

# Designing and evaluating an app prototype for volunteer engagement

Alexandra Bucei and Joel Jonsson

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MASTER THESIS

**TACTEL**





# Designing and evaluating an app prototype for volunteer engagement

Alexandra Bucei and Joel Jonsson



**LUND**  
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# Designing and evaluating an app prototype for volunteer engagement

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Department of Design Sciences  
Faculty of Engineering LTH, Lund University  
P.O. Box 118, SE-221 00 Lund, Sweden

Subject: Interaction Design (MAMM01)

Supervisor: Günter Alce

Co-supervisor: Sören Pedersen & Johan Liljeros at Tactel AB

Examiner: Joakim Eriksson



## Abstract

This project investigates the needs of different stakeholders regarding volunteer work in Sweden as well as implementing a prototype for a volunteer app. The main purpose is to design, create and test a mobile application prototype primarily focused on the end users, the volunteers. This is done by accumulating a lot of data and information using a survey that reached out to 111 volunteers and non volunteers, as well as having interviews with four different organisations and with Volontärbyrån.

During the project, three design, test and implementation iterations were done, one lo-fi and two hi-fi prototypes. The feedback that is received from the usability testing from one iteration is implemented in the next. This thesis also presents limitations that the authors encountered as well as future improvement of this work.

This master thesis which is in collaboration with Tactel AB results in a proposed volunteer mobile application in the form of a high-fidelity prototype.

**Keywords:** Interaction design, user experience, usability testing, app prototype, volunteer engagement



## Sammanfattning

Detta examensarbete undersöker olika aktörers behov av en app rörande volontärarbete i Sverige med huvudsyftet att designa, skapa och testa en prototyp av en mobilapplikation främst inriktad till slutanvändaren, nämligen volontären. Detta görs genom att samla in data med hjälp av en enkät som nått ut till 111 volontärer och icke-volontärer, samt ha intervjuer med fyra organisationer och med Volontärbyrån.

Under projektet gjordes tre design-, test- och implementerings- iterationer, en lo-fi och två hi-fi prototyper. Återkopplingen som mottogs från användbarhetstestningen från en iteration implementeras i nästa. Uppsatsen redogör även begränsningar som författarna stött på samt framtida förbättringar av detta arbete.

Examensarbetet som är i samarbete med Tactel AB resulterar i en föreslagen volontärapp i form av en high-fidelity prototyp.

**Nyckelord:** Interaktionsdesign, användarupplevelse, användbarhetstestning, app prototyp, volontärens engagemang





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# Chapter 1

## Introduction

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*In this chapter the background and purpose of this project will be presented. Thereafter the tasks and the research questions will be given. The chapter will end with the sustainable development goals that are captured in this thesis and at the end of the chapter related work is presented.*

### 1.1 Background

At the beginning of April 2020, during the first wave of the Covid-19 pandemic, the Swedish government through the Agency for Digital Government [10] hosted a competition called Hack the crisis. The digital interaction agency Tactel AB [29] participated and the result was a mobile application concept called Pandemic Hero. The purpose of the application was to connect people in need with people that could provide help during and after the pandemic. Out of all 530 entries in the competition, Tactels Pandemic Hero finished 27th, and in its own category *Save communities - Digital solution* finished 6th.

Since the concept was appreciated Tactel moved forward and investigated different potential product owners. Tactel first came in contact with the Church of Sweden [19] that has around 300 000 volunteers engaged within their different organisations. This also led to contact with Ideelt Forum [11] which is a collaboration of different organisations within the Church of Sweden. In order to come in contact with and manage volunteer work, Ideelt Forum gets help from the organisation Volontärbyrån [30].

Volontärbyrån is a nonprofit organisation that helps volunteers and nonprofit organisations to find each other. Volontärbyrån has a web page where more than 300 different organisations publish their different missions and tasks. Volontärbyrån, the Church of Sweden and Ideelt Forum were interested in tools that could lower the bar for volunteers to engage in volunteer work.

A collective view was that a mobile application could benefit volunteer work by reaching wider, especially in an audience of young adults.

Since Tactel had the experience of working with master students that do their master

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thesis, they took the initiative to benefit the investigative work around the development of a potential volunteer app by supervising two master thesis projects in the subject. This master thesis is one of those projects.

## 1.2 Purpose

The purpose of this project is to investigate the needs of the different stakeholders regarding volunteer work in Sweden and then design, create and test a mobile application prototype primarily focused on the end users, the volunteers. The prototype and related work will also be used to investigate if a mobile application could increase engagement in volunteer work. A wider purpose of the thesis and subject is to expand volunteer work on modern digital platforms to mobilise new volunteers to offer compassionate help and support to everyone who needs it.

## 1.3 Tasks

The main tasks ones are as follows:

- Investigate the needs of the various actors using interviews and questionnaires.
- Develop a low-fidelity prototype based on feedback from users and other stakeholders.
- Develop a high-fidelity(hi-fi) prototype.
- Perform tests on the hi-fi prototype and draw conclusions.
- Implement changes to make the final prototype.
- Test final prototype.
- Draw conclusions from tests and propose future improvements.

## 1.4 Research questions

The main questions that will be answered during this project are the following:

- How can an app be designed from an UX perspective to get an user involved in various volunteer assignments?
- How can the app be designed so that the right volunteer finds the right task?
- How can an app for finding volunteer assignments help both volunteers and organisations to fulfil their goals?

## 1.5 Sustainable Development Goals

This project contributes to two of the United Nations global goals for sustainable development. The first one is number 3, "*Good health and well-being*", which has the goal to ensure healthy lives and promote well-being for all at all ages [13]. The second one is number 11, "*Sustainable cities and communities*", which has the goal to make cities and human settlements inclusive, safe, resilient and sustainable [14].

By developing an app that can increase the number of volunteers in Sweden, more people can contribute towards the goal of sustainable cities and communities. More people can help keep the communities clean and reduce the environmental impact of cities.

Many of the volunteer assignments involve helping others to feel better by communicating, supporting and letting them describe their mental health state. This helps people to open up themselves more, to describe their everyday problems and receive the help they need. Reducing the feeling of loneliness in society benefits the citizens well-being. An app benefiting volunteer engagement is also benefiting the health and well-being for all at all ages.

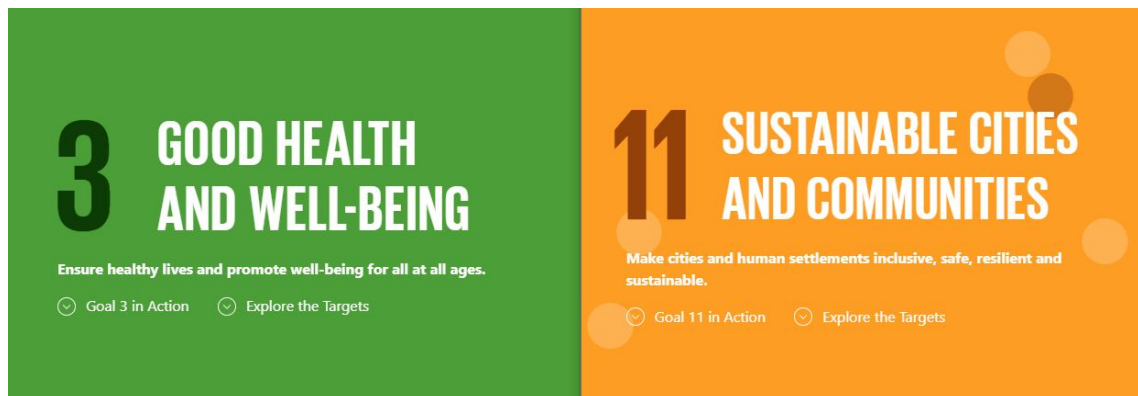


Figure 1.1: The two global goals the thesis captures.

## 1.6 Related work

Zhao and Balagué [32] have shown different guidelines for branded app design by identifying different levels of strategies that should be taken into consideration by companies when designing mobile apps. They talk about which app type to use depending on what business goals you want to achieve and also the most important features of branded app design which are mobile, social and brand mention [32].

Conroy and William write [6], among other things, that mobile tools could increase and strengthen volunteer recruitment and engagement. Mobile technology is a step in the right direction when it comes to finding potential ways to increase diversity of the volunteer base. The authors also talk about how an app can be used as an interactive way to recruit and engage volunteers, for example by letting them know about and locate volunteer opportunities in their area [6].

Clary et al. [3] focuses on the aspects that drive volunteers to engagement and the authors of the article states the following six primary functions of motivation. The *Values* of



an organisation that the volunteer engages is often a motivating factor. *Understanding* that the volunteer gets the opportunity to learn new things and gather new experiences. *Social* aspects, the relationships that are built during the time spent as a volunteer. The *Career* factor, that other combined factors can benefit the career of the volunteer as they collect experience and contacts. The *Protective* factor is attributed to how volunteer work can be a counter to perceived negative features of the self such as guilt of feeling more fortunate than others. The final factor, *Enhancement*, focuses on how volunteer work can contribute to personal development and general well being [3].

Results and conclusions from these papers and articles will be taken into consideration when developing the prototypes of evaluation in this project.

# Chapter 2

## Theories

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*In this chapter the theory that has been used during this thesis is presented. In order to give a deeper understanding of the subject, theory about the design process, the prototype tools and similar work is presented.*

## 2.1 Design process theory

### 2.1.1 Brainstorming

Brainstorming is a heuristic method of generating ideas in order to reach different value perspectives from everyone in a group [20]. Brainstorming is usually used by groups which have the intention of generating concepts and ideas for a new product, in order to stimulate the creativity in the team. This method allows everyone in the group to express themselves and to bring innovative ideas to the table by creating a safe and judgement-free zone in the brainstorming session. The idea with this concept is to make everyone feel free to speak up which should enable more new concepts [16].

In brainstorming there are three visualisation frameworks that can be used in order to disrupt and challenge old patterns of thinking: brainstorming webs, tree diagrams and flow diagrams. By using these, new knowledge and meaning can occur and the brainstorming session is visually documented by the framework itself [16].

#### **Brainstorming webs**

This method can be used when developing a central concept or question and you want to identify its aspects, supported facts and related ideas. Brainstorming webs can be built in two ways: first you identify the central component and then all of the components around it, or you identify all of the extensions first and then determine the central part [16].

## Tree Diagrams

If you want to communicate hierarchy, a classification system or relationships between main and supporting ideas, you can use the tree diagrams framework. This can be created from the top down, in order to get inductive thinking or from the bottom up in order to get deductive thinking, while brainstorming an individual topic [16].

## Flow Diagrams

Flow diagrams are used when a sequence of events require to be documented, actions and processes of different actors in a system needs to be represented. Those are also used when a process need to be communicated or when associated elements needs to show cause and effect. This method usually has a beginning and an end which can support timelines, but it can also adapt to show cycles for close-looped systems [16].

## 2.1.2 User Studies

### Surveys

Surveys are well established methods for collecting user opinions and analytical data. They consist of close and open questions and can be distributed to a lot of people simultaneously. Surveys are also used when you want to reach groups of people in different geographical locations. Since there is no test conductor to do the interviews the questions in the survey must be clearly formulated so no misunderstanding or doubtfulness occurs [26].

When it comes to the structure of the survey, it usually starts with basic information like gender, age etc, which is useful when you want to set the answers from the surveys in context. Thereafter more specific questions related to the goal follows. If the survey is too long the questions can be divided into subgroups in order to make the survey easier and more logical to process [26].

### Interviews

For collecting firsthand personal experience interviews are an essential method for studying the users. All opinions, attitudes and different perceptions have potential to influence the final product in one way or another [16].

Interviews conducted in person have greater potential to convey nuances of body language and personal expression. If held remotely by phone or video-call it instead greatly improves the number of interviewees available [16].

Depending on the goal and focus of the interviews they may be more or less structured. The informal interviews give greater freedom for the interviewee to express themselves. This enables the opportunity for new insights in areas the researcher did not initially contemplate. However, the unstructured interviews may be harder to draw concrete conclusions from and can lead to irrelevant topics taking time from the researcher. The formal, structured interviews can feel impersonal and stiff but are easier to control in aspects of time, scope and are in general easier to analyse and compare [16].

To get proper response from interviews, relevant interview participants must be selected. What sort of audience targeted for interviews should be thoroughly considered before starting the interview process.

### 2.1.3 Prototyping

A prototype is a representation of a design idea and a popular way of exploring and expressing potential components for different interactive digital products [17]. The prototype can appear to be very similar interaction-wise to a real application by using modern prototyping tools.

#### Conceptual sketch

Conceptual sketches can benefit visualisation and evaluation of a specific product. Symbols and configurations are used in this type of sketch in order to define context, object arrangements and flow in the design [7]. Design sketching often helps the individual as well as the group to form an idea in the brainstorming process. One person's sketch can develop into new ideas and the concepts can be refined and can lead to a variety of new ideas [18].

There are two ways in which sketches can help advance ideas: the first one, is when ideas transform into new ones and the second one when ideas become more polished versions of the initial idea [18].

#### Lo-fi

On different levels of the design process, different levels of fidelity is needed. Early in the process a low-fidelity (lo-fi) prototype is a simple way of displaying a potential system. It also lets the designer focus mainly on the design part. In this way things like the required tools, techniques or ways to implement the prototype does not yet hinder the design process [23]. Paper, cardboard or post-it notes are excellent tools for creating a lo-fi prototype. Partly because they are cheap and easy to access but also since they, in a testing scenario, make it clear for the test participant that the prototype is a concept proposed for constructive feedback and not something near the finished product [16].

#### Hi-fi

A high-fidelity (hi-fi) prototype is, as the name might tell, more refined than the lo-fi and that can represent the product well in look, feel and sometimes functionality. Hi-fi prototypes can be used in a phase of the design process when there is a more substantial picture of the final product. Using hi-fi prototypes in testing with clients and users can provide many valuable insights on how form, interaction and usability works [16].

## 2.1.4 Usability testing

### Informal usability testing

Informal usability testing can take place anytime and in any place. It requires less planning than normal usability testing, but some preparatory work is still required. Informal testing is a valuable source of information and is also a potential idea generator. When people test the design they can be encouraged to comment and be open with criticism, because it helps to improve the design. The test conductor must always be open to criticism, critical feedback from a person can be a useful source of information. With this type of tests it is expected to get a better understanding of how people react to the proposed design [23].

### Guerrilla Usability Testing

Guerrilla usability testing is an easy-to-perform technique for refining the user experience. It helps validate critical presumptions at a cheap cost and with fast speed. The questions that should be considered are: what shall be tested?, where will the test take place, with whom will we test and how will we test [27].

What is preferable about this kind of testing is that it can be done with almost anything, you don't need to have a finished prototype, a sketch or a simple lo-fi is enough. It is good if you let the test take place in the potential product's natural context, but it can still be beneficial to test in any context. This kind of testing can be performed on anybody, it doesn't have to be the specific target user. This means that it will be easy to find people to test on, you can for example ask strangers at a coffee shop. During the test, by asking questions about what and how the tester would act in different scenarios, information about how they perceive the product can hopefully produce relevant feedback [27].

Guerrilla usability testing is about adapting to the situation. Some important bits to take into consideration are to avoid confirmation bias, explain in the beginning who you are and why the test is happening, be ethical, do not lead participants, capture feedback and don't forget that the testers are not paid so be aware of the time [27].

### Scenarios

Scenarios are informal stories about user tasks and activities that are often used to express proposed or imaginary situations. Scenarios are an aid in conceptual design. They are used as scripts for user evaluation of prototypes and are also used to build a collective understanding among the team members. Plus and minus scenarios are some suggested types of stories. Those types of scenarios try to capture the most positive and negative consequences about the proposed design solution in order to help designers get a more comprehensive view of the proposal. Below are suggested cases for when scenarios are suited [26].

1. As a basis for the overall design.
2. For technical implementation.
3. As a collaboration within design groups.
4. As a communication base in a team from many disciplines.

In projects you can either choose some or all of those aspects when creating scenarios [26].

## System Usability Scale

To measure perceived usability a System Usability Scale (SUS) can be used. SUS is a standardised questionnaire where the test participants select on a scale between strongly disagree and strongly agree for a number of statements regarding the test objects usability. The statements alter between a positive and a negative tone and the example of statements are *I found the system unnecessarily complex* and *I thought the system was easy to use*. From the test participants answers, a score in the range from 0 to 100 can be calculated. Since the SUS has been used for a long time, a lot of data has been collected. This has made it possible to normalise scores and give different scores different labels. Some examples are, under 12.5 being worst imaginable, between 50.9 - 71.3 being good and over 90.8 best imaginable. Those are some examples and the scale can be divided into smaller or bigger steps [22]. A common example is presented in figure 2.1 below [1].

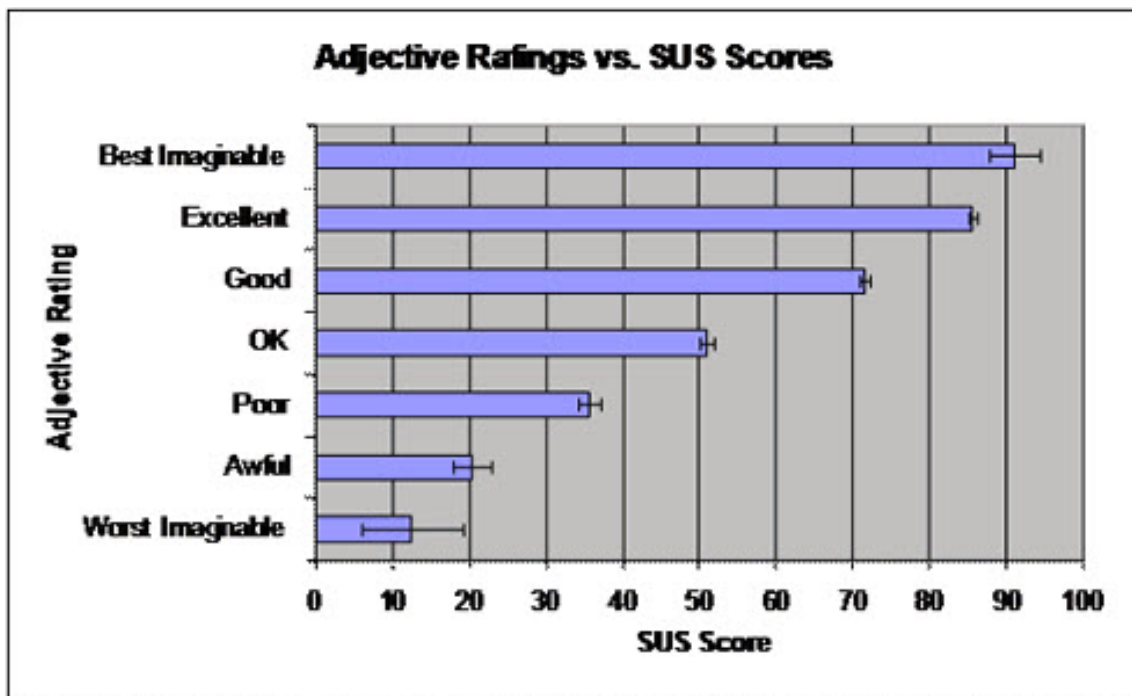


Figure 2.1: Sus result scale.

### 2.1.5 Design process

The term *design thinking* was composed in the 1990's by David Kelley, Tim Brown and Roger Martin [12]. They merged existing methods and ideas together into a single unified concept. It states that design thinking is an ideology supported by an accompanying process. The ideology seeks a hands-on and user centred approach to problem solving that can lead to new innovation. The innovation can lead to new contrasts and a competitive advantage. The hands-on and user centred part is in turn defined by the design process [12].

The design process consists of a flow of understanding, exploring and materializing. The process is also divided into six phases: empathize, define, ideate, prototype, test and implement figure 2.2, in order to achieve the best design[12].

- *Empathize* is the phase where the research is conducted in order to develop an understanding of the users needs. This is done by gathering information from the user's perspective by observing what they do, how they think and what they want.
- *Define* is the phase where all the research and information from the empathize phase are merged together. This is how to discover where the users problems occur.
- *Ideate* is the phase where the brainstorming takes place. With the users needs in the back of the head, the group starts creating ideas and sketches that fulfil the users needs which was developed in the previous phase.
- *Prototype* is where the representations of the idea are built as a real and tactile model. The goal is to understand which parts of your ideas work well and which ones need improvements.
- *Test* is the phase where you turn to the users in order to get feedback on the prototype that was created. The goal is to verify if the model achieves the main goals.
- *Implement* is where the vision is put into development. Here it has to be insured that the solution meets the end users expectations [12].

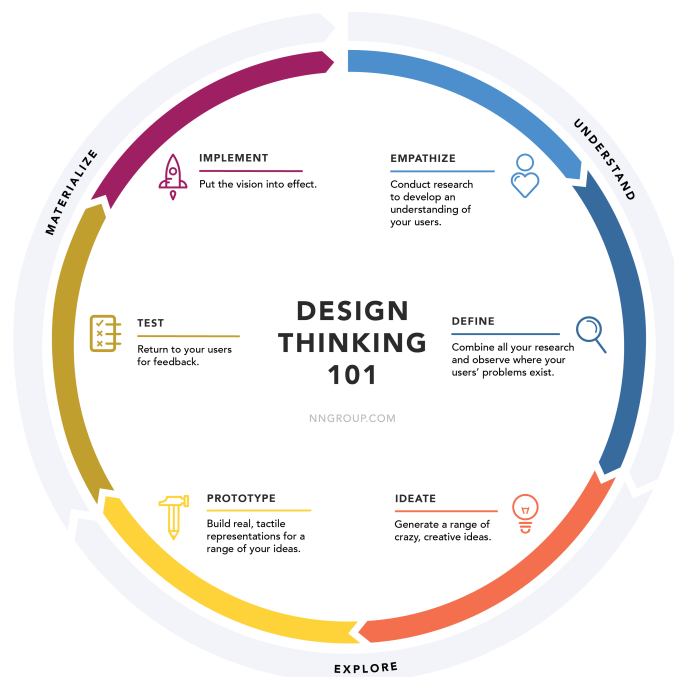


Figure 2.2: The six phases of the design-thinking framework.

## 2.2 Prototype tools

This section describes prototype tools that are being used during this project. Figma, Adobe Illustrator and Colormind are tools that the authors are going to use in order to develop the hi-fi prototypes.

### Figma

Figma [9] is a vector graphic editor and prototyping tool with the vision to make design accessible for everyone. It is web-based and focuses on collaborative work with tools that let the users work on the same projects at the same time. In Figma it is easy to create different views that represent how an app would look in a phone and also connect those views so that when a user presses a button, the user is taken to the relevant view. A Figma prototype can be presented in a browser or on an Android or iOS-phone with their respective applications.

### Adobe Illustrator

Adobe Illustrator [31] is one of the oldest and most popular vector graphic editors. It hosts many powerful tools to create different design elements and was initially developed for Mac but is now also available on Windows as install-able software.

### Colormind

Colormind [4] is a colour scheme generator where if you have a specific colour in mind you can pick that one, lock it and then generate colours that match the chosen one. Colormind aims to find colours that work together in a colour palette [5]. This works with a semi-random AI-algorithm.

## 2.3 Similar products

This section describes similar products to this project where three different mobile applications are investigated. Those are different international volunteer applications.

### Golden Volunteer Opportunities

Golden is a for-profit social platform with a mission to make volunteering as effortless and authentic as possible. Golden's opportunities, recruiting and scheduling volunteers are free for nonprofit organisations, but they also offer paid features as well. They believe that organisations deserve innovative tools and powerful analytics to quickly accomplish their goals [15].

The platform has an app called *Golden*, as seen in figure 2.3, that is used by their volunteers. As a volunteer you can either register on the app or sign up via the GoldenVolunteer.com website. When it comes to volunteer assignments those can also be found both in the app and on the website [15].



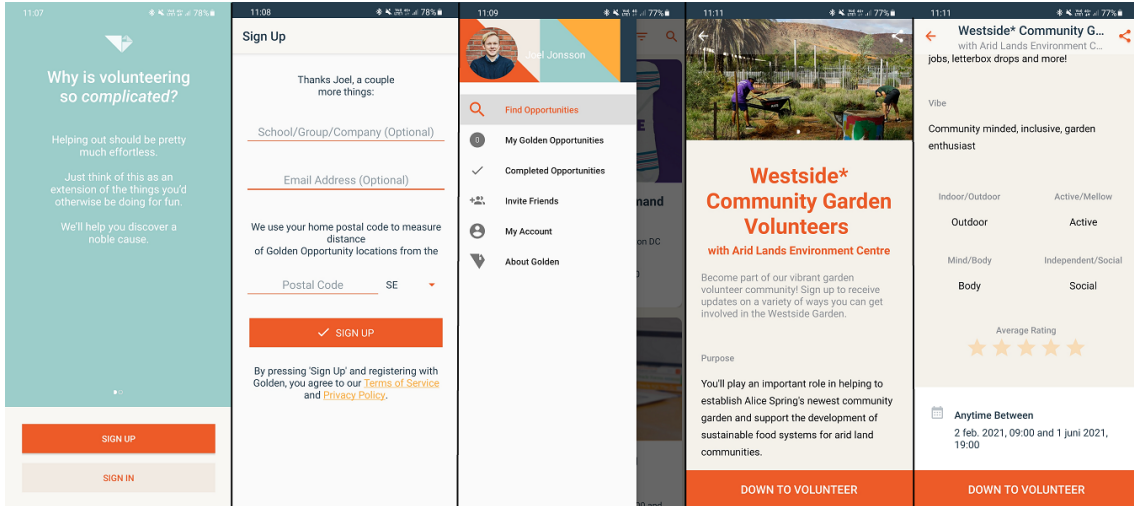


Figure 2.3: Golden volunteer opportunities.

In the application the user can create a profile, browse different volunteer missions and read their descriptions and quick facts. If the users want they can then sign up and the mission will be added to "My Golden Opportunities".

## VolunteerMark

VolunteerMark is a volunteer management solution that helps organisations manage their volunteer’s needs. It helps organisations scale their programs in order to make their business succeed and make the volunteers happy [24].

The platform has an app called *VolunteerMark*, seen in figure 2.4, which is used by volunteers who became members at the VolunteerMark [24].

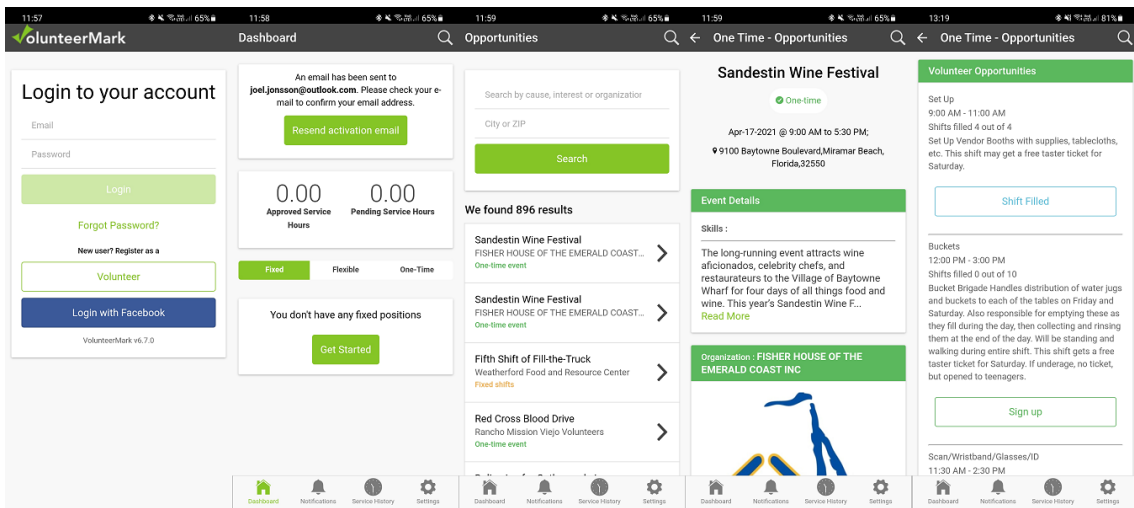


Figure 2.4: VolunteerMark.

In the application the user can create a profile, browse different volunteer missions and read their descriptions. Also, the volunteer can log their hours and apply for different roles that volunteer missions have.

## Brightest

Brightest's mission is to help people live better, work better and change the world on their own terms. This is an organisation that wants to help people, organisations and communities in terms of realising their full potential. Their view is about making positive progress by always standing behind the values you hold and trying your best [2].

Brightest's app that is called *Brightest - Volunteer & Help*, seen in figure 2.5, was made in order to make it easier to find volunteer and community service opportunities near you. It also helps make a positive difference, and live a more fulfilling, sustainable life [2].

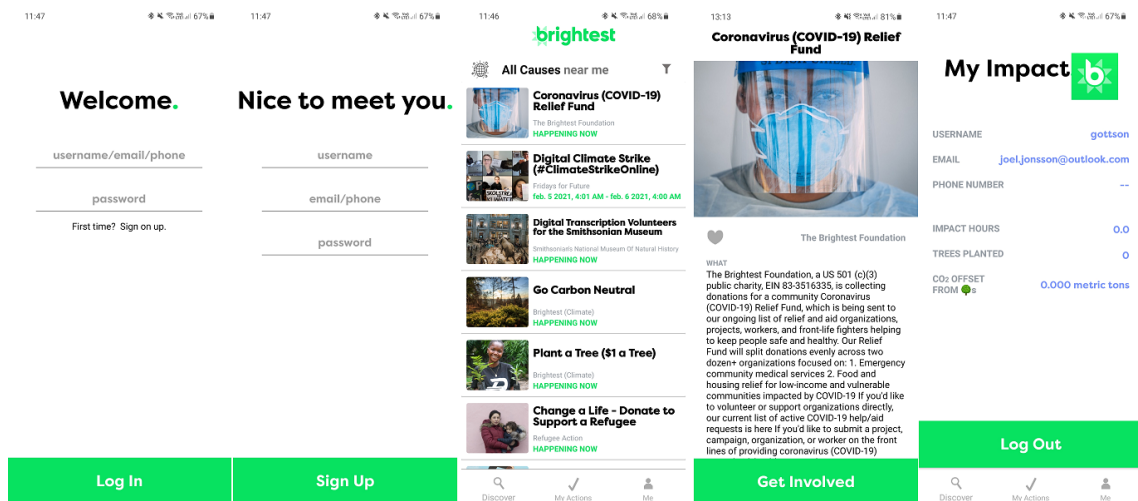


Figure 2.5: Brightest

In the application the user can create a profile, browse causes, filter by causes and issues and choose to get involved. When pressing "involve", you leave the app and go to a web page. Also, when pressing "involve" the app says that Brightest has planted a tree on your behalf [2].



# Chapter 3

## Design Process

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*The design process chapter is the chronological presentation of how the prototype took form. The process is divided into three phases, a lo-fi iteration, a hi-fi iteration and a final hi-fi iteration. Here the interviews, survey, testing, lo-fi prototype and final hi-fi prototypes are presented.*

### **3.1 Choice of design process**

There are numerous reasons for the choice of the iterative design process in this project. It is user centred, has an early focus on user data and aim to address real user needs. The three iterations give opportunities for user-centric problem solving and innovation.

### **3.2 Iteration 1 - lo-fi**

The first iteration is the process from brainstorming, the survey, the interviews to the lo-fi prototype and its testing.

#### **3.2.1 Understanding the volunteers**

In this phase, research will be conducted to understand the users and their problems. This will be done by studying previous research and conducting a survey.

##### **Previous research on volunteers**

The authors went through a report from Volontärbyrån, mentioned in section 1.1, about their volunteers in order to get a better insight into the organisation and their volunteers.

Volontärbyrån does a yearly volunteer survey among their members and the results in this paragraph is based on the data from the 1259 individuals that took part last year. The survey came to the conclusion that those looking for volunteering engagement through the web-page Volontärbyrån.org often live in bigger cities, most of them are women and 34% of them are first time volunteers. A lot of them have a higher education or are students, but most of them are full-time employees. For the volunteers that are engaged the most important aspect is to support the association's purpose and goals. A lot of people want to get involved because they want to give back to the community. Another aspect why they contribute is because they feel solidarity, meaningfulness and an opportunity to actively participate and influence their own situation [8].

An important aspect for capturing people's commitment to volunteering is to provide quick feedback to those who show their interest. In the survey a lot of people answered that, when applying for a mission, they expect to get an answer from the organisation within one to two weeks [8].

The future looks bright for nonprofit involvement - as many as 96 percent of the volunteers want to continue to get involved. One of the most important aspects for volunteers in order to continue to engage is to feel that they contribute to something good [8].

## Initial brainstorming and conceptual sketch

To gather context of how objects could be arranged and how the flow in the basic design would work the group decided to perform an initial brainstorm and a following conceptual sketch.

As a first step of the *understand* part seen in the design process in figure 3.1 the authors started a brainstorming session. This was done by sitting down individually for 30 minutes and on post-it notes writing all features that they could think of as a part of the app. Ideas came from experience from previous courses in mobile application design, general UX design, initial talk with Tactel AB about their ideas for the application and also personal experience from using other mobile applications.

When no more ideas could be found, 30 more minutes were spent on sorting the notes into categories that represented different parts of the application. While sorting the notes and discussing what was found, new ideas sprung into life. Those were added as they came up. When the basic components of the application were assembled a sketch-drawing process of what it could look like was started. An hour was spent to make the sketch follow a chronological flow based on how the user would interact from opening the app, to searching for volunteer missions and finally applying. This resulted in the first conceptual sketch of the volunteer app, figure 3.2.

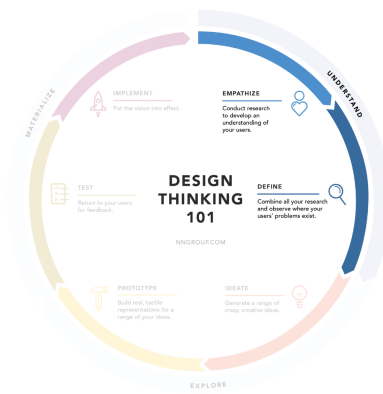


Figure 3.1: Current design phase



Figure 3.2: The first sketch

## Survey

To make an initial collection of user opinions a survey was conducted. The survey was primarily targeting individuals that were active volunteers or were previously engaged as volunteers. To reach those individuals contact was made with around 30 volunteer organisations in Sweden. The authors together with two colleges also reached out within their private sphere. Since the survey would most likely reach further than the targeted group it was also adapted to collect answers from non-volunteers. This was done by dividing the survey into different sections based on the previous answer.

The first section in the survey was *Introduction* where information about the survey was presented and the questions were based around demographics to get data on the participants of the survey. The second section was *Your Volunteer Engagement* where the survey participant answered questions about their volunteer work. The third section *Volontärbyrån* contained questions about the web-page *Volontärbyrån.org* and how they perceive it. The fourth section *Not a volunteer* was only available if the survey-taker had previously answered that they never engaged in any volunteer mission, and those questions were not taken in considerations in this master thesis. The fifth and final section *A digital volunteer solution* is based around a potential volunteer app and what sort of features that the survey participant would like to see in it.

Here are the survey question that were taken in consideration during this master thesis:

### Section one:

- Age
- Gender identity
- Domicile

- Highest education
- Employment
- Have you been involved and taken on assignments as a volunteer?

#### **Section two:**

- How did you find / find your volunteer assignments?
- How did you sign up for your volunteer assignments? What is the very first step?
- How does/ did the communication between you and the organisation took place regarding your volunteer assignment?
- What made you start volunteering?

#### **Section three:**

- What do you think is good about volontärbyrån.org?
- What could have been improved with volontärbyrån.org?
- Is there anything you would have liked to change in the process of finding and taking assignments?
- Do you use the filtering function when searching for assignments?
- If so, how do you usually filter your searches?

#### **Section five:**

- How do you think your volunteer involvement would have changed if there had been a mobile application for volunteering?
- What features would you like to have in such an application?
- What did you think of the application requiring login in order to be used?
- What would you like to be able to do without logging in?
- If you have to log in, what type of login do you prefer?
- Why do you prefer that login type?
- Did you want to receive notifications on your mobile phone when assignments you have chosen to subscribe to appear?

In figure 3.3, figure 3.4 and figure 3.5 the demographic data from the survey is presented. The 111 answers came from 65 women and 46 men which were expected due to the distribution between men and women that are engaged as volunteers. Most of the respondents were from larger cities but medium cities and smaller towns had also a good representation. The age distribution was tilting towards a younger group of respondents but all ages had a representation of ten respondents or more. 95 of the respondents had a higher education and

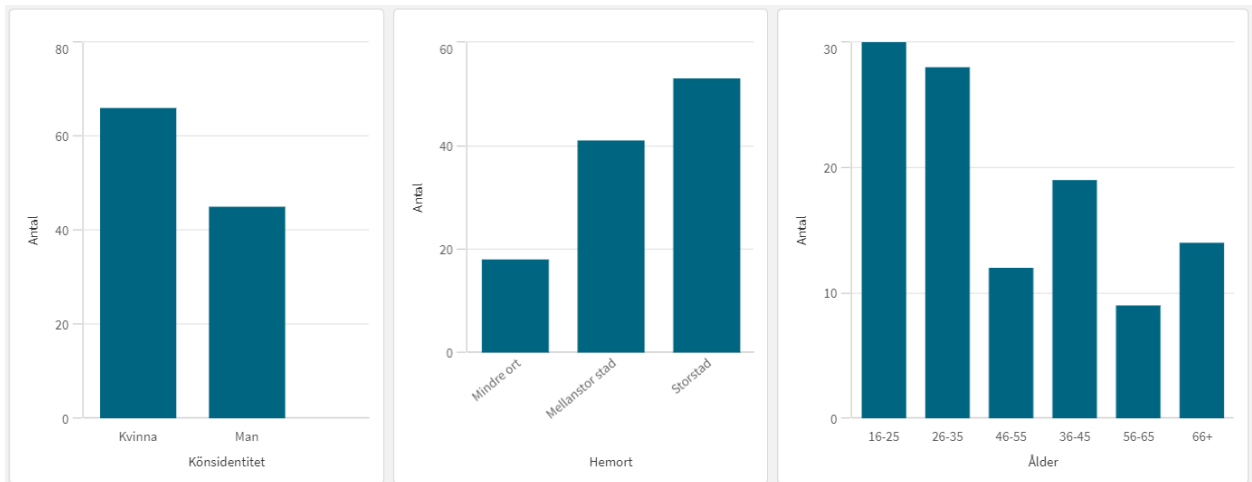


Figure 3.3: Survey data for Gender, Size of hometown and Age.

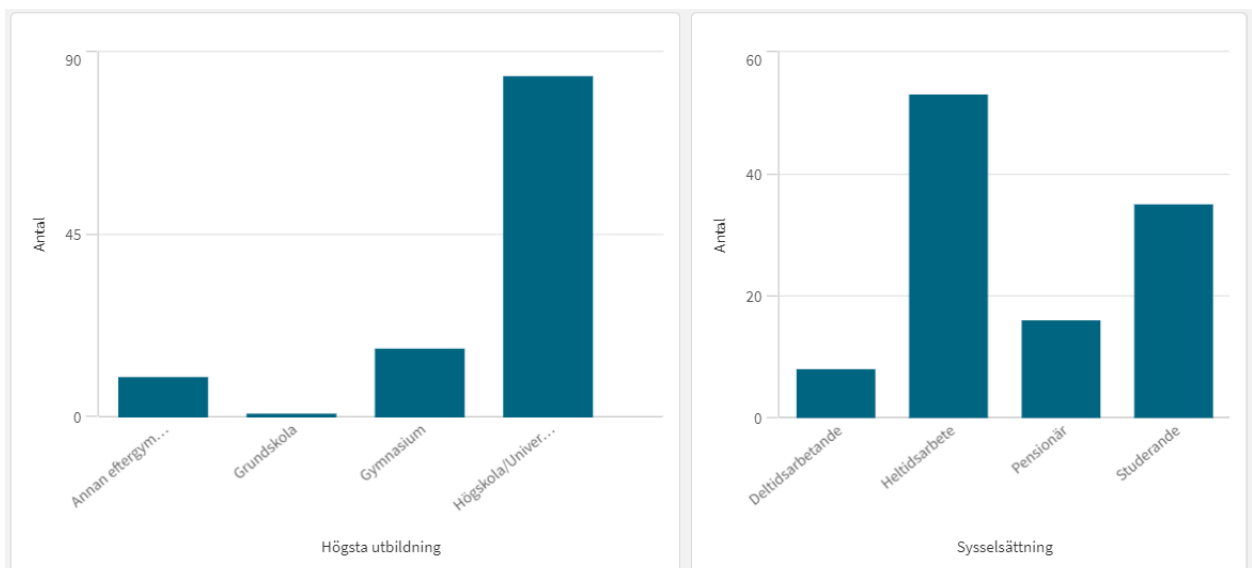


Figure 3.4: Survey data for Education and Employment.

most of them were either studying or working full time. In experience of volunteer work the respondents had a good mix of beginners, medium experienced volunteers and experienced volunteers all representing a third of the total answers. The survey was shared in both volunteer groups and general social media. Based on the demographic data the survey covered the targeted audience well.

While the survey covered many different topics as engagement, motivation and issues with volunteer work, the main focus was on the questions about a potential digital solution and specifically what sort of features the volunteers would like to see in an app. The answers were in free-text and 92 of the respondents took their time to give suggestions. Those 92 answers were then sorted into different categories based on the sort of features and this list was a foundation for what the prototype should contain.



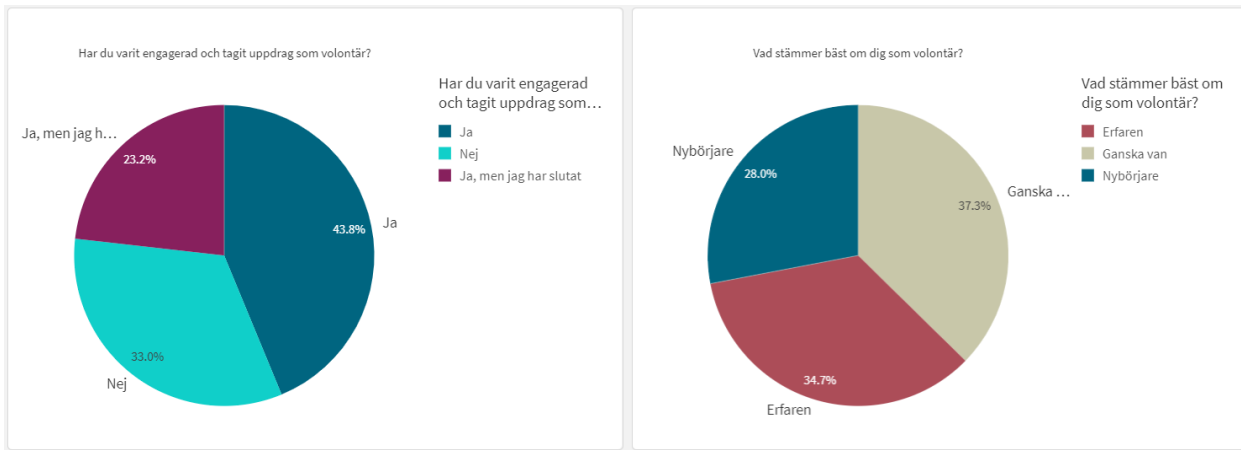


Figure 3.5: Survey data for volunteer experience.

### 3.2.2 Lo-fi prototype

#### Idea generation

The second design phase, figure 3.6, started with idea generating using the results from the survey. From there the authors received a lot of potential features for the app. Thereafter those features were divided into different categories in order to have a better overview and prioritise the desired features. The challenge was to choose which features were most reasonable to have in the lo-fi and which to save for later. In order to find the most important ones an analysis was done by looking at the most popular features that also benefited the goal of the potential application to know what parts to start with. The different features or functions was also divided into categories as main function, sub-function and sub-sub-function depending on their contribution to the application.

From the analysis it was concluded that the main function is *apply for a volunteer assignment* and everything else is either a sub function, a sub-sub-function or a support function. The register and log pages are sub functions of the main function which means those are there in order to achieve the main purpose. Other sub-functions are: search/filter to find volunteer assignment, read about the assignment, and getting a confirmation of applying. There are also some support functions, which means that those pages are contributing but they are not necessarily needed in order to apply for a volunteer assignment and those are: organisations, news, chat, menu and my commitment.

#### Design choice

After the idea-generating, the lo-fi prototype started to take form. In figures 3.7 and 3.8 an overview of the entire lo-fi can be seen. The authors chose to have a thumb-driven design



Figure 3.6: Current design phase.

throughout the whole app, because of the popularity in using the phone with one-handed grip [21]. For the different volunteer-assignments on the first page, see top right view in figure 3.7, a rectangular grid navigation menu [28] was used. This was done so the user can easily see a little bit of information about the assignment that is enough in order to capture their interest.

The menu itself is placed in the top right corner on every view, with a drawer navigation system [28]. This system was used because it saves page display space and allows the user to focus on the main page in a good scale. The disadvantages of this design is that the part where the menu is placed can be hard to reach on bigger phones or depending on if the user is left or right handed and the drawer is on the reversed side.

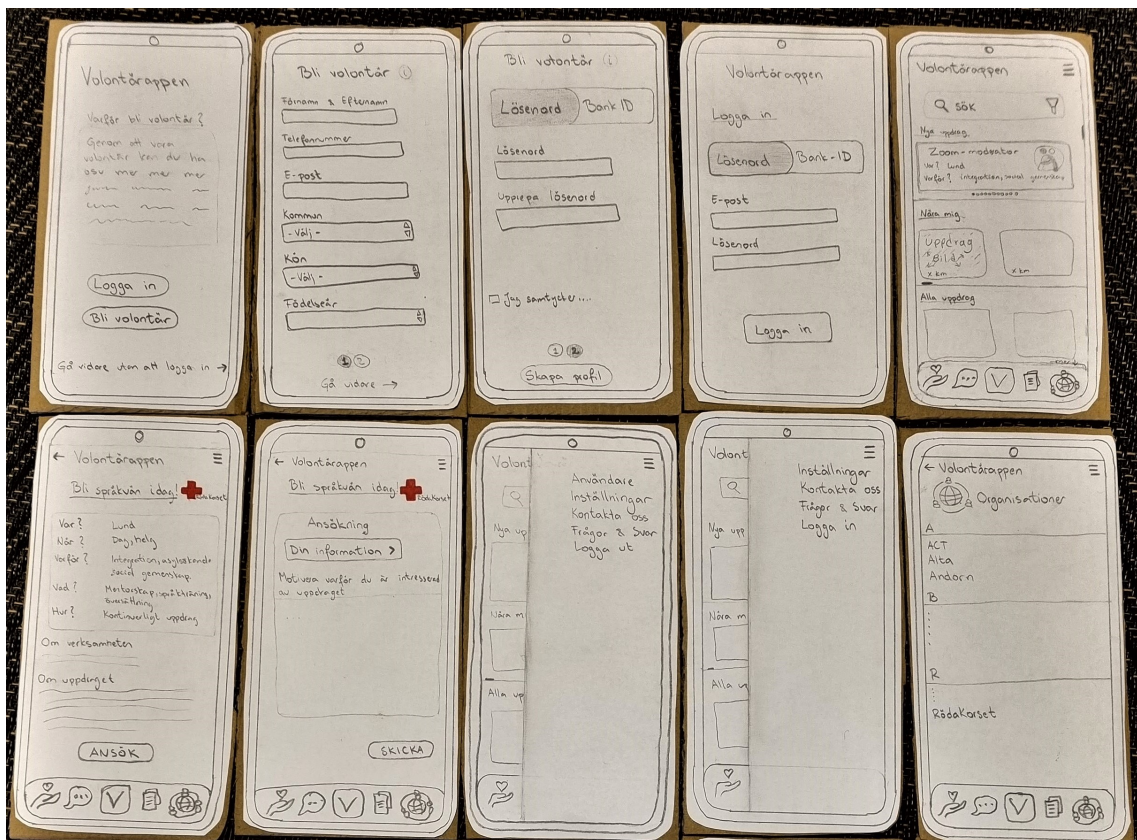


Figure 3.7: Lo-fi prototype pages.

A tap bar was used on the bottom row because it is an easy shortcut to some of the most used features. When it comes to the tap bar itself, recognisable icons were used in order to make the app more intuitive for the user. A tap bar lists three to five most common first-level actions to click on [21]. Five actions were chosen: my commitment, chat/social, a home screen button, a news feed and a list of organisations. The ones on the left of the home screen button, i.e. my commitment and chat/social will be one of the most used ones when the user has an account. The ones on the right, i.e. news feed and the organisation list allow users that don not have an account to read news and about organisations before they engage.

Beside the lo-fi prototype a couple of pop-ups were also made. Those were triggered when specific actions occurred to give relevant feedback to the user.

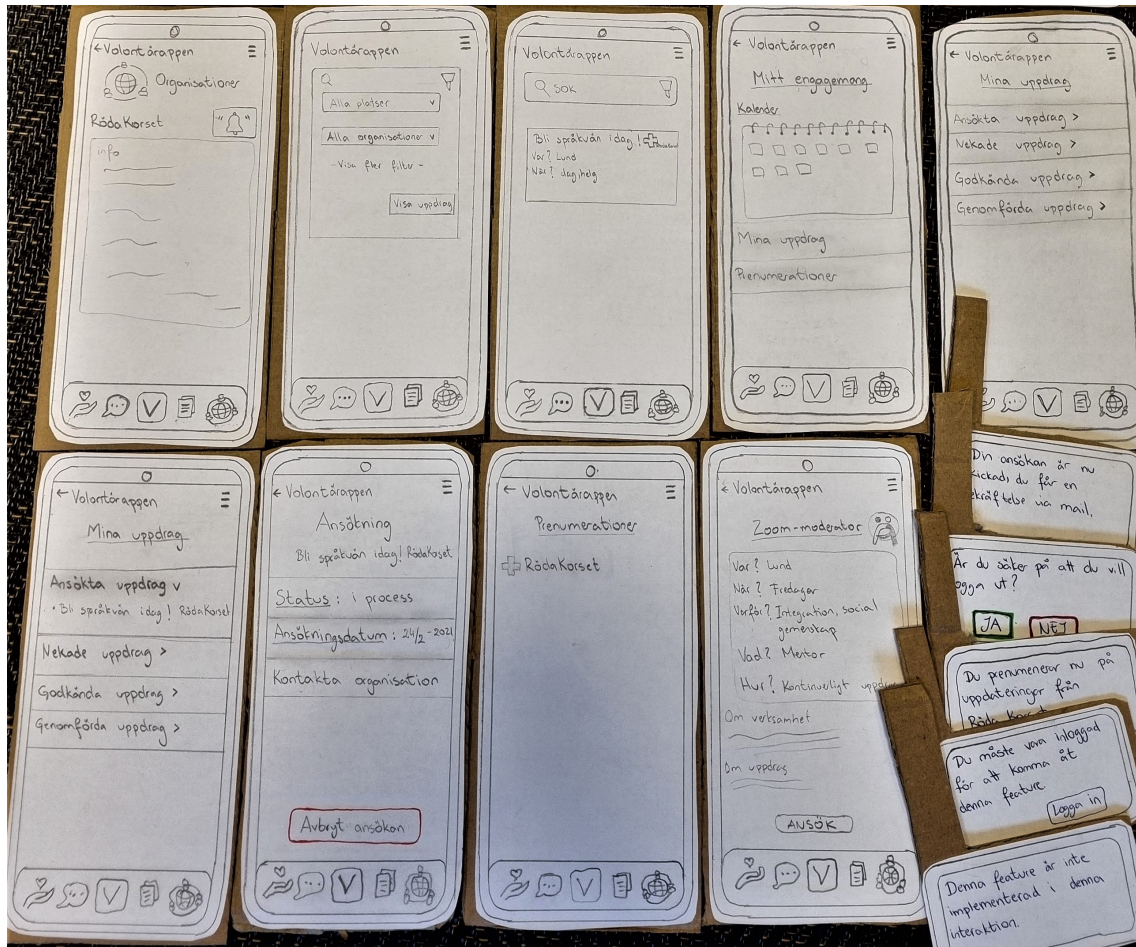


Figure 3.8: Lo-fi prototype pages.

### 3.2.3 Lo-fi testing

#### Test

The purpose of the user testing, phase in figure 3.9, was to do an initial investigation of the usability of the lo-fi prototype “Volontärappen” to find areas of improvement regarding design, structure, functionality and interaction. The following questions were at issue:

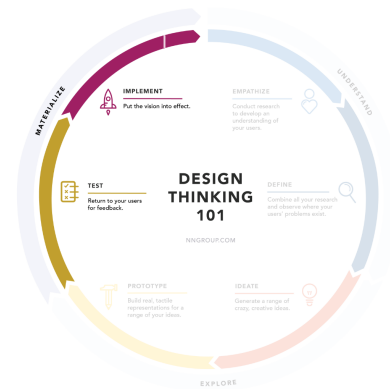
- Does the user understand the interface design?
- Is the placement of the different menu-items intuitive?
- Is the design overwhelming?
- Is something missing?

The test was set up in one of the authors home where the test could be conducted in a calm and safe environment. The lo-fi consisted of around 20 parts of paper glued on cardboard pieces.

The test was conducted on six students in the authors close proximity. The testers were experienced app-users and some of them had experience in app and interaction design. This was thought to provide good feedback on the basic structure of the lo-fi prototype. The choice of test participants were based on the Covid-19 situation which hindered a wider choice of participants since the lo-fi is paper based and could not be tested remotely in a smooth way.

When the test participants arrived they all received the same information. They were thanked for their effort to take part in the test and then instructed that they would be presented with six different cases that they would enact on the lo-fi prototype. They were also encouraged to think out loud while doing so. One of the authors acted as a test-leader and handled the different lo-fi parts, the communication and the different cases. The other author took notes on how the progress went.

When the test was done the test participants received questions of how they perceived the prototype, if there were things they did or did not like, if they would like to add or remove anything and if some parts were hard to find.



**Figure 3.9:** Current design phase.

## Result

A summary of the answers from the survey that followed the test session will be presented below.

*Does the user understand the interface design?* The overall response was that the interface was intuitive, that it was fast and easy to find the different components in the app and that it reminded of other apps the test participants had used previously.

*Is the placement of the different menu-items intuitive?* The test participants liked how the app was structured but some of the tap bar icons were confusing at first sight. After they understood the context of the icons their meaning became clear. Some test participants mixed content that was under "My Engagement" with the "User" button that was under the menu.

*Is the design overwhelming?* The test participants did not find the design to be overwhelming and commented that it was intuitive and clean.

*Is something missing?* The test participants had some comments on missing details: the arrow representing going back was missing in some views, the pop-ups did not have any button that indicated that they could be removed and a search-function in the organisation tab should be added.

## Case completion

In table 3.1 the six test cases are listed. To see what part of the lo-fi that was hard to understand the cases were evaluated individually and a completion-rate was calculated. Since all test participants did eventually pass all cases the score will instead be based on if the test participants choose the right path at their first try.

**Table 3.1:** The cases for the lo-fi testing. Here the task, the sub-task and the correctly completed task for each case are shown.

Task	Sub-task	Correctly completed task when
1. Look around the app without having a login	1.1 Klick on "Gå vidare utan att logga in" 1.2 Look around the app in order to find what can and can't be done without a login	When the first page of the app is visible.
2. Register an account with password & then log out from the app	2.1 Klick on "Bli volontär" 2.2 Fill in all the information 2.3 Choose "lösenord" when creating an account 2.4 Create account by clicking on "Skapa profil" 2.5 Go to settings and klick on log out	When creating an account and a message "Tack för du valt att skapa ett konto som volontär, nu är den aktiverad" appears. And then also when the log in page is visible after logging out.
3. Log in with you new account and then apply for the assignment "Bli språkvän idag!" from "Rösa korset" in Lund	3.1 Log in to the app with email & password 3.2 Find the assignment "Bli språkvän idag!" from the organisation Red Cross in Lund by filtering on organisation and city. 3.3 Apply for the assignment by klicking on "Ansök" 3.4 Fill in the motivation for why you should get the assignment and then apply by klicking on "Skicka"	When a confirmation for the application appears and the application is marked as applied for.
4. Find the submitted application you just did	4.1 a) Go to "mitt engagemang" b) Go to "mina uppdrag" c) Under "ansökta uppdrag" fint the subbmitted application d) Go to home page by clicking on "V"  4.2 a) Find the task by filtering. b) In the task you can find the application c) When clicking on that you will be send to the submitted application d) Go to home page by clicking on "V"	When the tester can see the submitted application.
5. Subscribe to the organisation "Röda korset"	5.1 a) Go to "organisationer" b) Find the organization Röda Korset c) Klick on the organization and find the subscribe button d) Klick on "Prenumnera" in order to submit	When a confirmation for the subscribe appears.
6. Find the subscribe for the "Röda korset" you just did under "prenumerationer"	6.1 Go to "mitt engagemang" 6.2 Under "prenumerationer" fint the one for "Röda korset"	When the tester can see the subscribe for the organization.

- **Case 1:** Test completion 100%. The purpose of this case was to explore what was possible to do in the app when not logged in. Some users were irritated by some icons not being able to press that were looking the same as the ones that could be pressed.
- **Case 2:** Test completion 100%. All test participants completed the case without problems.
- **Case 3:** Test completion 83%. 5 out of 6 test participants found the right path. Not all paths were implemented and one of the test participants went to organisations instead of looking in the main screen.
- **Case 4:** Test completion 33%. The test participants had some problems with finding their application. Many reasoned that it might be under "Användare" (User) in the menu drawer at the top. Some also went looking in the organisation tab.
- **Case 5:** Test completion 66%. Two test participants tried to search instead of going directly to the organisation tab. This could be considered successful since it will be possible to search for organisations but in the current implementation it was not possible to complete the case in this way.
- **Case 6:** Test completion 100%. All test participants completed the case without problems.

## 3.3 Iteration 2 - Hi-fi

The second iteration contains the process from gathering data from new interviews, analysing lo-fi testing, making new design choices, creating the hi-fi prototype and also conducting tests on it.

### 3.3.1 Interviews and case analysis

To get a deeper understanding of what the potential app needs to contain, interviews with four volunteer organisations were conducted as well as case completion analysis from the lo-fi test.

#### Organisation interviews

The organisations that were interviewed were different in both size and what kind of volunteers they attracted. A longer summary of the interviews are available in Appendix A. This summary was done together with the authors of the other master thesis on Tactel working on the same subject. The main takeaways from the interviews were:

- Have notifications and reminders about the mission in the app, since the organisations are seeing a drop-off between volunteers applying and starting the process. In some cases there is also a drop-off in the window after a volunteer has been accepted and before the mission starts, especially if the assignment is delayed or if it has a big dependence on the volunteers own responsibility.

- The possibility for the volunteers to get feedback for their engagement in the volunteer-work is also an important takeaway because the organisations want to show appreciation and attention to the volunteers. This can increase future engagement in the volunteer-work. Volunteers should also be able to leave feedback to the organisations, so they can feel that they are being heard.
- Social interaction is very important for the volunteers and should be considered as a part of the potential app. A lot of volunteers want to be able to contact other volunteers that have the same mission in order to connect and help each other. To have a chat function in the app would simplify those connections. It would also be beneficial to have a communication channel with the organisations so the volunteers can easily contact them when needed.
- The organisations want the possibility of having the information about what missions the volunteers have been involved in. This information would also be valuable if the volunteers decide to leave the volunteer engagement. It would further help in order to keep track in what missions attract people and which don't.

## Interview with Volontärbyrån

An interview with a representative from Volontärbyrån will be summarised, the full interview can be found in Appendix A.

*How does the application process look from your side? What are the challenges?* It is important to review and approve all assignments, new organisations and coordinators. To ensure quality and to make sure that the organisations are serious so that no volunteers will be fooled. Make sure that the right expectations are presented and advise organisations on how to engage and capture volunteers. All new assignments are manually approved even if they have been up on the site before.

*Do you save volunteer data and do you have contact with volunteers?* Volontärbyrån wants as little contact with volunteers as possible in order to make the process smooth and fast. Volunteers are welcome to contact Volontärbyrån but it is not a built in step. User data is saved in their database and kept secure.

*What are the advantages and disadvantages of the website?* They would like to expand the user experience and make it more personalised. On the website you can see current assignments, which is good for the volunteer. The basic functions of the site work well at the moment and are stable. The main purpose of the website is to make it easier for organisations and volunteers.

*How do you help organisations to motivate volunteers?* That is a communication issue at its core, but to focus on what drives the volunteers, their interests and passions as well as their location, is a good start. Also promote the Volontärbarometer which is an yearly survey targeting the volunteers and their motivations. Volontärbyrån is an intermediary, a megaphone for organisations and wants to make it easier for them to work with volunteers.

*Do you prioritise or target specific groups? For example a younger audience?* Volontärbyrån only reflects what the organisation wants. If the organisation wants young people, so do they. Volontärbyrån is not making such choices on their own. They do not have a bank of volunteers, they have a bank of assignments. Help organisations to create assignments that

suit what is happening at the moment and at the same time communicate to volunteers that those opportunities exist.

*How to get volunteers to return?* Volontärbyrån does not focus on recurring versus new volunteers but more on the individuals that want to engage. Still, it is more valuable to have a volunteer that does an assignment for five years than ten different volunteers doing it. It is important to find volunteers that are driven by their interest and don't need to be dragged back to an assignment.

## Case completion analysis

From the case-completion there were three cases that failed to get 100%. Case 3 where the test participants goal was to apply for a mission. The failed attempt was due to the test participant wanting to find the mission via the organisation. In the next iteration of the prototype it will be possible to find all missions that an organisation has from the organisations page.

Case 4 had the lowest success-rate. The test participants were confused by the icon (a heart in a hand) that represented "Mitt engagemang" (My engagement) and instead looked in the menu where the users settings was located. To improve this the icon that represents "Mitt engagemang" will be changed to a person with a heart and the menu will no longer have a user setting button. Instead the settings that are app-related as language, text size and notifications will be located under a button that is called settings and some other settings that are related to the engagement and profile will be moved to "Mitt engagemang". "Mitt engagemang" might also be renamed.

For case 5, the test participants were supposed to find the application they just did. As in case 3, the failed attempt was due to test participants looking for their missions via the organisation tab. When all parts of the prototype are implemented it will be possible to find the application this way. The mission that the users have applied for will be highlighted in the list of missions that are available.

### 3.3.2 First Hi-fi

After the interviews and the feedback from the lo-fi testing, the hi-fi prototyping was the next step in the process.

#### Flowchart

This process started with a flowchart that represents all pages and parts of the app. This type of diagram was created in order to get a good view of which pages are connected and needed to be taken into consideration in the app. It provides a good overview of which parts are the main pages and are necessary for the prototype to work.

The flowchart shows an overview of all content that was needed for the prototype to have a logic flow as seen in figure 3.10. Only the closest paths between screens are shown in the flowchart and the paths that go back are not shown. The chart starts with *1 First page* which is required in order to get through to the rest of the prototype. Every arrow illustrates which pages are connected to the next. The pages with a black bar at the top are pages other pages need in order to access them.



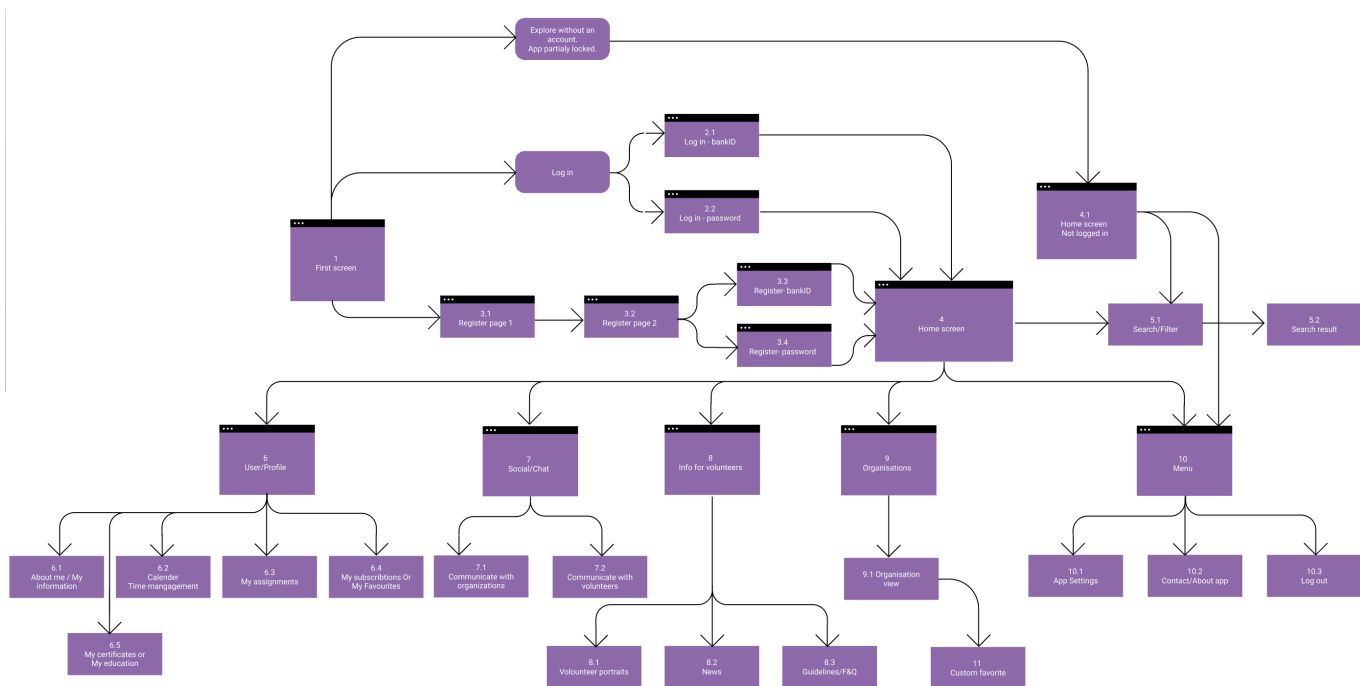


Figure 3.10: Flowchart.

## Design improvements

The design of the hi-fi is based on the lo-fi prototype with improvements based on test feedback, interviews with organisations and new ideas from the authors.

In figure 3.11 the first pages the user encounters are presented. The screen furthest to the left introduces the app and provides some motivation of why the user should engage as a volunteer. On the first page there are three options. The first one is "Bli volontär" (Become volunteer) which is the registration button. It is highlighted so that the users that are using the app for the first time, the new users, put their focus on it. The users that already have an account will have an easier time remembering that they are supposed to press "Logga in" (Log in). In the lo-fi prototype the buttons were in the reversed order and some of the test participants pressed "Logga in" when they were supposed to press "Bli volontär".

On the second and third page in the same figure 3.11 the view when choosing to log in with password or BankID is shown. The user can log in with the authentication they prefer. Most users choose BankID but some users might not have that alternative available so their alternative is naturally the password option.

In figure 3.12 what could be defined as the main screen, home screen or mission explore screen can be seen. It is the first page that the user lands on when signing into the app and can also be accessed by pressing the house icon in the tap bar row. On the home screen the user can scroll and view mission tiles sorted into categories such as new missions, missions close to me and all missions. A search field is located at the top of the page where the user can type the name of a mission, organisation or anything related to a mission. If the user is unsure of what to type there a filter button displayed as a funnel icon. When pressed a list of different categories that the user can filter by is presented.

The tap bar at the bottom has changed slightly from the lo-fi. The button to the far left representing the user profile where their own missions can be found was changed from

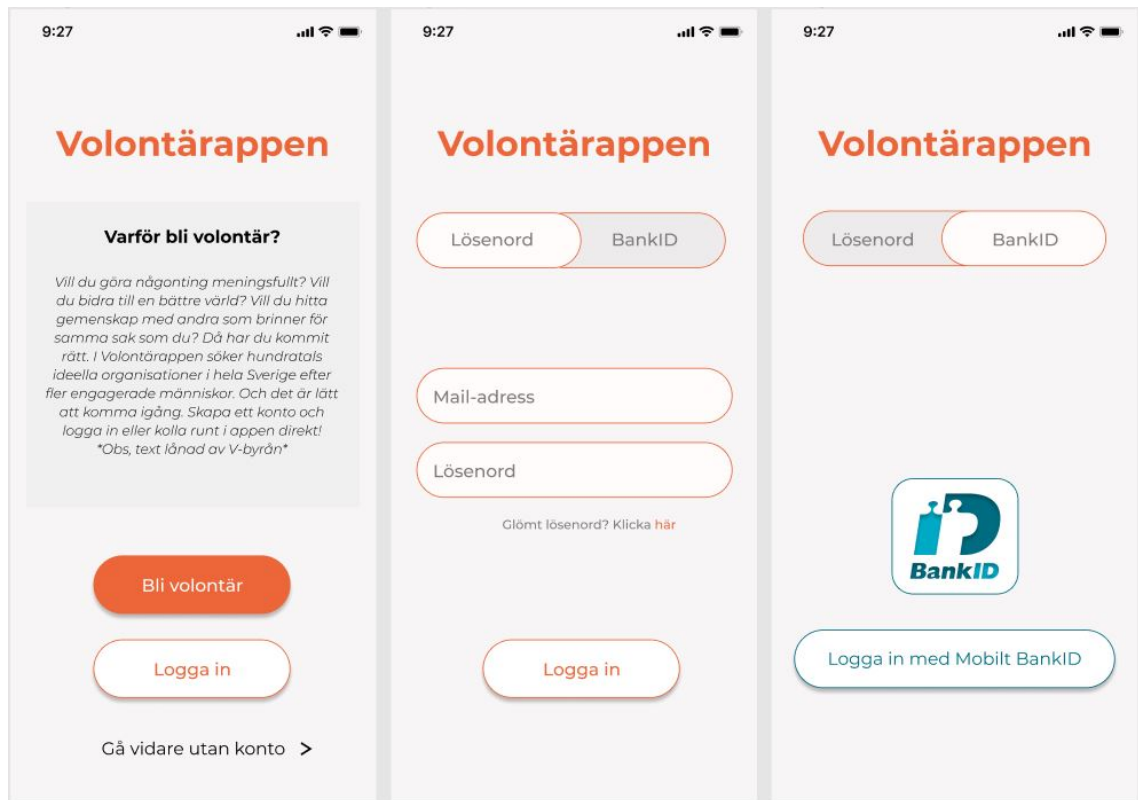


Figure 3.11: Hi-fi 1: Login

a hand holding a heart to a human-figure representing the user due to test participants misunderstanding the icon when testing the lo-fi. The home screen button was also changed from a V representing the app to a house representing home, also due to test participants misunderstanding the icon. When the user is on the home-page or one of the other pages the corresponding button below is coloured orange.

The chat-page containing social features, news/feed-page representing a feed with news and inspiration and organisation-page representing a list of all organisations are not implemented in this iteration.

When the user wants to apply for a mission they can press on the tile and this will lead to the left screen in figure 3.13 to be shown where the user can read some quick facts and some further information about the mission and organisation. When the user presses "Ansök" (Apply) the middle view in figure 3.13 will be shown. Here the user can view their information that they will be attaching to the application. When the user has entered a motivation of why they want the mission the application can be sent.

All applications can then be found under the profile tab as shown in the right screen in figure 3.13. The user can also view upcoming missions in a calendar on the profile page. The parts "översikt" (overview), "utbildningar" (courses) and "meriter" (merits) are additional features in the user profile but are not implemented in this iteration of the prototype.

In figure 3.14 a search result is presented to the left. The green colour in the background of one of the results is meant to represent that the user has already applied for that mission. When pressing on the mission the middle view is presented where the user can see the mission and can also press "Granska ansökan" (review application) to see their application which is



Figure 3.12: Hi-fi 1: Homescreen.

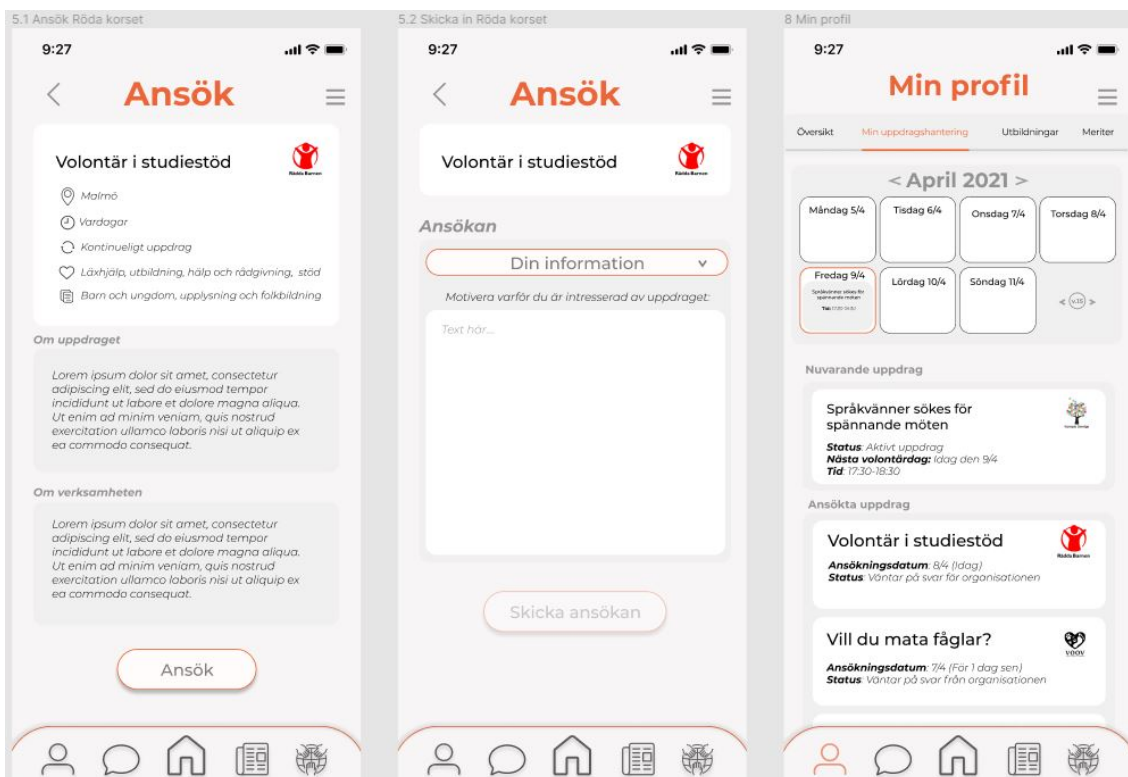


Figure 3.13: Hi-fi 1: Apply & Profile.

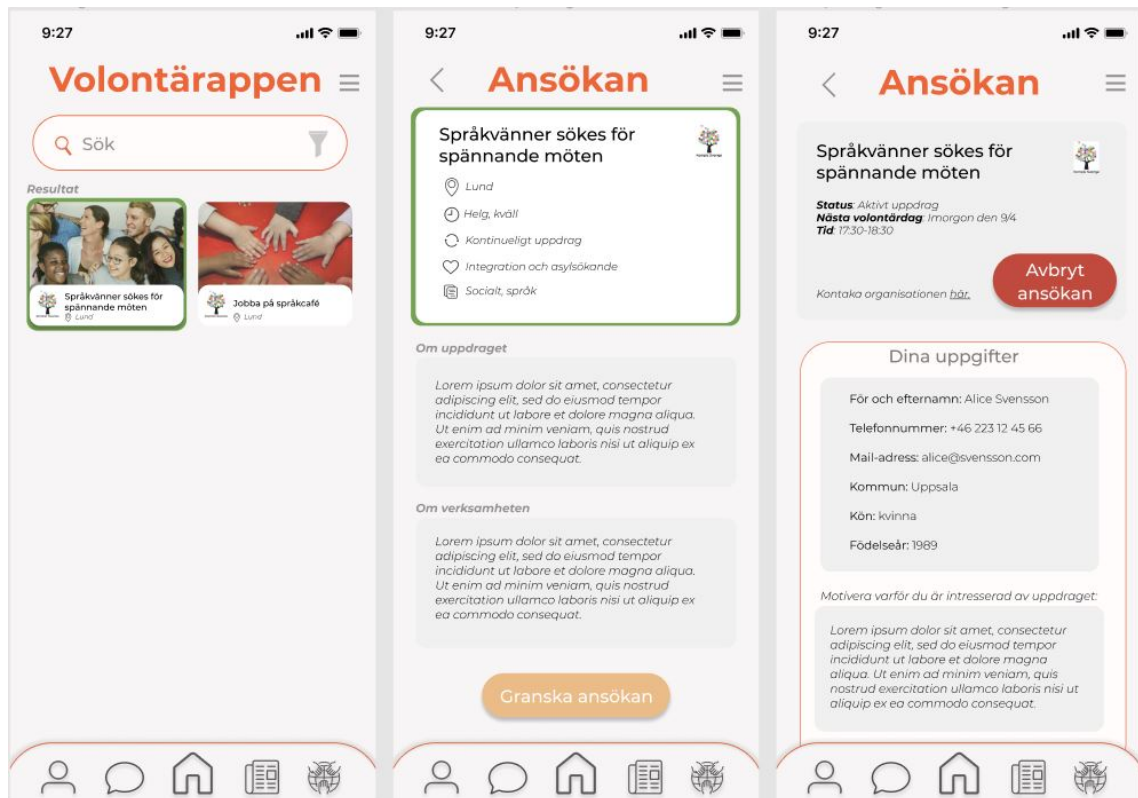


Figure 3.14: Hi-fi 1: Apply.

shown on the right view. The information and motivation that the user sent to the organisation can be seen and the user can also cancel their application by pressing the big red button "Avbryt ansökan" (Cancel application).

## Colour choice

The authors chose a colour that symbolises happiness, safety, simplicity and spontaneity [25], this being a shade of orange. Orange is a warm colour that can represent different feelings. The shade that was chosen was #ED663A. After this shade was chosen, the tool Colormind was used in order to find other colours that matches the shade #ED663A for the prototype's colour-profile.

In figure 3.15 different colour are presented that the authors tried out in order to find the one that was most suited for the app.

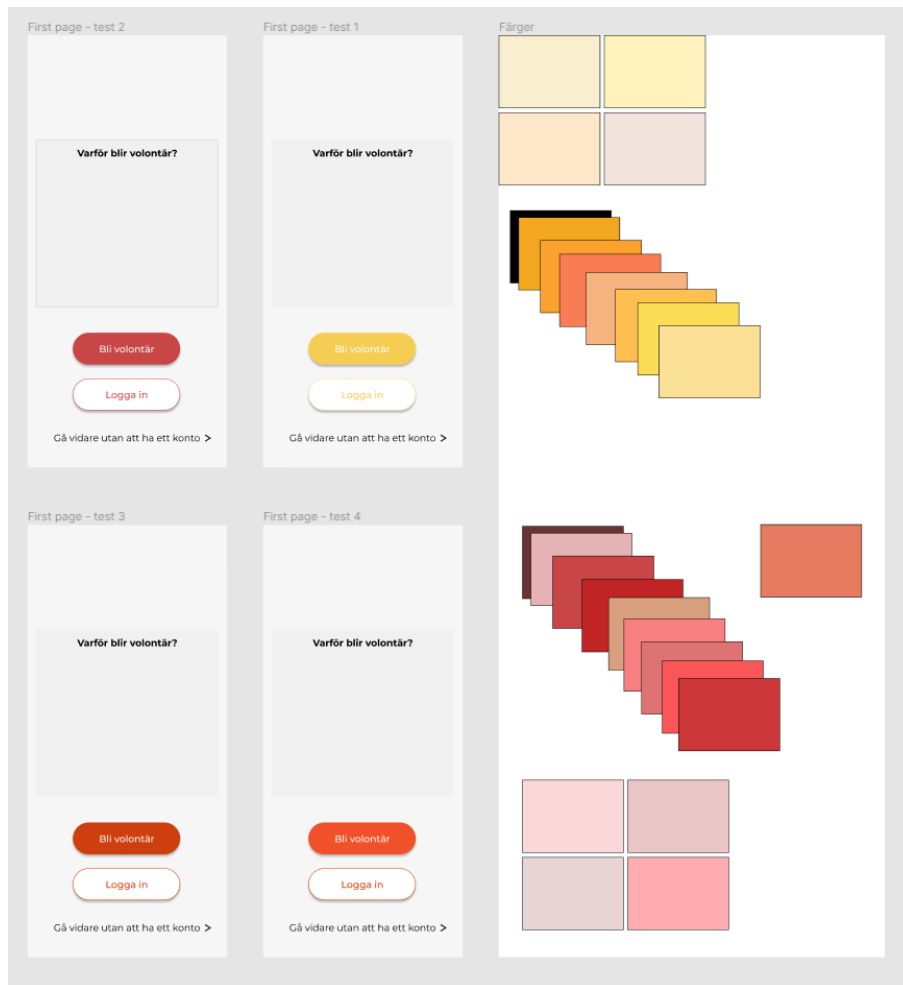


Figure 3.15: Trying different colours.

### 3.3.3 Testing the first hi-fi

The purpose of this usability testing was to do an initial investigation of the usability of the hi-fi prototype “Volontärappen” to find if the areas regarding design, structure, functionality and interaction are user-friendly.

#### Test

The test was conducted on seven people with different backgrounds as well as one initial pilot testing in order to get more feedback on the test cases and procedure. Three of the test participants had tested the lo-fi prototype and those tested the app on a phone. Those test participants were in the authors close proximity and that is why this kind of testing was possible. They also were experienced app-users and some of the participants had experience in app and interaction design.

The remaining test participants were people that answered the survey and they were either volunteers or working with volunteers. They all were 55+ and a low experience in app use. Based on the Covid-19 situation those tests were conducted remotely. The remote test was done on the test participants computer while they share their screen so that the authors

could see the interaction. The pilot testing was done with an UX designer from Tactel AB who is a experienced app-user and also a professional in app-design as well as interaction design. The combination of those test participants will together provide diverse feedback and different opinions on structure and design of the hi-fi prototype.

All the test participants received the same pre test information. They were thanked for their effort to take part in the test and then instructed that they would be presented with six different cases that they would enact on the prototype. They were also encouraged to think out loud while doing so. One of the authors acted as a test-leader and handled the communication and the different cases. The other author took notes on how the progress went.

The prototype was made in Figma and there are different pages that represent different parts of the potential application. Figma makes all the pages look like and feel like a real app so this testing will closely resemble an actual app. When the test participant simulates a press somewhere on the prototype Figma will act accordingly and swap views if available. The prototype can easily be shared to the test participants via a link.

When the test was done the test participant received questions of how they perceived the prototype. The following questions were at issue for this test:

- How did you experience the prototype?
- Was something difficult to find in the app?
- Did you feel anything unnatural with the app or the interaction?
- Is there something you wanted to add to the app?
- Is there something you wanted to remove from the app?
- If the app had a map feature, where would you like to find it?
- What would you like to see in the map function?
- Where would you like to edit your profile?
- What do you think about the appearance and placement of quick menu icons?

## Survey result

A summary of the answers to the questions following the test will be presented below.

*How did you experience the prototype?* The overall response was positive, everyone that participated in the test thought that the app was nice looking, the theme was fitting, easy to understand and had a good flow. Another comment was that the prototype felt like a modern app. The arrangement of the different volunteer assignments were appreciated as well, it was good that they were divided into different categories. There were a few test participants that found the icons at the tap bar a bit unclear, the most unclear one was the "organisation" icon. One of the participants thought the filter icon was confusing, the test participant didn't understand that it was a filter icon.

*Was something difficult to find in the app?* One of the test participants found it hard to find the cancel mission button under "granska ansökan" (review application) for an assignment.

Besides that there was nothing specific that the test participants considered as hard to find in the app.

*Did you feel anything unnatural with the app or the interaction?* One of the test participants thought that the calendar view for one week should be on one row, since it looked a little odd when it was on two.

*Is there something you wanted to add to the app?* The test participants did not mention anything specific they wanted to add to the app.

*Is there something you wanted to remove from the app?* The test participants did not mention anything specific they wanted to remove from the app.

*If the app had a map feature, where would you like to find it?* Most of the test participants thought that the map feature should be on the home screen. They reasoned that it could be near the search/filter function where the user could click on show map for example. There could be an icon that looks like a map. Some of the test participants had an idea of having the map function under the menu on the right of the page. Another test participant said the map could be connected to assignments near me.

*What would you like to see in the map function?* One participant said that it could be like google map is today, having pins all over the map showing volunteer assignments. Another test participant also suggested having volunteer events on the map as well.

*Where would you like to edit your profile?* All of the test participants answered that they would like to edit their profile under the profile icon in the tap bar at the bottom. There could be an extra button called "my info" where the profile could be edited. Some test participants also said it could be under the menu, but settled on that it being under the profile page would be more reasonable.

*What do you think about the appearance and placement of quick menu icons?* All test participants answered that the icon placement felt natural and most of the icons were easy to understand. The ones on the right (feed and organisations) were a little bit unclear before they knew their content, but when the test participants clicked on them they found them logical as well. The test participants also thought that the placement of the icons were good and the home icon was obvious to its meaning.

*Other.* Some of the test participants were pleased that they could choose BankID, so they didn't have to remember another password. Another test participant liked the idea of the app, because more can have access to get involved with volunteering. One confusing matter for the test participants was the green marking around an assignment when filtering. Some of the test participants thought that was marked because it was the best match for the search but that was not the case. The mark represented that the assignment was applied for.

## Case completion

The test completion will be calculated by the harsh standard of if a test participant does not choose the shortest path to the goal, the task, shown in table 3.2, will be considered as failed. This is due to the fact that all test participants did complete the tasks eventually but some did look in the wrong place first.

**Table 3.2:** Cases for hi-fi 1 testing. Here the task, the sub-task and the correctly completed task for each case is shown.

Task	Sub-task	Correctly completed task when
1. Register an account and the log out from the app.	<p>1.1 a) Klick on "Bli volontär"  b) Fill in all the information  c) Choose "lösenord" when creating an account  d) Create account by clicking on "Skapa profil"  e) Click on settings and then "logga ut"  f) Then when the notice pops up klick "ja"</p> <p>1.2 a) Klick on "Bli volontär"  b) Fill in all the information  c) Choose bankID when creating an account  d) Create account by clicking on "Verifiera"  e) Click on settings and then "logga ut"  f) Then when the notice pops up klick "ja"</p>	When creating an account and a message "Tack för du valt att skapa ett konto som volontär, nu är den aktiverad" appears. And then also when the log in page is visible after logging out.
2. Log in with you new account and then apply for the assignment "Volontär i studiestöd!" from "Rädda barnen" in Malmö	<p>2.1 Log in to the app with email &amp; password or bankID  2.2 Find the assignment "Volontär i studiestöd" from the organisation "Rädda barnen" in Malmö from the first page.  2.3 Apply for the assignment by clicking on "Ansök"  2.4 Fill in the motivation for why you should get the assignment and then apply by clicking on "Skicka ansökan".</p>	When a confirmation for the application appears and the application is marked as applied for.
3. Find the assignment "Vill du mata valpar?" by using the text field	<p>3.1 From main page, click on "sök"  3.2 Type what you are searching for - when you click on it the text will appear directly in this iteration  3.3 Click "sök"  3.4 Click on the assignment "Vill du mata valpar"</p>	When the application for the assignment appears.
4. Now you are curious about your previous applications. Go and see those.	<p>4.1 a) Go to "mitt engagemang"  b) On that page find the submitted application  c) Click on it</p>	When the tester can see the submitted application.
5. Some days ago you submitted another application called "Språkvänner sökes för spännande möten" from Lund. Find this assignment by filtering on - "Plats" - "Ändamål" - "Organisation"	<p>5.1 From main page, click on "filter"  5.2 Click on the three filtering parts - when you click on those will the test will appear directly in this iteration  5.3 Click "filtrera"  5.4 Click on the assignment "Språkvänner sökes för spännande möten"</p>	When the application for the assignment appears
6. Now you want to cancel the application for the assignment "Språkvänner sökes för spännande möten"	<p>6.1 From the assignment page, click on the "Granska ansökan"  6.2 Click on "Avbryt sökning"  6.3 Click on "Ja"</p>	When the notice "lämna feedback" appears.



- **Case 1:** Test completion 100%. The first case featured a task to create an account and then log out. All test participants successfully completed the task without problems. The test participants could choose between BankID or using E-mail and password to log in and 7 out of 8 choose BankID.
- **Case 2:** Test completion 100%. The second case consisted of the task to log in with the new account and then apply for the mission "Volontär i studiestöd". All test participants instantly found the mission on the home page and applied without any problems.
- **Case 3:** Test completion 83%. The third case was to use the text field on the home page to search for a specific mission that involved feeding dogs. One of the test participants went looking under the profile page but quickly realised that the search bar was on the home page.
- **Case 4:** Test completion 66%. The fourth case stated that the test participants now wanted to find a previous application. Six of the test participants went directly to the profile page where they were located while one went for the side menu and one for the organisation and feed pages.
- **Case 5:** Test completion 66%. In the fifth case the test participants were supposed to find a mission by using the filter function on the home page. Six of the test participants found the filter button and found the mission. Two of the test participants went to the home screen but had trouble understanding the filter button icon or that it could be pressed.
- **Case 6:** Test completion 83%. The last case was for the test participants to cancel their application for the mission "Språkvänner". All the test participants found the mission but the button "Granska ansökan" was a bit too greyed out so one of the test participants did not understand that it could be pressed and several test participants commented on the same thing.

## 3.4 Iteration 3 - Final hi-fi

### 3.4.1 Feedback from iteration 2

#### Volontärbyrån feedback hi-fi 1

After a meeting with one representative from the Volontärbyrån the following feedback on the prototype and idea behind it was given.

When it came to the log in page there was nothing strange, it was good that you could choose between BankID and username/password. It was also good that the volunteer could see what is in the app before committing to it.

On the home screen it was easy to find engagement and relevant assignments. Here the volunteer could also discover assignments they did not think existed. Sometimes the volunteers want to do something but they do not know what, so this is a good way to help them on the way. The search and filtering are also good features for that.

When it comes to the application part it is good to simplify the application system by automating some part of it, for example the volunteers' own information. It's also positive that the volunteer can motivate why the assignment is a good fit for them, since it can reduce the risk of the volunteer not showing up later.

Some other reflection came up as well during the feedback meeting. Like how big should the app be and what needs does it meet? There are a lot of organisations in Sweden which use different systems, so with this app it would be difficult to find a solution that suits everyone. All the basic questions like who will post things, who reports what and who will do all the work came also up. This would need lot of work because there are so many solutions nowadays.

Overall the Volontärbyrån representative thought that the app idea sounded really good, it could be a well-functioning service, but it can be a problem if it complicates things for the organisations and volunteers. All organisations have different processes, different volunteers and also different names for the word "volunteer". The main question raised was how you can find something that works for everyone.

### 3.4.2 Improvements

Under this section a list with improvements will be presented. The following improvements will be done to hi-fi 2. All the improvements come from the testing that was made on the first hi-fi.

The first improvement should be to make the text in the app a little bit larger, because sometimes it was difficult for the test participants to read the text. This can be seen in figure 3.16. Another improvement is to make the button "granska ansökan" (review application) more distinct, right now it looks a bit greyed out and it's not obvious that there is where the test participants should click. A change to the green marking around an already applied for assignment is another improvement that will be also done. The colour will be replaced with an icon of a pennant, a sent message or a check mark. This change will be made because the green marking was causing confusion and was interpreted as a successful search or filtering, hopefully an icon will remove this confusion. The filter icon was also a bit unclear so it will be replaced to try to solve the problem. These changes can be seen in figure 3.17.



Figure 3.16: Improvements on the homescreen

A map feature will also be added in this hi-fi due to test participants requests and will be located on the result page after searching or filtering as a show on map button. The feed and overview pages will also be new additions to the hi-fi with help from the other team working with the same thesis subject to provide more content to the prototype and make it feel more realistic. The new pages as the profile, the feed and the map page, can be seen in figure 3.18.

In order to make the app more personally a welcoming message and the volunteers name will also appear when a volunteer enters the app.

The days in the calendar will be placed side by side instead of in a grid pattern to make it more logical.

Some technical issues with the prototype will also be solved where for example some buttons will be easier to click on.

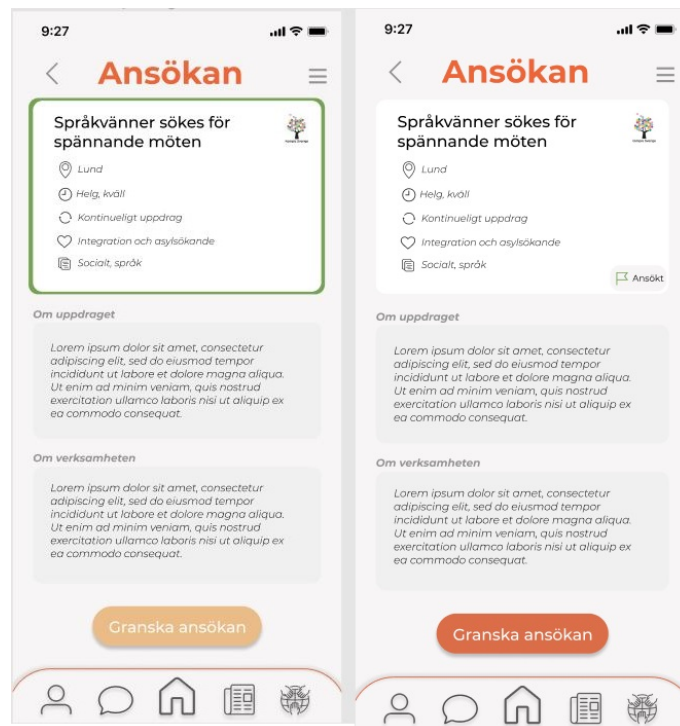


Figure 3.17: Improvements on application page

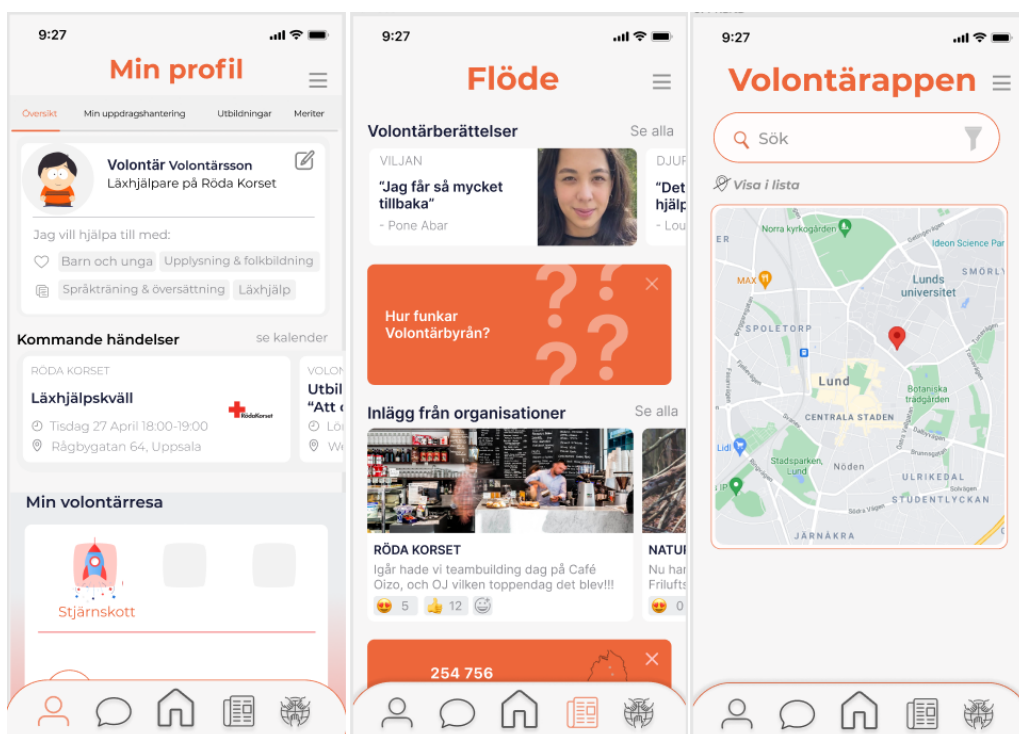


Figure 3.18: New profile, feed and map page



# Chapter 4

## Usability testing

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*In this chapter the result from the testing of the final hi-fi prototype is presented. This is described through setup, participants, procedure and the results of the usability testing.*

### 4.1 Final testing

The purpose of this test was to do a final investigation on the usability of the second hi-fi prototype “Volontärappen” to find areas of future improvement regarding design, structure, functionality and interaction.

#### 4.1.1 Setup

At the beginning of the master thesis a survey was sent out to volunteers and organisations. On that survey a question about whether participants wanted to test the prototype was asked. The ones that signed up to take part in testing were later contacted when the testing was about to take place.

The first communication with the test participants was through email, where the authors thanked them for their interest to test the prototype and took the time to answer the survey. In that email a link was attached where they could choose a time slot to have the test on, as well as a link for the digital meeting. Because of the Covid-19 situation the tests were conducted remotely. After they booked a time slot for the test, it was time for testing. A reminder email was also sent to the test participants the same day as the test took place.

Before the testing the authors wrote seven test cases, which were the base for the testing. They also wrote pre-test information that was read to the test participants before the start. A survey with post test questions was made which test participants answered after completing testing, along with a system usability scale form 2.1.4.

## 4.1.2 Participants

The test was conducted on twelve people with different backgrounds and interests. Five of the test participants were experienced app-users and seven of them were experienced in app design as well as interaction design. There were eight men and four women that participated in the testing. Six of those were between the age of 16-25, four were between the age of 26-35, one was between 36-45 and the last one between 46-55 years old.

Of all twelve test participants nine of them were people from the survey and the rest were students from the authors field of study. Five of those were volunteers, five of those worked with volunteers in some way and the last two had not worked with volunteering at all. Those subjects will together provide good feedback and different opinions that could lead to future improvement of the prototype.

## 4.1.3 Procedure

As mentioned the test was done remotely, so the test participants were provided with a video meeting link which they entered along with a link to the prototype in Figma. They opened the Figma prototype and then shared their screen with the authors in order to see how the test participants were managing the prototype. During the test one of the test conductors was the test leader and the other one was taking notes.

The prototype was made in Figma and there were different pages that represent different parts of the potential application. When the test participant simulates a click somewhere on the prototype Figma will act accordingly and swap views if available. Figma makes all the pages feel and look like a real app and because of that the interaction is quite close to a finished product.

After the test itself, the test participants answered the post test questionnaire and the system usability scale survey.

## 4.1.4 Results

### Result from post test questions

Under this section a summary of the answers from the twelve test participants of the post test questions will be presented.

*How did you experience the prototype?* - All twelve participants had a positive experience. The prototype was described as straight forward, clear, similar to common apps, nice, intuitive, recognisable and fulfilling its purpose. Some participants felt that it was a lot to take in at first and that some icons such as feed and organisations were unclear at first sight. Those participants did however mention that after using the prototype for a short while any uncertainty cleared up.

*Was something difficult to find in the app?* - Six of the participants answered no. Five participants had difficulties finding how to display a mission on a map. Also, finding how to cancel an application was difficult for two of the participants. Finally searching for a mission when typing or filtering had some challenges when the prototype did not act like an ordinary app due to the filter choices being pre-defined.

*Did anything feel unnatural with the app or the interaction?* - Ten of the test participants answered no on this question. The fact that it was not possible to display a single mission on the map from its info-page was mentioned by one participant. Also that the confirm search button was on the keyboard and not beside the search field confused one test participant.

*Is there something you wanted to add?* - Eleven of the test participants did not feel they wanted to add anything. One participant mentioned that some sort of on-boarding guide could be useful.

*Where is something you think can be removed?* - Eleven participants answered no on this question. One test participant found double information in the profile where there was both a calendar and an upcoming events tab on two different places.

## Result from cases

The test cases for the final test were based on the cases that were used in the first hi-fi test as seen in figure 3.2. Two of the cases were rearranged and one test case was changed to include the new map-feature that was added. One new test case for the test participants to freely explore the app was also added. The test case will be considered as failed if the test participants do not choose the shortest path to completion.

- **Case 1:** Test completion 92%. Eleven out of twelve test participants completed this step without problems. One test participant pressed "Gå vidare utan inlogg" (Continue without login in) since they did not read the text on the buttons and just assumed that the text represented a registration button.
- **Case 2:** Test completion 100%. All test participants successfully found and applied for the requested mission.
- **Case 3:** Test completion 83%. One test participant pressed the filter button instead of the search field. One test participant did not initially find the search field and had to look around in the app for a while.
- **Case 4:** Test completion 33%. The eight test participants that failed the case were trying to show the mission on the map after opening the mission. Unfortunately this was not possible.
- **Case 5:** Test completion 100%. All test participants found their missions under the profile page.
- **Case 6:** Test completion 75%. Three test participants had difficulties figuring out that "Avbryt ansökan" (Cancel mission) was under the "Granska ansökan" (Review application) page.
- **Case 7:** Test completion 100%. The last case encouraged the test participants to have a look around in the app if they were curious about something else. This was not possible to fail.



**Table 4.1:** In this table the SUS- score is presented. Here every questions and its score from each test participant can be seen.

	Question 1	Question 2	Question 3	Question 4	Question 5	Question 6	Question 7	Question 8	Question 9	Question 10	SUM
Participant 1	5	1	5	1	5	1	5	1	5	1	
Participant 2	5	1	5	1	5	1	5	1	5	1	
Participant 3	4	1	5	1	5	2	5	1	5	1	
Participant 4	4	2	4	1	5	2	4	2	5	2	
Participant 5	3	1	5	1	5	1	5	1	5	2	
Participant 6	5	1	5	1	5	1	5	1	5	1	
Participant 7	4	2	4	2	4	1	5	2	4	1	
Participant 8	5	3	4	1	3	3	4	2	5	2	
Participant 9	4	1	5	1	4	2	4	1	4	2	
Participant 10	4	2	4	1	4	2	3	1	5	1	
Participant 11	4	1	5	1	5	1	4	1	5	1	
Participant 12	5	1	5	1	5	1	5	1	5	1	
<b>SUM</b>	3.33	3.58	3.67	3.92	3.58	3.50	3.50	3.75	3.83	3.67	<b>90.83</b>

## Result from System Usability Scale

After the test was conducted the test participants were sent a link to a SUS-form where they answered if they, on a scale from 1-5, agreed or disagreed with 10 standardised statements weighted both positive and negative regarding the usability of the prototype. From those answers a score can be calculated by taking the answers from the positive weighted questions minus one point and by taking five minus the negative weighted questions and then calculating a mean value from all the twelve participants. To get the final score, the sum of all questions is then multiplied by 2,5. The result is seen in table 4.1

The final score was 90,83 which can be described as best imaginable as mentioned in chapter 2.1.4.

### 4.1.5 Design feedback from Tactel

The authors had a design meeting with five professional designers from Tactel, where they went through the final hi-fi prototype and discussed the design and functionality of the app. In this section a summary of the feedback will be presented.

The first feedback that was received was regarding the first page of the app when you open it for the first time. Instead of having a long text about why to become a volunteer, there could be a simple message with for example three reasons why to take part. In order to make it even more motivational a more graphical and attractive page would potentially help. Another design feedback was for the "lösenord"/"BankID" buttons under the registration page. Those do not quite look like buttons, but a drop-shadow applied to them would have made them more obvious to click on by their looks.

Another feedback was about the pop up notifications that appear in the app, for example when the user logs in or applies for an assignment. Because they pop up and overlay the app, they can be associated with something negative, like an error or something you want to remove. An improvement that can be applied is to make the pop ups more celebration-like and encouraging for the volunteers. A combination of thank you and celebration animations could be combined.

The home screen has a grid pattern that shows almost all assignments equal, it was put forward that would have been nice to make some of the assignments more in focus and some

of them more compact. This page does not get an exciting feeling and it may be hard to choose when everything looks the same. The assignments that the volunteer is interested in could take more place while the others a smaller part on the page.

On the homepage there is both a tap bar with five icons and a hamburger-menu which might be a lot for an app like this and it's unusual to have both. Instead of having a hamburger-menu on the upper right corner, a sixth icon could be added to the tap bar, representing the app-menu. Also the drop shadow of the tap bar can give the feeling that you could swipe it up which is not the case.

When it comes to the mission-application page, it was suggested to have less text and add a map on this page in order to make it more intriguing. Make it more fun and exciting by adding headlines and making it more magazine style. When it comes to the "granska ansökan" (review mission) button this name could be changed to "hantera ansökan" (handle mission) in order to reduce confusion on what that button does.

On the search and filtering features, it would be optimal if the result of a search would appear immediately when writing. The light grey colour on the filter page gives the feeling that the buttons or text are not clickable and because of that it was suggested that they should get a colour change. Also under filtering there is a drop-down menu and under another drop-down menu. This was regarded as unusual and might not be intuitive. A solution to that could be to have a new page opened when filtering in order to make the search and filter more clean.

The profile page has similar problems as the home page, the various parts were regarded to look very similar to each other. It could be hard to differentiate for example which assignments are the present ones and which are applied for. This could be improved by using different colours. It was also suggested that the assignment management page could be made more clear with bigger text and also let the calendar take more space on the page or alternatively have a whole separate page for it. It was also regarded as beneficial if the calendar could be reached from the home page since it could be a popular feature.

The designers liked that each assignment had a picture because it makes it more interesting and might lead to more volunteers thinking about applying for new missions. However it can be hard to find pictures which are appropriate for each assignment which was regarded as a challenge for the future.

Overall the designers were pointing out that they were very specific and nit-picky during the meeting and that the app was good looking and generally had a clear and intuitive design.



# Chapter 5

## Discussion

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*In this chapter a discussion regarding this paper is presented. The authors discuss why different choices were made and how those affected this master thesis. The design process, the user study and the research questions will be discussed. This chapter will end with future improvements for the app.*

### **5.1 Design process**

In the following section the parts that made up the design process will be discussed.

#### **5.1.1 Brainstorming**

One of the first parts of the design process was the brainstorming session. Here the initial draft for the lo-fi was created. The session was done by the authors themselves, but even though there were only two people conducting the brainstorming, good results came out from it. Both authors are experienced app users and interaction design master students. During their study time a lot of similar work such as testing, brainstorming, sketching and prototyping has been done which gives some previous experience in the topic.

#### **5.1.2 Design process and limitations**

The chosen iterative process went through three whole cycles of development. Every cycle started with "understand", where information and knowledge about the subject and needs of the users were collected. In the "explore" step, ideas were generated and some of them were then put into the prototype. In the final step of the cycle, "materialise", tests were prepared and conducted to see what parts of the prototype worked well and what parts could be improved.

Doing this process three times meant that less time was spent on each cycle but for the second and third cycle there was a good amount of relevant feedback to base improvements on. The authors did not feel that the time limit on each cycle was restricting how well each cycle could be conducted and overall the chosen design process worked very well.

There was also another master thesis group exploring the same subject which meant that collaboration on some parts were possible and this benefited the project since workload around gathering background data and some design parts could be shared.

Although the design process went well there were still some limitations from the process that the authors encountered on the way. Primarily, even though going through the cycle three times was beneficial it meant that some parts of the prototype was left unimplemented to instead focusing on how to improve the parts that already was in the prototype. If the entire time frame was spent on one cycle more parts of the prototype would likely have been implemented.

Having two master thesis groups working together also had some limitations since time was put into sync meetings and rescheduling of the project plan had to be done to synchronise the two processes better.

In the end the biggest limitation proved to be time. A few months more and all parts of the prototype could be implemented and tested accordingly. The current version of the prototype would however fulfil the core purpose of the potential application, finding and applying for missions.

### 5.1.3 Prototypes

The lo-fi prototype was made of paper so no specific tool other than pen, paper and cardboard was needed, which made it easy to create. Although limitations did occur because everything was not possible to add in this prototype, for example it was not possible to click on anything and no notifications could pop up by themselves.

For the hi-fi the tool Figma was used to create the prototype. This tool was easy to use and made it possible to work simultaneously without any problems. Neither of the authors had used this tool before so a learning process before using it was necessary. Because the tool was so straight forward and there were a lot of tutorials, it did not take a long to get going.

### 5.1.4 Colour choice

The colour choice for the app was also a relevant part in the design process and wise to do before starting to develop each page in the app. The authors wanted a colour that symbolises happiness, safety, simplicity and spontaneity. After a lot of searching and comparisons between different shades, an orange colour was chosen. Also in order to get other shades and colours to match to this particular shade, a colour generator tool called Colourmind was used. This tool was easy to use and made it easy to find matching colours.

## 5.2 User study/Evaluation

The user study was the first step the authors took in order to get an understanding of the problem, the difficulties and the future possibilities of this app.

### 5.2.1 Survey

The survey with its 111 respondents was very successful and had good coverage over a similar demographic as the general volunteer group in Sweden. The authors primary use of the survey responses was the feature requests for a potential volunteer app where 92 of the respondents gave many different good suggestions that were grouped and prioritised accordingly. At the end of the survey the participants had the opportunity to sign up for testing of the prototype at a later stage which was a useful way of gathering test participants. Many other parts of the survey were only used by the second master thesis group that focused more on what drives and motivates volunteers. There is an argument that the survey could have had more responses if it was shorter and only contained the authors questions, however this is weighted against the further reach that the survey had since it was shared by both groups.

### 5.2.2 Interviews

To get a deeper knowledge about the volunteer engagement in Sweden, interviews were conducted with four volunteer organisations as well as with Volontärbyrån that handle applications for the different organisations. The interviews took place after the first iteration since they took some time to set up. Ideally they had been better placed before the first design phase to contribute to a broader base for the lo-fi. However, since the first iteration was a lo-fi prototype the ideas that the organisations had were easy to implement when moving to the hi-fi phase. The organisations did not have as many concrete ideas and requests of what the app could contain, they naturally had their focus on a smooth system where they could manage their entire volunteer eco-system, something many of them lacked.

### 5.2.3 Testing

Three test sessions were conducted for this project. The first one was for the lo-fi iteration, the second for the first hi-fi iteration and the third one for the last hi-fi iteration.

The first lo-fi testing was tested in person, with six students that the authors were familiar with. Because of that the test could take place at one of the authors home even though it took place under Covid-19 restrictions. This was also a limitation to this testing, because it had to be done in person and it could not be tested on people with volunteer experience or older people. Despite that the authors got good feedback that was included in the development of the hi-fi.

The second test phase was for the first hi-fi prototype and it took place both remotely and in person. The test participants that tested the lo-fi tested this prototype in person as well. The ones that tested it remotely were respondents to the survey. However even though the authors got 28 answers from people that wanted to test the prototype there were very few that answered the mail and signed up for testing in the end. Also because there were two groups that shared those answers, each group only got half of those volunteers to test on. This itself was also a limitation. It was hard to get hold of those people and sometimes two or three reminders were needed for even getting an answer, even if it was negative. There were only two older volunteers that tested the prototype, because the others never answered the email that was sent out. From the eight test-sessions that were done a lot of feedback, thoughts and opinions were taken to the last iteration.

The final testing was for the last prototype iteration and was done completely remote on twelve test participants. This test was similar to the last one, most of the test participants were known by the authors, young and experienced app users, and there was a shortage of older volunteers.

During the remote tests that were executed on a computer, some test participants experienced a few steps in the test process as unnatural. This was because the prototype was tested on a computer and not on a mobile phone like an app is supposed to. This made some of the test participants confused and made them want to click on different buttons than they would do on an app. One example is when they wrote in the search bar and then wanted to write on their physical keyboard. This would not have been a problem if the test was experienced on a mobile phone.

Overall the tests gave valuable results that could be used during this project and it was a good basis for the following iterations. Even though there were 26 tests in total, it could have been more optimal if the authors could get more volunteers as well as older people to take part in testing. Opinions from experienced volunteers would have been even more valuable for this prototype as well as for the master thesis.

## 5.2.4 Case completion

The main part of the test was when the test participants completed different cases that the authors read out loud. They were framed as user intentions, for example, "You are interested in the mission to feed puppies, apply for this mission" or "Now you want to find all your previous missions". The test participants had no problems following the test cases but some of them had several steps and had to be repeated.

Since the test participants almost always managed to find what they were supposed to do after a few clicks, a stricter definition of case completion was used. If any path but the shortest was chosen the test case was considered as failed. This gave a higher failure rate for some of the cases that encouraged the authors to improve the prototype in those areas.

Since the test cases followed a logical order of how a real user would use the app with registering an account, logging in, applying for a mission, finding applied mission and cancelling a mission the cases were presented in the same order for all the test participants. This will likely lead to a higher failure rate for the cases that were in the first half and a lower failure rate for the ones at the end since the user got to know the prototype while performing the different tasks. This was taken into consideration when prioritising improvements.

## 5.2.5 System usability scale

The result from the SUS-form was 90,83 which can be described as the best imaginable. However, this does not mean the prototype is as good as it can be. From the tests and the design feedback meeting, there were many flaws and potential improvements found. Using the scale was easy and efficient but a number does not necessarily tell the whole story. Also, as mentioned in the previous section, some of the test participants knew the authors from before and there is a risk that they provided a more positive score than they otherwise might have. Even with this considered the score is high enough to indicate that the prototype works well according to the users.

## 5.3 Research questions

Valuable input was gathered around the research questions, but the live prototype is the main hands-on answer to question one and two.

- *How can an app be designed from an UX perspective to get an user involved in various volunteer assignments?*

The registration process must be smooth and easy for the user and it is beneficial if there is a possibility to take a look inside the app before creating an account. Searching for missions shall be aided with a good search and filter function so that the user easily can find what is right for them without being overwhelmed. Features like missions near me and favourite missions that notify the user when they are available can be of aid in this process. When applying for a mission there shall be no unnecessary steps for the user but the application must help the user with providing the information needed when applying. Standardised information as contact and personal information can be saved and re-used to minimise repetition. After an application is sent the user shall get feedback and an overview of how it progresses in the application.

- *How can the app be designed so that the right volunteer finds the right task?*

The volunteer profile shall be personalised and contain the users interests as well as volunteer certificates and previous engagement that the organisations can view if the user has applied for a mission. The missions that are presented to the user can be matched to the users interests if the user wants. The application shall also help the user in the application process and give guidelines on how to apply for a chosen mission.

- *How can an app for finding volunteer assignments help both volunteers and organisations to fulfil their goals?*

The existence of an app for volunteer engagement would make volunteer engagement more accessible, personal and efficient for a broader group of users, primarily a younger one. Helping more users find their first mission will help the organisations to get a greater pool of available volunteers to reach their goals. A system on the organisations side of the volunteer app must be easy to use and cover the whole process of handling volunteers and their engagement from start to finish. This is the most essential subject for the organisations since a volunteer app will be useless if it isn't supported by an adequate system that can improve today's standards and attract organisations to take part in the applications ecosystem.

## 5.4 Future improvements

From the tests, the design feedback meeting and with time for the authors to reflect a lot of improvements appeared. Under this section future improvements that the authors think are relevant will be presented.



### 5.4.1 Design improvements

There were a lot of design improvements that appeared during the testing and the Tactel AB design meeting. An important design improvement was regarding the map. The map was added late in the process which led to some missing functions. Right now you can only access the map only if you filter on an assignment, and it should be possible to see any assignment you look at on a map. Because of that the map icon would be added on the assignment page itself as well, preferably where the other information is located. This would be easier for the volunteer to see a specific assignment on the map whenever it wants.

Another design improvement was under the profile of the volunteer. In the current prototype, double information about upcoming assignments appear under "översikt" (overview) and "uppdragshantering" (assignment management), so the information under assignment management should be removed.

A lot of test participants were confused about the button called "granska ansökan" (review application), that was supposed to be pressed in order to cancel a mission. To make it clear a name change should be made, for example it could be called "hantera ansökan" (handle application) instead. Further, under profile there is a navigation bar on the top of the page, which indicates on which part of the profile the user is looking at. The design flaw is, when you enter the profile you land on the second tab and not the left which is the first. This was regarded as unnatural and as a fix the user will now land on "översikt" (overview) instead.

Another change that should be taken into consideration is the notifications that appear in the prototype. To give them a more positive vibe they should be designed more encouraging and celebration-like, for example by adding confetti to the notification and making it appear on the middle of the page instead of on the top.

The filtering in this app contains a lot of information because there are a lot of things that the volunteers can filter on. Because of that, instead of having a drop-down inside another drop-down as it is now, it would be better if the filter part was on a whole new page by itself. This would make it easier and less overwhelming for the user.

### 5.4.2 Future features

Most importantly the chat and organisation features, that have buttons on the tap bar, should be implemented since they provide features that are important to the users. Under organisation a list in alphabetical order with all the organisation should be listed, where the volunteer could read more about the organisations and hopefully find interest in them.

The chat function is a feature to keep volunteers in touch with each other as well as with representatives of organisations. A quick and easy way to access volunteers with similar interests or volunteers from the same volunteer assignment. Because the app must take into consideration the privacy of the volunteers, a question in the beginning when creating the account, where they have to accept to have an open profile for other volunteers or not, should be added.

In order to make the app more personal, a more personalised home page could be implemented. For example the 'new assignment' on the home page could be changed to assignments that the volunteer is interested in. The volunteer should also be able to subscribe to organisations, so every time the specific organisation posts a new assignment a notification appears on the users phone. The volunteers should also be able to choose if they want to subscribe

on something else, for example specific types of assignments, or assignments from a certain area. All this could appear dynamically on the homepage to create a more personal feeling.



# Chapter 6

## Conclusions

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There is a need for an app to motivate volunteer engagement in Sweden. If an app existed, it would benefit the existing volunteers by making their volunteer engagement more accessible and efficient since it's gathered in one app that contains all relevant features. It could also make volunteering more social since it enables connections with other volunteers and more unifying since it brings organisations and different volunteers together in a new way. It would further influence and inspire people that haven't previously engaged as volunteers to be engaged since the app is likely to be shared by people using it and bringing in new potential users.

The app would also benefit the organisations by widening their reach and displaying their brand to broader a group of society that can be engaged by the organisations values. From a technical standpoint the system behind the application can also make the organisations work more efficient and streamlined since all steps in the volunteer process can be collected into one place. This master thesis did not look at how the system could be designed and used, but did look at how the volunteer application could look like from the volunteers point of view. It is clear that the application must be easy to use to satisfy the current volunteers and not put any burden on their volunteer work. The process of finding the right mission, applying for it and carrying it out must be the core purpose of the application. Many other features can however make the application and working as a volunteer more attractive. A volunteer that already is engaged in their favourite mission every week has no use of the application if it does not contain features like the feed where news around volunteer work can be posted or the social feature where existing volunteers can connect with other volunteers.

Finally the existence of a mobile application for volunteer engagement would likely also benefit society as a whole. Partly since engaging in volunteer work is in itself beneficial to the volunteers well being and feeling of purpose. The further reach that the mobile application provides for the organisations will also likely strengthen the important work that they are already carrying out to those in need.

A live prototype of the potential application can be reached by entering the link below.  
<http://bit.ly/volontarappen>



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# Appendices



# Appendix A

## Interviews with volunteer organisations

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### **A.1 Interviews with volunteer organisations**

# **Interviews with volunteer organisations**

Four different organisations with different size and types of volunteers was interviewed. The interviews took 30-45 minutes and the answers are here summarised.

## **B.0.1 Summary of interviews**

### **About the organisations**

Interviews were held with four organisations. Two of the interviewed organisations are working with connecting people with different backgrounds, by sharing their cultures and language knowledge.

Another organisation is working with helping children and families in need. The most common volunteer in this organisation is an elder woman, around 65-70 years old.

The fourth is one of the bigger organisations in Sweden, and is moreover an international organisation. They have helping instances within various areas, with main focus on health and social vulnerability. Beyond that they are also collecting clothes and pieces to sell in their second hand stores in order to raise money for their different help initiatives/activities. The majority of their volunteers are in the ages 20-35 or over 60 years.

### **The types of volunteer work within the organisations**

The possible types of volunteer missions differ a lot between each interviewed organisation. In general, there are different levels of involvement, regarding both time and responsibility. In most organisations there were also possible to choose between being involved in a shorter project for a limited time or being involved in regular activities throughout/during the whole year.

The most common mission for beginners is being a member of a team and being involved a few hours every week. However, some of the organisations highlight the importance of choosing a type of mission based on interest rather than time or level of earlier volunteer experiences.

"We try to avoid implementing a hierarchy by not using words such as volunteer or mentor. Instead be called both parts participants."

One of the organisations did not want to call their members volunteers in order to not create an outspoken hierarchy in the relationship between the members and the people they help.

## **The steps to finding and starting a mission**

Regarding the process to become a volunteer for the first time it looks a bit different depending on the organisation, but the general steps are similar.

The person (soon to be a volunteer) finds the mission and fills in the application form, either on the website of Volontärbyrån or the specific organisation.

If the application is done on the website of Volontärbyrån - the responsible person on the organisation receives an email.

The responsible person usually starts by contacting the new volunteer by email, the same or next day. This is followed by an interview by phone or face to face.

The majority of the organisations then sign a contract and provide some training/introduction before the volunteer starts their mission.

## **How data is handled**

When it comes to collecting data regarding work hours and number of missions performed by each volunteer the answers differed a lot between the different organisations.

## **Challenges when recruiting new volunteers**

There were varied experiences regarding the struggle to find new volunteers. Two organisations stated that they got a noticeable boost of volunteer engagement due to the pandemic and remote work that followed. One organisation stated that they had no major problem to get new volunteers, but when people show interest it is important to act on it quickly.

## **How to keep volunteers motivated**

The organisations did not experience a major problem with trying to make volunteers stay. However, one organisation stated that people who have a passion or interest for their specific organisation from the start tend to stay longer. General strategies to make volunteers stay were to have a clear communication with volunteers and to show appreciation and attention. One common way to show attention was to present volunteer portraits, or in other ways write positively about their volunteers through social media. One of the organisations experienced that the main issue was not to make volunteers stay with them, but rather that they wanted better communication when and why a volunteer decided to quit.

## **How to show appreciation**

All of the organisations provided some type of appreciation or reward to their volunteers. This ranged from providing a budget for coffee and cakes to group activities such as meetups or parties, or giving symbolic items such as a pin, diploma or inexpensive item. Meetups and symbolic awards were mentioned as extra appreciated by the volunteers. The organisations who work with collection of money stated that it would defeat the purpose of their work, or send a wrong signal, if they put too much money on their volunteers. The appreciation or rewards has to be inexpensive so that it does not affect the end-purpose of the organisation negatively.

## **How to motivate the volunteer to put their time to the specific organisation**

The consensus was that it is better to focus on the content of the volunteer work rather than the time spent. What's most important is that people participate in work that they enjoy doing. The time spent on a mission does not necessarily say much of the effects or importance of the effort. If someone wants to contribute, but does not have the time, they can instead donate or become a paying member.

## **The cooperation with Volontärbyrån**

The organisations, generally, do not communicate with the volunteer agency. More a tool they use. The organisation has accounts and uses those to post volunteer ads. The organisations experience that the ads lead to many new contacts. When someone responds to an ad, it becomes an email that goes directly to the respective organisation.

The Volunteer Agency also has many good lectures and educations for organisations that you can participate in. They are often aimed at the topic of how to engage volunteers both wider and deeper.

## **How our vision coincides with the organisations view**

The organisation recognises the presented user journey as correct, even if it can be a bit more complicated or have extra steps in some cases. For example, a volunteer can sometimes join an assignment on a test-run before accepting a task.

The main drop-off is between volunteers applying and starting the process. It is common that a potential volunteer shows interest in a volunteer role and then never responds when the organisations reach out, even if it is in

one or a few days. In some cases there is also a drop off in the window before mission start, especially if the assignment is delayed or if it has a big dependence on the volunteers own responsibility.

### **What the organisations are missing today**

It would benefit the organisations to have a more streamlined process and a platform that contains everything that is needed to administer the volunteer work. Some specific features mentioned was for group leaders to be able track how the group is doing and that different statistics can be exported. Adding to the groups, a way of communication in the app between members was also requested. Feedback would also be an appreciated feature both from the app to the user and for the user to be able to send feedback to the organisations via the app. For the app to be useful for the organisations it needs to be used by their members.

### **What a potential portal for the organisations could contain**

Some features requested for a portal that the organisations could use to manage the application content would be to see what missions the volunteers has been involved in, to see where volunteers are located, to see how many hours a volunteer has spent on an assignment, to be able to send information to volunteers and receive feedback when someone wants to quit.

### **What the organisations think the volunteers would want in an app**

The organisations believe that the volunteers would appreciate automated positive feedback in the application when a mission is completed. The organisation lifts that social part is very important for the volunteers so some means of communication between volunteers would benefit a potential app, for example a chat between volunteers and maybe some sort of forum. Volunteers could have profiles, pictures to show and be inspired by others. The community within volunteer organisations are usually strong.

### **Other**

The organisation was very supportive of the concept and wants to keep in touch to follow the progress forward.



## **A.2 Interview with Volontärbyrån**

## Questions Volontärbyrå

- What does your work process look like right now? For example, when a person applied for an assignment, how is this application handled by you?
- Is there something special that is difficult / difficult / time consuming in your work? (mainly the website)

An important part is to review and approve all assignments, new organizations and coordinators. To ensure quality. Does not take too much time, but we choose to spend time on it. This is an important task for the volunteer agency. As a volunteer, you should be able to trust not to be fooled. We must reduce the number of cases where organisations misbehave. Goes by the policy. Basic criteria around the org. Form. The assignments themselves, Different understanding, language levels for expectations in the assignment advertisements, the volunteer agency then gives tips and feedback on how to write. At present, all assignments need to be reviewed and approved, even if they have already been up and running previously.

- Do you save the volunteers' data in the system? (manually or automatically)
  - Do you have any direct contact with volunteers or are you mainly a mediator for organizations?
    - Want as little contact as possible with volunteers to reduce friction and have a fast and smooth process. You are very welcome to contact us, but it is not a built-in step.
    - The system is automated and works smoothly, self-propelled.
    - Registered in the same database, so all user data is saved and kept secure.
- What are the advantages and disadvantages of the website? Are you missing something?

Much that you would like to do, ex expand and make the user experience more personalized. Show current commitment. But the basic function is quite simple and stable and functional. The functionality, how do we make it easier for organizations and for volunteers. Everything from copy to how to design a button and place content on the site.

## Motivation

- You have training for organizations on how to motivate volunteers, how do you work with this issue yourself?
  - How do you work to get in touch with **new** volunteers?
  - How do you work to **retain** volunteers and get them **back**?
  - Do you find it difficult to get volunteers to come back?
  - Do you find it difficult to attract volunteers to your website?

Very much a communication issue. Worked to reach out. Depends on where you are, what the reason is. Can recommend the volunteer barometer. Promote concrete assignments, easily and clearly. Filter based on personal interests, passion for, area, geographically. We will actually have a lunch lecture on 8/4 where colleagues talk about how to get started with non-profit engagement.

- Are your educations only / mainly for people who run non-profit organizations, or do you also have education for volunteers?

It's mostly for the organization. We are an intermediary, a megaphone for the organizations. We want to make it easier for the organizations to work with volunteers in the best possible way. Identified areas where org needs tips and advice. To lead, motivate and include. It will be a double effect, we help them create the conditions to work with non-profits.

### **Target group**

- Is it important for you to bring in more "young people" and is this something you want to prioritize (before the app, that we prioritize the target group of young people in the project).

It is interesting. In a way, we are just a mirror of what an organisation wants. So if the organisation wants young people, so do we. But the volunteer agency is not a "conscious agent" and does not have a point of view in this. But it is clear that all generations have their peculiarities and ways of looking at the world, one might think that there are many parallels to be drawn. Many young people felt that they could not influence society. Today's conversations are very much on a global level. A very non-profit person is local and a little 'smaller'. Compare with LinkedIn, or blocket. If all sawmills are closed down, it's a shame, but the linkedin will not create sawmill ads. Or the blocket, if interest in a particular car goes down, then there is nothing the blocket can do about it. Volontärbyrån can consult with the organisation, see that they do not get so many and give them tips and advice. Volontärbyrån does not have a bank of volunteers but they have a bank of assignments. How can organisations work with or create assignments that suit what is happening in the present. At the same time as communicating to volunteers that there are opportunities.

Has been around for 18 years. Has been a job to stay relevant and build contact networks. Over the years it has received over 100,000 registrations of interest, and has increased linearly over the years. People find their way back after a few years. The effect increases with time. Social media, evolving. Difficulty with non-profit activities, lousy business ideas, rarely money to spend on communication campaigns. Main goal to make visitors to the site and organisations happy. That there are assignments and people who are looking for them. Digital communication and relationship building.

### **Hard to get volunteers to return?**

OUR goal is not to maximize expressions of interest, but that everyone who applies should get assignments and that organisations should get volunteers. All assignments get a good one. Then always good with more because people drop out. Does not focus on recurring vs new, but more that it is individual people who want to engage. If you find an organisation and are there for 5 years, it is more valuable than 10 people doing the assignment from time to time. We focus very much on that question, but it is not critical. It is more important to find something you like, self-interest. Do not want to drag people back in. Organisations prefers to be committed in the long term.

At present, the application is made by e-mail. What parts does the app meet in the ecosystem, how big a part should it be? What solves the v-agency is having problems today, what kind of place in the eco-system? Around 500 organisations 2020, big to small. Different types have different systems, more or less well developed. The coordination is mixed. Which makes it difficult, who reports what? Who puts in, and how long does it take? Volunteer days are different. A solution to rule them all is probably difficult to find. Have no answer, but it is a reflection. How assignments are formulated, some are place time day.

The V-agency has a system with mail now and it has stayed there. Would like to be able to move forward with a more developed service, but there is more. Generally more positive feedback than negative and usually do not get criticism that the communication action is bad, but we send emails "now we have received the application, this will happen next". The V-agency is a service, but can not be responsible for the users doing as we wish. Many volunteer coordinators are themselves engaged on a voluntary basis, so they may not check as often and this creates delays that of course affect if a volunteer has expectations. An eternal question, but from our perspective, it can work with Expectation Management. What are the steps, clarity, but can not promise feedback time. Always good to get feedback.

Many people choose to raise demands and experiences in their text and in the interview, so that type of information is still information that somehow comes out in the process. Of those who get involved, the majority have inspired others.

There is some research on Helpers High. What it does to you in the body when you help, actually triggers the same endorphins and dopamine as other things you feel good about overall. Often the commitment you give can mean more than what you get.

What does reality look like? Sweden 250,000 non profit organisations. 7% have employees. Many are dependent on non-profits and are not professionals. And has different processes and systems. Volunteer is not a completely uniform word that everyone uses either.

The V-agency's categorization is not standard, it varies. It is difficult to create such a flexible process and at the same time maintain the respective user profile. The tendency of change makes it complex and difficult

Volontärbyrån is older than youtube. Digitization is fast and you get used to it. What feels like a good idea but too complicated can be a reality in 5 years.