

CampusFinder

Reutlingen University | Mobile Computing

Idea

The Project „CampusFinder“ is the prototype of an app, made for the purpose of searching people and buildings, on the campus of the university of Reutlingen. One key field of responsibility of the app is the ability to track people in order to meet students, professors and colleagues as quickly as possible. The scope of the app also includes a search function for buildings on the campus, as well as the opportunity of getting building-related information.



Application

The screen shows an aerial view of the campus. The user can see the buildings and get information about them, such as building name, purpose and rooms with further details. Using live location the user can navigate around campus and locate other users. This helps the user to answer the following questions: Where am I? How do I get to a certain building? Where can I locate a certain person or service?

Procedure

A tracking request consists of the following steps:

1. A user searches for a person via the search bar on the map.
2. Corresponding results of possible trackable persons are shown in the searchdropdown.
3. By selecting the respective searchresult and pressing the 'track'-button, a tracking request is send to the according user via push notification.
4. The person to be tracked, can either accept or decline the request displayed in a notification window on his device.
5. Upon acceptance of the request, the person's location will be displayed on the users map.

Searching for a person

Display of search results

Sending request via notification

Accept

Decline

Display persons location

System

The system of the Campusfinder app is based on the React Native framework, tested and build with Expo.io. The backend architecture contains Apache2 as well as Django Webserver over mod_wsgi. The server provides a ssl secured connection due to a let's encrypt certificate and runs on a virtual machine. The flow of the system contains loading all data upon the start of the app, after the login or once a valid user token already exists. Data is loaded into a local storage, requested and provided for corresponding views on demand. Changes affecting setting and profile data of a user trigger RestAPI calls which saves them on the server. Upon searching for users, buildings and rooms, a rest call triggers the backend to respond with information that fit the search conditions and input. Tracking persons is only allowed for users with an e-mail domain of the university of reutlingen, whereas tracking buildings and receiving building-related information is granted for guest users as well.

