UNIVERSITAT POLITÈCNICA DE VALÈNCIA
School Of Design Engineering

Design of an interactive application to improve the communication and managing shared spaces in Oslo's coworking community "Rebel Building".

END OF PROJECT DEGREE
Bachelor's Degree in Industrial Design
Engineering and Product Development

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European Project Semester

MAIN PROJECT TITLE Design of an interactive application to improve the communication and managing shared spaces in Oslo's coworking community "Rebel Building".	DATE 23/05/2022
	NUMBER OF PAGES APPENDIXES 69
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Object

This report describes a project conducted by five international students at Oslo Metropolitan University.

The object of the project is to create an application that improve the experience of workers in coworking spaces. To investigate on the possible improvements, we used the Rebel building as an example of a co-working space.

This report goes through the different steps in the making of the final application, from the process methodology, interviews of workers and research to the creation of the application.

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Abstract

Workers' experience in their work environment is fundamental, moreover in coworking spaces. Such spaces enable exchanges between employees from different companies, so the creation of a strong feeling of community is crucial.

The Rebel Building is an office building featuring 60 technological companies in Oslo, which was created for sharing knowledge between companies through co-working spaces. Rebel is divided into two spaces, the offices of the companies and the "Hangout Space". The latter is a shared area where workers can use seats or meeting rooms for exchanges to fulfil the aim of Rebel: sharing knowledge in the technological development field.

Improving the Rebel workers experience in the Hangout Space is the aim of the project. Community and co-working are the fundamental concepts at the core of sharing knowledge between companies, they must be considered to design an efficient system that helps Rebel members in their work environment. The final proposal shown in this report presents an application concept that would improve the Rebel experience by addressing the needs of Rebel workers to create a better knowledge sharing community.

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Introduction

1. Project

The project

The purpose of the project is to improve the experience of workers in co-working areas. To that extent, several issues must be considered, such as the lack of communication, the feeling of community, and the sharing of knowledge. To develop that topic, we focused our research on an existing co-sharing building which is named Rebel.

The Rebel building is a co-working building in downtown Oslo, composed of 17 floors. There are sixty companies renting offices and desks in the building, most of them are technological companies.
The biggest shared space in the Rebel is the Hangout space. This area is split between auditoriums, meeting rooms for renting and a canteen.

The Rebel building promotes the art of sharing, the aim is to create a sharing knowledge community in the field of technological development. Rebel provides state-of-the-art meeting rooms to technology companies to boost their innovations and support exchanges between them.
As a new edifice, the Rebel building supplies all the tools to create a great work-related environment through modern and innovative shared spaces

However, by conducting interviews with Rebel workers, Ph.D. from OsloMet working in the Rebel, we realized that the community feeling could be improved in the building. Furthermore, we noticed that some actions were difficult for Rebel's users such as renting a room or getting information about internal events. By combining the interviews and our literature research about community and co-working, we decided to realize the prototype of an app that solves these problems.

This app would centralize through a user-friendly interface, a system that enables workers to get aware of Rebel events, book a room, or get in touch with other Rebel workers. Rebel's users would benefit from an app that helps workers to improve their daily life experience in the Rebel building by facilitating some of their actions.

Furthermore, this app would improve interactions between people as it enables people to be aware of common events in the building, to get information about other companies, and to create a good community which is the crucial point of the Rebel philosophy.

Evolution of the project

During the progress of the project, we point out different directions to head toward our precise topic. Our options were wide, and we had to consider the different opinions of the workers and the managers.

At the start of the semester, we had data about our subject from the previous reports in addition to Tengel's brief (our professor). Thanks to our first thoughts, we created a Mission, Scope, and Goals document (appendix 2). However, with the data collected, research and meetings we re-oriented our project and its aim. Those previous understanding let us discover that we missed some relevant points, and we had to reconsider the mission and scope of the project. Then, instead of focusing only on enhancing the feeling of community and the sustainable development of the building, we evolved towards creating an app that will improve the Rebel experience.

Stakeholders

There are distinct types of stakeholders in this project. First, the primary stakeholders are Rebel managers. They are the ones that are responsible for the Rebel communication and lead the development of the Hangout Space. In the research phase, we met them to understand their needs and ideas about this space as they are trying to create a system that would facilitate the communication and use of the building. They are directly affected by the project as our solution will contribute to the improvement of the Rebel experience. Our professor Tengel is a primary stakeholder too. He is the one that supervises our project and that is in touch with Rebel workers. Moreover, his office is in the Rebel. He needs to be informed about the evolution and the development of the project. We are having meetings every week to let him know about the progress of the project.

Secondary stakeholders are Rebel workers, they are involved in the project because we consulted them to tackle their needs to develop a system adapted to their daily routine at the Rebel building. However, they just need to be informed about the development of such a system as there will be the final users.

Deliverables and assignments

One of our first steps has been to lay out the main deliverables for the project so we could have a general idea of the amount of the work throughout the semester and how we could start organizing the project.

To have a schematic view of all the tasks, we created a mind map resource that helped us focus on the different phases of the Rebel Building project.

As can be seen in the following picture (figure 1), we divided our deliverables into Understanding the Project, Research, Collecting data, Prototyping, and the Final Report.

In addition, all the individual and group assignments included some notes with deadlines and objectives.

UNDERSTANDING THE PROJECT

SGM DOCUMENT

DEFINE KEYWORDS

OTHER BUILDING EXAMPLES

PREVIOUS STUDIES

UN GOALS

INVESTIGATION

COLLECTING DATA

INTERVIEWS

FORM FILES

REBEL'S DATA

PROTOTYPE

DESIGN

CODING

FUNCTIONS OF THE APP

WRITING INDIVIDUALS EXPLANATIONS

TESTING

FINAL REPORT

BIBLIOGRAPHY

ANALYSE OUR EXPERIENCES
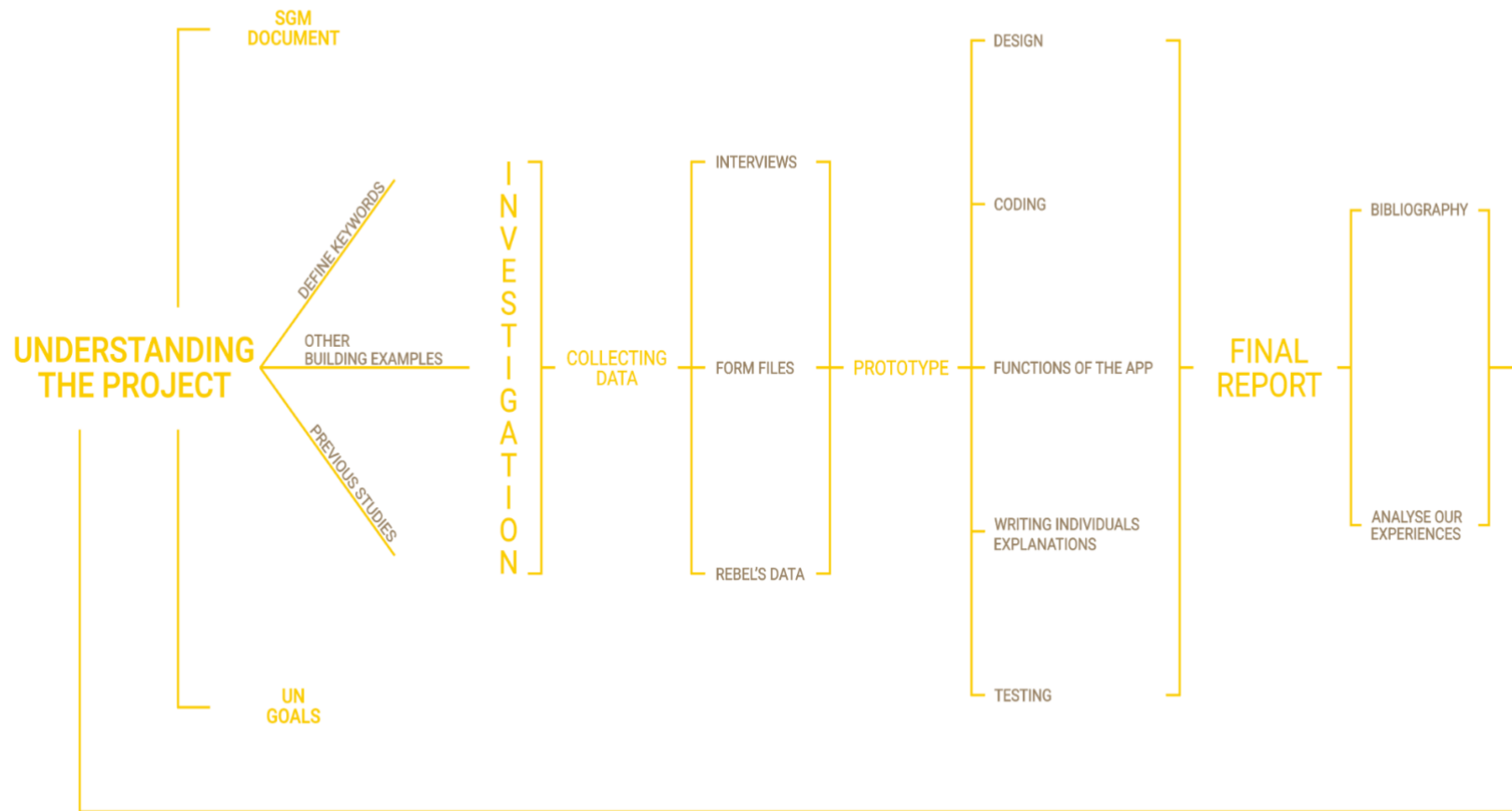
writing the report

Figure 1 : Project plan

2. The group

Team Presentation

Clémentine, French

ESI Reims

Student in an engineering school specializing in packaging and conditioning.

Paul, French

ENI Tarbes

Student in an engineering school specialized in mechanical and industrial industries.

Tim, Belgian

Artesis Plantijn University College

Student of electromechanics with a focus on HVAC engineering.

Flavia, Italian

Polytechnic University of Valencia

Student specialized in industrial design engineering and product development.

Guillaume, French

IMT Atlantique

Student in an engineering school specialized in computer science.

TOOLS: SOFTWARE/PLATFORMS

Notion is the software we mainly used. It helped us to centralize all the information of our project.

We used it for our calendars (holidays schedule and assignment schedule), established and assigned tasks, shared our research, note-taking in classes/interviews, and concentrated on all the other websites we used. We also have a document in Notion where we put all our sources and references for the future bibliography.
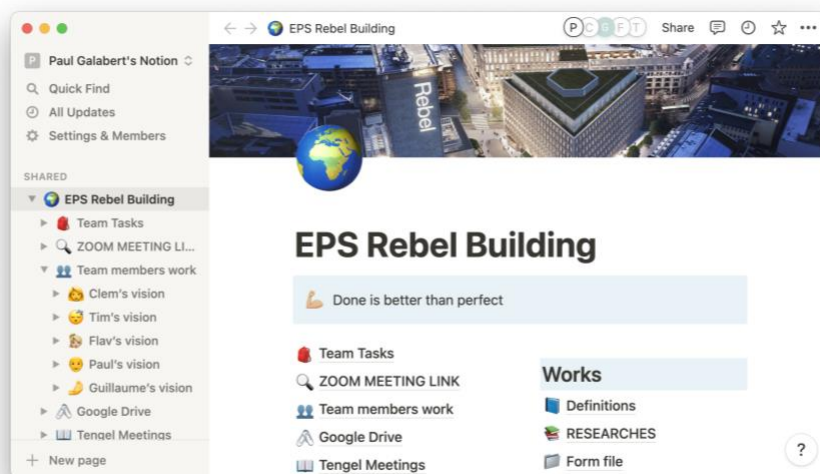
Figure 2 : Notion

Google Drive is a file storage and synchronization service developed by Google. We decided to use this website to store and share all our project-related documents. We also used different functionalities like Google Docs, for example, to make the different reports we must do but also to share the information about the different interviews done by using Google sheets.
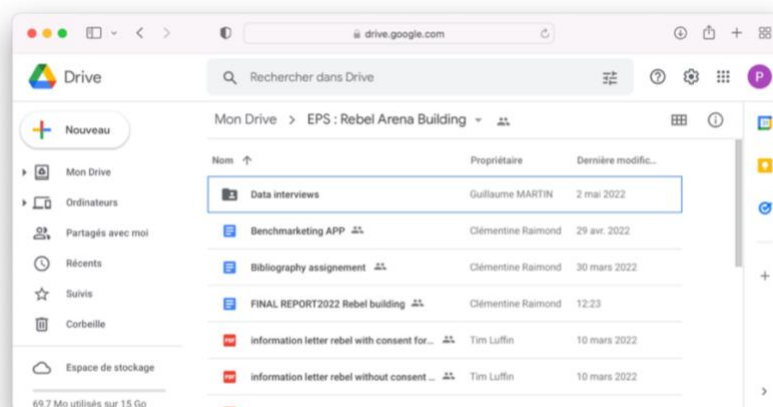
Figure 3 : Google Drive

Canva is a graphic design website, we used it to create our presentations and some of our designs.
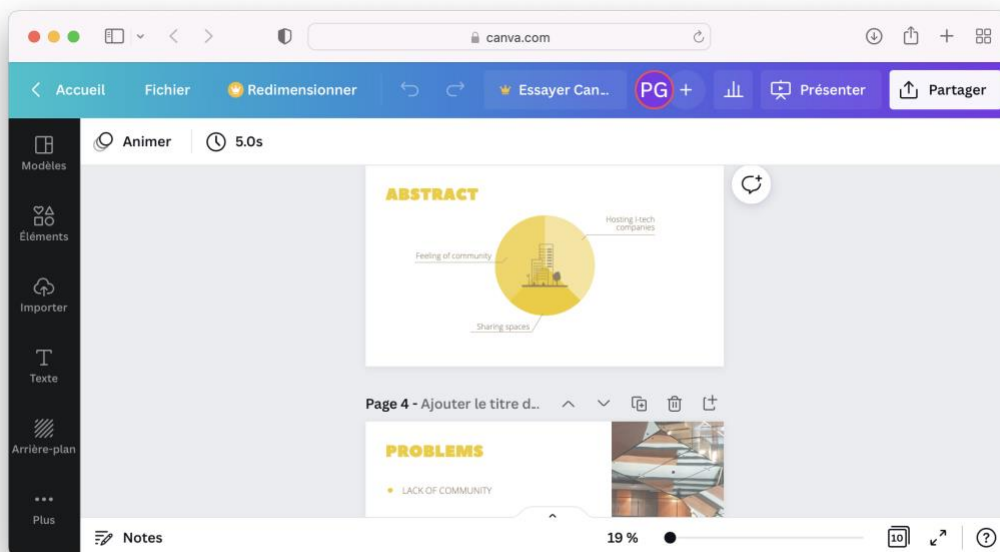
Figure 4 : Canva

Microsoft Project is a project management software developed by Microsoft. In our project, this tool helps us to create our Gantt and makes the schedule of our strategy to be on time.
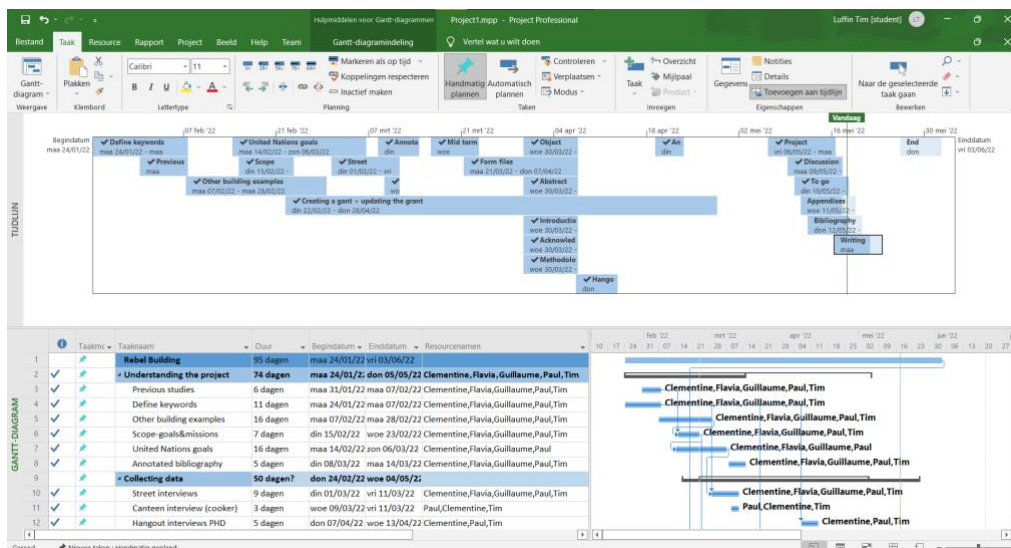
Figure 5 : MS Project

Adobe Illustrator is a graphic design and vector graphics editor software developed by Adobe Inc. We used it to modify some pictures, to prototype our App, and create illustrations for the report.
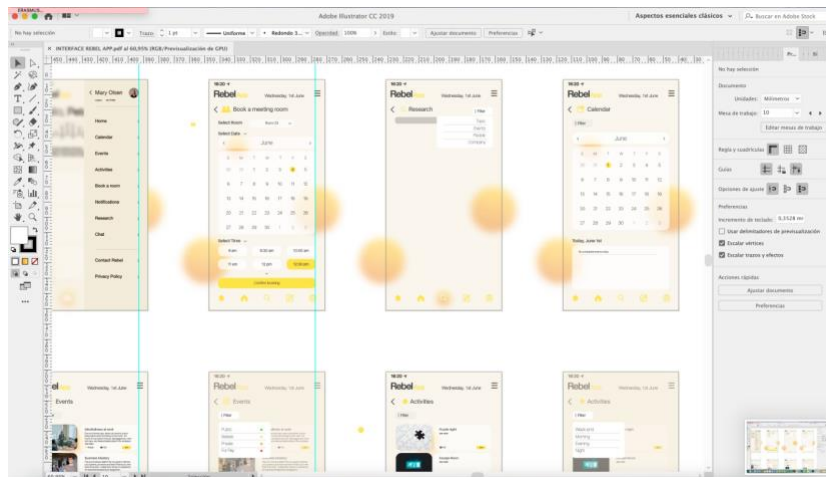
Figure 6 : Illustrator

WhatsApp is our daily communication system to keep in touch with each other about the project.

Figure 7 : WhatsApp

19
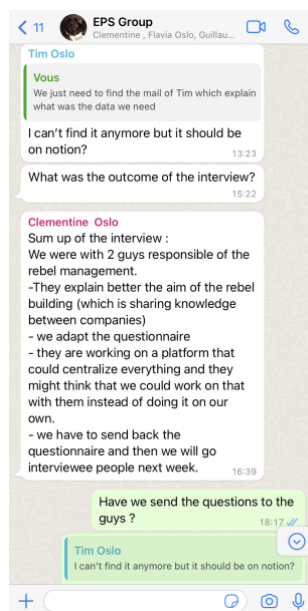
Project Management Approaches

To understand our project and produce a solution, the process we followed was made of various parts. First, we did global research to then narrow down and focus on what exactly we will work on. After that, we could properly collect the data we needed. Finally, after all the research part we could have another open-minded point of view on the project and try to find the best solution possible. That process points out solutions and helps us to stay focused on the subject.

We used the Double diamond approach.
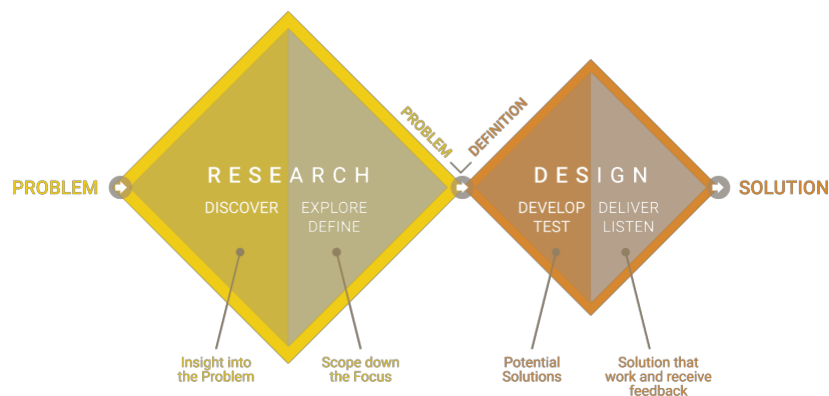
Figure 8 : Double diamonds approaches

In the team, we believe that **communication** inside a group is the main clue to good project management and concept in the end. Thus, we established rules at the beginning and shared our points of view and feelings about the subject. We also begin to explain what each other are doing to better understand our background.

During the project, we also did not hesitate to share our perspectives and our opinions about current situations.

The next main point of our management was **organization**. We used Notion to share every work we did but also to stay highly organized and divide the tasks. The aim of that tool is developed in the tools: software/platforms part.

Those tasks must be specific and defined precisely. Our **methodology** of work is related also to managing the process of the project and we will develop on that further.

the **Rebel** Project

Project development

R
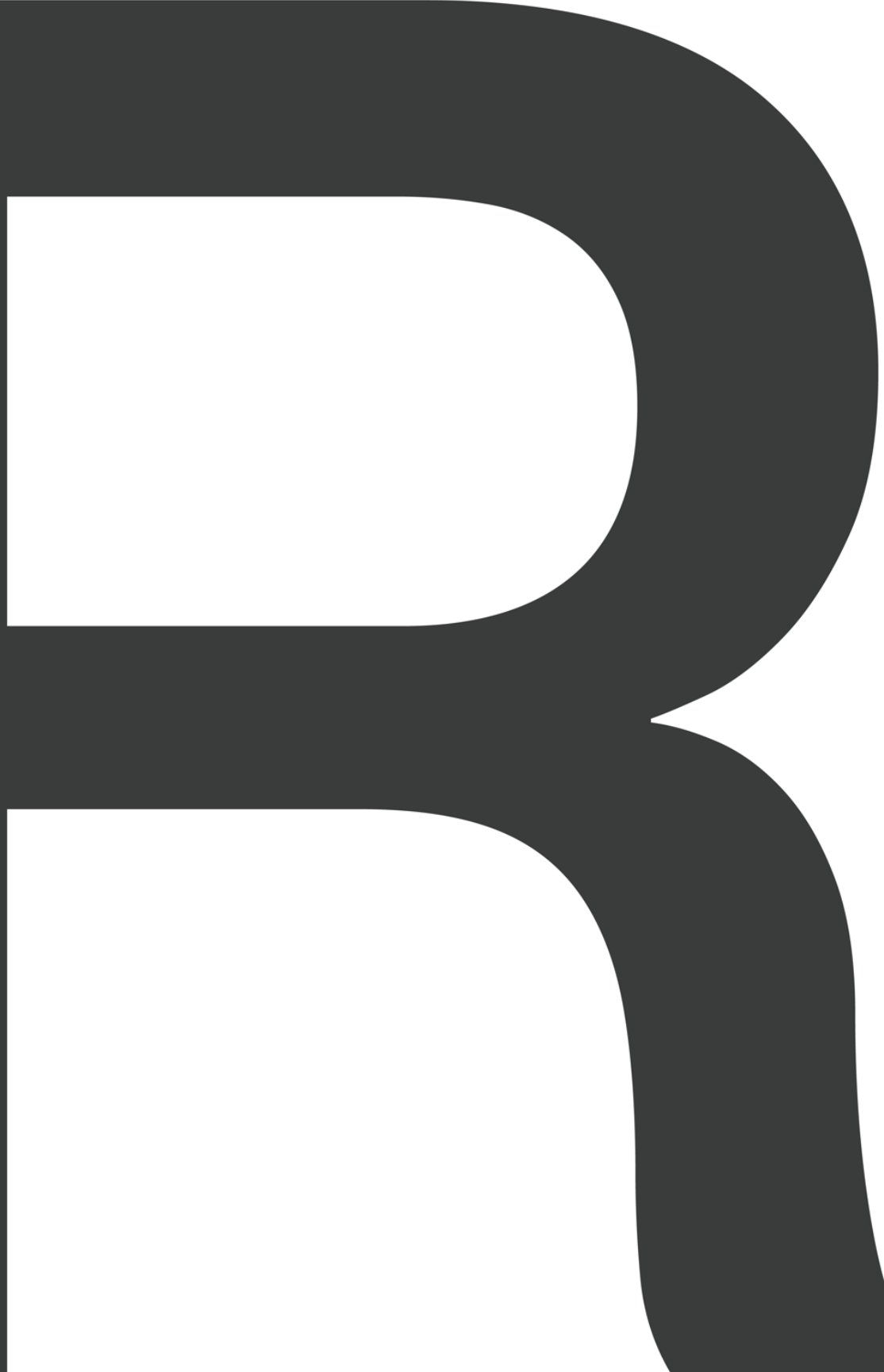
1. Methodology

Organization

To lead the project until the end and suggest a solution reliable to the issues faced, we all agreed on defining a precise organization. First, the project had to be divided into two parts: Research and Prototyping. Specific organization in those parts would be defined further in the report. During every step of the project, we followed the same guideline which was to divide work by tasks. With the help of Notion, those tasks were ranked by order of priority and a deadline was chosen for each one. Thanks to that order of priority, the team could focus on what was more important at that precise moment and led the project until the end of it without running out of time or writing off-topic.

Timeline :
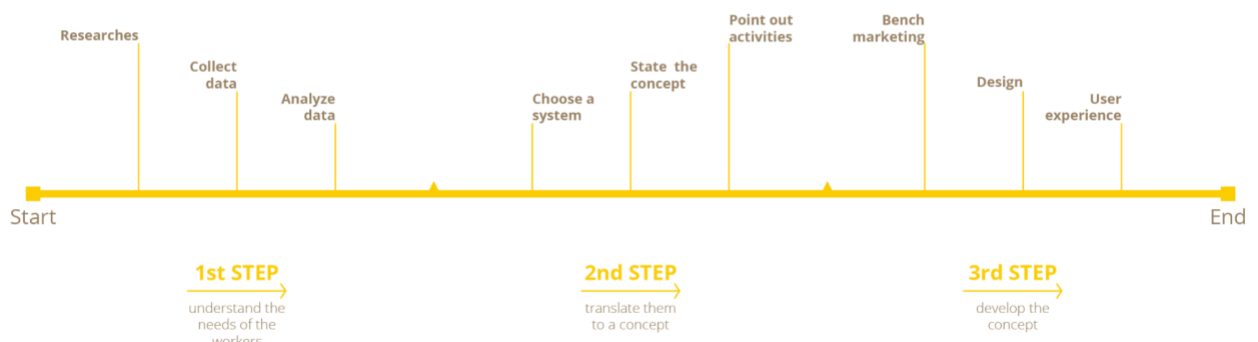
Figure 9 : Project timeline

Research

First, pieces of research were made in several parts.

In the beginning, we read the two previous reports to discover what other groups did. That helped us to orient the next research we had to make. We focused on defining words that could be related to the concept of the Hangout space. In addition, those previous reports helped us to have assumptions. Our objective was clear, verify if the ideas that the former groups founded could be put into a real concept, with a good impact on Rebel workers'.

To find the most reliable and usable information during our research, we collected data from different types of sources. To extend that mindset, we also made very specific research to have examples and research about general topics or definitions of several words that could be linked to the subject. Consequently, we had the widest point of view on the project.

Interviews

To conduct an effective interview, we set a few steps. Since we all agreed that organization and preparation were key to triumph in this mission, those have been crucial.

For all the interviews it has been established the following main phases:

1. Be on time. Punctuality was important as all the people interviewed were making us the favor of offering us their free time.
2. Have clear and defined questions prepared in advance. For four of the five interviews, we had a question form with specific questions (appendixes 3 to 6).
3. Print and bring several copies of our question form as the consent form.
4. In the case of oral interviews, one of the members of the group would be in charge of making the questions, meanwhile at least one of the rest of the group should take notes.
5. After the meeting, the group should read the transcripts and discuss what has been said and answered during the interview.
6. Conceptualize and segment the data to create categories and describe the connections between them.
7. Write the result and do graphic charts so that it would be more visual.

For Personas

In this part of the project, we are going to introduce the archetype of people that represent the different users working in the Rebel building of Oslo.

As it is mentioned before, the Rebel building hosts several companies, most of which are in the computer science field. Furthermore, the workers are mainly Norwegians who are used to doing hybrid work during the last days of the week. When they are in the Rebel, most of them spend their lunch break in the Hangout space and are subscribed to the meal canteen where they have a wide variety of food.

The higher flow of people at lunchtime used to be from 11 a.m. to 1 p.m., and it is a period of time in which people from the same company spend time together.

Prototyping

After doing all our research it was time to make something concrete. Thanks to all the research made, we finally defined the ideal system that could help workers would be an app.

The first part of the prototyping was to use the results of interviews to decide what should contain the app. The analysing process led us to a better understanding of problems encountered in that type of sharing space. We focussed on the needs of people who work in the Rebel building.

The next step consisted of a market analysis to explore the operation of applications and the possible designs that could correspond to our app. We identified what we liked on different other apps and what could reach the functionalities needed. Then, the design of the mock-up was made using Adobe Illustrator.

Finally, the team created a video to show a quick utilization of the app. The idea of this process is to point out the use of the app and illustrate all the functionalities. This last part allows us to enhance our design to fit the functionalities.

2. Research

The research part describes the literature research made in the first part of the project. Looking for information about Rebel or concepts about community and coworking was crucial to scope down the project. First, we looked for information about the Rebel building to understand the organization of a co-working building and its philosophy.

Then, based on the analysis of the previous reports, we extracted assumptions to guide our research. We focused on understanding the meaning of our project by finding keywords related to assumptions. Thus, we precisely defined the following words: Community and coworking and studied how efficiency and well-being at work could be related. Consequently, mastering the different concepts of co-working and community is fundamental to building interviews that address the core concepts of our project.

Rebel

The Rebel Building is a coworking building of seventeen floors located in downtown Oslo (Universitetsgata). There are sixty companies renting offices and desks from the 4th floor, most of them are technological companies. The three first floors are divided into different shared spaces. There are rooms that workers can book for a meeting, event spaces, auditoriums, restaurants, and finally the "Hangout" space.
The latter is the biggest exchange space in the building where workers share a common restaurant and which offers seats to have lunch, for a break, or to work. Companies also shared common utility areas such as the Rebel Arena, the biggest conference room, or the Rebel Studio, where they organize bigger events.

The Rebel Building has been created with one goal, the sharing of knowledge between workers from different companies, in the field of technological development. This goes through the creation of a Rebel community between workers to encourage Rebel members to communicate. Indeed, the Rebel managers planned to make a platform to solve different issues that Rebel workers used to have, such as communicating about internal events.
For the sharing of knowledge, every company must organize meetings to talk about some subjects. This takes the form of events that every employee within Rebel can attend.
We will take the Rebel Building as an example of a co-working space building for our research. It will help us to understand the need for workers in this kind of space.

Previous group assumption

This project has already been studied by two previous groups of international students before our team. The first group did some research about the restaurant that wanted to become a hybrid space called Åpent. Unfortunately, this place closed on short notice.

The next group then began their research about the Rebel building and used the Åpent data collected to go further on the subject. They spent a lot of time observing what was happening in the building. Then, in their report, they made recommendations.

First, they explained the importance of the shared space. A shared space is an area accessible by all and where you can do several activities such as eating, working, having a break, and discussing. In the Rebel building, this place is called the Hangout space, and this is the part of the building our team focused on.
They did research about an app for the canteen of the Rebel which is in the Hangout space. Thus, we tried to check if this was a need for Rebel workers and for people who are eating there. That is why we contacted the canteen manager.

Then, they assumed that the feeling of belonging to the place was particularly important and could help the well-used of the area. We followed their advice and did internet research about the link between the efficiency of co-sharing space and how the atmosphere at work and the quality of work could be related.

After that, another key factor according to the previous students was to be clear and avoid confusion. Thus, we did several interviews inside the building to try to understand if the Rebel manager's opinions and people using the Rebel, were the

same. It was also a way to analyse if communication was well transmitted and if people were aware of the utilisation of the Hangout Space.

Finally, having conversation starters was also recommended in the previous report. We also used the interviews we made to help understand what people would like in the Rebel building and what could be lacking there.

During our project, we used every assumption made by the previous groups and the aim was to check if it was achievable or not. Thus, one by one, step by step, we oriented our project and research about what was confirmed by people feeling in the Rebel building.

Our research

Thus, we precisely defined the following words: Community, co-working, feeling of belonging to something, and how efficiency and well-being at work could be related.

In the next paragraph, we will give our definition of those words related to the sources we looked for. Those terms helped us identify the needs of employees.

Community

Community is the feeling of belonging to a social group and sharing similar interests and values. When someone is part of a community, he is included in a group of people and there are exchanges between each other. To emphasize that feeling, people must be open-minded. If you feel included and warmly welcomed in a place, then, you might act similarly when new people are coming. This is a virtuous circle. To foster inclusion, a place dedicated to that community could be extremely helpful.

Being a member of a community relates to a sense of belonging, self-investment, feeling the right to belong, feelings of acceptance, identification with the group, and sharing common symbols. (Zani & Cicognani, 2013)

Coworking

Coworking is a way of working in a shared work environment that often includes office spaces and independent activity room(s). Unlike standard office spaces, a coworking building or space involves more than one company. It is composed of different companies, and it helps save money by sharing the costs of renting a building.

Thus, coworking is used to counterbalance the problems of isolation and distraction associated with working from home. It improves the sharing of knowledge between different companies. A feature of the coworking location is to make the working environment attractive using events or meetings. This makes coworking more than just a physical space; it is a group that facilitates social and informal gatherings of interested people, thus creating a community. (Garret & Spreitzer & Bacevice, 2017)

Well-being at work

Defining what would be the well-being at work is a matter of understanding the needs of humans. Related to human needs, the Maslow pyramid illustrates what those are.
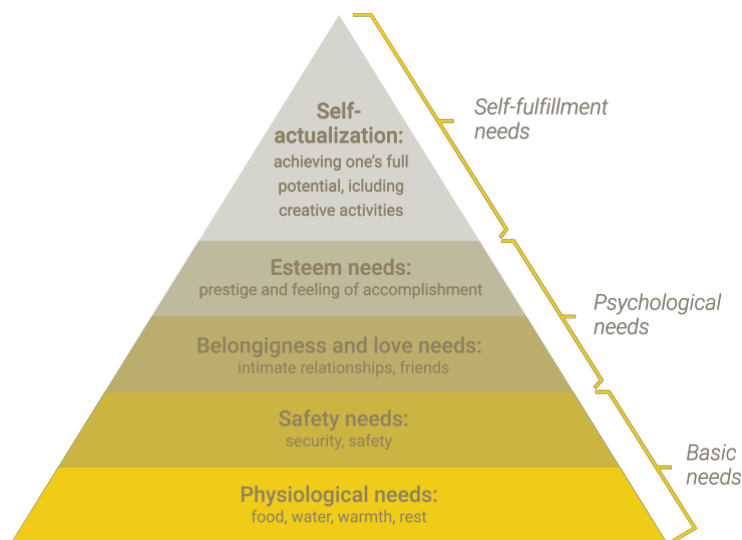
Figure 11 : Maslow's hierarchy of needs

Needs are separated into three categories. First, basic needs, which are the needs that keep a person alive and are the foundations of the pyramid. Then, we have psychological needs, which are mainly related to social interaction but also a relationship with ourselves. This is the second floor of the pyramid. Finally, at the top of the pyramid are the Self-fulfilment needs, those are the most possible level of happiness a person could reach. More than the feeling of happiness, it is the feeling of being exactly at the right place, doing something by one's values, one's ambitions, and feeling fully satisfied in all aspects of one's life.

The workplace, work environment, and atmosphere are part of our lives at least five days a week. This represents a lot of our lifetime and obviously, this atmosphere will be related to our feelings. You must satisfy all your needs in this area, such as drinking water, and be in a safe place. In a social aspect, people interact with each other at work. Moreover, people also accomplish tasks, which contribute to the feeling of self-accomplishment. In another perspective, people earn money thanks to work, then they could achieve basic needs in their life.

This is how work is related to the two first humans need. In our case study, people are trying to reach the last need through their work. In that case, the work environment directly affects your emotions. If workers don't feel well, then they could be less concentrated and less efficient (Adams, 2019).

How do they affect our workers?

Using the ideas defined in the upper part, to workers in a co-working shared space, we can make statements. For us, the Rebel is an ideal example to relate the definitions we talked about and the reality in a building.

For example, the Rebel enhances the sharing of knowledge through the Hangout space and by the concept of the Rebel itself. Indeed, the first three floors are dedicated to the development of a community by giving space to have lunch, share, discuss, work in teams, or just hang out and play billiard for example. Moreover, as it is written in part "Rebel" several events around different subjects are organized every week for each person who is working in the building. This sharing knowledge community permits workers to develop a sense of belonging to something, mostly between companies but also with workers of other companies.

With this kind of community one of the points is to improve the work condition and the well-being of your workers. With research made during this project, we saw that well-being and work conditions affect employees at the physical, mental or emotional level, creativity, and motivation of workers.

3. Interviews

After defining the principal words and actors of our project, we decided to realize interviews to collect data that would help us to address the needs of Rebel workers to improve their experience.

First, we decided to do street interviews, asking random people wide questions about coworking and community. This was the first approach that we had with Norwegian people to understand what community at work means for them. Moreover, they helped us to add some ideas for our system to improve the coworking experience, such as organizing events where companies can compete.

Then, we had a meeting with the canteen manager to discuss if the canteen should be involved in our project, as the previous group focused on its improvement. Then, we could address the scope of the project.

After that, we met the Rebel managers to understand the philosophy they want to develop for the Rebel building. We discovered the concept of sharing knowledge community and the organization of the building.

For the last interviews, we focused on interviewing people that are part of the Rebel building, PhD students from Oslo Met, and workers from IT companies. Understanding their needs and expectations about the Rebel building would help us to design the ideal system to improve their experience. PhD students are particular members of the building as they represent a small community of students in the building. Discovering their opinion of the building gave us a sample of the feeling of a smaller community inside the Rebel building.

Finally, we interviewed 47 Rebel workers through a question form. The question (appendix 5) form tackles the community aspect of the Rebel building but also their opinions about our idea: an application that would help them to centralize all their actions in the building and to get information about Rebel events. Having their opinions was fundamental to supporting our idea to create an app.

The process of making interviews was crucial to collect data about coworking habits in Norway and to scope down our project.

Street interviews

This survey aimed to achieve information about the needs of Norwegian workers, to be more concrete to enhance the feeling of community at Rebel Building.

During these street interviews, 28 people have been asked 9 questions (appendix 6) about community and how they experience this feeling at work.

Out of 28 people interviewed, 20 were working in a shared space. All of them agreed with the following statement: "Community is the feeling to belong to a certain group, whether it might be at work, at home, or in society." They strongly believe that community is a crucial part of life, as sometimes it can define your personality.

Moreover, the coworking reality helps them to improve their efficiency at work as much as it is a tool that permits them to share knowledge among co-workers. As shown in the following chart (Figure 12), 73 % of the people interviewed support the idea that coworking improves their work efficiency. Therefore, they highlighted that their work has been improved because they feel more motivated as they communicate with others and that they experienced more flexibility when they work in teams.

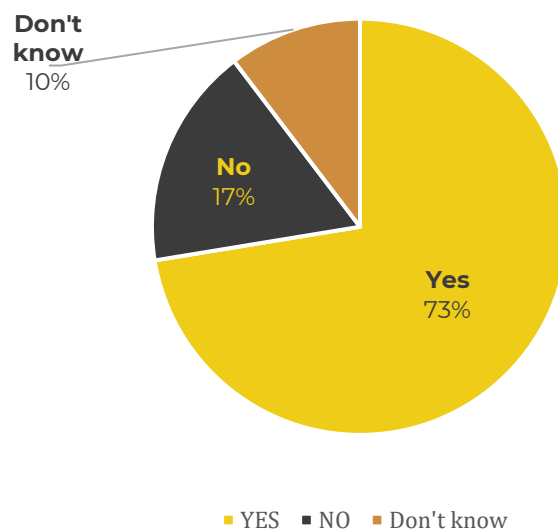### Do you think coworking improve work ?

Figure 12 : Graph of street interviews

Nevertheless, some of them added that it depends on the person and the kind of job that they worked in. Indeed, some people need to be alone to focus, even if everyone agrees that they prefer to be with others during lunch or break.

Finally, we found out that people would like to have extra activities with co-workers. Indeed, 90 % of the people interviewed would be interested in sharing sports or game activities. (Figure 13) However, they prefer to compete against workers from other companies instead of sharing time with them to get to know each other better. To feel confident enough to share knowledge with workers from other companies, they said that they should know that person first.

Would you like to have extractivities with coworkers ?

No
10%

Yes
90%
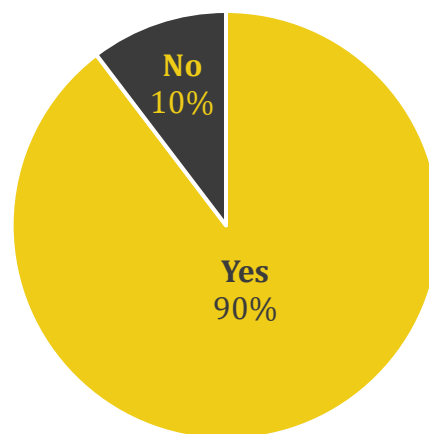
Figure 13 : Graph of street interviews 2

These street interviews help us to understand coworking towards Norway's workers.

Rebel food court

After a pleasant and informative conversation with the kitchen manager in Rebel, we were able to come to a decisive conclusion for the continuation of the project.

The manager pointed out that he currently has no problems that could be solved by a system or app. The only problem the kitchen has is that they do not know how many people will be taking a meal. For this reason, they make estimates, and any surplus is reused or distributed to cooperating companies. If there is a shortage, the kitchen can always count on a buffer.
According to the kitchen manager, a system or app would not be advantageous to the customer; the menu can change several times a day so a weekly menu or the possibility of ordering a meal cannot be guaranteed.

With this information, we could draw a line at adding the canteen to the possible system or app that would centralize everything.

Rebel Managers

During our phase of research, we had an interview with the managers of the Rebel. This interview was relevant for our project to understand their needs and what they think about this place.

The managers of Rebel we met were Peter and Bjorn, in this part, we will describe and resume their feelings and views about the Rebel building.

In the first part, they introduce the history of the Rebel, where this idea comes from, and for whom this place is made. This project is the continuation of another building which was called TUO. In this building, we could find a place like the Hangout space where people could meet themselves. Rebel came after that, and replaced it with a bigger building, with a bigger shared-space and offices for some companies that want to work here.

After the little introduction, they explain to us the main idea of this project, the concept of "sharing of knowledge". This idea rests on the concept that if people help each other and learn about each other they will be more productive and efficient. The fact that innovation would be improved.

To be part of the building as a company, one of the conditions is that you must make several events every year. In those events, someone from the company moderates a topic to share his own knowledge with everyone in the building.

At that moment, there are 4 or 5 meetings a week, and the number of people that came mainly depends on the topic. They add that according to events visitors can come to attend the event.

We also used this meeting to ask them some questions about a system that could help to centralize all the functionalities of the Rebel and especially the Hangout space. After this question, we learned that they are currently creating a platform to concentrate communication, and components and simplify the work-life in the building. This platform aims to make more events and relevant events that could help workers to innovate faster and work better.

To conclude about the information, we get during this interview, we have decided to focus on our research and not be part of their project. In their project, they will need some help in the development of their platform. However, this isn't our field of skills.

PhD students

By talking to some Ph.D. students who use OsloMet's office spaces in Rebel, we hoped to get a first idea of the needs of employees in Rebel.

This conversation gave us very clear information about what they need. There is no communication between them and they have no idea about what the building has to offer or what they can do there. They have little or no use for the shared workshop because they don't know if they have access to it, or if the costs are pushed all the way to them (unlike other employees in the building where the company makes a compromise by, for example, paying for a large part of the meal). They also feel isolated from OsloMet, having been dropped as a small group into a strange building where there is little or no OsloMet staff.

They were very enthusiastic about our proposal for a system or app that would centralize everything. This would help them get to know the building, and if possible, make connections between the different companies. One of the students' own suggestions was to provide a manual for new employees in the building so that they know how to deal with buildings like this.

Another thing they would like to see in the building is an identity, for example, signs showing who works where and what they do.

A conclusion from this conversation was very clear, there is a lack of communication and community inside the building.

Rebel's workers

To understand the needs of Rebel workers, we decided to interview some of them during lunch to state the feeling of community in the building. We interviewed 47 people using a form that tackles different topics such as the feeling of community in the building, the current way of socializing between people, and the improvement that could be done.

We will go through some of the major statements that we discovered.

First, we needed to analyse the different habits of workers in the building. As the following chart highlights, most of the Rebel workers we interviewed are coming more than 3 times a week in the Rebel building, it represents 83 % of them. Rebel workers are intensively returning to their workplace at Rebel after the pandemic crisis.
Consequently, improving their experience at Rebel is crucial.

How many time a week are you coming to Rebel ?

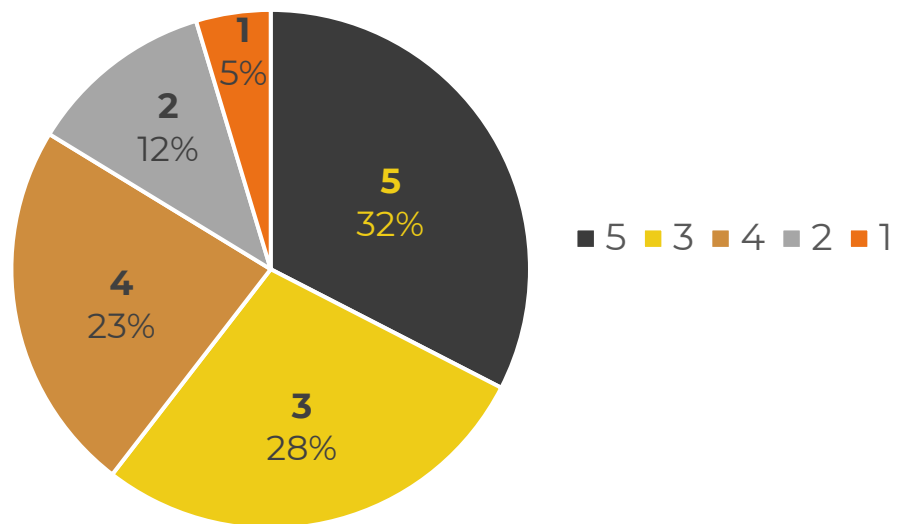*Figure 14 : Graph of Rebel's workers' interview*

What is more, to tackle the utilisation of the Hangout Space, which is the area that we wanted to improve, we had to know how it was used by workers. The results were clear, most of the people, 28 out of 40 responses, use the space to eat whereas the others used it to have a break. However, their responses don't include the common meeting rooms that they use.

What are you doing in the Hangout Space ?
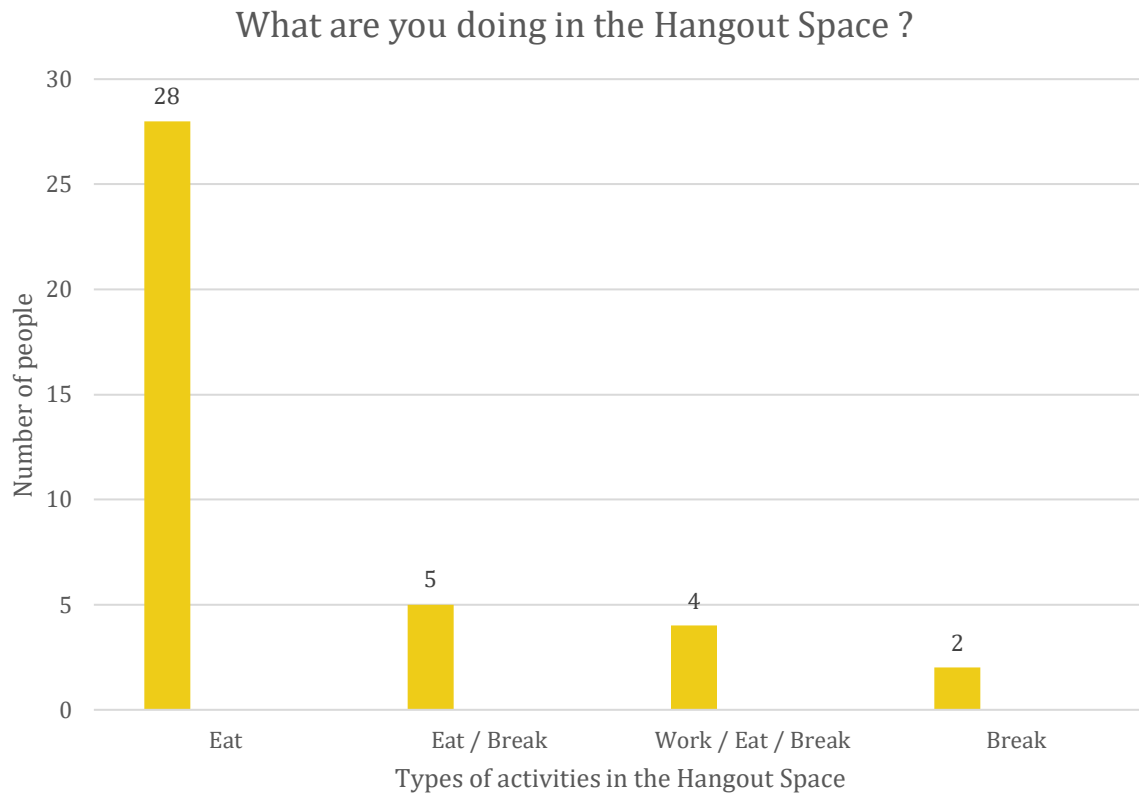
Figure 15 : Graph of Rebel's workers interview 2

Then, we needed to have an idea about the actual feeling of community in the Rebel. We asked workers if they felt that they were part of a community at Rebel. Surprisingly, only 57% of the people interviewed feel that is part of the Rebel community. It must be related to the pandemic where people had to work from home so it might have altered the feeling of community in the building. Furthermore, workers told us that they mostly get in touch with other colleagues and not with people from other companies. Consequently, one of the main challenges of our system is to improve connexions between people. The app would need to be inclusive for workers to help them to know other members through intern events presented in the app. Finally, most of the workers were open-minded about organizing regular extra activities between Rebel members such as open talks or quizzes.

Do you feel part of community at Rebel ?

No 43%

Yes 57%

■ Yes ■ No
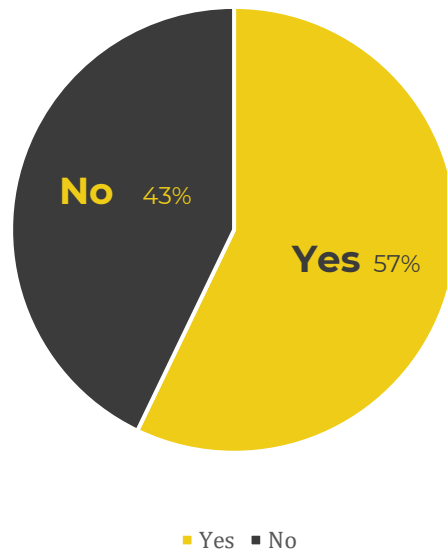
Figure 16 : Graph of Rebel's workers interview 3

Using the data previously collected, we made assumptions that an app would help workers to centralize their actions. Indeed, using the first positive feedback that we had from PhD students, we asked Rebel members if they think that an app that centralizes all the information about the building would be useful. 83% of the people interviewed responded positively. Furthermore, most of the workers reported that they had difficulties with the room renting system. They would welcome a system that enables them to have an overview of the rooms available in the building.

Do you think that centralizing all the information in an app would be useful ?
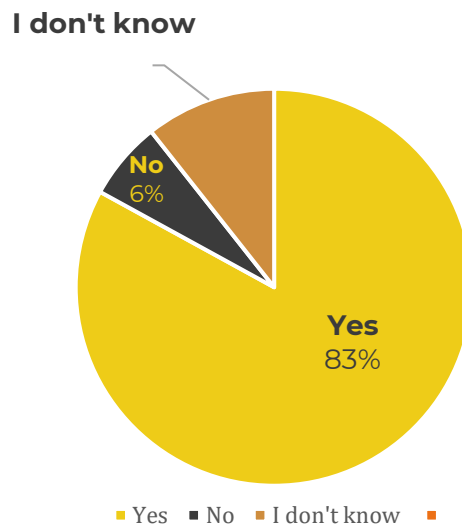
Figure 17 : Graph of Rebel's workers interview 4

Finally, the interviews of the Rebel's workers strengthen our idea about making an application that concentrates all the information about the building. Indeed, most of the Rebel workers reported that they had difficulties realizing simple actions such as renting a room or getting information about Rebel events.

This results in a lack of feeling of community inside the building as shown in the interviews, workers feel that they don't have the tools to get in touch with other workers.

4.   Comparing and contrasting point of view

Comparing the interviews of the staff, students, and owners of Rebel, we immediately see where the big problem lies in this building. Whereas almost all staff and students want an app that centralizes everything within the building, Rebel does not. They are currently working on a system that focuses on events, and meetings and makes it easier to work in the building. Rebel, on the other hand, wants the various companies to share their knowledge and to use the shared workplaces, among other things, for this purpose. While the employees want to enjoy their breaks by eating or relaxing with a game.

Our research also shows that employees want to do activities together, but do not yet feel part of a community. Furthermore, employees and students indicated that there is a lack of communication and that an app would be a good solution to solve this. With this information, we went ahead and started working on a concept that met their needs.

5.   Decision and proposal

Deciding the concept

Regarding research made, the team decided to follow users' opinions and focus on a system that could improve their work experience in the Rebel building. Considering their opinions, an app seems to be the greatest solution. This app will complement the platform, this will not compete. Thus, our concept is to create a mock-up of an app that contains all the functionalities that are currently missing in the Rebel building.

Define the system

After making this choice of our concept, the team had to specify which services, activities, and functionalities would the app contain. The system will be an app that enhances the sharing of knowledge by creating a community. The app would be a tool for that community and help people to get in touch and contribute to progress and relationships.

Benchmarking related to the research

In this section we will look for already existing apps that we can use as a basis for certain functions.

Moodle, a school app. As shown in the screenshot, the layout of Moodle at the bottom gives a nice overview of some of the main functions: Dashboard, conversations, announcements, calendar, and settings. There is also a search bar at the top and a link to your profile.

Figure 18 : Moodle app

40
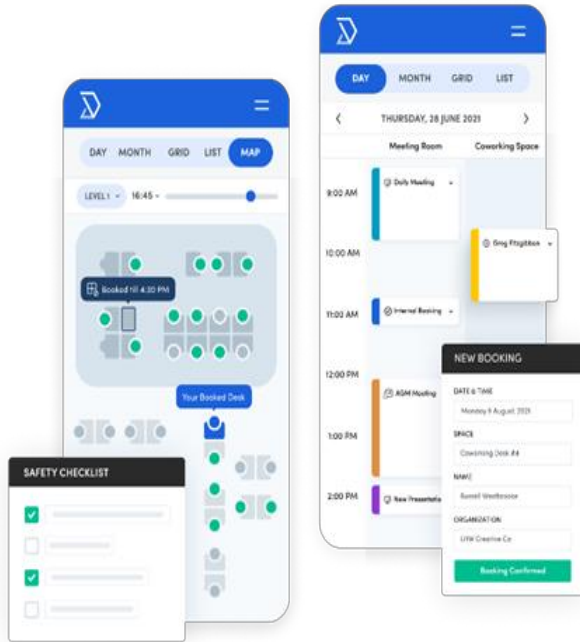
Skedda, a room booking app. Skedda is an app that makes it easy to book a room and gives you a visualization of the available equipment in the room. There is also a calendar attached to it that immediately shows you the availabilities.
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Figure 19 : Skedda app
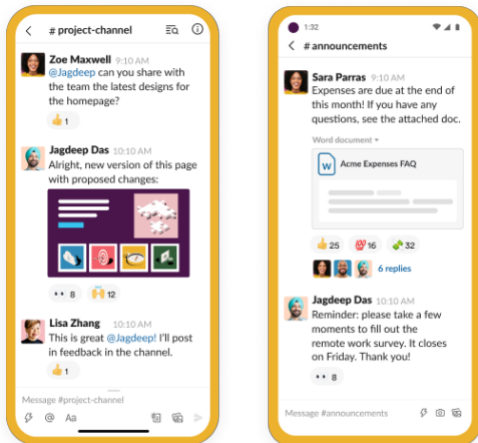
Slack, a chat app. Slack is an app that is a chat, but on this app, you have a profile. You can send messages to people of the same company or same group. You can send some files and other stuff via this channel.

Figure 20 : Slack app

Defined functionalities

In this section, we will precisely explain all functionalities that will be on the app due to the results of research works.

First, the app will contain a **new way to book a room** (figure n°21). Through interviews, workers explained that they have some problems booking rooms and think that another way to book it could be relevant. Indeed, they lack information about how many people could fit in the room, how much is it, and are rooms available? The app will enable you to choose those filters to book rooms easily.
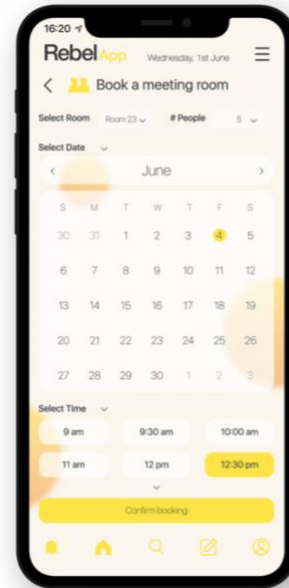
Figure 21 : Screenshot-Book a meeting room

Moreover, a **notification** part linked to the building will be part of the app (figure n°22), as one of the reported problems was that most of the people were not aware of what was going on in the building. Consequently, the workers could have daily reminders of any information related to the building as they will also receive notifications that will remind them of their appointments. For example, "the elevator D is out of service until 3:00 pm.". On the homepage, there will be also a graph that shows the flow of people in the Hangout space. This will help to identify the rush hours during the day. In this way, the employee is always up to date with events in the building, as requested in our interviews.
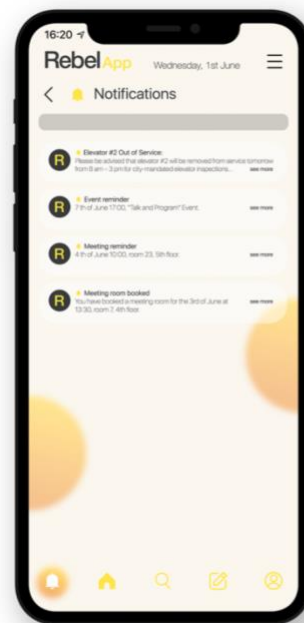
Figure 22 Screenshot-Notifications

For what is more, based on research from the previous and our group, workers would like to realize some leisure activities at their workplace or compete against other coworkers from other companies. For this reason, a good solution that will permit enhancing the feeling of community in the building would be creating a net of **activities** in the mobile app (figure n°23). These activities, such as topic tables or arcade night, could be created and be available on the app and they would take place during break time or after work.

Figure 23 : Screenshot-Activities

Figure 24 : Screenshot-Chats

Afterward, during interviews, the managers told us that employees use Slack and Teams as a chat to discuss with each other. So, for that reason, the app will have **a chat section** (figure n°24) where you can reach every member of every company that works in the Rebel.
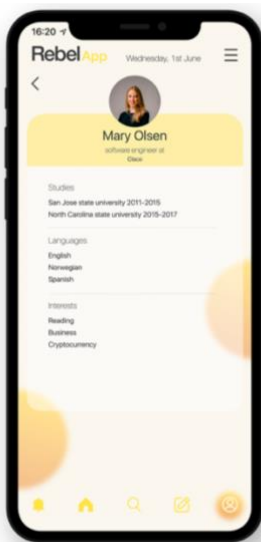
Figure 25 : Screenshot-Profile

One of the principal requests from the PhD student was to have the possibility to get to know the rest of the Rebel's workers as they wanted to be aware of who is working inside the building in order to approach them and create connections. At the same time, the managers also wanted to build a sharing knowledge community, which was one of the main reasons why the Rebel building exists. For these two reasons, a **network face** will be implemented in the app. There will be a list of people working in the Rebel, with their names, emails, photo, phone number, and the name of their company (figure n°25). It is the user's profile that he is responsible for.

Figure 26 : Screenshot-Research

In addition, each employee could add the topics he works on. Thus, when another employee is looking for data on a special subject, he could find it thanks to filtering people related to that topic (Figure n° 26).

As mentioned in the **research** part, the Rebel building was made to make the sharing of knowledge between companies easier. This page, where the user could write keywords and use the filter to orient his research will massively contribute to facilitating the sharing of knowledge between companies by facilitating putting people in touch

The second way to enhance this sharing of knowledge is the organization of events inside the building. The app will have an **event** page (Figure n° 27) where the users can find every event they could attend and the price. Everything will be scheduled on their calendar when they register. Each event will appear with a short description of the topic, who is organizing it, and if it is public or private.
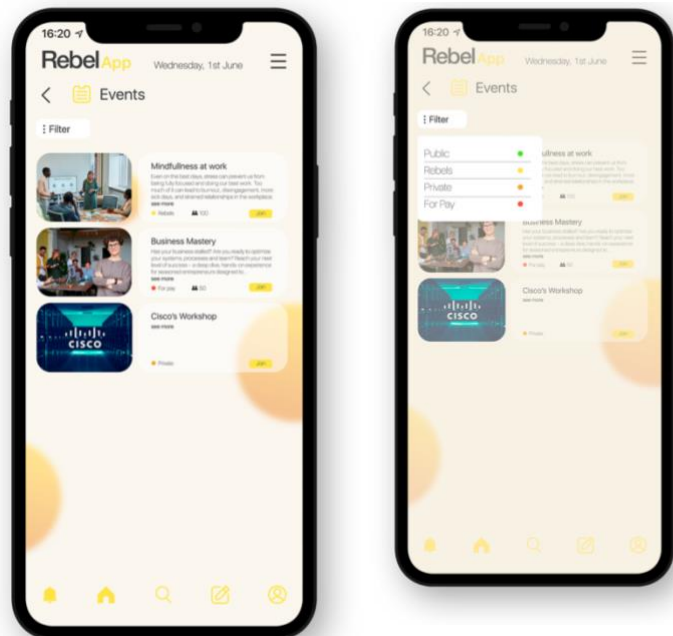
Figure 27 : Screenshot-Events

In order to keep an eye on all the appointments, events, activities, meeting rooms already booked, and their schedule, the users will have the access to the calendar. In this way, the workers will be more organized.

Figure 28 : Screenshot-Calendar

Another important tool that will be present in the application is the home page. In this section, the user could organize his widget by choosing all the relevant functionalities. From what we experienced during the interviews, the workers need order and the best way to achieve it is to offer them an insight vision of all the functionalities of the app.
At the same time, there will be also a list form of all the functionalities that are present in the system.

Figure 29 : Screenshot Home page

Make the design prototype and user experiences

In part of the report, it will be justified the design election for the app, which will contain all the main points that should be present in a system, to succeed with our mission.

The mentioned election includes the typeface, the colours, the shapes, and the icons.

Since this app would be the reflection of the Rebel building some important elements such as the logo, are present in the interface. For the same reason, the prevailing tone is yellow *(#F4DB5C)* with its different shades, to make it less stressful for the user, and dark grey *(#3B3B3B)* which is the other corporative colour of the Rebel building.

According to the typeface, it has been used *Helvetica Neue* which is the same as for the Rebel building logo, and *SF UI Display* which is the display version for the San Francisco Family. Both are sans-serif typefaces which means that they are simple, readable and the perfect choice for a mobile app.

Regarding the shapes, all the texts are in front of white rounded rectangles with a glass morphism effect. In the background of the screen, some blurred circles contribute to make the interface more dynamic.

All the icons are rounded and remind us of the functionality which are associated.

Figure 30 : : Mock-up Rebel App

Conclusion

Through this project, the team considered the Rebel building as an example of a co-working area where you can have a feeling of community. We focused on that building to document our research. Collecting data about previous group assumptions on this concept led us to provide a solution that would enhance the feeling of community and well-being at work in addition to entertaining innovation.

As we have described in this report, there is a lack both of information, which are, shared understanding of what the Rebel building is, and a lack of activities across tenants. We have described how these deficiencies may be addressed by new activities and an app that supports and informs about activities and events.
Therefore, an app specially made for the building that would facilitate every action that you can do in the Rebel and contribute to the sharing of knowledge is a solution.

It suggests that an app works as a platform that contains several functionalities in order to enable communication inside the whole building. First of all, the Rebel network page, the chat page, and the event page contribute to the sharing of knowledge between people from different companies. In addition, the app contributes to the optimum use of the building by facilitating the booking of rooms and spaces. Finally, the friendly user experience of the app is made by a lot of useful functionalities to build a strong community based on good values and enable innovation for the concerned fields.

To conclude, we can affirm that most of our objectives in the project management, as well as in the solution provided were reached. We collected data to review previous group deductions and that led us to have a wider perspective of the topics covered through the project. As promised, we explored the field of the community, the work environment, and the benefits of a co-working area. Through the changes of direction of our project during the process, we finally discovered what was lacking and managed to create a prototype of an app that could enhance the Rebel experience.

To go further

R
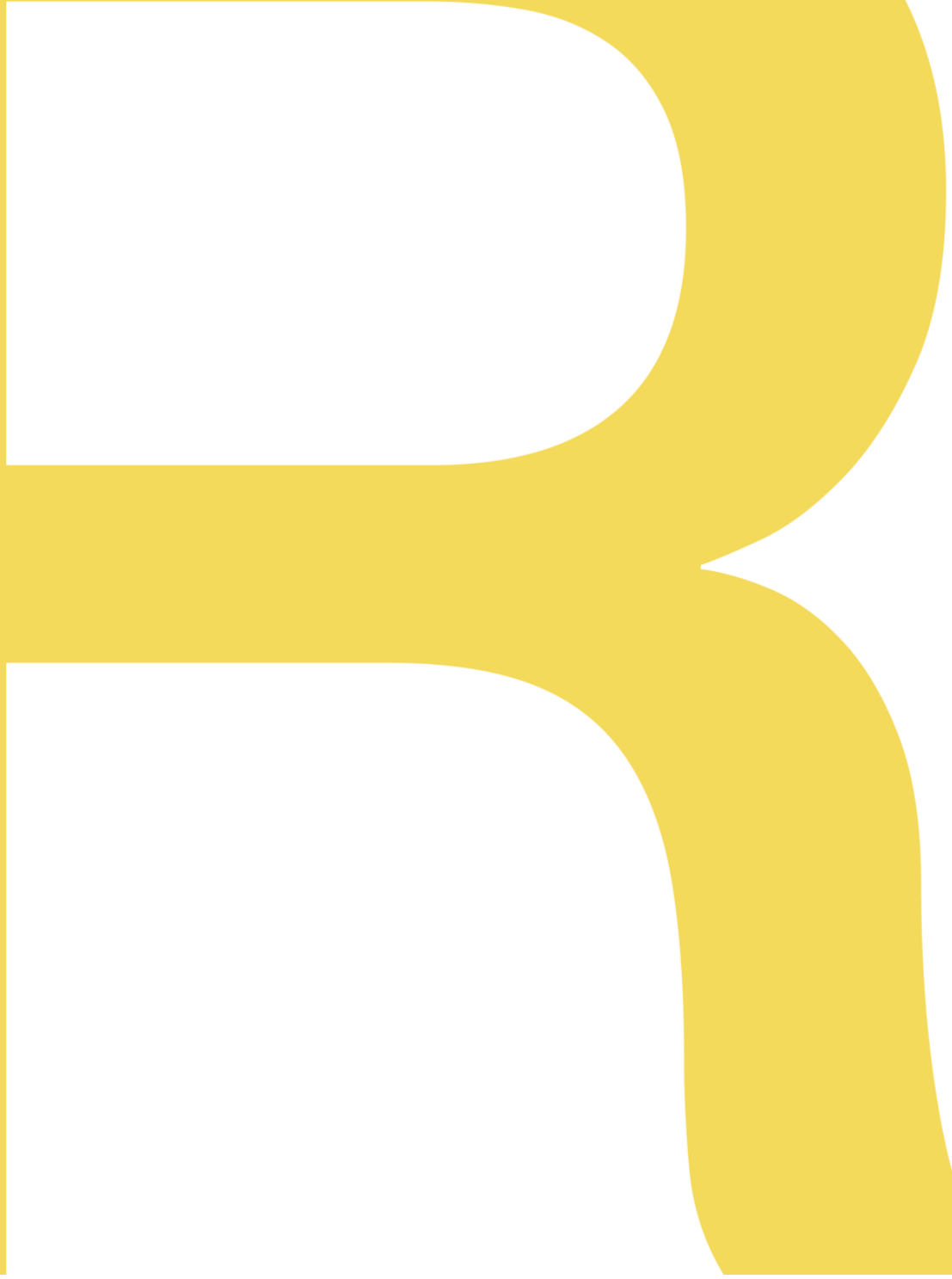
After all our research and our proposal system, the following step would be to code the app. It could be done by computer sciences developers or some computer sciences students in a project.

After this point of coding, the aim is to implement the app in the Rebel building and this will be the test phase. This will enable employees to give feedback. We didn't mention that our app has to be approved by Rebel owners and bought before that.

The next step would be to create a second version of the app, with the feedback from users, and add things that could be improved. It could be an improvement of the user's experiences by adding new functionalities.

From a wider and more ambitious perspective, after a few versions and some adjustments, this app could be deployed in other co-working space buildings. We truly believe the tools for communication and information that is included in this app could contribute to better communication, better work experiences, and optimum use of the buildings in general.

Reflections

R

Problems faced

At the beginning of the project, we had some trouble understanding the project, it was very unclear to us. It took us a long time to understand the purpose of the project, but after thorough research and a few meetings with the supervisor, we were able to get started. After an initial understanding of the project, we had to understand it more precisely and in a deeper way.

Another problem we faced during the project was a lack of motivation for the project. As a result of the problem mentioned earlier, most of the group felt very demotivated by the project for a long time. This demotivation affected our project as we spent less time on our work, held fewer meetings, and even when we worked, we were not sure of our work as it could be out of the context of the project.

The next problem we encountered was that the owners and the workers of the building have opinions that are opposed to each other. After talking to the workers, we found out what they needed, but after talking to the owners, it turned out they had other priorities in the building and were solving them in their own system. This caused another source of lack of motivation in the group.
In order to increase our motivation, and because we were convinced that it could be useful for possible further use, we decided to make our own prototype in which we incorporated the needs of the workers.

Our project also required us to work with many different people, so one thing that hampered our project was the delays in responding to our messages/emails. There was nothing we could do about that problem, mostly we just sent a small reminder to the people concerned.
If we did not get a reply, we tried to talk about it with our supervisor Tengel, so that he could help us in his way.
But this solution usually only created an intermediate stage and our communication with the people became longer and longer.

What we learned

The EPS project is a multiple disciplinary project conducted by an international team. The group developed new core skills in different sectors such as project management, technological software, and theoretical concepts.

First, this project helped us to develop project management skills in an international context. The group features three different nationalities. Everyone had different habits concerning their way of working and exchanging with each other. The whole group improved in managing an international team to get the best competencies from every member to reach the final goal of producing an application.

The Rebel project helped us develop a methodological process over the project, going from the early definition of the project, through the research and prototyping phase to the conception of a product, the final app. We learned how to deal with changes during the construction of a project.

Then, we improved our knowledge about communities in companies and new types of work organizatiosn such as co-working. During the research phase, we discovered fundamental concepts about co-working in companies and all its benefits.

Finally, the group improved on dealing with different opinions on a project and the process of making compromises to opt for the best solution possible according to the different stakeholders. Indeed, we had to deal with opposite ideas between stakeholders, some wanted an app, some don't. The group considered all the information and opted for the one that respond the most to the Rebel worker's needs.

Bibliography

Adams, J. M. (2019). The Value of Worker Well-Being. *Public Health Reports*, 134(6), 583–586. https://doi.org/10.1177/0033354919878434

Summary: This report is about the well-being at work and how workplace conditions can affect employees at physical, mental or emotional level. Good measures by the employer ensure good working conditions, which in turn ensure the well-being of the employee in terms of safety, happiness and productivity
Relevance: The report gives us more insight into how the well-being of the employees affects their behaviour. Although it is a general report, and we have to delve into the Rebel workers and their needs, it provides a good basis.

Chang-Yen, T., Jeou-Shyan, H., Chih-Hsing, L. and Da-Chian, H. (2015). Work environment and atmosphere: The role of organisational support in the creativity performance of tourism and hospitality organisations. *International Journal of Hospitality Management*, *46*, 26-35. https://doi.org/10.1016/j.ijhm.2015.01.009

Summary: This journal article is about the impact support, environment and the atmosphere at work are related to the creativity and motivation of workers. For example, a cooperative culture between the workers improves their efficiency and their sharing of knowledge.
Relevance: One of the aspects of our project is related to the efficiency of the Rebel's workers. In this perspective this journal gives us information to understand how the well-being and the condition at work improve the quality of their work. In this journal, the authors spoke about the increase of the sharing of knowledge between workers which is for us a really important thing in a sharing space like the Rebel building.

L.Brunet, J. Ménard (2010). Authenticity and well-being at work: A call to better understand the relationships between the self and one's work setting. *Pratiques psychologiques, 18*, 89-101. doi: https://doi.org/10.1016/j.prps.2010.10.003

Summary: This review of current literature is about the genuineness of humans and how it could be related to efficiency at work.
Relevance: Before understanding how people work together and how they relate to other humans, we thought we have to learn about how they behave with themselves. Indeed, in this report, the authors explain their definition of authenticity. It is linked with the personality of people but also with their environments. The community we want to improve in the Rebel building is part of the environment of Rebel workers. Thus, understanding the needs of workers and analysing their thoughts will have a real impact on our choices.

Zani, B., Cicognani, E. (2013). Sense of community in the work context. A study on members of a co-operative enterprise. *Global journal of community psychology practice, 3*(4), 1-6. https://www.gjcpp.org/en/resource.php?issue=9&resource=171

Summary: This article reports from a study that investigated the psychological relationship between workers and their work organisation as the community context. The result of this research demonstrates that partners recognize the co-operative as more committed to its stated core values in comparison with employees. Finally, another important result is that the length of service is a crucial contributor to well-being both for partners and employees.
Relevance: The article gives us information about what is a community and how workers answer to its hierarchy. Understand people's behaviour at work will be fundamental for the report, as this result will be taken into account with a view to enhancing the feeling of community and to create a system according to their needs. In addition, the indicators that affect psychological relationship of individuals with the work organisation will be helpful to understand more concretely, how they feel about this organisation, and if they need changes in it.

Howell, T. (2022, March). Coworking spaces: An overview and research agenda. *Research Policy, 51*(2), 104447. doi: https://doi.org/10.1016/j.respol.2021.104447

Summary: This article highlights the benefits of coworking spaces as a promising phenomenon for companies to improve their work efficiency.
Relevance: The rebel arena is a coworking space where companies share common spaces used for work. The report tackles the coworking landscape and its impact on work. The author highlights that coworking provides connection, energy and social support among the community. Understanding the organisation and mentality behind coworking is essential when it comes to improving the feeling of community in a shared space.

Garret, L. E., Spreitzer, G. M., & Bacevice, P. A. (2017). Co-constructing a Sense of Community at Work: The Emergence of Community in Coworking Spaces. *Sage Journals*, *38*(6), 821-842.

Summary: This aim of this research article is to analyse the behaviour of the members of a coworking space who work together to establish a sense of community during their daily life. Three types of collective actions have been identified which contribute to build a sense of community.
Relevance: The aforementioned article states some key words such as coworking and community in organisations, which are extremely related with our project topic. Indeed, the authors remark that workers have a need for social connection, as Rebels workers do, and that they can satisfy it by co-constructing a SOC. This sense of ownership will lead them to improve their performance at work. For this reason, it is a relevant source that could be used as a "script" during our project development.
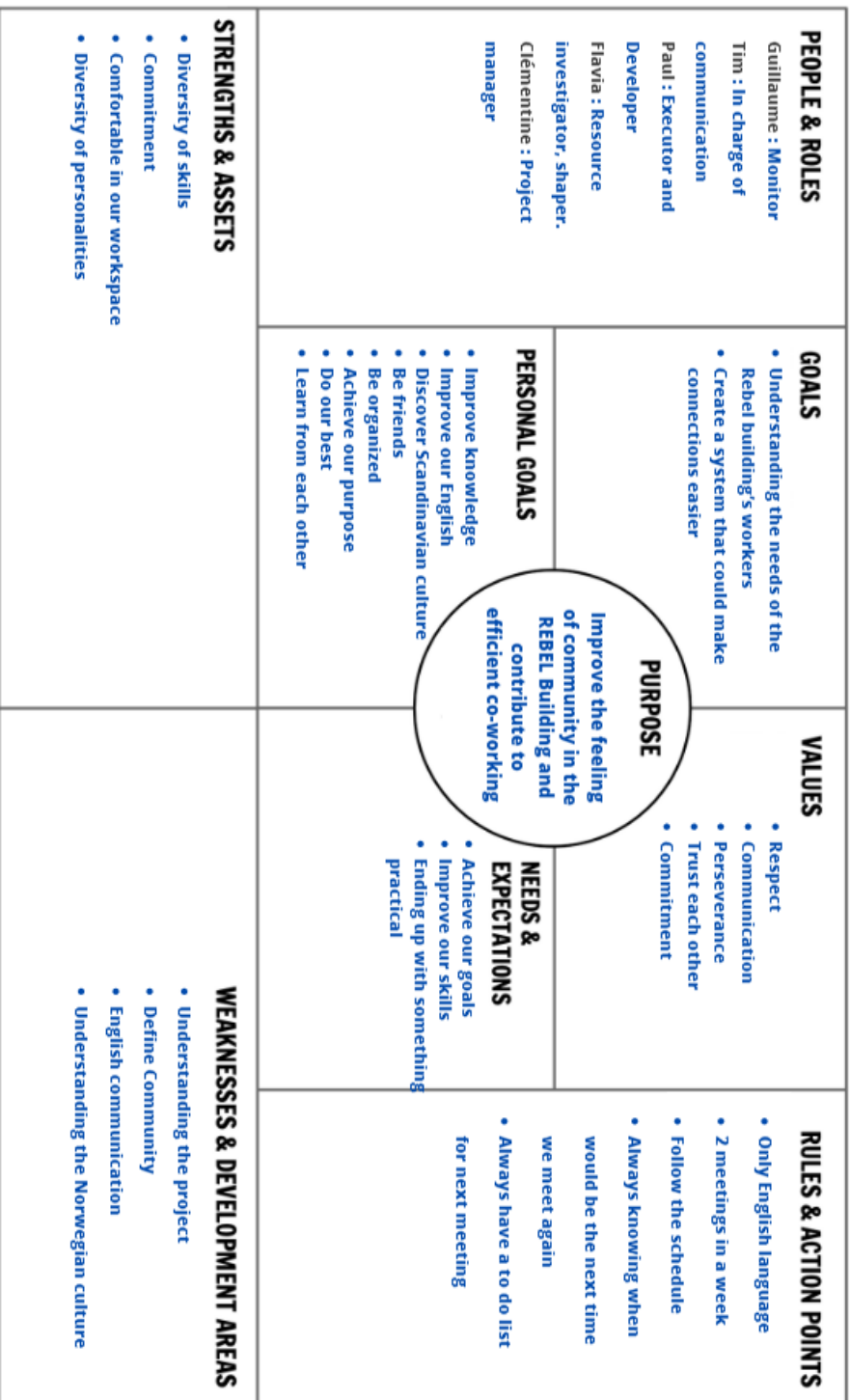
Appendixes

Appendix I: Team Canvas

The Team Canvas

Most important things to talk about in the team to make sure your work as a group is productive, happy and stress-free

TEAM NAME ___The Rebels___ **DATE** _9th Feb 2022_

PEOPLE & ROLES

Guillaume : **Monitor**

Tim : **In charge of communication**

Paul : **Executor and Developer**

Flavia : **Resource investigator, shaper.**

Clémentine : **Project manager**

GOALS

- **Understanding the needs of the Rebel building's workers**
- **Create a system that could make connections easier**

PERSONAL GOALS

- **Improve knowledge**
- **Improve our English**
- **Discover Scandinavian culture**
- **Be friends**
- **Be organized**
- **Achieve our purpose**
- **Do our best**
- **Learn from each other**

PURPOSE

Improve the feeling of community in the REBEL Building and contribute to efficient co-working

VALUES

- **Respect**
- **Communication**
- **Perseverance**
- **Trust each other**
- **Commitment**

NEEDS & EXPECTATIONS

- **Achieve our goals**
- **Improve our skills**
- **Ending up with something practical**

RULES & ACTION POINTS

- **Only English language**
- **2 meetings in a week**
- **Follow the schedule**
- **Always knowing when would be the next time we meet again**
- **Always have a to do list for next meeting**

STRENGTHS & ASSETS

- **Diversity of skills**
- **Commitment**
- **Comfortable in our workspace**
- **Diversity of personalities**

WEAKNESSES & DEVELOPMENT AREAS

- **Understanding the project**
- **Define Community**
- **English communication**
- **Understanding the Norwegian culture**

Appendix 1 : Team Canvas

Mission, goals and scope

MISSIONS

Improve the feeling of community in the REBEL Building.

GOALS

- Understanding the needs of the Rebel building's workers
- ▼ Create a system that could make connections easier
    - Improve connections between people
    - Improve connections between people and the building
- ▼ Contribute to the sustainability of the building
    - Reduce food waste
    - Raise awareness about sustainability issues (environmental, social...)
    - Improve the feeling of being at ease in the work area

SCOPE

- We are not going to change the design, building of the space in order to improve sustainability
- We will focus on the Hangout and Expo space and not only in the food space
- We will focus on human well being at work

Appendix 2 : SMG

Appendix III : Interviews questionnaires

QUESTION FORM
Cookers
Rebel

◆ MEMBERSHIP:

1. HOW MANY PEOPLE HAVE A MONTH MEMBERSHIP TO THE CANTEEN ?

NUMBER:

2. HOW MANY PEOPLE ARE EATING ON AVERAGE EVERYDAY ?

NUMBER:

◆ FOOD MANAGEMENT :

3. HOW FAR IN ADVANCE DO YOU NEED TO KNOW HOW MANY PEOPLE ARE EATING THERE ?

COMMENTS

4. AT WHAT TIME THERE ARE THE HUGEST NUMBER OF PEOPLE IN THE CANTEEN (APPROXIMATELY) ?

5. WHAT DO YOU DO WITH FOOD WASTE?

◆ SUSTAINABLE DEVELOPMENT :

6. DO YOU LOOK AT THE ORIGIN OF THE INGREDIENTS YOU'RE BUYING ?

YES NO IF YES, WHAT ARE YOUR PREFERENCES AND WHY ?

7. DO YOU SORT OUT THE FOOD WASTE ?

YES NO

QUESTION FORM
Cookers
Rebel

8. DO YOU KNOW THE APP "TOO GOOD TO GO" OR OTHERS APPS THAT AVOID WASTE ? IF YES, WHICH ARE THEY?

YES NO NAME OF OTHER APP/S:

◆ IMPROVEMENT :

9. DO YOU THINK THAT AN APP THAT WOULD CENTRALIZE THE FOOD SERVICES (MENU, NUMBER OF PEOPLE, FOOD WASTE MANAGEMENT...) WILL BE USEFUL FOR YOU AND THE CUSTOMERS ? HOW IT WOULD BE USEFULL ?

YES NO COMMENTS

10. DO YOU HAVE ANY IDEAS / SUGGESTIONS ABOUT IMPROVING THE FOOD SERVICES ?

11. HOW MOST OF THE PEOPLE ORDER THEIR FOOD ? ON THE WEBSITE ? ON THE RESTAURANT ? (PAIEMENTS METHODS ?)

12. DO YOU HAVE FEEDBACK ABOUT YOUR MEALS AND THE QUALITY OF IT ?

Appendix 3 : Cookers questionnaire

1. SINCE WHEN ARE YOU WORKING HERE IN THE REBEL BUILDING ?

2. HOW FREQUENTLY DO YOU USE THE HANGOUT SPACE ?
(IF YES TO EAT-BREAK-WORK)

YES ○   NO ○   IF NOT, COULD YOU EXPLAIN THE REASON WHY ?

3. DO YOU USE THE AUDITORIUM ROOMS, GROUP ROOMS AND ALL THINGS AVAILABLE IN THE REBEL OUTSIDE OF THE OSLOMET FLOOR ? → IF NOT, WHY YOU DON'T USE IT ?

YES ○   NO ○   IF NOT, WHY YOU DON'T USE IT ?

4. DO YOU PARTICIPATE TO EVENTS ORGANIZED BY THE REBEL ?

YES ○   NO ○

5.COULD YOU GIVE US A DEFINITION OF COMMUNITY FOR YOU ?

6. DO YOU FEEL PART OF A COMMUNITY HERE ? IF NOT, WHY?

YES ○   NO ○   IF YES, WHAT ARE YOUR PREFERENCES AND WHY ?

7. WOULD YOU LIKE TO DO SOME ACTIVITIES WITH THE OTHER COMPANIES IN THE REBEL (COMPETE AGAINST OTHER COMPANIES LIKE A BILLIARDS COMPETITION) OUTSIDE OF THE WORK ?

YES ○   NO ○

8. WOULD YOU LIKE A PRODUCT, SYSTEM THAT GIVE EASY ACCESS TO ALL SERVICES OF THE REBEL BUILDING (BOOK A ROOM, MEET PEOPLE) ?

YES ○   NO ○   COMMENTS

9. DO YOU HAVE ANY IDEAS TO IMPROVE WORKING CONDITIONS IN THE REBEL ?

Appendix 4 : PhD Students questionnaire

QUESTION FORM
Company Workers

1. HOW MANY TIME A WEEK DID YOU COME TO THE REBEL BUILDING ?

1 DAY 2 DAYS 3 DAYS 4 DAYS 5 DAYS >5 DAYS
○   ○   ○   ○   ○   ○

2. DO YOU FEEL PART OF A COMMUNITY THAT ENHANCE A BETTER COMMUNICATION, MORE ACTIVITIES, EASIER ACCESS TO OTHER PEOPLE IN THE REBEL BUILDING ?

YES   NO
○   ○

3. HOW DO YOU GET IN TOUCH WITH PEOPLE IN THE REBEL TODAY ?

4. WHAT KIND OF NON-WORK ACTIVITIES WOULD YOU LIKE TO DO WITH PEOPLE WORKING IN THE REBEL BUILDING ?

5. DO YOU THINK THAT CENTRALIZING ALL THE IMPORTANT INFORMATION YOU NEED AS A USER OF THE BUILDING IN AN APP WOULD BE USEFUL (ROOM RESERVATIONS, COMMUNITY EVENTS..)?

YES   NO
○   ○

6. HOW COULD YOU IMPROVE THE WAY TO BOOK MEETING ROOMS, IF YOU CAN WISH ?

7. WHAT DO YOU WANT IN THIS SYSTEM ?

8. WHEN YOU ARE IN THE HANGOUT SPACE (1ST AND 2ND FLOOR): IT IS MORE TO...

WORK   EAT   BREAK   OTHER:
○   ○   ○

9. IS IT SOMETHING THAT YOU WOULD LIKE TO ADD TO THE HANGOUT SPACE ?

10. DO YOU HAVE ANY IDEAS THAT COULD IMPROVE YOUR REBEL EXPERIENCE ?

Appendix 5 : Company Workers questionnaire

Aa Questions	☑ YES	☑ NO	☰ Comment
What's community for you ? (give ⤢ OPEN definition)	☐	☐	
Do you work in a shared space ?	☐	☐	
Do you think co-working is improving work?	☐	☐	
Would you like to have some extra activities with them ? (sports, debates, board games, topic tables…)	☐	☐	
What do you like about it ?	☐	☐	
Are you curious about meeting co-workers from others companies ?	☐	☐	
Do you think theses activities will improve your social life ?	☐	☐	
Do you think take a break to relax (meditation courses or "posture courses") in your work day would be relevant ?	☐	☐	
What do you miss in your social interaction at work ?	☐	☐	

Appendix 6 : Street questionnaire

OSLOMET

Dear Sir or Madam,

We are exchanges students from different countries of Europe and we are in Norway to achieve our studies. We are currently studying at OsloMet and our subject is about how we can improve the feeling of community in a co-working space between workers from different companies.

The questions asked to you during this interview will help us to understand the need of a community.

All the data collected during these interviews will be deleted before June 15th, 2022.

We really want to thank you in advance for taking time to answering this quick interview and we wish you the best.

Kind regards,

Clémentine, Flavia, Guillaume, Paul, Tim

Appendix 7 : Information letter

Are you interested in taking part in the research project "Rebel building"?

This is an inquiry about participation in a research project where the main purpose is to Improve the feeling of community in the REBEL Building. In this letter we will give you information about the purpose of the project and what your participation will involve.

Purpose of the project
In this project we want to understand the needs of the employees and create communities within the Rebel building.
With the data we obtain through this interrogation, we investigate whether we can develop a user-friendly app that centralizes these needs.

Who is responsible for the research project?
Oslo Metropolitan University is the institution responsible for the project.

Why are you being asked to participate?
For our project, random people who work in the Rebel building are asked to complete a survey. This results in a random sample.

What does participation involve for you?
- By means of this (online) questionnaire, or interview, we want to obtain the needs of the employees. This survey also provides us with more information about how satisfied or dissatisfied employees are with certain topics.
- The information obtained is stored anonymously on both a paper and Word version
- .If you chose to take part in the project, this will involve that you fill in an (online) survey. It will take approx. 5 minutes. The survey includes questions about community in the rebel building and use of the shared workspace

Participation is voluntary
Participation in the project is voluntary. If you chose to participate, you can withdraw your consent at any time without giving a reason. All information about you will then be made anonymous. There will be no negative consequences for you if you chose not to participate or later decide to withdraw.

Your personal privacy – how we will store and use your personal data
We will only use your personal data for the purpose(s) specified in this information letter. We will process your personal data confidentially and in accordance with data protection legislation (the General Data Protection Regulation and Personal Data Act).
- Only Oslo Metropolitan University, the project supervisor and the researching students will have access to this data
- The data will be encrypted and only accessible to Oslo Metropolitan University, the project supervisor and the researching students.

No names or other contact details will be stored in our data.

What will happen to your personal data at the end of the research project?
The project is scheduled to end 03/06/2022. At the end of the project, the collected data will be deleted.

Your rights
So long as you can be identified in the collected data, you have the right to:
- access the personal data that is being processed about you
- request that your personal data is deleted
- request that incorrect personal data about you is corrected/rectified
- receive a copy of your personal data (data portability), and
- send a complaint to the Data Protection Officer or The Norwegian Data Protection Authority regarding the processing of your personal data

What gives us the right to process your personal data?
We will process your personal data based on your consent.

Based on an agreement with Oslo Metropolitan University, Data Protection Services has assessed that the processing of personal data in this project is in accordance with data protection legislation.

Where can I find out more?
If you have questions about the project, or want to exercise your rights, contact:
- Oslo Metropolitan University via Tengel Aas Sandtrø (tengel.sandtro@oslomet.no)
- Our Data Protection Officer: Ingrid Jacobsen (Ingrid.jacobsen@oslomet.no)
- Data Protection Services, by email: (personverntjenester@sikt.no) or by telephone: +47 53 21 15 00.

Yours sincerely,

Project Leader   Students
(Researcher/supervisor)   Clementine Raimond, Guillaume Martin,
Tengel Aas Sandtrø   Flavia Appolani, Paul Gallabert & Tim Luffin

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Consent form

I have received and understood information about the project "Rebel building" and have been given the opportunity to ask questions. I give consent:

- ☐ to participate in an interview
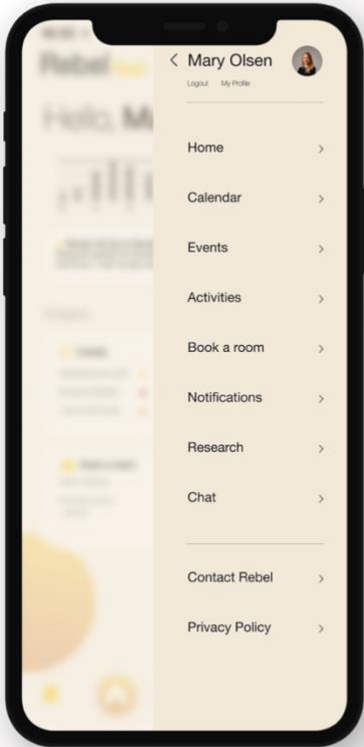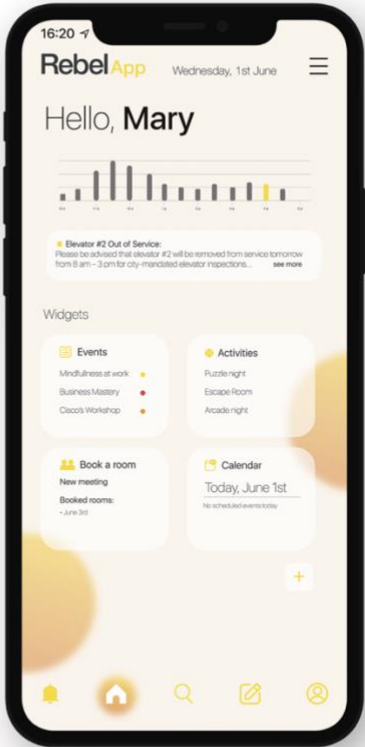- ☐ to participate in a survey

I give consent for my personal data to be processed until the end date of the project, approx.
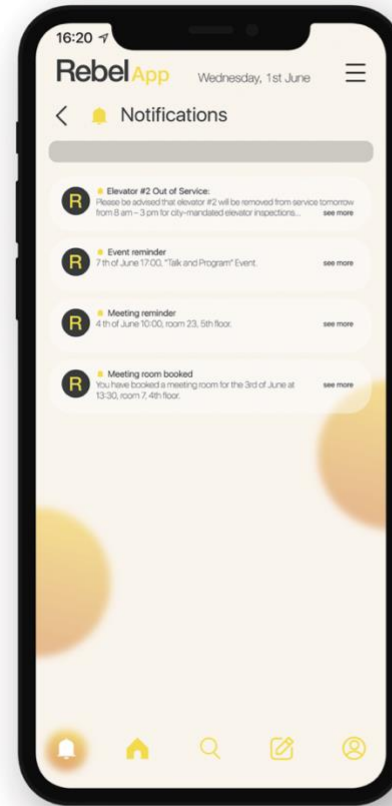
Date : .../.../2022

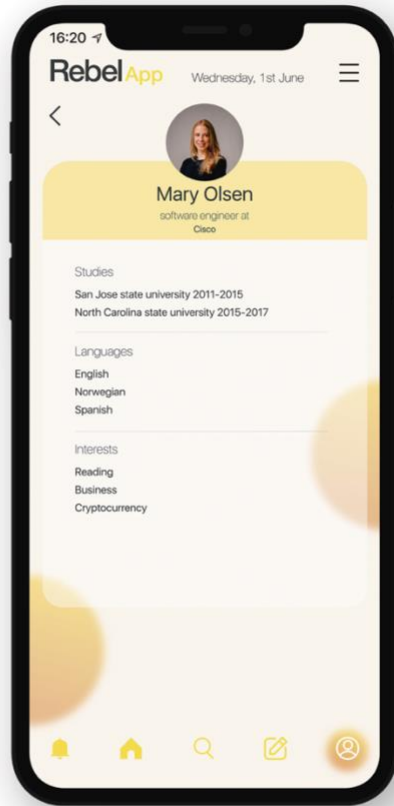--
(Signed by participant)
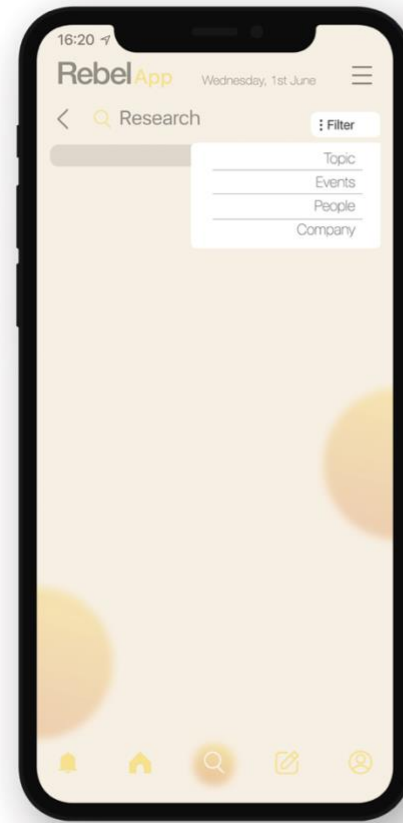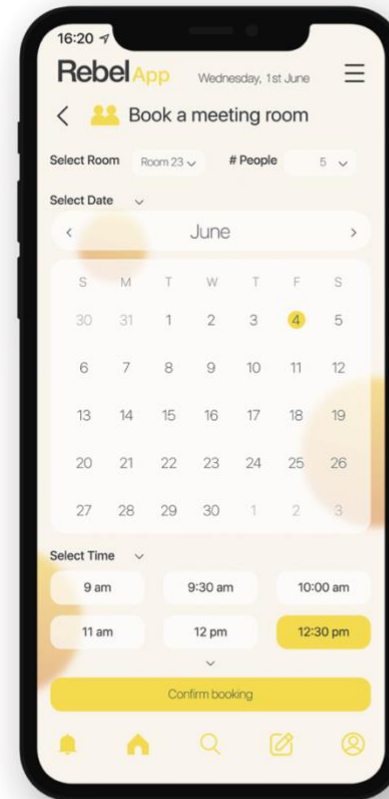
Appendix 8 : Consent form
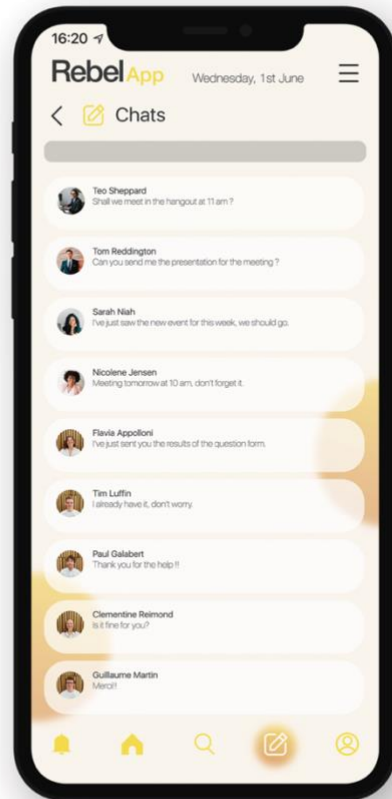
Appendix V: App screenshots
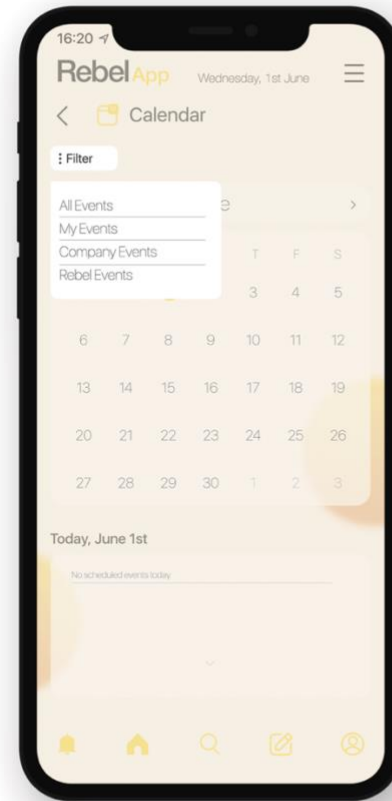

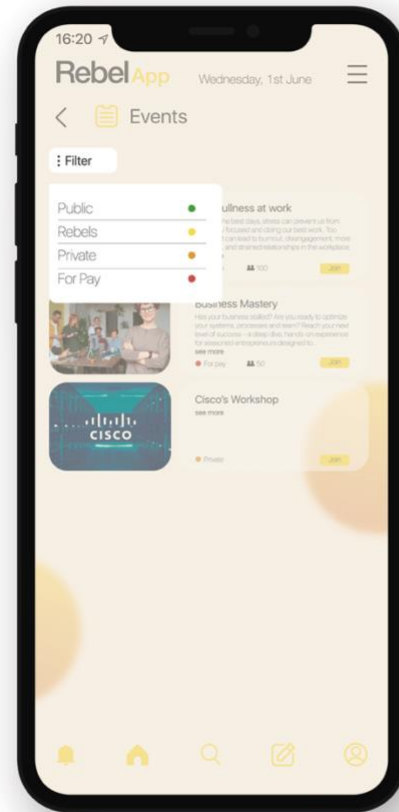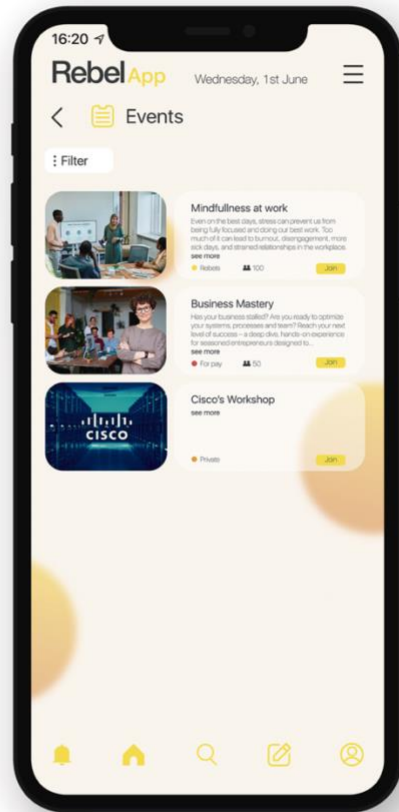*Appendix 9 : App screenshots 1*

Appendix 10 : App screenshots 2

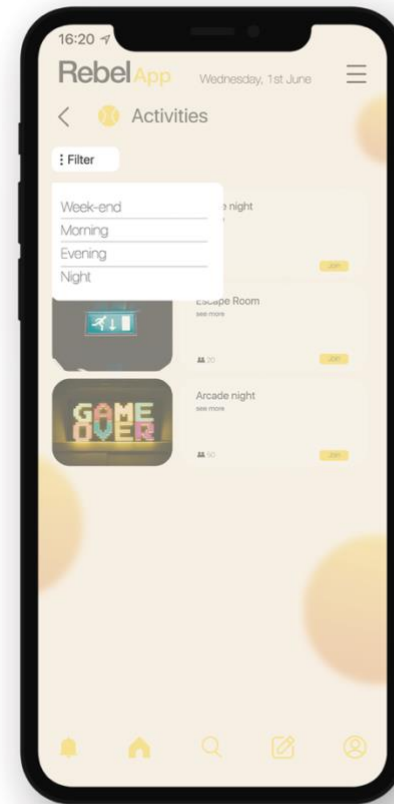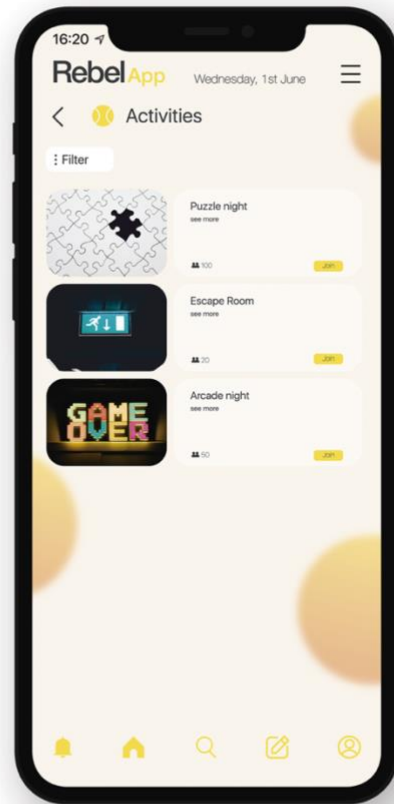*Appendix 11 : App screenshots 3*

Appendix 12 : App screenshots 4

Appendix 13 : App screenshots 5

Appendix 14 : App screenshots 6

Appendix 15 : App screenshots 7