

MASTER THESIS

MSc. Design for Interaction
Delft University of Technology



APPENDICES

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APPENDIX A - PROJECT BRIEF

INTRODUCTION

Interactions and relationships with people around play an important role in human beings' health and wellbeing [1]. Insufficient social connection with other people could lead to the feeling of isolation and monotony [2]. When it comes to work, employees' need of connecting with others is strong [3]. At the same time, high-quality connections, including both positive short-term interactions and long-term relationships [4], help with the organizational improvements [5].

Nowadays, flexible and activity-based offices are becoming more and more popular. As figure 1, in this sort of office, employees do not own specific desks but could conduct different work activities in a diversity of open and enclosed spaces [6]. This working mode seems to bring opportunities for communication and interaction among employees. For example, it was assumed that open spaces and flexible use of workstations would increase communication in the offices. In fact, compared with private offices, open workspaces were found to truly better support close relations [7].

Although open office spaces bring more opportunities for employees to communicate with each other, they also result in more distractions. For example, some employees' work would be easily interrupted because of the increase of noise, and there is also a decrease of privacy in this work environment [7]. These would as a result bring about tension in the office and worsen the interpersonal relations [8]. Besides, the flexibility to work in different locations may result in lack of belongingness and the sense of isolation since one may frequently work next to unknown colleagues and can hardly find specific colleagues [9]. Therefore, there is apparently a balance so that employees could have more com-

munication opportunities and at the same time will be interrupted less and have more sense of belongingness.

As for the leisure spaces in the offices such as the coffee corner and lounge area, since unplanned encounters and informal interactions like chit-chat and spontaneous collaboration among the employees often happen in these spaces, they occupy a significant place in employees' social life in the office. However, some leisure spaces of the offices today might be too plain, which as a result causes insufficient and uncomfortable interactions among workers. Thus there is an opportunity to contribute to employees' well-being by improving the employees' interactions in the leisure spaces.

Therefore, the design challenge of the project is how to increase high-quality social interactions among employees in the leisure area of flexible offices so that the well-being of employees could be improved?

PROBLEM DEFINITION

The context of this project is offices with a diversity of open and enclosed spaces designed to support different work activities [6]. To make it manageable for a Master Graduation Project, the problem will be narrowed down. Hence how to increase employees' sense of belongingness in the flexible offices is the main problem to be solved.

Besides, the solution area is also downsized, which will mainly focus on the improvement of leisure spaces of the office, such as the coffee corner and lounge area. The intervention aims for an increase of positive informal short-time interactions among employees.

A positive interaction means employees' well-being would be improved after the interaction. For example, through a chat with another colleague, the employee feels more relaxed after the hard work of a whole day.

An informal interaction means the interaction beyond the formal work. Hence a meeting or any formal communication with the work partners should not be included.

To deliver the final solution, the IDE Studiolab will be used as the main context for researching and idea testing.

ASSIGNMENT

Design a solution in the leisure spaces of offices (like coffee corners and lounge area) to stimulate positive informal short-time interactions in order to increase employees' sense of belongingness and as a result improve their well-being at work.

In this project I will do research towards:
 How to improve the current leisure spaces of offices to trigger informal interactions?
 Which place is most appropriate for the interactions to happen?

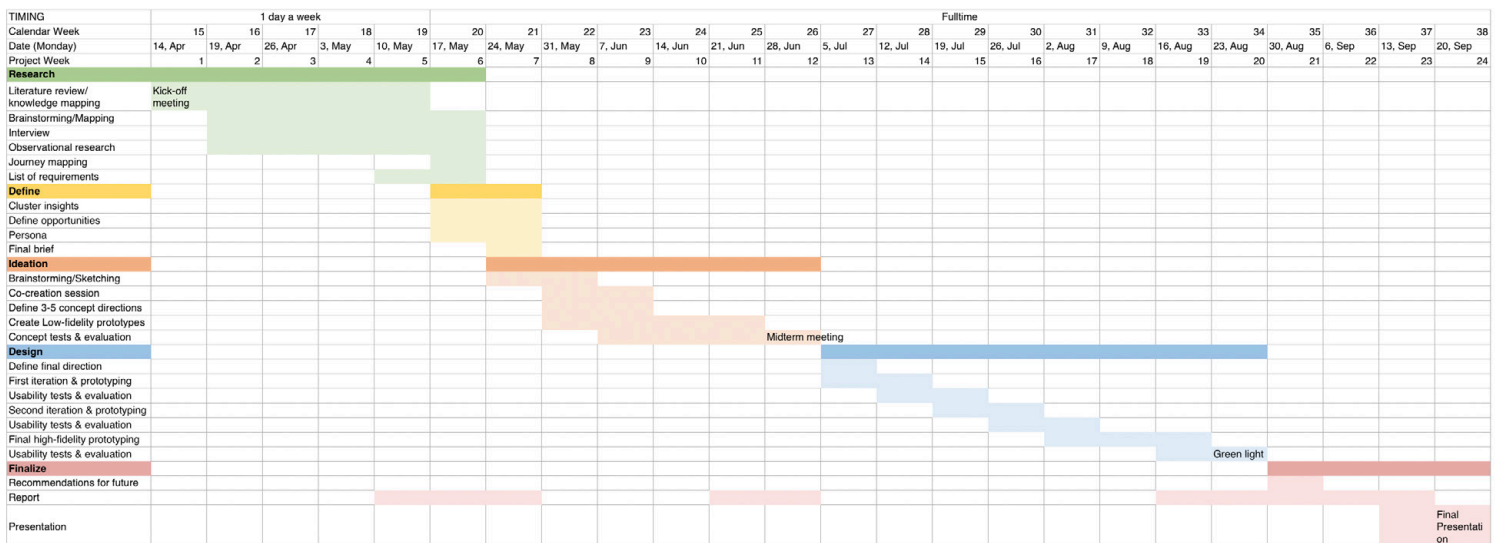
What kind of trigger motivates employees to interact the most?

How to ensure the interactions to be positive?

PLANNING AND APPROACH

The project will start from April 14th and end at Sep 24th. Since 1 day will be spent on it per week at the beginning for 5 weeks, and after that, the work of the project will be full-time, the whole project will last for 24 weeks. The procedure includes 5 phases: research, define, ideation, design and finalize.

- In the research phase, I will first study literature and data on positive social interaction in (activity-based) offices, e.g. type of interactions and usual locations, and map this information. After that, observation and Interview will be carried out, the context of which includes offices in Beijing and IDE Studiolab. Observation is mainly about how and where do they informally interact with each other. Interviews will include employees who frequently change workstations. The main topics of the interview are (1) what kind of social interactions make them happy, (2) where these interactions usually take place within the office, (3) how they feel about the current leisure places. After the research, the previous map would be validated and more insights will be



added about the context and relevant differences between groups. A list of requirements and opportunities for interventions (the design) will be delivered as the result.

- The ideation phase starts with the brainstorming and co-creation session to generate ideas based on the researching outcome. Co-creation session is optional and will be conducted with employees of IDE Studiolab to inspire them and collect their ideas about how to improve informal social interaction at the leisure spaces. With the ideas generated, 3-5 concept directions will be defined and low-fidelity prototypes will be made to test the ideas with users. The test procedures will be recorded and the ideas will be evaluated to decide on the most potential design direction, which will be presented at the midterm meeting.

- In the design phase, the final direction will be further defined. To refine and optimize the design of the chosen prototype, two iterations will be conducted including usability testing. Then the final high-fidelity prototype will be made and tested to evaluate whether the design has achieved the design goal. The green light meeting will be at the end of this phase.

- After the green light meeting, the recommendations of the future will be proposed based on previous work. Also, the report needs to be finished. The final presentation is planned to be given on Sep, 17th.

MOTIVATION AND PERSONAL AMBITIONS

During my master Design for Interaction, I have learned a lot about user-centered design. I enjoy it very much when I can always see things from the perspective of users and make use of scientific methods to deliver the design to solve their problems. Therefore, I plan to work as a user experience designer after my graduation. Because of this, I also want to do a graduation project that can add values to users.

Within user experience design, I am especially interested in designing for people's relations and emotions. In previous courses like Exploring Interactions, I realize that improving social connections and mental health of users is very meaningful for me. Besides, after doing an internship, designing for the social connections of employees is quite an interesting topic for me.

The ambition I would like to address in my graduation project is improving the ability to make prototypes, especially if I could combine interactive technology with my design. I believe that more prototypes and tests with users in the design phase help a lot with the value of the final solution. The higher the fidelity of the prototype is, the more accurate the test result could be. Thus I would be excited to deliver an interactive product with technology applied as the final solution if needed.

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APPENDIX B - RESEARCH IN BEIJING OFFICES

RESEARCH PLAN

Research questions:

How do employees interact with others informally at the moment? How are their well-being related with their informal interactions?

Context:

Office 1 - JD:

1. A large scale internet company.
2. Traditional office where employees all have their own desks for work.
3. Each room can contain 200 employees.
4. The work space is separate from leisure space.
5. The leisure space is in another room for employees to relax, drink coffee, have meal and chat

with others.

Office 2 - BNUX:

1. A StudioLab of a design research community.
2. An office with 10-20 employees.
3. Half of the desks are flexible, half are not.
4. Besides work space, there is also leisure space for relaxing and having lunch.

Observation:

(on April 25th and April 28th)

The observation will last for 30 minutes each time and totally 2 times in each office. April 28th 09:30-10:00 & 11:30-12:00 at BNUX

April 30th 10:00-10:30 & 15:00-15:30 at JD

Positions going to be observed: lounge area, corridor, elevator, coffee corner, cafeteria, office gym, store in the office, phone room, outdoor space, bike storage space, etc.

Interactions going to be observed: greeting, chit chat, heart-to-heart talks, employees having fun together

I will be in the positions I am going to observe.

How to decide an interaction to be informal?

1. Employees are in the positions beyond the work spaces (lounge area, corridor, etc)
2. Employees are in the work spaces, but beyond the working time (during lunch break time, after the work time)

How to decide an interaction to be positive/negative?

Facial expression / body language will be observed:

Positive: when people smile, take the initiative to start the conversation, speak with a gentle tone, keep communicating for a long time

Negative: unhappy facial expression, communicate passively, speak with an unhappy tone, try to end the conversation

Interview:

(on May 1st, May 3rd)

The interview will last for 1 hour for each person. 3 employees from each office will be interviewed.

1. A brainstorm map will be shown to them to add more locations and interactions.

2. Detailed questions of the interview:

- What informal interactions at work today/yesterday have you experienced? (the location, length, trigger/reason, level of intimacy, number of people)

- Did they make you feel happy/unhappy?

- What features of the interactions make you happy/unhappy?

- What do you like and dislike about the current leisure space? Why?

- What features of it stimulate or hinder your informal social interactions with other employees?

- (For employees in BNUX): Which kind of office do you like more? The flexible office or a traditional one? Why?

- What's the difference of these 2 kinds of offices from the perspective of interactions?

QUOTES



Participant 1
23-year-old student



Participant 2
24-year-old student



Participant 3
23-year-old student



Participant 4
25-year-old programmer



Participant 5
27-year-old Product manager



Participant 6
24-year-old Designer

I feel more sense of belongingness

I feel uncertainty

I feel it not appropriate to do

A flexible office is

In flexible office, it's hard to find

There is more possibility to communicate with

We would talk about recent situation of each

The conversation

The conversations

It's positive because we can get more

I like the coffee

There is no private

The flexible office is more free and open. It's not like the traditional office where

Less communication happens in the

It's more convenient to

I often share a big table with others. In this situation,

If I have somebody

When I am in the room, the time for chitchat will be

When we are in the work space, informal

The chitchat sometimes

The chitchats make me happy because I feel that

The seat over there is quite

If I work in the public space. I will

When I want to chitchat with

It's not certain

It's hard for me to get concentrated

Sometimes we would close the

Sometimes we will talk about some

Gossips and some

The public space is

If I tend to have some communications

I like to have my

I spoke with

The communications are positive for

Communication is

When I need a rest, a few minutes would be

Normally I stay in my work space to chitchat with others instead of

I would not like to go to another

I prefer to chitchat

I like to chitchat with others during the lunch break, but I am a little

I prefer a traditional office

I am also not sure about the work environment.

In the evening at about 8 pm. I went to another room

Basically the communications

I went to chitchat with colleagues of another

I do not who I can

The chitchat is positive to me because it helps

I prefer chitchat to deep

Games are more

I prefer to interact with colleagues I

I do not go to the

During lunch break I would

The conversations

We also get out of

The chitchats are about recent news or what has

I prefer to do my own things when I

I would like to communicate with others because I

It's hard to find a

People can hear and might disturb

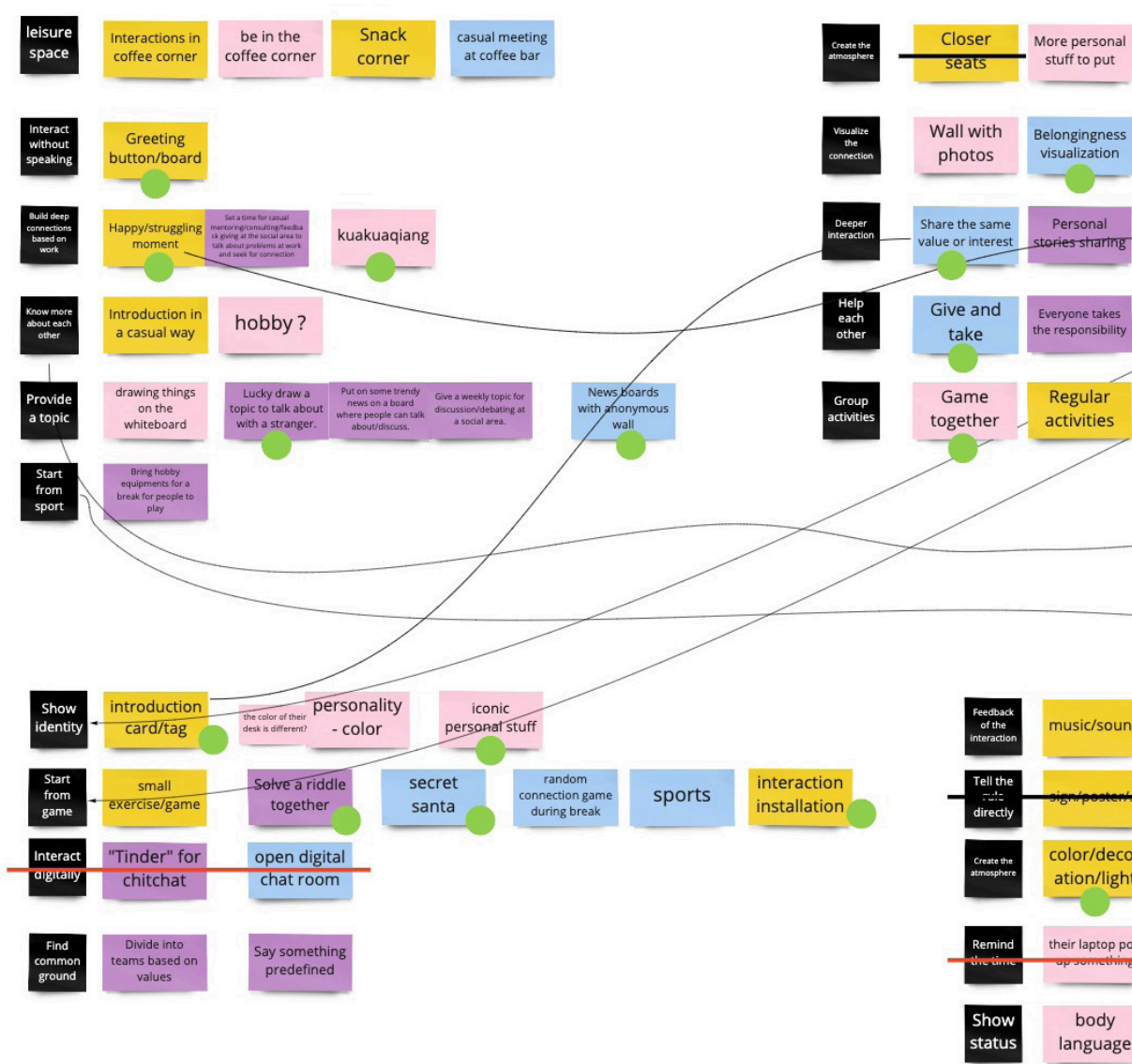
Sometimes when there are not so

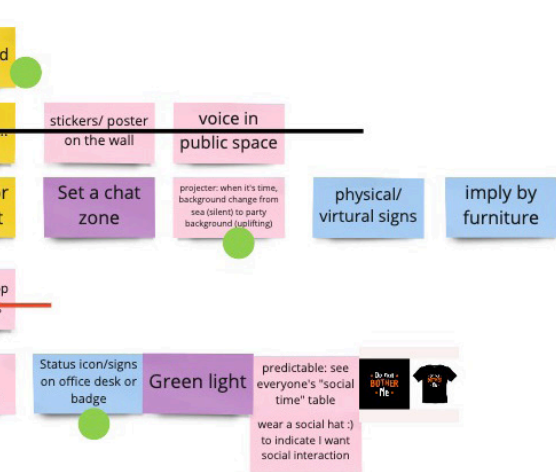
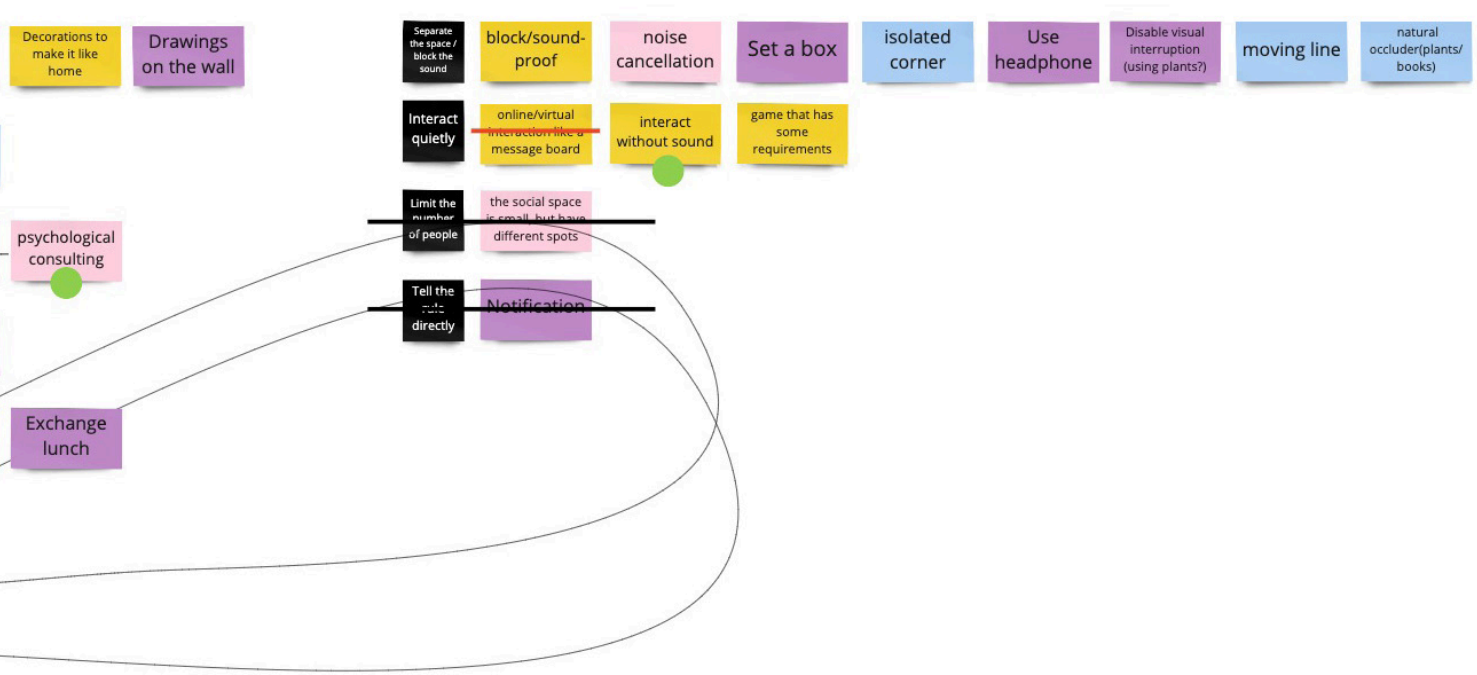
Sometimes during the work time, I

APPENDIX C - RESEARCH IN STUDIOLAB

IDEA CLUSTERING

● Could be developed into a concept
 — Not from an interaction perspective
 — Digital



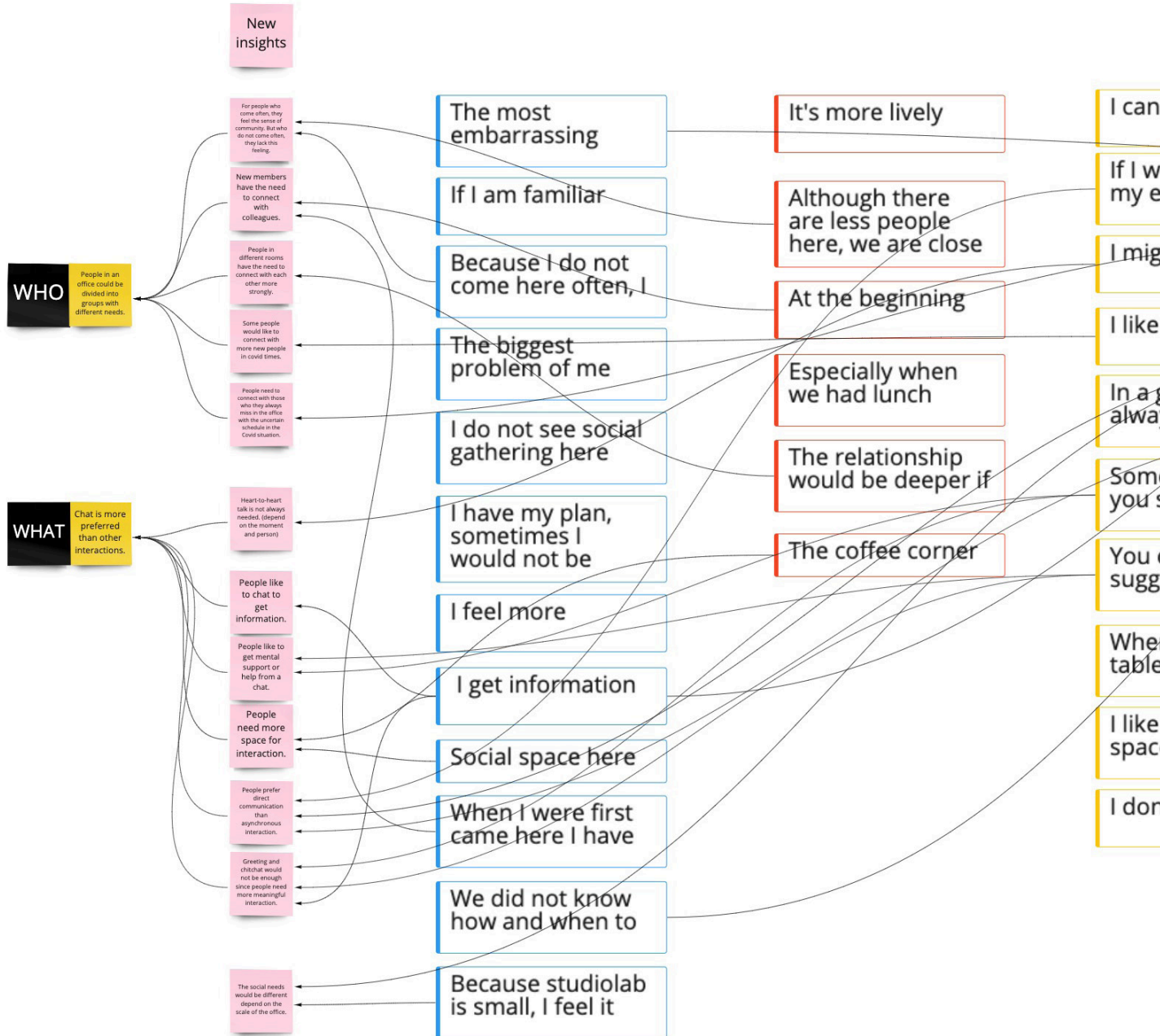


INTERVIEW QUESTIONS

Which ones do you like the most/dislike the most? Why? Suggestions?

- Do you feel the differences of the office compared with before the corona time? From the social perspective?
- Do you come here often? Why or why not?
- How are your social situations here? Today/yesterday? Where do you social? With whom? How long? The content? How do you feel?
- How do you feel about the social space? Coffee corner/ lounge space? Like or dislike? When it comes to social?
- Do you know every body? What do you feel when you first come here? How do you start to know about and get familiar with the new members? (Are you willing to connect with strangers? Any problem?)

QUOTES AND ANALYZING





APPENDIX D - INTERACTION VISION VERSIONS

VERSION 1

INTERACTION VISION

The interaction should be like **having dinner with the family**.

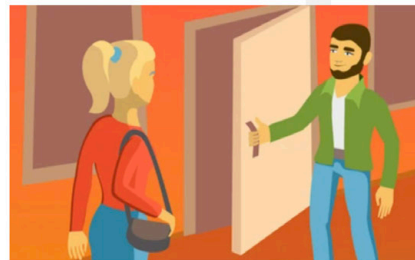
- **Relaxed**: the experience helps to release people's pressure at work.
- **Connected**: people feel connected with other colleagues.
- **Natural**: the experience is intuitive and users do not feel forced by the design.



VERSION 2

The interaction should be like **a neighbor helps to open the door when you are looking for your key**.

- **Welcome**: the design invites the user to use it, and the user could feel that other people are willing to have the connections.
- **Connected**: people feel connected with other colleagues.
- **Natural**: the experience is intuitive and users do not feel forced by the design.



VERSION 3

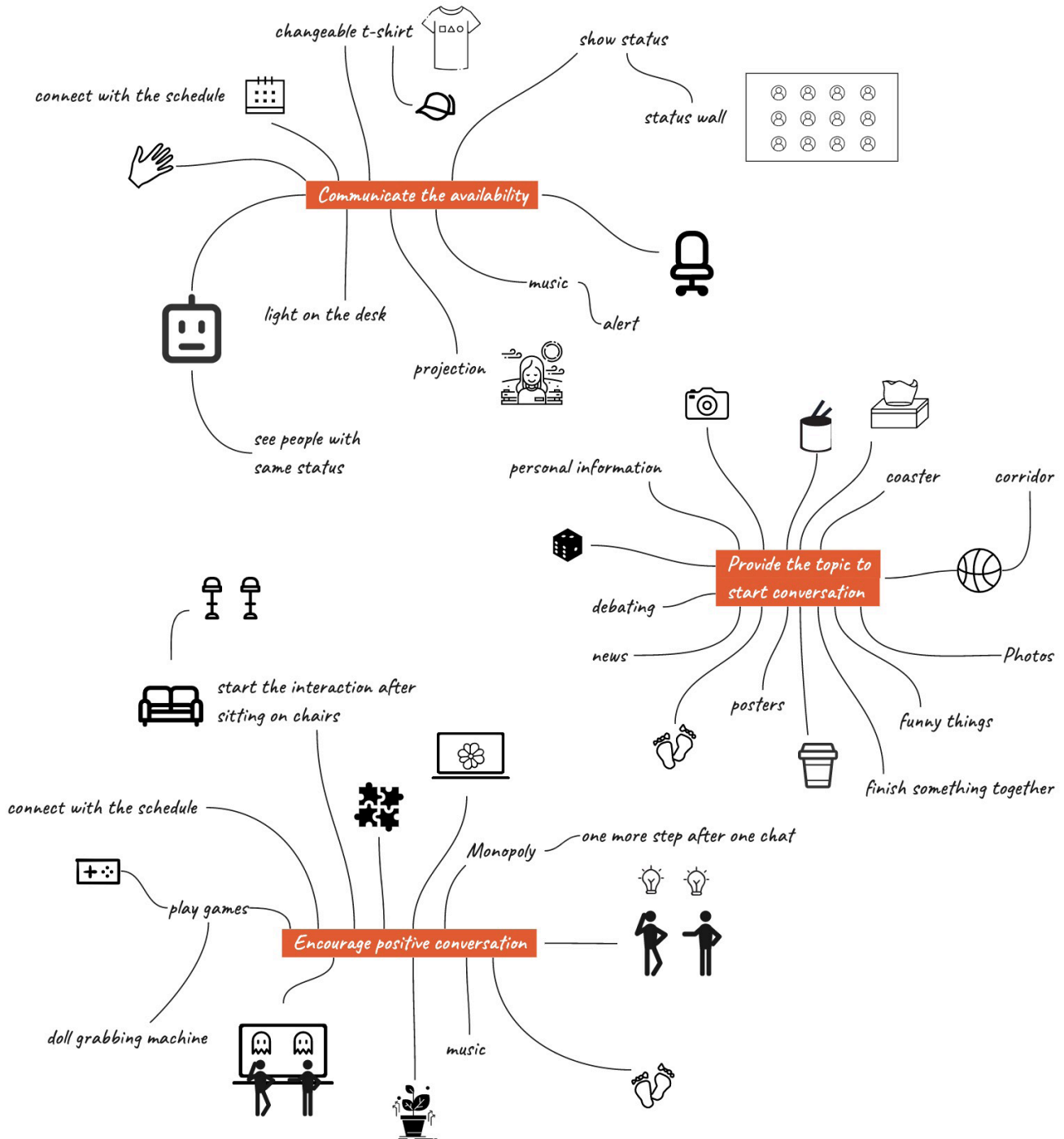
The interaction should be like **playing instrument in an orchestra with the music book at hand.**

- **Assured:** the user is sure that the interaction wouldn't disturb the other person or people around.
- **Expressive:** users would like to have a conversation with each other.
- **Connected:** people feel connected with other colleagues.
- **Natural:** the experience is intuitive and users do not feel forced by the design.







APPENDIX E - IDEA GENERATION CYCLE 1

BRAINSTORM



SCORES FOR QUALITIES

Feedback:
1-7

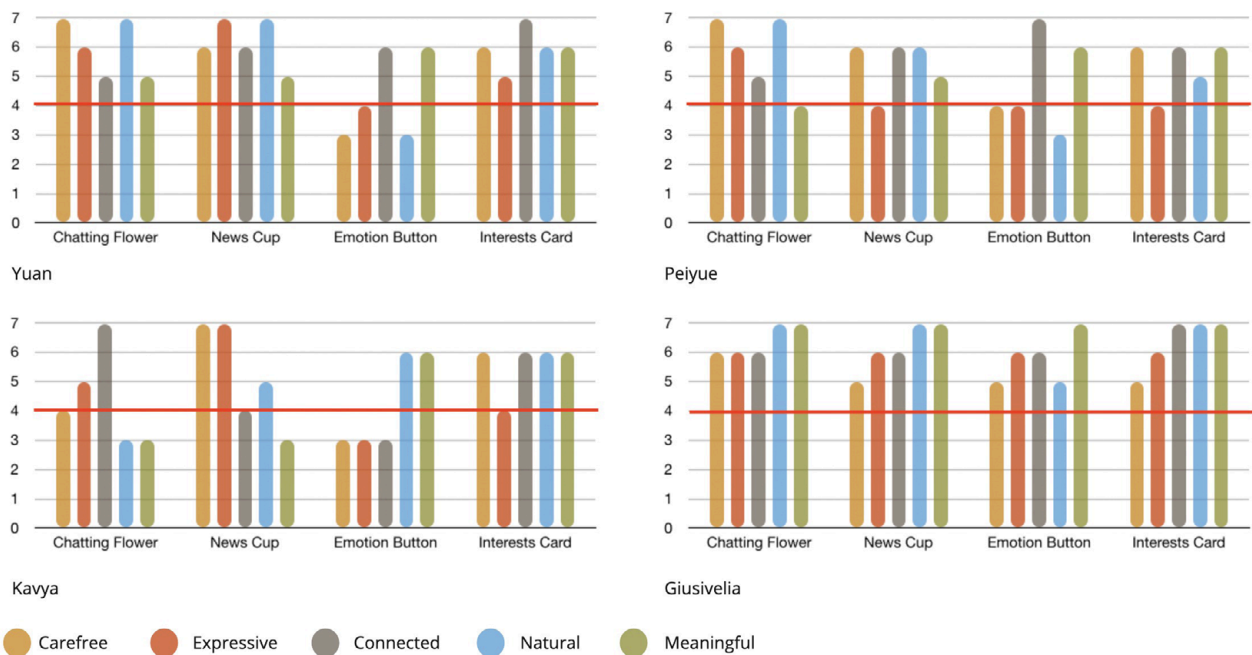
	Concept 1			Concept 2			Concept 3		
	Relaxed	Connected	Natural	Relaxed	Connected	Natural	Relaxed	Connected	Natural
 Doudou	5	4	3	4	6	6	5	7	6
 Xueliang	2	4	3	5	2	6	4	6	5
 Yeun	2	2	2	2	5	2	2	4	6
 Mikel	5	4	3	4	5	2	6	5	5

APPENDIX F - IDEA GENERATION CYCLE 2

INTERVIEW QUESTIONS

1. How carefree do you feel in the experience of the concept?
(not at all) 1 2 3 4 5 6 7 (very)
2. How expressive do you feel in the experience of the concept?
(not at all) 1 2 3 4 5 6 7 (very)
3. How connected with others do you feel in the experience of the concept?
(not at all) 1 2 3 4 5 6 7 (very)
4. How natural do you feel in the experience of the concept?
(not at all) 1 2 3 4 5 6 7 (very)
5. How meaningful do you think the chat would be in the experience?
(not at all) 1 2 3 4 5 6 7 (very)
6. Do you think they will help you to build and deepen the relationship with your colleagues or increase your sense of belonging in an office?

SCORES FOR QUALITIES

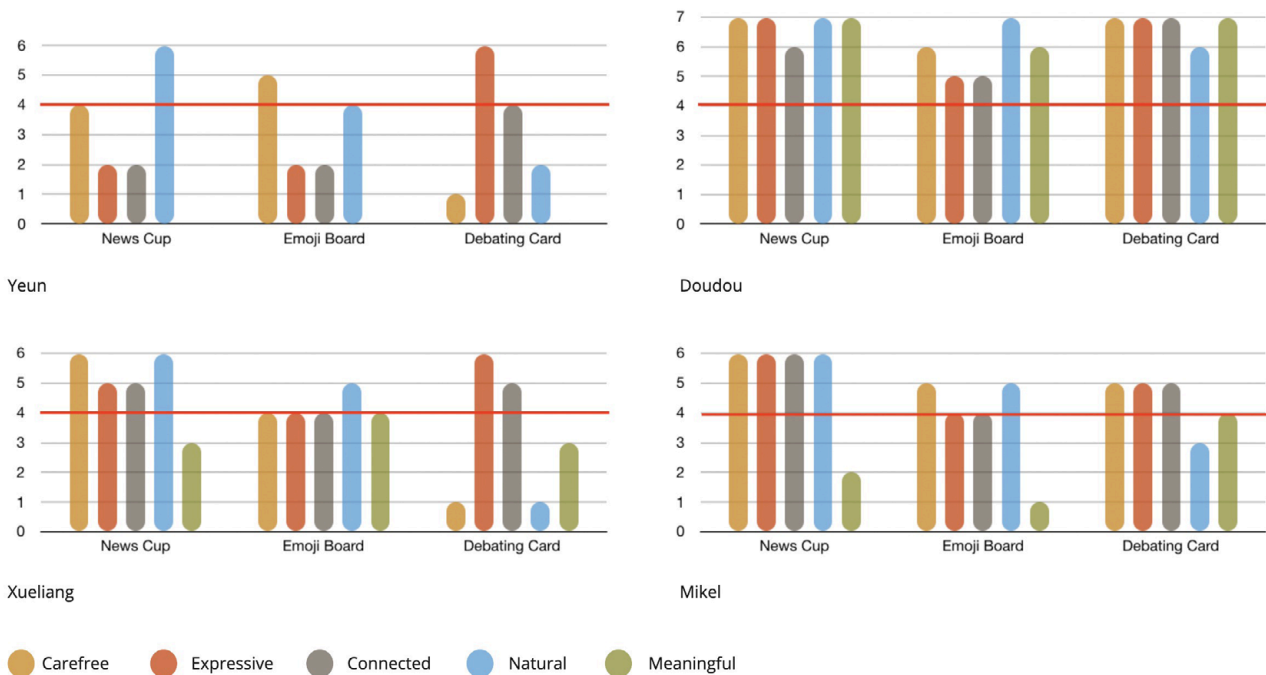


APPENDIX G - IDEA GENERATION CYCLE 3

INTERVIEW QUESTIONS

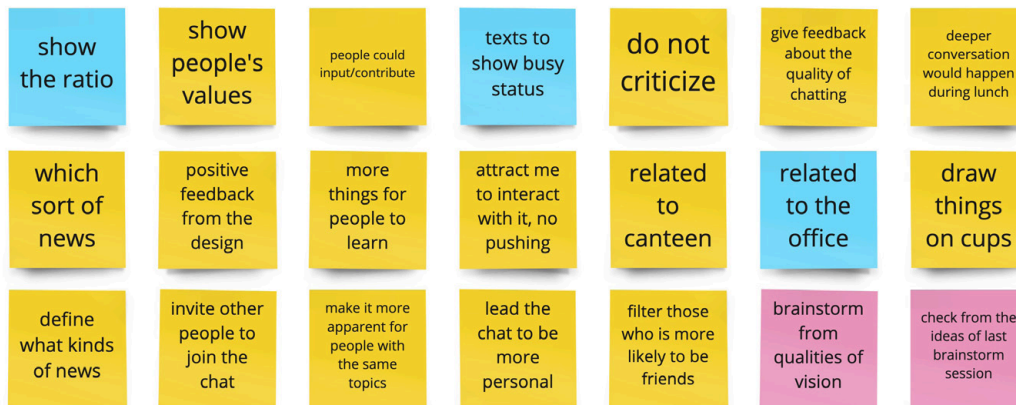
1. How carefree do you feel in the experience of the concept?
(not at all) 1 2 3 4 5 6 7 (very)
2. How expressive do you feel in the experience of the concept?
(not at all) 1 2 3 4 5 6 7 (very)
3. How connected with others do you feel in the experience of the concept?
(not at all) 1 2 3 4 5 6 7 (very)
4. How natural do you feel in the experience of the concept?
(not at all) 1 2 3 4 5 6 7 (very)
5. How meaningful do you think the chat would be in the experience?
(not at all) 1 2 3 4 5 6 7 (very)
6. Do you think they will help you to build and deepen the relationship with your colleagues or increase your sense of belonging in an office?

SCORES FOR QUALITIES



APPENDIX H - CONCEPT DEVELOPMENT CYCLE 1

IMPROVEMENTS DIRECTIONS



INTERVIEW QUESTIONS

1. Which cups do you prefer? Why? Any suggestion?
2. How do you feel about the QR code and the online platform? Which parts do you like & dislike?
3. Do you think there should be the commenting function on the platform? Or do you prefer some physical interactions with the cups?
4. Do you think it is okay to have news/events as the topic? Do you prefer something related to the office?
5. How do you like the texts used to show the busy status?
6. Do you have any other comment?

APPENDIX I - CONCEPT DEVELOPMENT CYCLE 2

INTERVIEW QUESTIONS

1. How do you feel about the topic?
What about life-related and funny topics?
2. Which way to show busy status do you prefer? Why?
3. Would you scan the QR code when you see it?
4. How do you feel about the online platform?
Is there anything you want to add to it?
5. Do you think the concept will stimulate chats? Why?
6. How do you think users can feel supported through the concept?
7. Do you think the concept will contribute to users' sense of belonging? How?

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