Bachelor MKI

Mobile Computing

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Prof. Dr. Natividad Martínez Madrid

- Semester-Project Documentation -

Neighbour in Need

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# Introduction / Motivation

In times of the Coronavirus we thought about implementing an application, which helps people to find/offer help/things to others in their neighbourhood. The name of the app will be "Neighbour in Need", we worked on the concept together. Users can register and create an account by specifying some information about themselves. Subsequently users can create or search for advertisement.

# Goal(s) of the project

# Requirements analysis (Personas, storyboards, user stories, and requirement specification)

## User groups and Personas

Our user group is very heterogeneous and for this reason we have three personas. All of them represents one user group.

Ein Bild, das Screenshot enthält.

Automatisch generierte Beschreibung

Ein Bild, das Text enthält.

Automatisch generierte Beschreibung  
Ein Bild, das Text enthält.

Automatisch generierte Beschreibung

## Storyboards

## User Stories

## Requirement specification

### Functional requirements

In the following we list and explain our functional requirements.  
The level of importance is stated via a scale from zero to five, where:  
1 = not that important  
2 = nice to have  
3 = quite important  
4 = important  
5 = main or basic functionality

|  |  |
| --- | --- |
| Requirement | Create an account |
| Number | 1 |
| Precondition | The user has already installed the application and has an email. |
| Description | The user should create an account with his/her personal information. Text box-> button (-> save in DB) |
| Rationale |  |
| Success criteria | The user must be able to enter all the necessary information; name, password, email, phone number, post code |
| Level of importance | 5 |

|  |  |
| --- | --- |
| Requirement | Log in to own account |
| Number | 2 |
| Precondition | The user has already installed the application and created an account. |
| Description | The user can log in to the account by providing the username and the password. |
| Rationale |  |
| Success criteria | The system must verify the username and the password provided by the user by comparing with the data saved about him/her. If everything matches, the user will be logged in to own account by providing own username and password. |
| Level of importance | 5 |

|  |  |
| --- | --- |
| Requirement | Create an advertisement |
| Number | 3 |
| Precondition | The user has already chosen “Offer Help” as the main category. |
| Description | The user should be able to create an advertisement within both main categories (“Offer help” and “Search for help”). Here the advertiser must be able to specify one of the three subcategories ("Give something for free", “Borrow/Lend something", "Offer help"). The advertisement should contain additional information about the date, the way of shipping, a fitting category (e.g. gardening or household), post code and a short description. |
| Rationale |  |
| Success criteria | The user must be able to enter all the necessary information: category, post code, date, way of shipping, description. All the provided information will be saved and be able to access by other users, when searching for advertisements. |
| Level of importance | 5 |

|  |  |
| --- | --- |
| Requirement | Search for an advertisement |
| Number | 4 |
| Precondition | The user has already chosen between the three subcategories. |
| Description | The user should be able to search for an advertisement within both main categories (“Offer help” and “Search for help”). Here the advertiser must be able to search within the three subcategories ("Give something for free", “Borrow/Lend something", "Offer help"). |
| Rationale |  |
| Success criteria | The system will only show advertisements, which fit to the searching criteria. It will show the most important information of the advertisements: name of the item and name of the city. |
| Level of importance | 5 |

|  |  |
| --- | --- |
| Requirement | Pick one advertisement from the results |
| Number | 5 |
| Precondition | The user has searched for an advertisement and can see the result list. |
| Description | The user can pick one specific advertisement from the list of results in order to see all the other information. Therefore, the user needs to click on the container for the chosen advertisement. |
| Rationale |  |
| Success criteria | The system will show all the available information from the offering. |
| Level of importance | 4 |

|  |  |
| --- | --- |
| Requirement | Request information |
| Number | 6 |
| Precondition | The user has already selected one offering and is on the screen, where all information are shown about this item. |
| Description | When interested in interacting with one advertiser, the user should be able to request the contact information of the advertiser. In order to do so, the user can find a button at the bottom of the screen. |
| Rationale |  |
| Success criteria | The system will only show advertisements, which fit to the searching criteria. |
| Level of importance | 3 |

|  |  |
| --- | --- |
| Requirement | Account management/ Settings |
| Number | 7 |
| Precondition | The user is logged in. |
| Description | The user can choose to edit his/her personal information and photo by clicking on the “Profile” symbol. The symbol will be in a menu at the bottom of every screen. |
| Rationale |  |
| Success criteria | The user can now choose to edit his profile information, which includes; photo, personal information (and his/her ratings). |
| Level of importance | 4 |

|  |  |
| --- | --- |
| Requirement | Edit personal information |
| Number | 8 |
| Precondition | Setting Menu -> Personal Information |
| Description | The user can edit his/her personal information by clicking on the “Edit” symbol. |
| Rationale |  |
| Success criteria | The system will show all the saved information of the user and the user can now choose to edit his profile information, which includes; name, post code, address, email, phone number. |
| Level of importance | 3 |

|  |  |
| --- | --- |
| Requirement | Advertisement management “Offer” |
| Number | 9 |
| Precondition | The symbol in the menu bar at the bottom was clicked. |
| Description | The system will show all the advertisements the user has created. |
| Rationale |  |
| Success criteria | The user will get a list, which includes all the advertisements the user has created and can edit or delete the advertisements. |
| Level of importance | 3 |

|  |  |
| --- | --- |
| Requirement | Advertisement management “Borrow” |
| Number | 10 |
| Precondition | The symbol in the menu bar at the bottom was clicked. |
| Description | The system will show all the advertisements the user has recruited. |
| Rationale |  |
| Success criteria | The user will see a list with all the recruited advertisements. By clicking on a list item more information will be shown. |
| Level of importance | 3 |

|  |  |
| --- | --- |
| Requirement | Rate other users |
| Number | 11 |
| Precondition | The user must already have requested personal information from the other one. |
| Description | The user can rate the other by selected one to five stars and can create a comment. |
| Rationale |  |
| Success criteria | The rating will be saved and shown under the user’s profile. |
| Level of importance | 2 |

|  |  |
| --- | --- |
| Requirement | Sort the result list |
| Number | 12 |
| Precondition | The result list is open. |
| Description | When searching for advertisements, the user will be able to sort the list of results by clicking the sort button. Sorting criteria: distance and user rating. |
| Rationale |  |
| Success criteria | The system will sort the list according to the chosen criteria. |
| Level of importance | 1 |

Main functions:

1. Every user can create a **profile** and register with:

* Name
* Address
* Phone number
* E-Mail

2. A registered user can create an **advertisement**:

There are two main categories:

* "Search for help"
* "Offer help"

In both main categories the user can choose between three subcategories:

* "Give something for free"
* "Borrow/Lend something"
* "Offer help" (e.g. doing the shopping, work in the garden)

Furthermore, the advertiser can choose between three options:

* The customer must pick up the stuff from the advertiser's place
* The advertiser will ship it out via post
* The advertiser will bring the stuff to the customer

Potential use cases might be:  
Use case 1: Borrow/lend something  
Someone wants to lend a lawnmower  
Use case 2: Give something for free  
Someone has sewed masks and wants to gift it to the public  
  
3. As a third requirement there will be a **rating system**, where users can rate and write comments about other users, after they interacted with each other.  
  
4. **Nice-to-have functions** (just in case we have time left):

* Chat function
* Geolocation, in order to verify the address at the very beginning of the registration
* All the legally basics etc.

### Non-functional requirements

|  |  |
| --- | --- |
| **Non-functional Requirement** | **Description** |
| Performance | It shouldn´t take more than 3 seconds to load a screen. Furthermore, we want to reduce network usage and computing to save battery-life. |
| Portability | The application is supposed to run on different Android systems. |
| Screen Adaption | Device have different screen sizes, so the app should be able to scale according the target’s screen size. |
| Scalability |  |
| Responsiveness |  |
| Use-ability | The used symbols should be easy to understand, and the user should learn fast to interact with the system. The used colours are limited to an amount of four, in order to have not too many colours. |
| Security | We decided to save the data provided by the user encrypted and we only ask for information, which is necessarily needed. We constraint the input fields, e.g. to a certain amount of characters or for the post it is only possible to type in numbers. It means the user must pass the correct data type and the correct format within the correct range to pass the login/register screen. |
| Reliability | The system should reliable perform the function the user asked for. We want to send a short feedback to the user performing actions, e.g. if you request contact exchange from another user. |
| Accessibility | All the buttons should not be too small, so that everybody can easily use them. We decided not to use the colours red and green together, so this doesn’t confuse our users with red-green-weakness. |
| Availability | The application should be downloadable in the Google Play Store, where users can easily access and install it. |

# Conceptual model of the solution (using activity / sequence / ER - diagrams and mock-ups if applicable)

|  |  |
| --- | --- |
| *NeighbourInNeed_P1*  *Start Screen* | *NeighbourInNeed_P2*  *Choose between the two main categories* |
| *NeighbourInNeed_P3*  *Choose between three sub options*  *Offer* | *NeighbourInNeed_P4*  *Choose between three sub options*  *Search* |
| *NeighbourInNeed_P6*  *Show search results* | *NeighbourInNeed_P5*  *Show the details of the picked item* |
|  |  |
| *pfad*  *Layout Tree* | *color*  *Color Choise* |

# Some design decisions about the implementation

# Results (including how you did the testing and/or evaluation and the degree of completion of your requirements)

# Conclusion