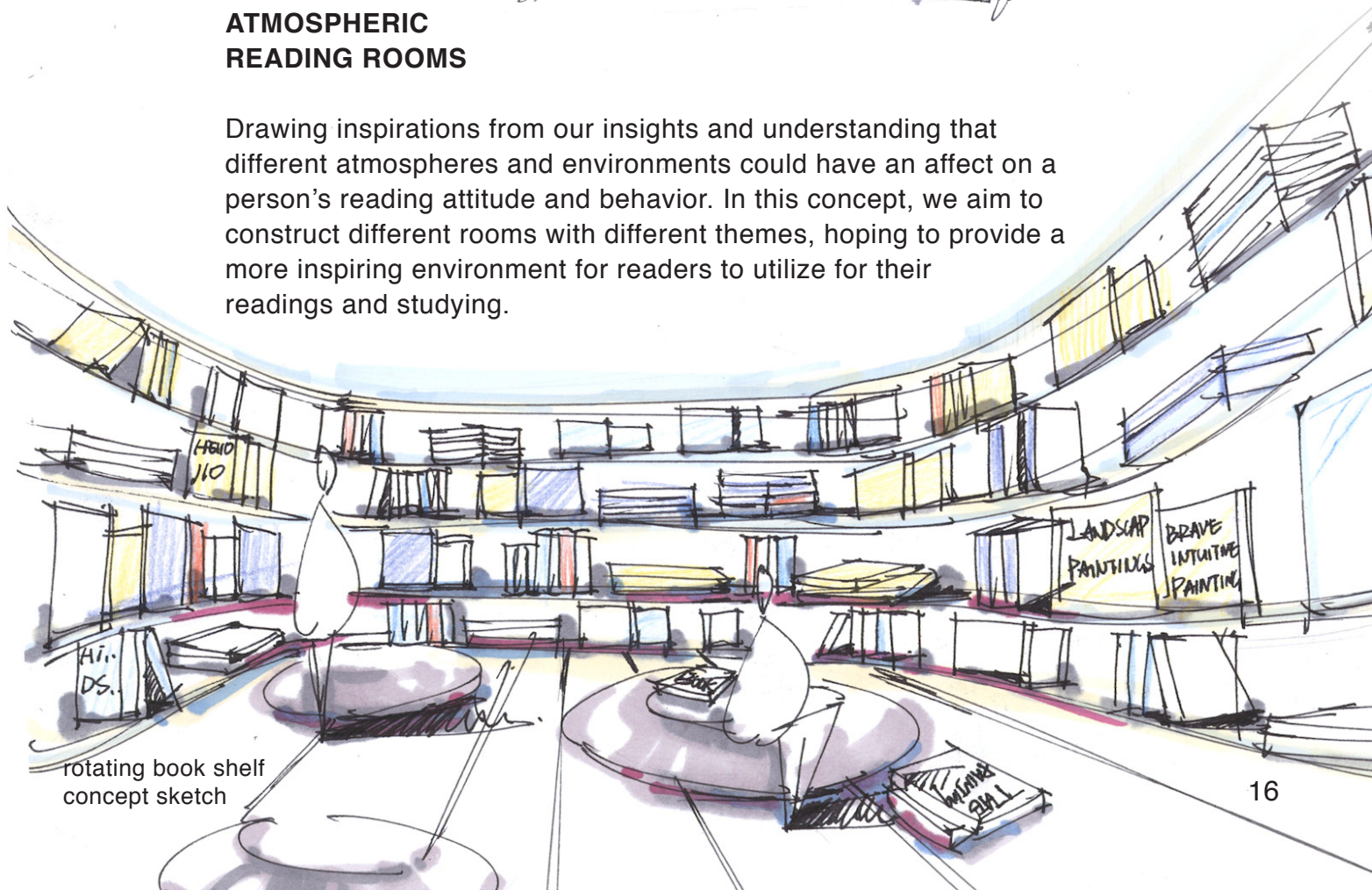
INTRANET DATABASE

Intranet database is online service that allow designers to browse an internal collection of books that are dedicated to professionals who are in the creative industry.
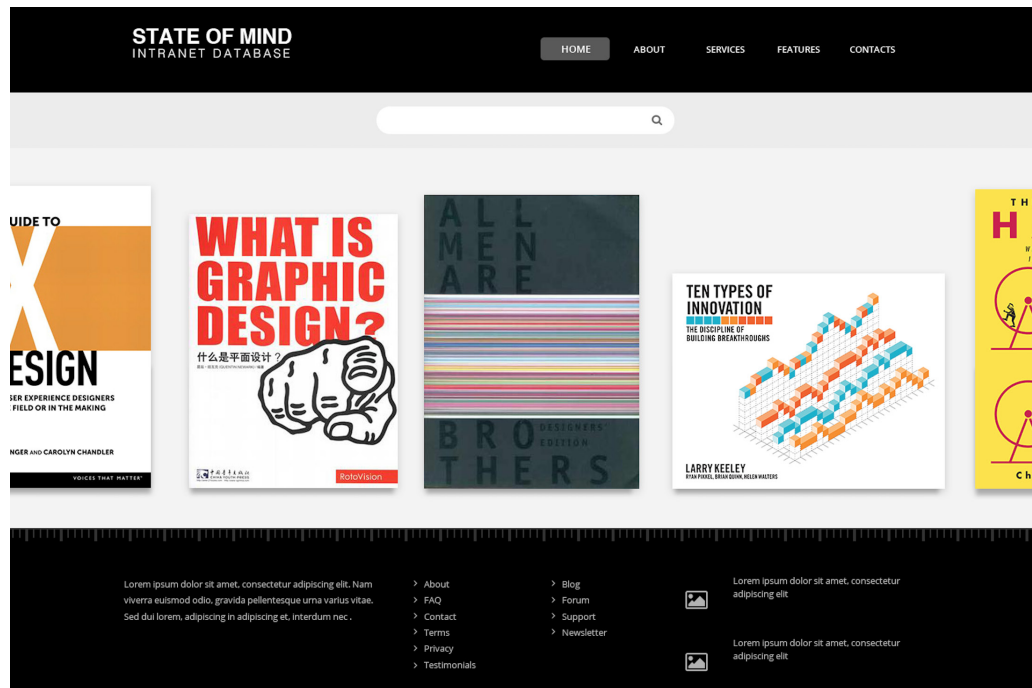
READING POD

Reading pod is a individual reading area where an ergonomical designed chair and desk is provided for readers to isolate them from the crowd in order to manipulate a comfortable and private area for reading. The top cover of the reading pod can reducing the noise from the environment and also to offer the reader a more private space to indulge in their private reading experience.

CONCLUSIONS

By assessing the strengths of this project's research process, it is conceivable to state that we have successfully tackled a problem from a very abstract perspective. The question of whether designers read and the way they manage knowledge remains a debatable subject that is highly subjective. To be able to understand this context, we have taken approaches to observe the attitude and behavior people adopts towards knowledge management.

Being able to gain fundamental understanding of what knowledge really means to designers as a starting point assited us to develop further insights and researches on the exiting knowledge management methods. Furthermore, as our research progresses, to find ourselves in a peculiar position as we begin to look into the psychology of readers posted a challenge of observation and decoding outcomes from our interviews. As our subject opinions and experience may highly influence our decisions and judgements towards a reponse, we paid extra caution in constructing our findings in making sure that our final concept solutions would stay as relatable with our hunt statement.

The exploration of research analyzing methodology have aid us in performing effectively towards our conceptualization. The use of documentation, coding and normalization have eased out the complications from our findings. It further assited us in drawing relationships between the outcomes into insight statements.

During the conceptualization process, it is a surprise and an enlightenment to be able to generate multiple concepts. Undeerstand the different needs and problems reading post towards designers, having the right environment and equipment to enhance knowledge management was deemed necessary according to the outcomes of our research.

In summary, the project was successful as we are able to draw direct relationships from research outcomes and concepts. It is however, important to keep in mind that personal subjectivity and judgements would highly affect the summary of research findings.

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