THE SIX SNOWFLAKES PRESENTING AN ACTIVITY BOARD

"ICE BREAKER"

Project:

REDESIGN THE SHARED FLAT EXPERIENCE FOR STUDENTS THROUGH SMART TECHNOLOGY

Project Partner:

CONRAD ELECTRONICS

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| **Course:** Digital Innovation Lab |

Professors: [redacted]

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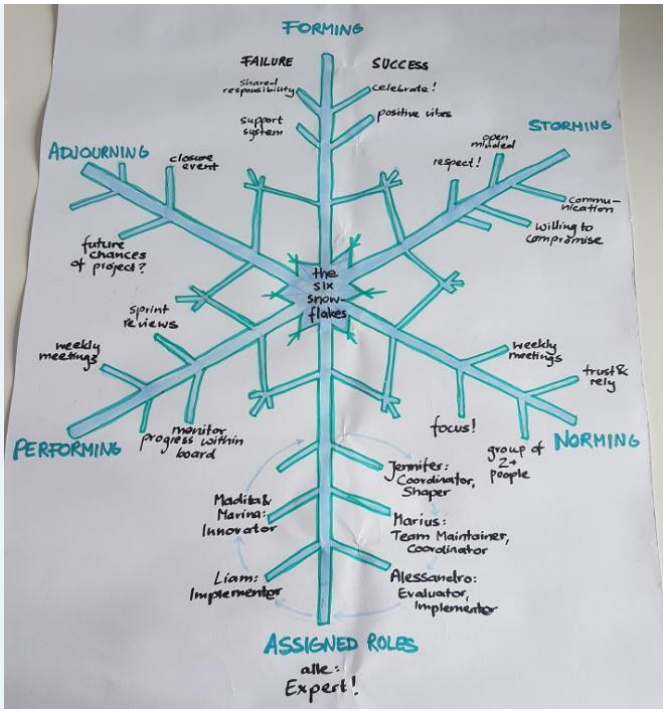
Inhalt

WORING MODE

It would be very unlikely for a team to perform well when it first comes together. Forming a team takes time, and members often go through recognizable stages as they change from being a collection of strangers to a united group with common goals. Bruce Tuckman's Forming, Storming, Norming, and Performing model describes these stages



Tuckman Team Phases & Team Roles 1

During our first meetings, we discussed about these different stages to gain effective team work.

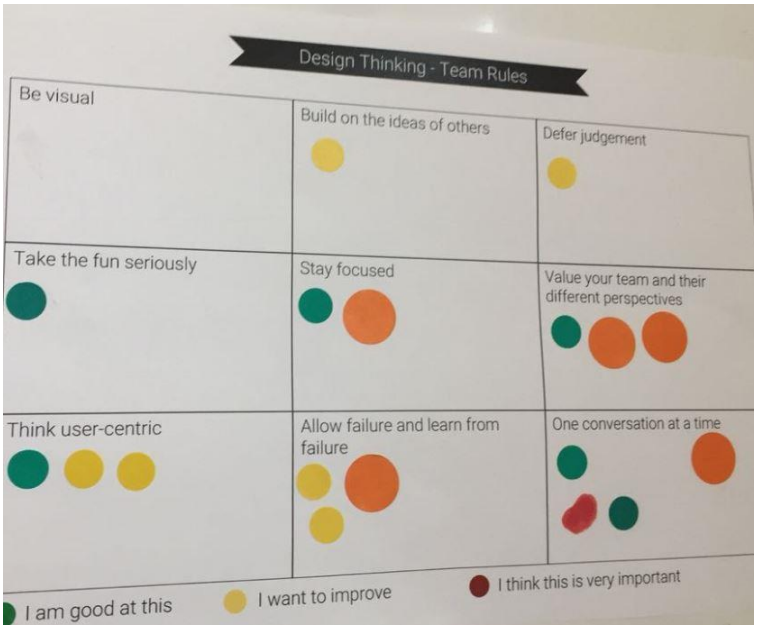
TUCKMAN'S STAGES OF GROUP DEVELOPMENT:

1. **Forming:**
   The team membership is established and the team purposes are clarified. We discussed power relationship and how to deal with failure and success. We decided to share our responsibility and support each other as well as celebrate each success and use our positive vibes.
2. **Storming:**
   It is also important to discuss about the way to deal with conflicts and how to handle anxiety, dependency, flight and fight or pairing. We decided to stay open minded and treat each other with respect. Communication is a very important aspect because talking about problems avoid further conflicts. Every one of us wanted to be willing to compromise.
3. **Norming:**
   During this stage each team has to encourage one another to get better and control the motivation and participation. Every team member should get a feeling of confidence and equality. We decided to maintain motivation and participation via weekly meetings and the distribution of tasks in groups of minimum two people so that no one has to work on a task on his own. Another aspect was keeping our focus on our goal and to trust and rely on each other.
4. **Performing:**
   During our team work on this project it was important to review regularly the progress towards achieving goals. The opportunity to monitor progress was realized by sprint reviews which took place in regular time periods as well as the weekly meetings during the course and the use of the taiga software to handle the different tasks.
5. **Adjourning:**
   At the end of the project we planned a closure event and decided to think about the future chances of our project.

Additionally we talked about assigning roles. Due to our different knowledge and characteristics, every one of us got certain roles in the dynamics of the team. Madita and Marina are predestined to have the role of the innovators because both are very creative and have original ideas and a lot of imagination. Liam is the implementer because he is focused on turning ideas to tasks and actions. Alessandro is the evaluator because he tends to be very strategic and he is also the implementer like Liam. Marius is more of a team maintainer because he focuses on the harmony during team work and therefore reduces conflicts. But he has also the ability to clarify goals and communicate in an effective way and is therefore also kind of a coordinator. Jennifer shares this ability and additionally drives the team to address tasks and challenges the team and is therefore also the shaper.

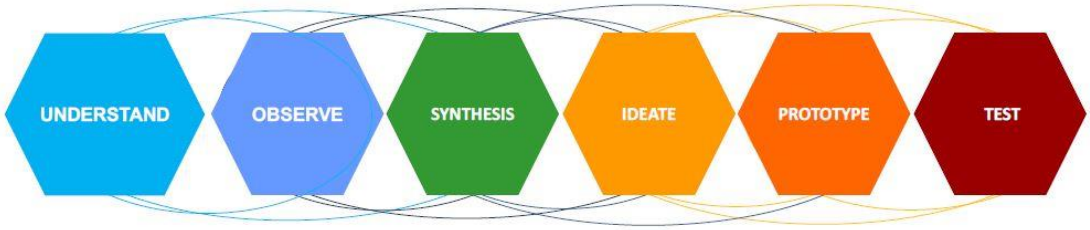
TEAM COHESION

Team Building is an ongoing process and during our workshop and team meetings, we identified certain problems in our team. Our team is very dynamic and the outburst of our ideas and thoughts is sometimes not structured the way it should be. Therefore we decided to focus on the improvement of our conversations. In particular we wanted to stop interrupting others and avoid having more than one conversation at a time. We think we were actually able to improve on that point.



Team Rules 1

The Design Thinking Process



Design Thinking Process 1

Our second example was the bathroom experience: someone wants to have a shower but the door is locked and after a long time of waiting you have to use a dirty shower etc. We also visualized it with a "Customer Empathy Map", as shown in the picture.

Customer Empathy Map 1

OBSERVE

To identify insights of our users, we talked to different people at the university campus and asked them about their experiences. The goal of this phase was gathering data about our users. It was important that we focused on their emotion and asked open questions they could not answer with “Yes” or “No”. So we wanted them to tell us their stories about their experiences as detailed as possible to gain a good insight. We asked them questions like "How would a shared flat be like in an ideal world?" or "What is important for you living in a community?". And we motivated them to tell us stories like: "Tell me about the last time you had a conflict", “How did you feel in that situation?”. Our own point of view should not play a role during those interviews. Therefore we tried to stay neutral and objective.

The important facts we learned during these interviews, we wrote down on our template "Interview guideline". Our notes helped us later to compare the different interviews to find similarities and differences. They looked like the following:

PROTOTYPING AND TEST

Prototyping is 'thinking with the hands'. This is the phase in which the team's ideas are made tangible. The aim here is to develop a rough model that enables users to experience our team's innovations about applications. Prototypes allow the idea to be tested with users and stakeholders. Prototypes should develop iteratively. They are rough at the start of a project but are then refined step by step as you will see during the ongoing process of development. We decided to create two different prototypes and build on two of our ideas: personality matchmaking (to improve the situation to find a flat which brings together people that are the perfect match) and activity board (to improve the initial phase of acclimatization for new flatmates). We also decided to implement the ideas via applications for smartphones because it would be the easiest way for students to use it.

First prototype creation: Personality Matchmaking.

Paper Prototype 1

During our interviews we learned that it is very important for students to live in harmony and experience a feeling of belonging and comfort in shared flats. An important improvement to achieve this would be an opportunity to find other people who share similar opinions and views or characteristics in first place. So we decided to test the idea of an creation of an application with which everybody can search and find other people to live with. We used paper screenshots of the smartphone screens and our imagination how it could look like. With these paper screenshots, we interviewed students on the university campus to get feedback. We showed them the screenshots and wanted them to pretend using it to test the usability. We asked them if they would use such an application and wanted to know their opinion about the whole idea. We got very positive feedback and the students told us that they would use it but we got also constructive criticism. Some concerns were about the reliability of the questions every user has to answer to develop a characteristic profile because people tend to lie about topics like cleanliness and tidiness, for example.

Another concern was about the statistical correlations which would have to be implemented in the database to find the perfect match because it is difficult to decide who matches whom. Do both people have to be tidy and if so, in which extent?

The other idea was to implement an activity board. Therefore we also used paper screenshots of the smartphone screens. But the first design was created on the white board:

Prototyping 1

The idea was to improve the initial phase of acclimatization. The application should be based on a calendar which is shared by every roommate. Everybody can share his or her activities with others and the organization of the household is included, too. To maintain motivation for doing the household, gamification is part of the application. So the other group of our team tested this idea via paper screenshots and people were impressed by the idea. The usability was also very good because the screenshots were very easy to understand.

ITERATION

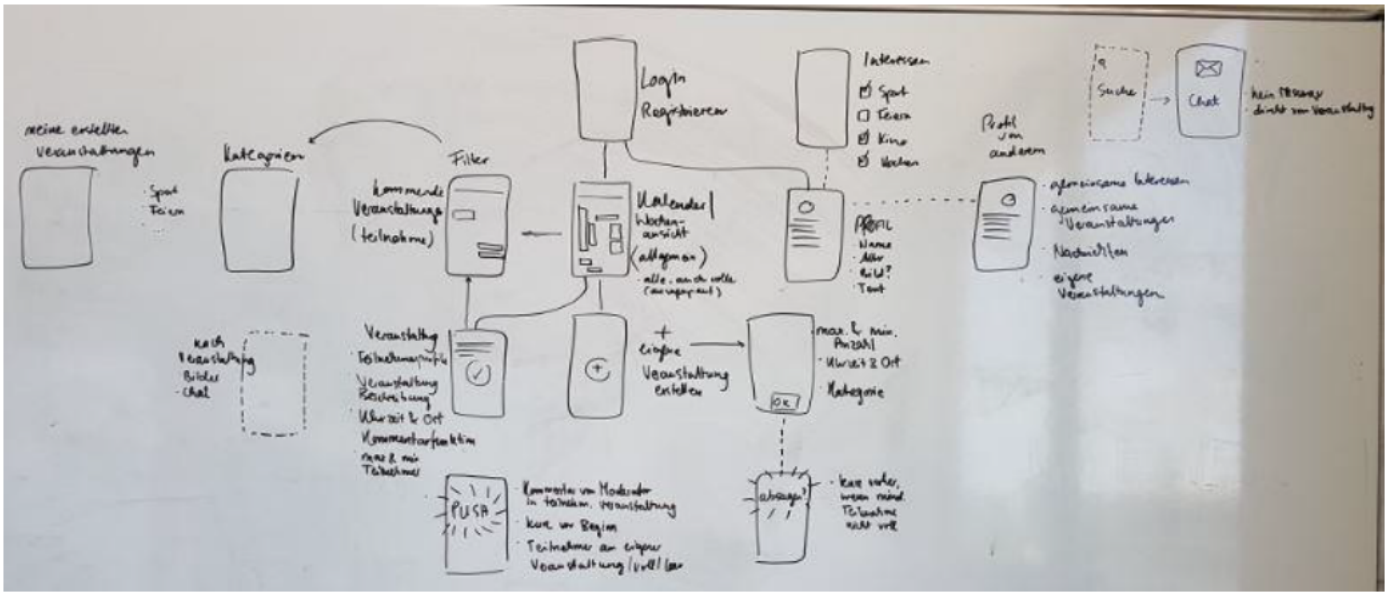
After presenting our prototypes to the whole group, we thought about the realization of both ideas. We came to the conclusion that the application for personality matchmaking would be very difficult to test and implement because a gigantic data basis would be needed. At first the operation of matching would have to be established with certain parameters on the basis of statistical interdependencies and psychological correlations. Afterwards we would have to consider the right questions and also a method for the questionnaire which provides reliable answers. Therefore we decided not to realize this idea but concentrate on the other one. Furthermore we wanted to focus on the actual idea of an activity board and ignore the additional features of our original prototype.

To push the idea about an activity board we met with an employee of Conrad and learned about the Conrad Connect Dashboard, Conrad's own cloud service. We decided

to limit our further development of prototyping to an application or website for a calendar which could be used by different flat mates.

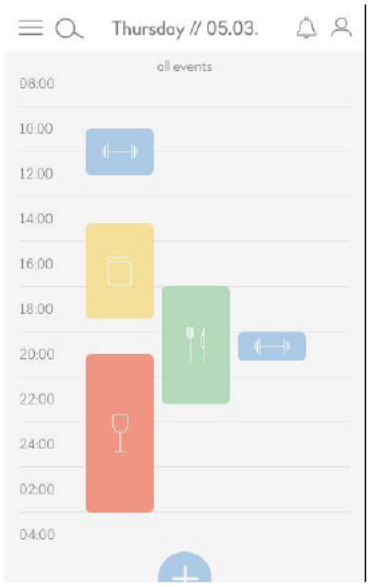
This should improve the situation of people sharing a flat or the living situation in a dormitory. More people can get connected and meet and participate in common activities. This would help to break the ice between people and help them to get contact to more people and to socialize in an easier and faster way. This would help especially shy people and people who are new in town. The next step was to develop a "real" prototype to test it with potential users.

PROTOTYPING



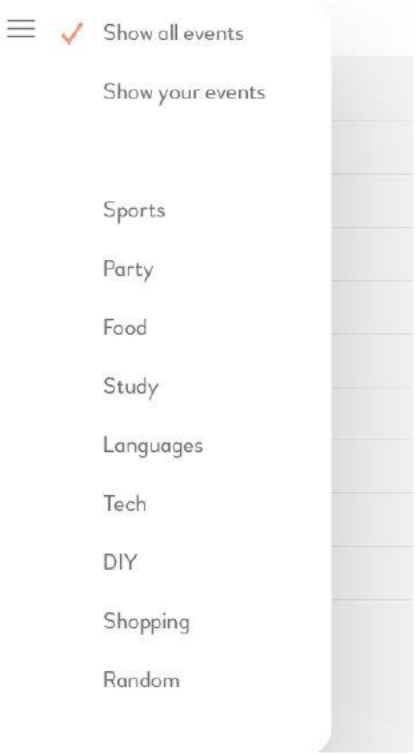
Prototyping 2

During our next meeting we talked about the opportunities for a realization of an activity board. At first we sketched an overview on the whiteboard. We talked about all the features which should be included and how the application should operate and be designed. We decided to use Adobe XD (Adobe Experience Design) because our two industrial designers, Madita and Marina, had already experiences with this program and assured that it would be perfect to build a prototype for our application. So both of them started to design a prototype with Adobe XD. The feedback we got during our tests with the paper screenshots was already included in this prototype. In the following the most outstanding features of the protoype designed by Madita and Marina is explained: At first you have a home screen where you can switch between the daily view and a weekly or monthly view. You have an overview about all events going on and see the fixed periods of time when they will take place. Imagine the weekly or

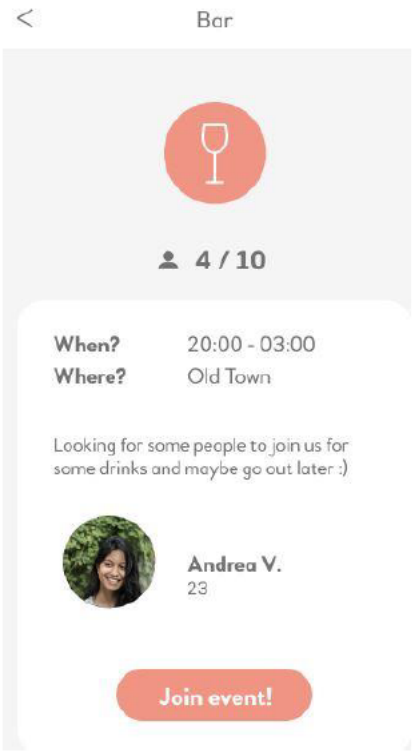


Home Screen 1

monthly view would be a bit confusing with many events, a filter would be needed. So you can filter different topics like sports, party, food and so on.

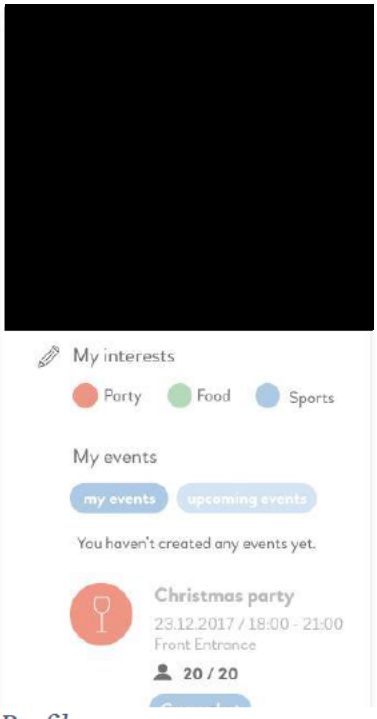


Filter 1

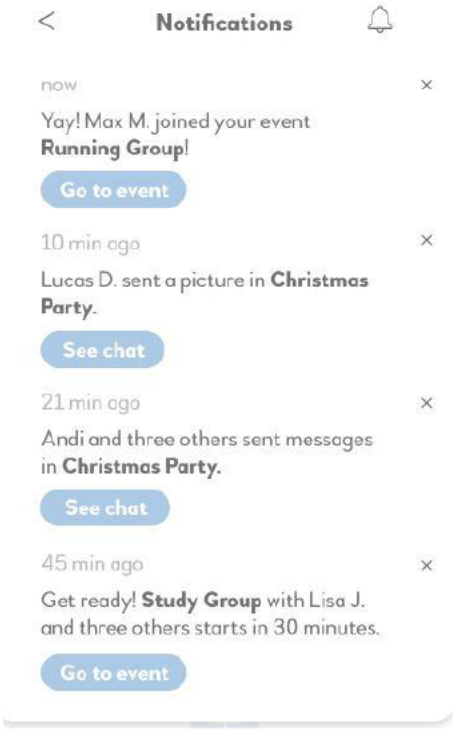


Description of an Event 1

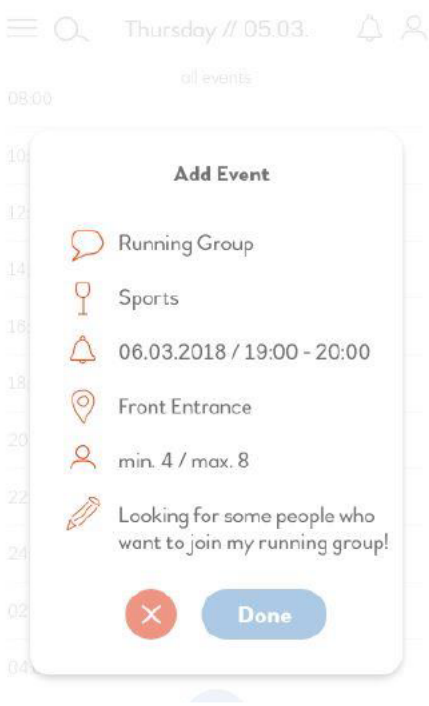
If you click on an event you can see the maximum amount of people and how many people have already joined. You can also see a short description of the event and a little picture, the name and the age. Of course time and place is also shown. With the button "Join event!" the user can participate. Every user has his own profile with some basic facts and previous events he had participated in. In your own profile you can also see the group chats of the previous events. The group chats help to organize the event and share pictures with the others afterwards. The bell in the right upper corner of the home screen leads to the notifications. There you would get an overview about previous activities and you will get push notifications to remind you of an event you wanted to participate in or when someone sent a picture in one of your group chats, just to name a few examples. Of course everybody can add his own new event with choosing a title, topic, date, place, minimum or maximum people and a short description. The registration via invitation link ensures that only the residents of the dorm can join this closed entity in which activities are created and joined, so strangers don't know about the events going on.



Profile 1



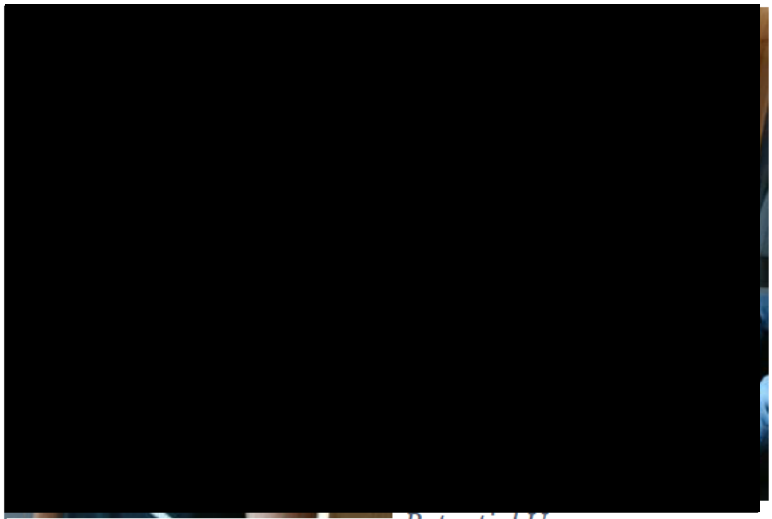
Notifications 1



Add Event 1

This closed entity besides other restrictions also sets us apart from social media apps. Another restriction for example is that we don't have private messages so you won't get messages from somebody you've never met or unwanted texts from somebody you haven't given your phone number to. Another function that increases security is that when you create an event, you can choose a minimum number of people who have to join for the event to take place. For example, if you want to cook in your flat or if you want to go jogging at night, maybe you don't want just one other person to join because that person might be an axe murderer and you would feel more comfortable in a group of four.

TESTING



Potential User 1 *Potential User 2*

We divided our team again in two groups with two people (one computer scientist and one business economist each) to test our new prototype on the university campus. We were able to talk to 20 students. Because Madita and Marina had designed the prototype with Adobe XD, they did not have to test it. Therefore we maintained a well-balanced workload.

In our sprint review with Conrad, our contact person was impressed by our prototype. He told us that the idea is good and that we should follow up on it. We decided to get feedback from as many students as possible and then move forward with the testing in dormitories. Dormitories could be appropriate closed entities for our application. We experienced during our interviews that many people might not have the confidence to just go up to somebody and knock on their neighbours' door. With our application this emotional threshold sinks. Therefore we decided to title it "Ice Breaker".

The feedback we got was very good, e.g.:

- The usability is very good
- It is very useful for people who are new in town and do not know anybody
- It is helpful to get motivated to plan activities and an easy way to organize events
- It is easier to get to know new people
- It would be more attractive than the regular mails from the student body of the faculties
- It would be a better choice than Facebook because on social media platforms you have no data security and not everybody uses FB regularly
- The aspect of a closed entity is more attractive than the open space on social media platforms
- It is a good idea because the main aspect of student dormitories is that it should be easier for students to get in contact with others but in reality it is not like that (especially in Germany)

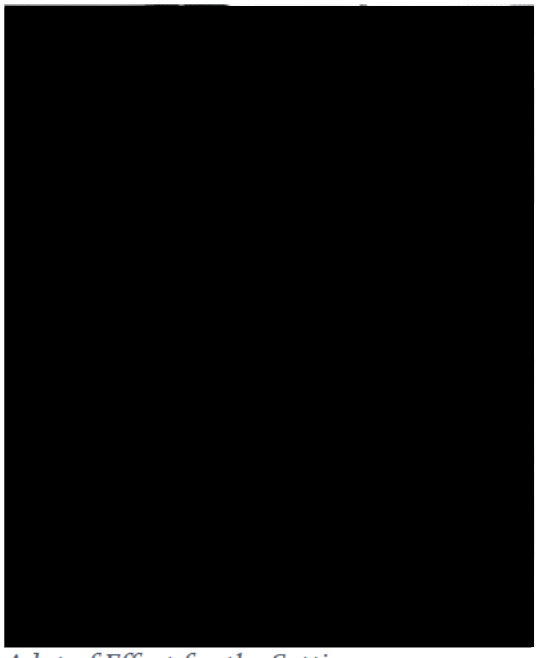
We also got constructive criticism or suggestions for improvement, such as:

- The usage of the application could also be extended to private communities, to subject areas of the university or to shared flats
- The profile should be very narrowed down on the main aspects of a person and not include too many details
- A private chat is not necessary because it should be avoided getting too many messages or getting messages from strangers
- A function should be integrated for events which take place on a regular basis (such as study groups)
- Where will documents like pictures in the group chat be saved?
- Will there be a search function for activities I already shared with a certain person?
- It should be used by tutors who are getting paid for organizing events in dorms by the student union because this would be a good opportunity that an application which is based on the usage of the users does not suffer from white page syndrome

- The registration for the application should not be combined with the phone number → a QR code could be provided at the rooms in the dormitory or the tutors could send an invitation mail with a link
- Will there be a function to direct the attention of specific people on a specific event?
- Will there be an administrator?
- Will there be a rating system for events or the organizer?
- A keyword-based search should be implemented
- It should be combined with a virtual notice board
- What will happen when too many or too less people confirm to an event?
- There could be a problem when somebody wants to bring along other friends who do not live in the dormitory (can you sign up for an event with more than one person?)

Iteration and Testing

The two groups of our team which held the interviews with students, also searched for tutors from Sailerheim, Dr.-Gessler-Heim, Hildnerheim and Friedrich-Eber-Heim and met them asking for their feedback and talking about the situation in their dorm, their experiences and difficulties faced. In the meantime the feedback we got again was implemented in our prototype by Madita and Marina. We contacted tutors to let them test the improved prototype and told them about our project. We asked them if they would use it and wanted to know their opinions about it. We found out that our concept would be a big help for the tutors who are employed at some dormitories as well. They are already organizing events like movie nights or evenings in a bar but up until now they just used something like a blackboard with a chaotic variety of flyers or e-mails which many just do not read. Our application would make it easier for them to actually get to the students and get them to join their fun activities. But our service would also benefit from the tutors because if they use it to publish their events, the calendar will be already filled with some activities the residents of the dorm can join. So the students will be more encouraged and inspired to create events themselves and would not suffer "white page syndrome". We discussed about the feedback and implemented the useful feedback into the prototype:

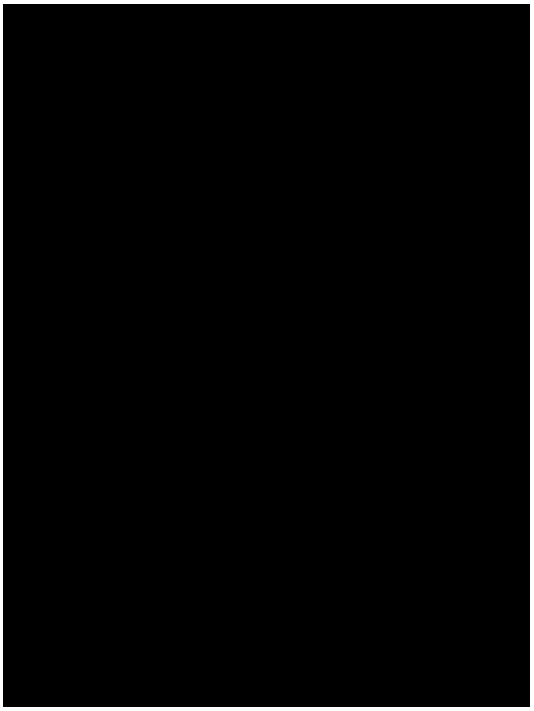


A lot of Effort for the Setting 1

- The "moderation" of the icebreaker from a tutor of the dormitory (also approves created events for their conformity)
- Report function for reporting illegal/ "bad" events

- Accessing group chat of an event beforehand of the start
- “moderation” of the group chat by the tutors (preventing abuse)
- Minor user-interface bug fixes
- Button for repeatable events
- Button for inviting friends
- Minor fixes concerning the search function and the filter function

When we were sure that our prototype is ready to test again we decided to talk to different contact people from a dormitory to test our icebreaker at the real target group: the students at a dormitory. We talked with people from the Friedrich Ebert Heim again and they gave us then the permission to bring our tablet and test it at the students dorm. Liam organized a display stand from the OTH and a tablet provided from Conrad, so we all came together one evening for our next stage of testing.



Potential User 3

After searching for the best spot and a long set up we were finally able to let the students test it. A lot of students passed by and gave it a try. All of them were fascinated and said that they would definitely use it if a tutor of the dormitory introduces it to them.

After the successful evening at the dormitory we thought about the question “why is our concept only limited to digital media like a flat screen, tablet or the mobile phone”. During our observation we recognized that people were not stopping because of the tablet but because of us standing there. So we came up with the idea that we need a physical interacting system which attracts the users attention.

An outlook into the future could be either a LED panel or a light matrix installed in the hallways which responds to digital actions happening in your icebreaker-calendar. For example, if you create a new event a new light bulb appears and it gets bigger and bigger for every member who has joined your event. That way people get encouraged to actually use our service, talk about and even experience the physical interaction: the goal of our icebreaker.

Thinking bigger we could also expand the LED panel to the corridors of the dormitory or even in every single flat so every student knows what is going on in the next days or weeks. This way we provide an off-screen experience on top of our web based application.