

spotlight

donate your stories



SOCIAL AND USER NEEDS

Today, the amount of One Person Household - OPH - is rapidly increasing in South Korea. This ratio was 14.4% in 2006 and increased to 27.2% in 2016. In particular, about 66% of the increased number of OPH from 2010 to 2015 is middle-aged people under the age of 60. Experts believe that the cause of this phenomenon is a combination of factors such as the increase in the number of children who live alone away from their parents, increase of women's career advancement into society, increase of the elderly living alone as a result of aging, increase of unmarried people, job hunting, increase in divorce rate and low fertility.

We decided to focus on the male OPH in their 50's mostly because we believe they are on the blind spot of welfare among a diverse range of OPH groups. To better understand their needs, wishes and pains, we have divided their issues and problems into three different categories: living, economic and social.

LIFE PROBLEM

According to a study by BUSAN FAMILY DEVELOPMENT INSTITUTE, 25.3% of the male OPHs in their 50's in Busan experienced divorce, 28.4% of those living alone for 10 years or more and 22% of those have chronic diseases. They suffered from a variety of problems ranging from basic problems such as nutritional imbalance and excessive drinking to 'disconnecting from the world'.

ECONOMIC PROBLEM

Most of them are suffering from economic difficulties as they become OPH. From the Institute Research, we can see that in Busan males living alone on their 50's have various issues regarding money. From it, 55% have jobs meanwhile 45% are unemployed. According to the report from Korea Consumer Agency, their economic difficulties are composed of 37.8% of household spending, 29.9% of food expenses, 15.9% of financial expenses, 5.3% of expense for clothing, and 11.1% of others.

SOCIAL PROBLEM

However, the biggest problem is their high rate of 'Die alone'. The Seoul Welfare Foundation analyzed a total of 162 'Die alone' cases in Seoul in 2016, and 137 cases (85.0%) were male. Among them, 58 cases (35.8%) of 'Die alone' were the case of OPH in their 50s. According to the statistics of the Busan Social Welfare Association, 17 cases (65%) of the 26 'Die alone' cases between June 2017 and September 17 were occurred by middle-aged people between 40 and 64 years old. Thus, we may conclude that the unattended deaths in the 50s in 2015 were 187, which is 60% higher than in 2013 through the statistics of the Ministry of Health and Welfare.

As the cause of their high 'Die alone' incidence, experts cited 50s male OPH's lack of communication with others. According to a study by BUSAN FAMILY DEVELOPMENT INSTITUTE, 52% of male OPHs in their 50s responded that they were worried alone and when they had trouble there was no one to comfort them. Also, due to their disconnection to others, 28% of the respondents said they were alone on an emergency situation.

As such, the 'Die alone' of the middle-aged people under 60s is repeated throughout the country, but the nation's 'Die alone' prevention measures are focused on elderly people over 65. Thus, we believe that the 50's male, OPH, may also benefit from a social measure to fight against this bad trend of Korea.

INSPIRATION FROM NATURE

In our design process, we faced constraints and used different kinds of inspiration. As a constraint, we had to consider the designed outcome to be self-organized – which means it should work by itself without the constant interference of the professional designer – and we should apply nature as an inspiration.

However, before starting to talk about nature as an inspiration we have to expose some thoughts our group had regarding nature-inspired design: a) should be bottom-up applied and b) should consist basic rules to be followed to keep the designed system self-organized. Considering these two statements we were able to pursue our idea and develop it further in a workshop organized by professor Baek and Sumin Lee.

On the workshop, we were able to understand better how nature can inspire and influence our design and tailor down our user needs and pains in a more efficient way. Thus, we were able to provide a better outcome from the research and used method. On a set of nature-inspired movements, we decided to use the fireflies blinking on the mating season.

When the fireflies are in the mating season, the male fireflies light their lanterns to catch the attention of the females. When one firefly starts to blink others follow it to dispute for the females attention. As a result, soon we can see the aesthetic and almost synchronized movement of fireflies lighting up a dark environment.

The result is not only pleasant to the eyes but also a natural phenomenon which we believe it can be replicated by design. Our concept should then be a service that creates awareness and provides an opportunity to our users – OPH, male, on their 50's - to share their worries as the fireflies share their own light.

DESIGN OPPORTUNITIES

Considering the fireflies lights and the OPH's worries as a resource to call attention – one of the females and the other of the society – we concluded that would be a good way to raise awareness while dealing with some emotional and social needs from the OPH. If we consider the OPH worries as a flash of light and that others, seeing that, will join and share their own, we can provide awareness and satisfy some of our users needs providing meaningful connection to the city and its people.

Another fact which should be highlighted on this process is how everything happens anonymously to facilitate the OPH's to share worries and thoughts which they would not normally do because of shame or others judgment.

Another finding from our research is how this section of the population has a struggle to understand their place on society. While some believe they can still do a lot for society others understand they can't do much due to their own conditions. Thus, it makes difficult to us to encourage OPHs to share their story. The solution we found for this problem is to use the worry as a valuable asset.

This way, when OPH shares their worry they are contributing to raise money to children's – as a final outcome of this design service – shifting the focus of the project from the OPH and making them able to donate to others without using money, instead providing them the opportunity to: donate their stories.

METHODS AND TOOLS USED IN DISCOVERY, DEFINE AND DEVELOP

To arrive at this concept it was not a linear process. As design takes forms in different directions and opportunities, it was relevant to our group to use design tools which would make our concept effective in between our limitations and constraints.

For discovery, we used: data analysis, secondary research, and nature-inspired workshop.

For define, we used: nature inspired, brainstorm, task analysis, affinity diagram

To develop we used: service blueprint, service system map and degree of importance on the service diagram.

Foremost, it is important to mention that our group was not inclined to work with OPH on the age and gender we defined from the get-go. We conducted essays for our class midterms regarding OPH trends around the world and South Korea and from there we started creating familiarity and knowledge of this sector of the population.

After acknowledging and defining our group – One Person Household, male, in between its 50's, in South Korea – we were able to better understand this specific population. However, our own research at this point was not enough. Thus, to improve our research and considering our team limitations – whereas only one member can speak Korean - we decided to ask for a report from the Busan Research Institute and use other secondary research data which could support our user research.

After a careful observation and understanding of the subject, we were able to meet again and analyze the gathered data. From it, we were able to tailor down different needs from our targeted user. To better visualize it we made an affinity diagram. The categories of our choice on this diagram are: emotional needs and social needs

DEFINE

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DEVELOP

We decided to use 3 tools to further show and make our system understandable: system blueprint, service map and degree of importance of the stakeholder's diagram. With those three tools, we are able to deliver a more tangible view of our system and its benefits to our users. It also provides situations where we still lack in terms of strategy or design.

In short, we arrived at a value proposition: donate your stories. Into our service, OPHs will be able to share their worries with the community anonymously through their cell phones. This worries will be displayed in places where people normally have micro time opportunities to interact. We are considering ideal places bus stops and train stations because people are waiting there for their own reasons and are attached to that physical place. From there, people will give different kind of encouragements towards OPH.

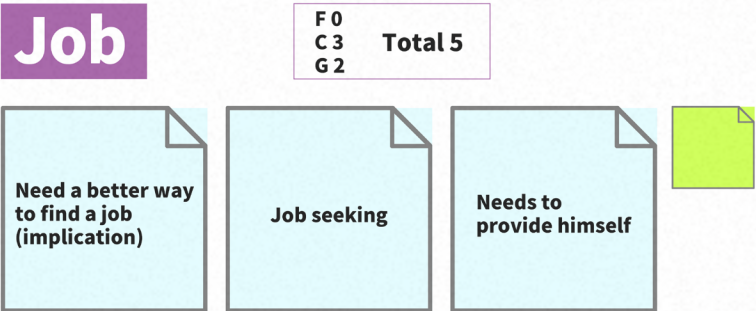
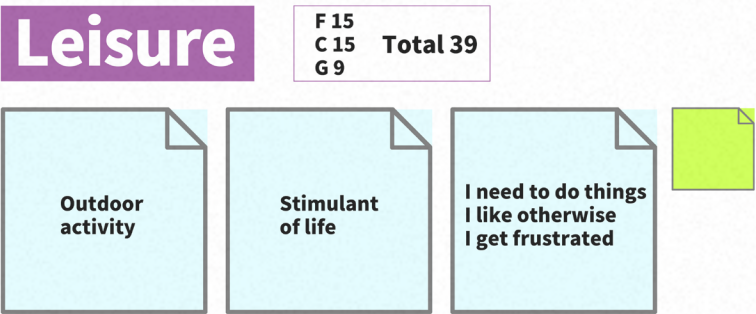
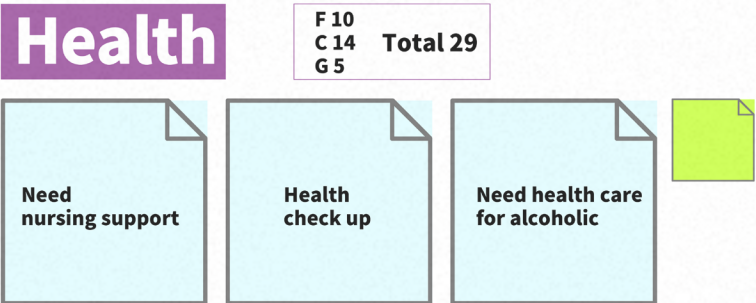
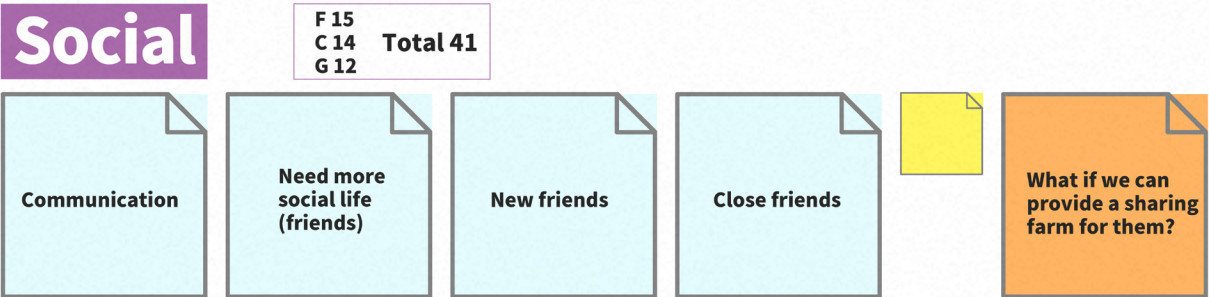
There are two types of encouragements which can be given: big response and small response. Both responses differ on the amount of time people spend to give this incentive and later will turn into a quantitative response (big response) and qualitative (small response) feedback.

The big one can be compared to a letter since it follows the physical letter format while the small response can be compared to the like button on Facebook or clap on Medium. Both will be transferred and adapted to the way the OPH sent his worries. This way, people which don't have time to write a full letter may still offer collaboration and support.

After a day, the OPH which shared his worries will receive on his cell phone all of the responses and incentives that were given. It is important to state all this process will be moderated in order to filter inappropriate content.

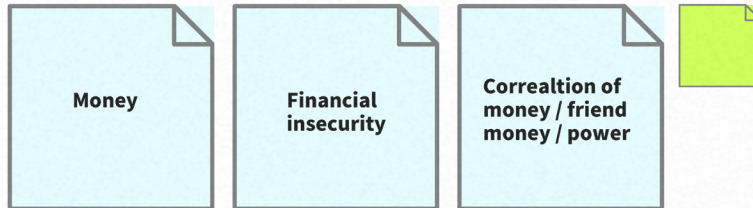
Later we want to use those stories to create a book and revert its profit to the charity. With this approach, we can state that OPHs will not only help themselves but children with their own stories, providing a good reason for them to do so.

AFFINITY DIAGRAM



Money

F 0
C 0
G 0
Total 0



Emotion

F 14
C 15
G 13
Total 42



Home

F 3
C 4
G 0
Total 7



ETC

F 13
C 15
G 14
Total 42

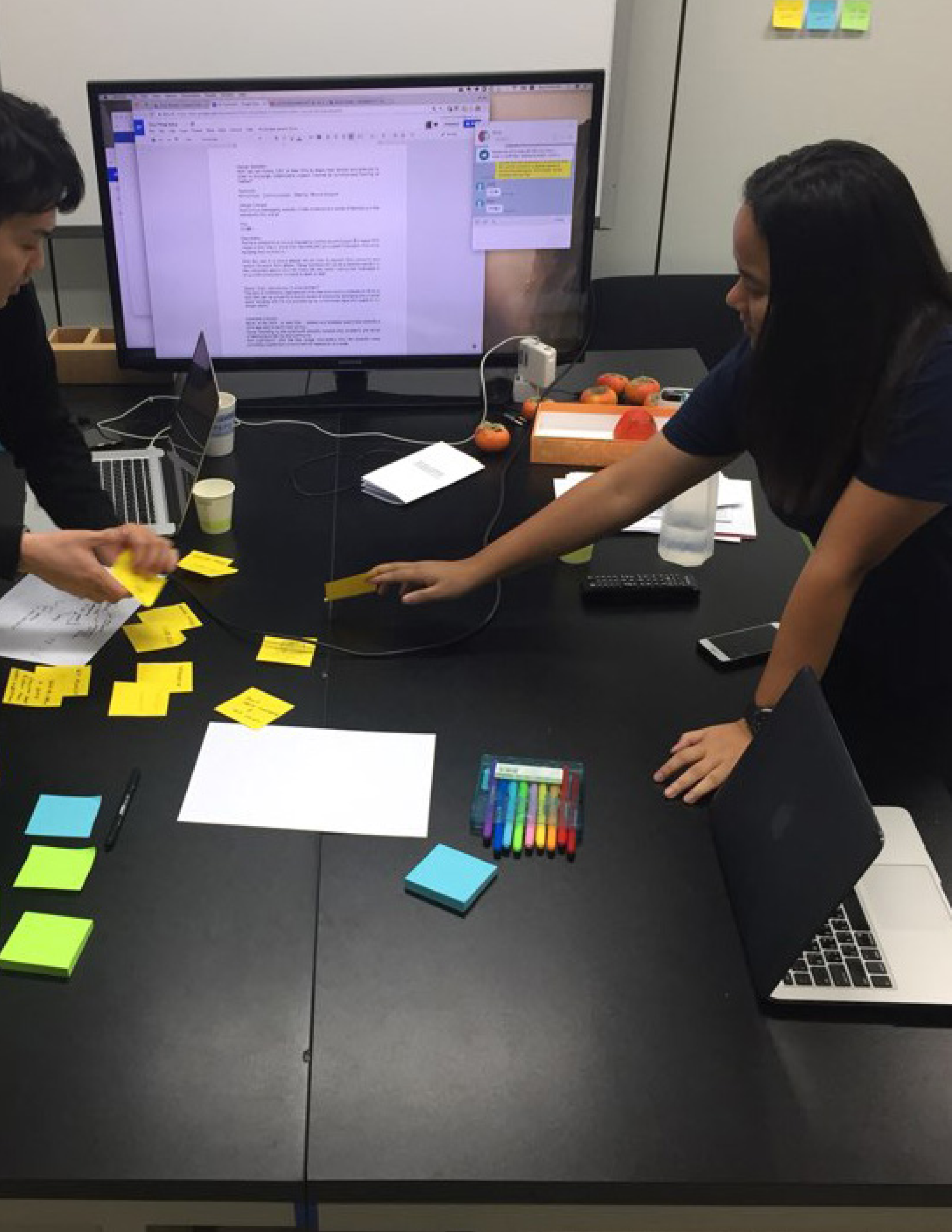


DESIGN CONCEPT

In this section, we would like to describe service design tools used in our development process. We used:

- | PERSONAS
- | STAKEHOLDERS DIAGRAM
- | SYSTEM MAP
- | SERVICE BLUEPRINT





PERSONA

Based on our user study, we have found that our primary targeted users are male in their 50s who live alone. However, this is still not specific, broad and hard for the designer team to have an inline understanding of our targeted users. Therefore, we created personas indicating our primary stakeholder. We identified characteristics of targeted users including demographic data, cultural backgrounds, habits, behavior, needs and pain points as well as their desires.

**“There are no friends to contact right now.
After divorce, I do not want to meet anyone.”**



Behaviors

Became offensive due to divorce and online toxic behaviour

He always feels happy when he receives a phone call and can use the phone

He normally expresses his opinion and tries to advice younger co workers

When he walks for a long time his left leg hurts, so he dislikes to walk for a long time

Preffers playing computer games than outdoor activities, stay most of the time at home

After divorce became more isolated, feeling less likely to meet people for leisure activities

Always tries to buy the cheapest option and use internet coupons

Always skips a meal on a day, making his nutrition worst

Needs & Pain points

Needs someone to share & communicate (understand what he is going through)

Needs outdoor time / activities

Needs encouragement to meet new people

Needs a safer place to live

Even though he has a job, he is worried about losing it

He needs to feel more emotional stability and motivation to live, after divorce

Feels stressed often after the divorce because he is home alone and has no one to talk with

Needs a better nutrition and healthier food for his own health



SERVICE VISUALIZATION

With Service System professional designers can communicate and visualize to others how their service and concept work and iterate, thus leading to a better understanding of the design outcome and how to use that to benefit its users. Thus, applied system map to envision our technical service organization, the different actors involved, their mutual links and the flows of message, money and material through the system. The tool shows the simplicity of the language communicates throughout the design.

Spotlight aims to bright up stories of males in their 50s who lives alone to the society. We believe that once their worries have been told anonymously, it will inspire other OPHs to share their worries and relieve their stress. Synchronously, it will create awareness to the society that this group of people are in the blind spot and need society's support. The outcome of the design is not only creating awareness, but communicating the story to the world. With a crowdfunding campaign in which its profit will be donated to children.

As can be seen from the system map, the framework starts with an OPH sending their story to the system using SMS service. The message will be then forwarded to our volunteer moderators. Mod-

erators are responsible for filtering the words in the case that it contains any sensitive information or inappropriate content. They will then approve or reject the message. Later, the Spotlight system will display the approved message on the board, where it would be installed on a public place such as bus station and train station.

The board is what we call a hybrid and consists of two parts; a digital screen and a tangible element for people to write on. With the design, the board will attract passerby to interact with. The passerby can encourage the OPH by communicating with the board. They can give the small encouragement by touching the board itself. The encouragement will be then sent directly to the board. Likewise, a passerby can also submit written support to the OPH.

The board provides the physical element in which someone may write and send the message underneath the digital screen. The message will be forwarded to moderators for review. If the message get approved, it will be displayed in the digital part of the board. Later that day, Spotlight will send SMS to the OPH indicating the summary of encouragement.

Even though one of our findings indicates that



OPHs do not need any helps from others, our study has shown the flipped fact that they are actually on the fragile stage and need help. By this design, where encouragement from others is not highlighted as the main purpose, we believe that the time OPHs receive the summary of support per day will fulfil their needs and their emptiness without any expectations while also providing awareness towards this section of the population.

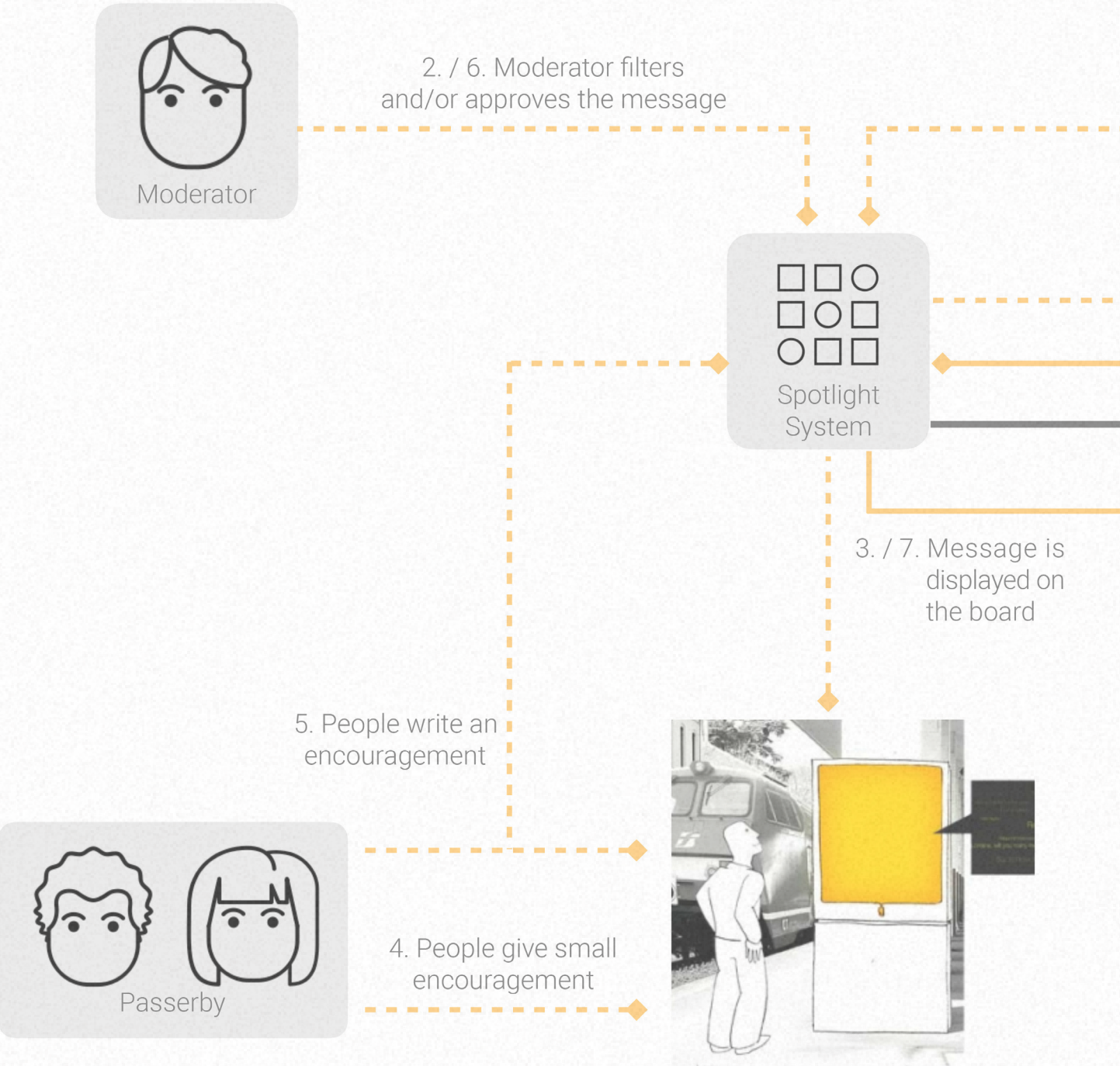
Once Spotlight has received a specific amount of donated stories, it will promote the project in crowdfunding platforms. The purpose of this promotion is to find funding from the crowdfunding platform, and they will be given books/e-books as a reward. The books will contain the story of OPHs and will be distributed not only via crowdfunding communities, but the society as a whole. Moreover, the money Spotlight has received will be donated to children at child care in South Korea. digital part of the board. Later that day, Spotlight will send SMS to the OPH indicating the summary of encouragement.

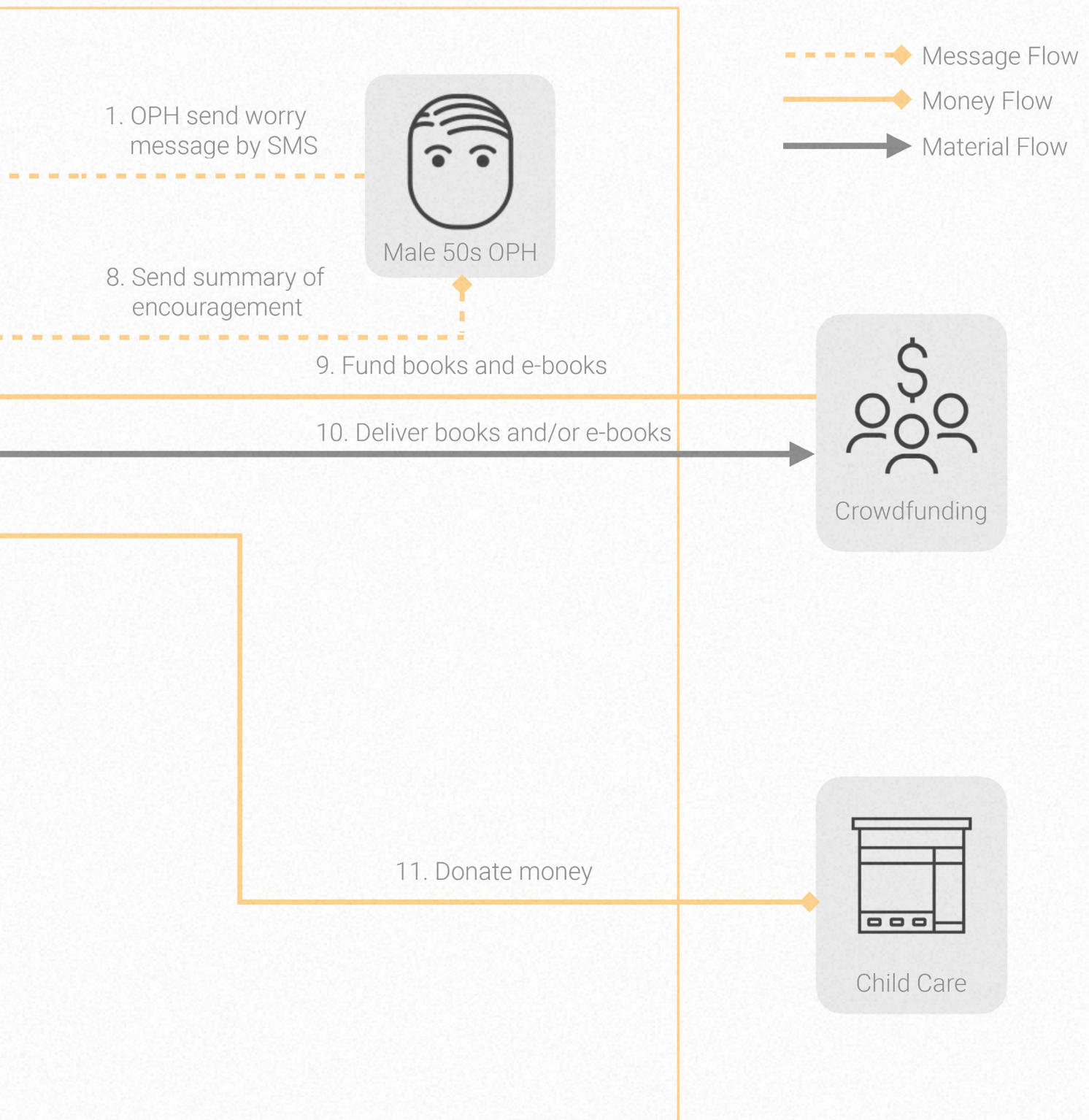
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SYSTEM MAP





SERVICE BLUEPRINT

With the service blueprint the professional designer may describe and make it easier for others to understand the points of interaction of the design and the user. Not only providing benefits, the blueprint also allow designers to understand where failure may happen and design to prevent it.

Thus, we created a visualization of service blueprint of Spotlight. It describes the nature and the characteristics of the service interaction in detail. The diagram illustrates activities that happen in the system over time as well as fail line and emotions of all stakeholders.

Fail line shows the possibility the system can be failed. According to the diagram, we analyze that if there is no participation from OPHs, moderators, passerby, there would be the high failure rate.

On the other hand, the success rate will dramatically increase if we can get the participation from them. Emotions line, likewise, follow the same pattern with the fail line.

STAKEHOLDERS DIAGRAM

With a better understanding of the stakeholders and which role they have in our design outcome it is easier to visualize and understand the role each one plays on this project. As a result, we created a very simple diagram that people may look and understand on a first glance the basic rules for this service to work.

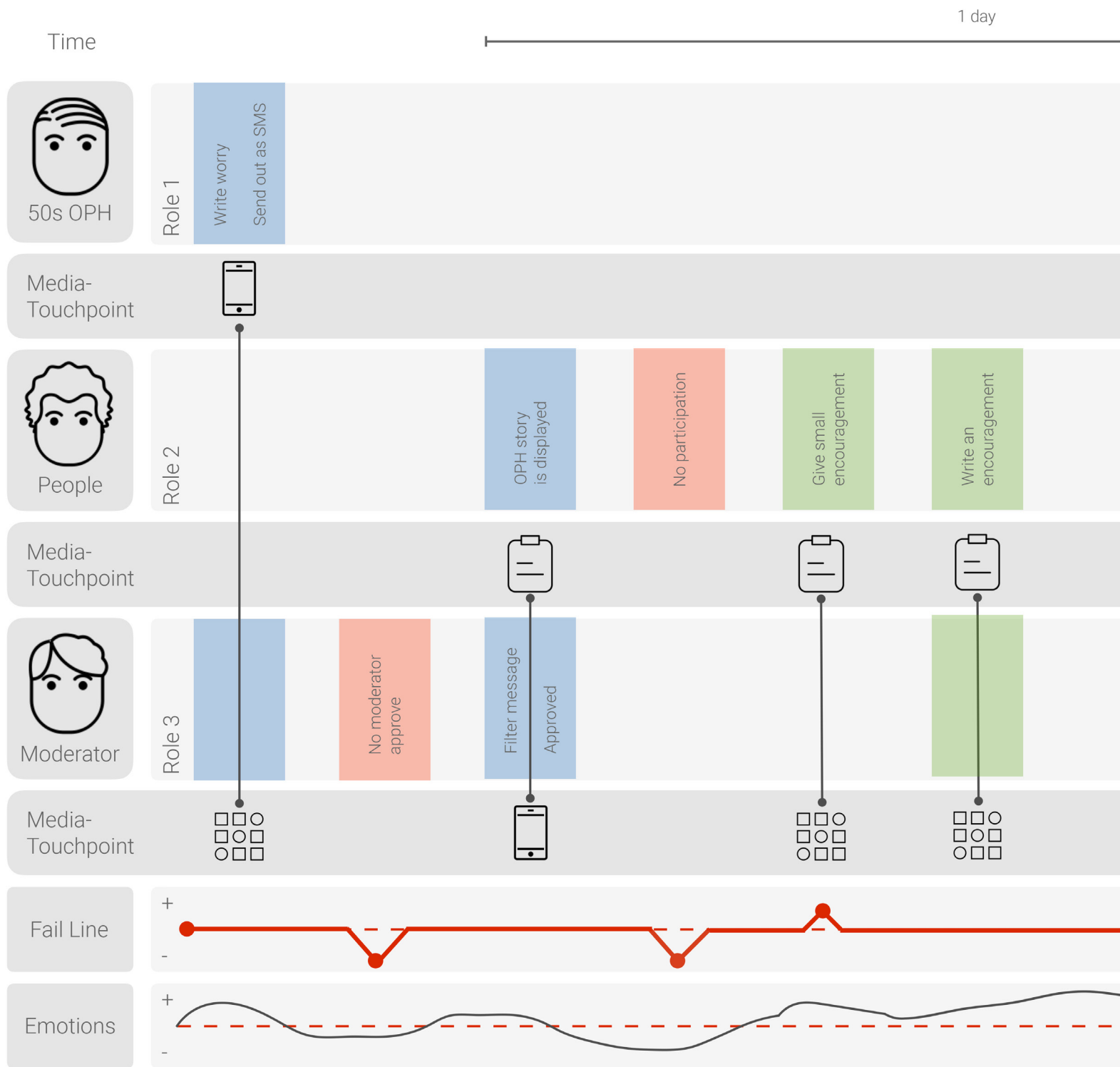
We have categorized our main stakeholders into OPHs, moderator and passerby. The OPHs have high involvement and contribution in the project, since they produce the main content needed at the first phase. Meanwhile, moderator has more influence than OPHs since they have permission to control all messages and filter them. We also considered the passerby as a high contribution to the project because their supported message produces their engagement with the system.

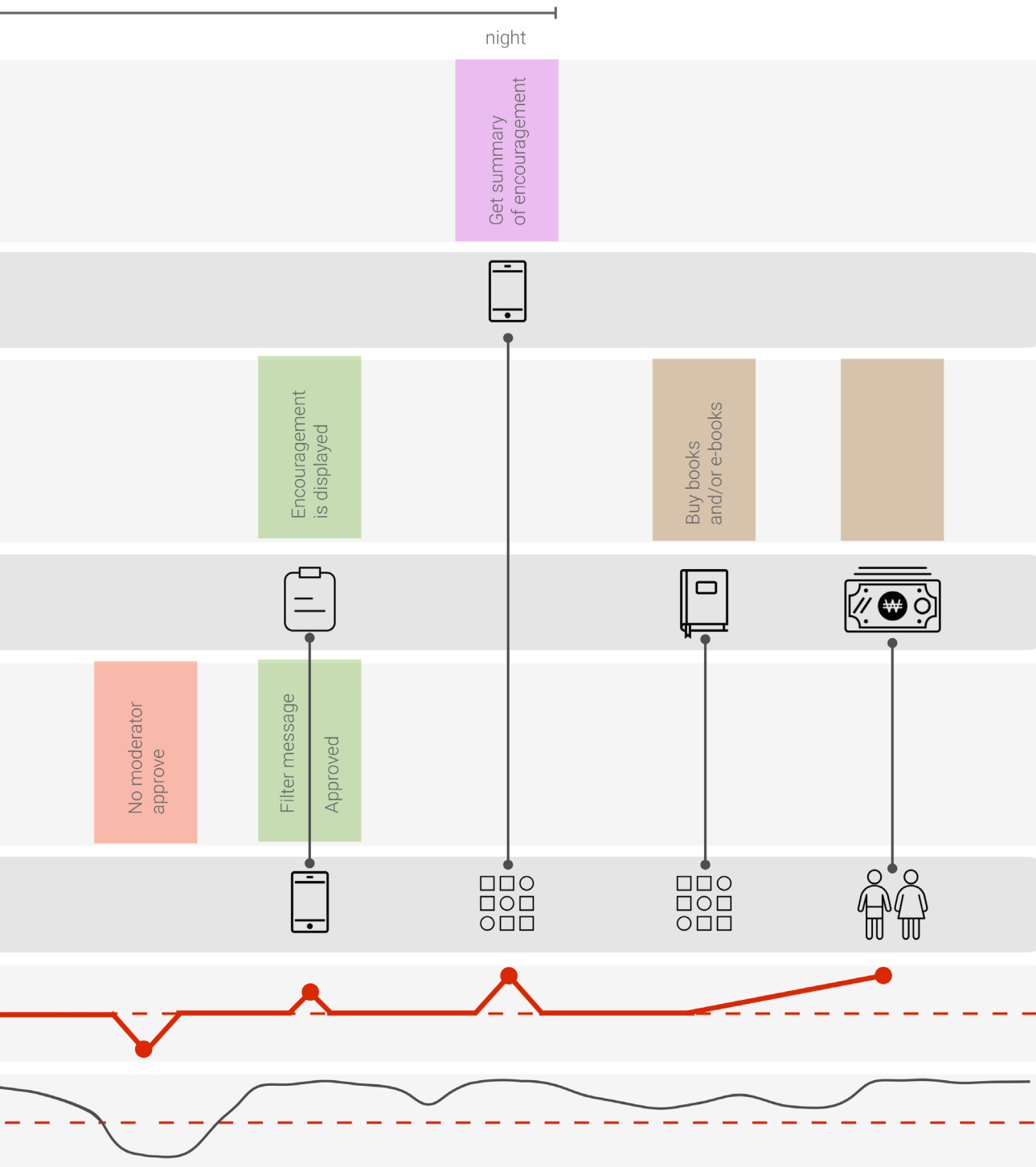
SERVICE EVIDENCE

In order to produce the service, we applied Minimum Viable Product (MVP) concept demonstrating sufficient features to satisfy early adopters and to better communication of the idea. The website can be accessed at <https://murilohennemann.github.io/cde-blindspot/>. With this set of resources we were able to evaluate and test our design with five OPHs, which could be our primary stakeholder.



SERVICE BLUEPRINT





STAKEHOLDER DIAGRAM



OPH

Male

50s



Moderator

A Staff

Childcare

Involvement

High

High

Influence

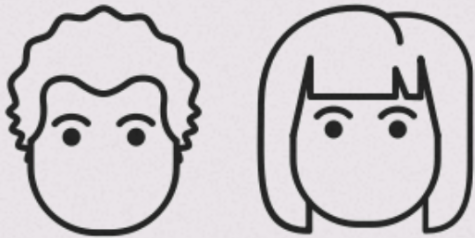
Low

High

Contribution

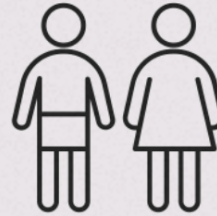
High

High



Passerby

pass by the board
Give encouragement



Children

get helped
by
final outcome

Moderate

Yes

Low

No

High

No

EVALUATION & CONCLUSION

LIKERT SCALE

On December 13, 2017, we held a 45-minute evaluation session at the coffee shop near Sinjeongeori Station in Seoul. With the use of a Likert scale and a semi-structured interview we were able to interview 5 OPHs in their 50s ~ 60s residing in the Seoul area. The purpose of this session was evaluate our design concept by OPHs who are the first stakeholder of our service, and to modify the service in a more realistic and feasible way through their advice.

The Likert scale consisted of four questions and the semi-structured interview consisted of four prepared questions and one additional question. When constructing questions for Likert scales and interviews for this session, we were most concerned with creating big questions that could cover the whole idea, for instance we asked "What do you think about our design idea?" instead of "Where the board should be installed?". Also, since participants were psychologically vulnerable because of divorce, economic difficulties, etc., we were careful to exclude words that could lead to ethical problems when phrasing the questions.

In the first question, to see if the concept of helping others with their stories can motivate them, three people choose 'Very much' and two people choose 'Yes', so we could confirm that it is an applicable concept.

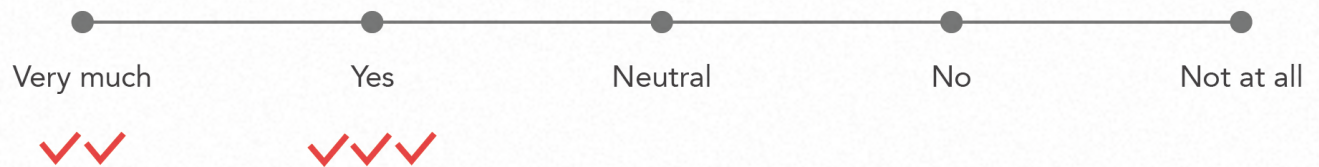
On the second question, two and three OPHs answered 'Very much' and 'Yes' each to the question which determines the possibility of forming 'awareness' between OPHs and from the community towards OPHs.

Next, we got 2 'Very much', 2 'Yes', and 1 'Neutral', respectively, in response to our ultimate design goal of 'encouraging them to share their concerns'. Thus, we were able to confirm that we are going on the right direction to achieve our goals. And finally, by getting 1 Very much and 4 Yes to the question asking to participate in the service, we could confirm the positive aspect of the service realization possibility.

1. Would you feel good or relief if you knew your story helped someone else?



2. Do you think this design solution makes you want to connect more to your neighbors?



3. Would this design intervention encourage you to share your stories?



4. Would you use this service?



EVALUATION & CONCLUSION

SEMI-STRUCTURED INTERVIEW

In the semi-structured interview, the questionnaire was composed of open questions which can be answered by narrative type rather than short answer type.

To conclude, the interviewees were very positive about our service concept. They responded that they would like to use our services because they already know the great power of warm words and attention. They also assessed the idea positively because of its collaborative nature, reinforcing this would benefit not only themselves, but for other parts of society as well. They seemed to agree when they told us it is good because their efforts will be used for the welfare of young children who are on more difficult situations than they are.

However, they also pointed out some problems: One participant was worried about how to use our service because he felt difficulty to send an SMS message. And as a solution to that, he proposed transmission via voice recognition or transmission via his friend.

But there was the opposite opinion:

For an OPH that handles smartphones very well, he presented a diversification of means of message transmission. He insisted that it would be more convenient to use the service if he could share his story through a more familiar SNS such as Kakao Talk or Naver Band rather than a text message that is not familiar to him.

And, as an advice, they said that education for the popularization of this service and active promotion for the increase on the participation rate is needed.

Overall, our service concept and direction of approach were highly appreciated by the interviewed OPHs. But we have come to emphasize that we need to consider about the means of message transfer and how we will popularize this service.

1. What do you think about our design concept?

2. What is the strong point of our design idea?

3. What do we have to improve?

Additional Q. If someone send your story for you, isn't it difficult to write an honest story?

4. Do you have any additional comments that you want to give to us?



김민수 (49, 가명)

“If someone gives me a cheer word when I’m in the bad situation, it becomes an energy. And if someone use this service and if others see that, more people will participate”

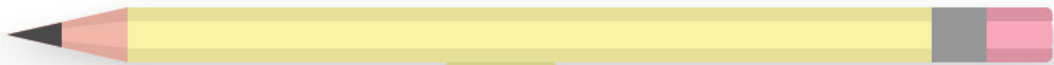
 20 people say you can do it

I had a project a few days ago, and I really didn’t want to do it. But I could finish the project very well because someone cheered me.

Even though we are suffering from financial problem, we can always count on each other. Take my energy.

Good thing is that everyone can participate to solve your problem. Please feel encouraged. You can do it!

send your support.



write your thoughts



POTENTIAL IMPACTS

We believe that 'Spotlight' will bring three main advantages to its users:

1) Spotlight will address the lack of communication and bonding to their city and community. This latent need from the male OPH's on their 50 will be solved with the opportunity to share their worries while the community can give them support and encouragement. Thus, we create a communication and a sense of relationship between OPH and community.

2) The general public will have an awareness toward OPH on their 50s who are marginalized. As a result, it can give them an opportunity to be more interested in their neighbors, and finally, it will be a framework which may boost building a new and more inclusive community.

3) The advantage on the social aspect.


This collaborative design between OPH, moderator and people will contribute to reduce the 'Die alone' of the 50s male OPH, a serious problem in our society and country.

Once an OPH begins to share his story, other OPHs and people will become aware of each other. This creates an opportunity for other OPHs to share their anxieties, worries and problems, and this will create new forms of communication, relationships and communities. This will stimulate social interest on OPHs in their 50s and will influence the inducement of new welfare and support from the state and other organizations. Furthermore, national welfare and institutional support will help OPH reduce depression and return to a stable social rehabilitation, consequently it will reduce their 'Die alone' rate.



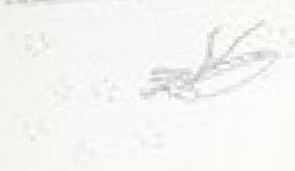
Boat Beetles

Boat beetles, often found in the spring and summer months, are known for their distinctive shape and ability to float. They are found in various aquatic environments, including ponds and streams. The boat beetle's body is elongated and flattened, allowing it to move easily through the water. Its legs are adapted for swimming, and it has a small, pointed head. Boat beetles are important in the food chain, serving as both predators and prey.




Synchronized Flashing of Fireflies

The synchronized flashing of fireflies is a fascinating natural phenomenon. Fireflies, or beetles of the family Lampyridae, use light to communicate. In some species, individuals flash in a synchronized pattern, creating a rhythmic display. This behavior is thought to be a form of courtship, where males flash to attract females. The synchronization is achieved through a process called quorum sensing, where fireflies detect the light of others and adjust their own flashing accordingly.



Fish Schooling

Fish schooling is a common behavior in many species of fish. It involves a group of fish swimming together in a coordinated manner. This behavior provides several advantages, including increased protection from predators, improved foraging efficiency, and enhanced navigation. Fish in a school move in and out of the water in a synchronized fashion, often following a leader. The exact mechanisms behind schooling are still being studied, but it is believed to involve a combination of visual and chemical cues.

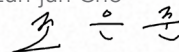


CONTRIBUTIONS

Course title - Strategic Product-Service Development

Members

Eun-jun Cho



Mintra Ruensuk



Murilo Marks Hennemann



We would like to thank Professor Joon-sang Baek, who has helped us to develop an overall understanding of service design, a variety of tools, and how the nature-inspired design can help and guide us while designing a service during this one semester.

We would also like to thank the researchers at BUSAN FAMILY DEVELOPMENT INSTITUTE for providing the research materials that served as the basis of our service concept.

And Ph.D. candidate Yoon-yi Paik, who provided advice and criticism based on experience and knowledge. Thanks to her we had the opportunity to meet with OPHs which validated our concept. Also, we would like to thank the five OPHs who helped us by participating in surveys and interviews during busy times.

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