

**TECHNISCHE
UNIVERSITÄT
DRESDEN**

**APPLICATION DEVELOPMENT FOR MOBILE AND
UBIQUITOUS COMPUTING**

1st Presentation

Group 14:

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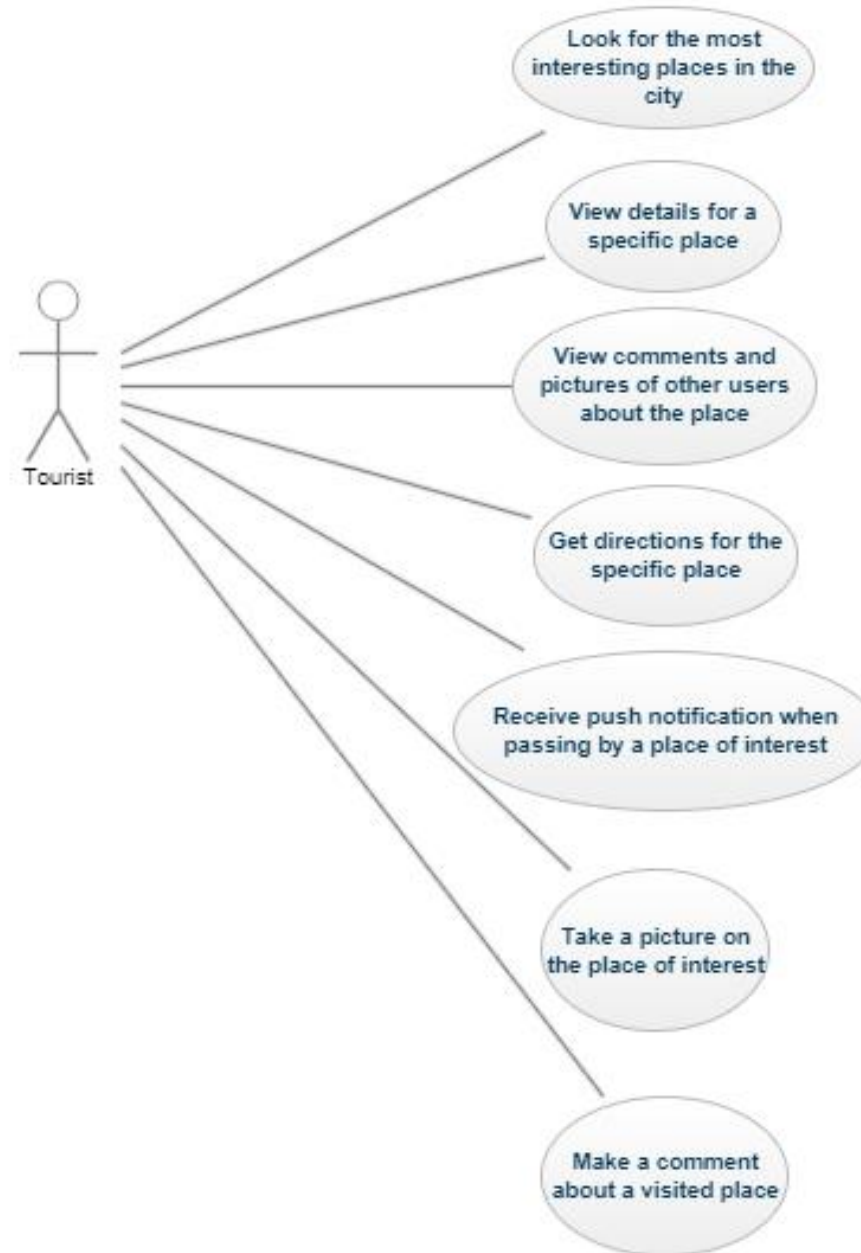
Application Scenario

- ▶ To give a tourist a simple and interactive way to know the most interesting places of the town.
- ▶ **Basic Idea:**
 - ▶ Choose one interesting place of the list
 - ▶ Go to that place
 - ▶ Take a picture at the place and CHECK IT

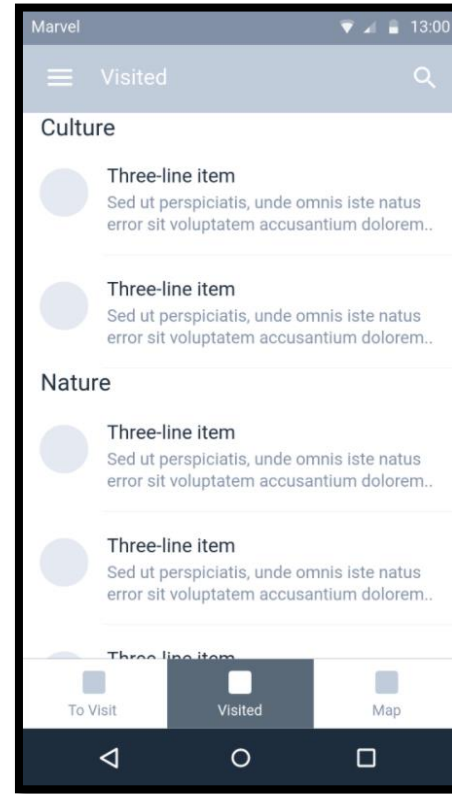
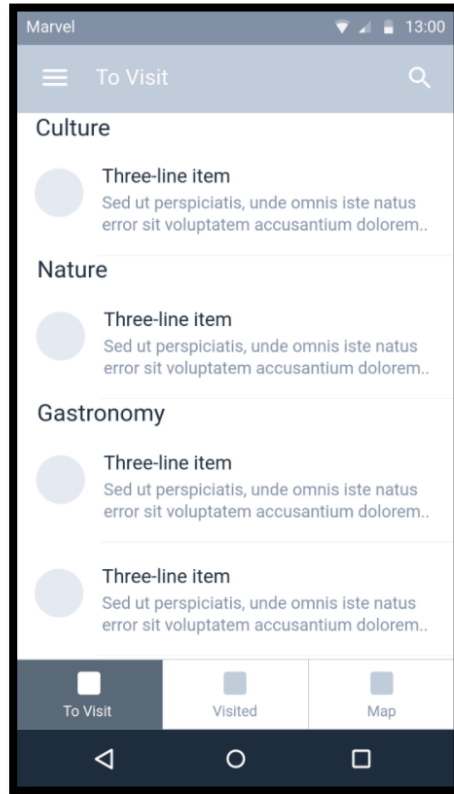
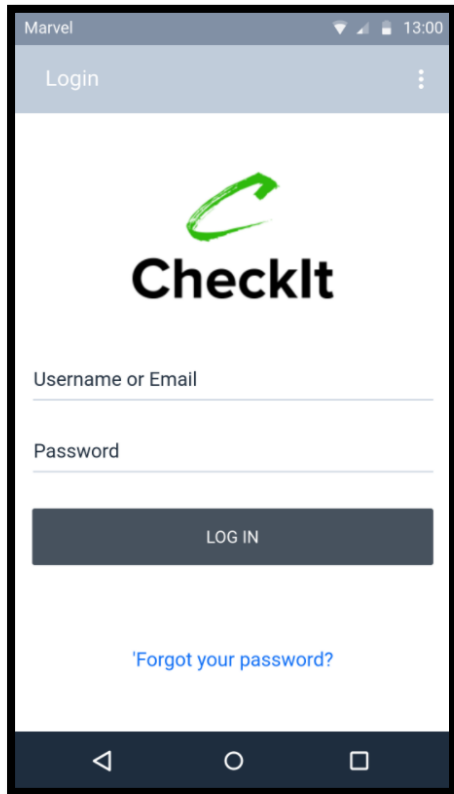
The best application for small travels!

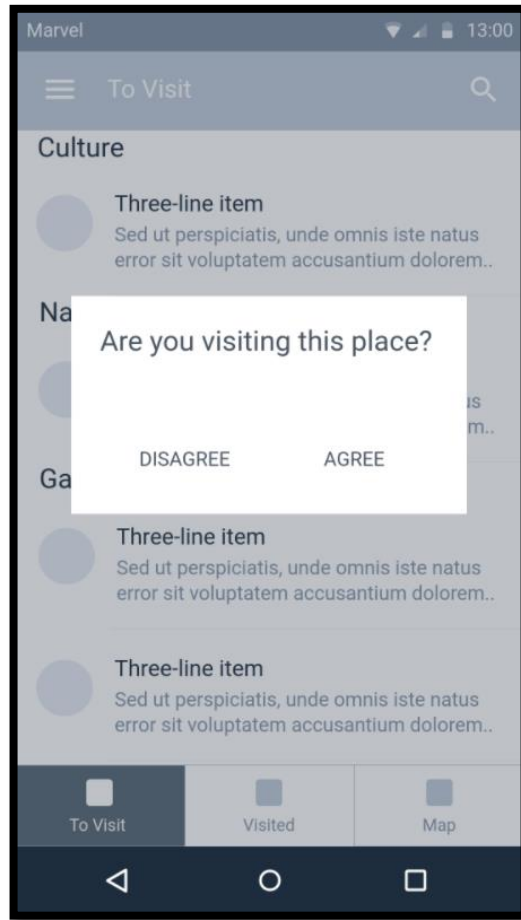
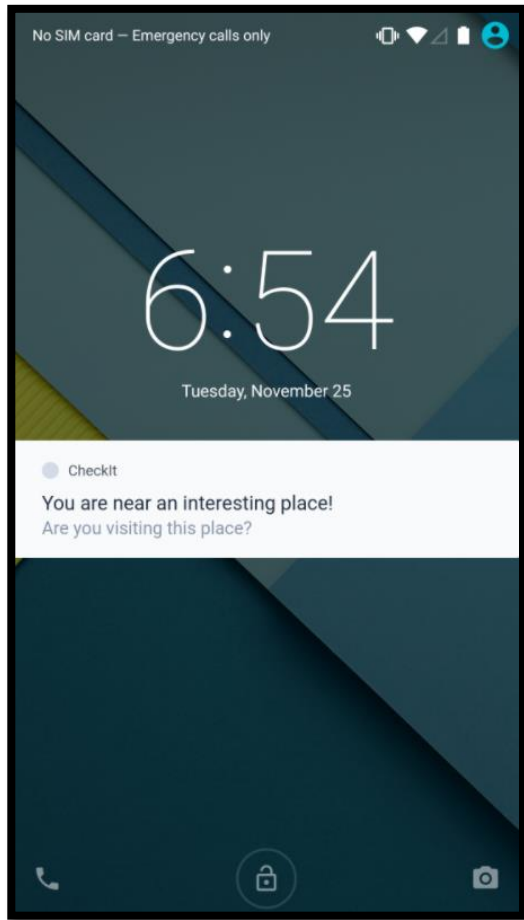


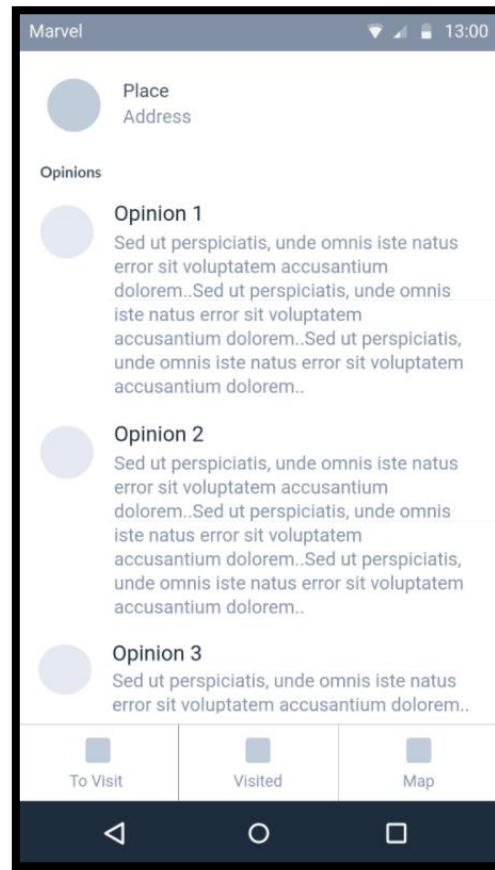
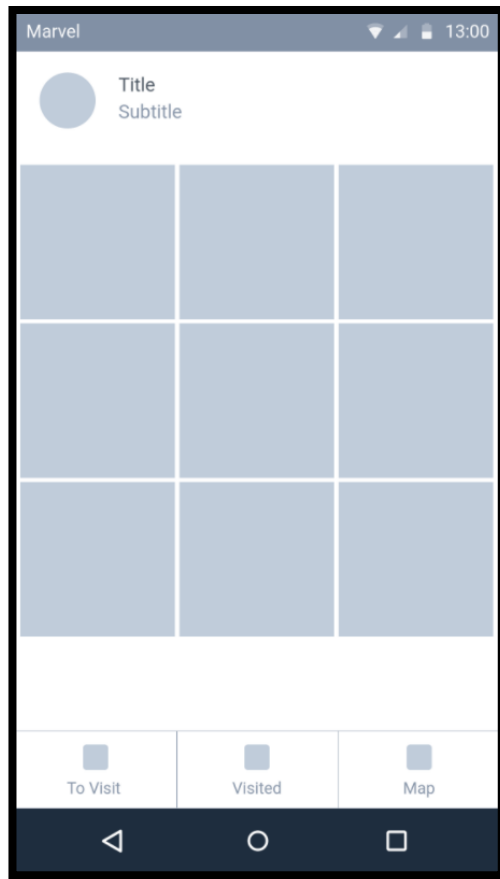
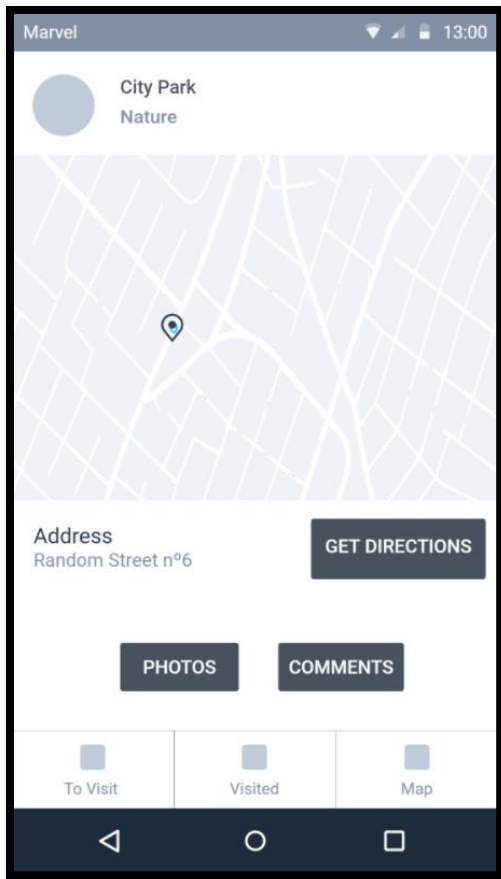
Use Cases

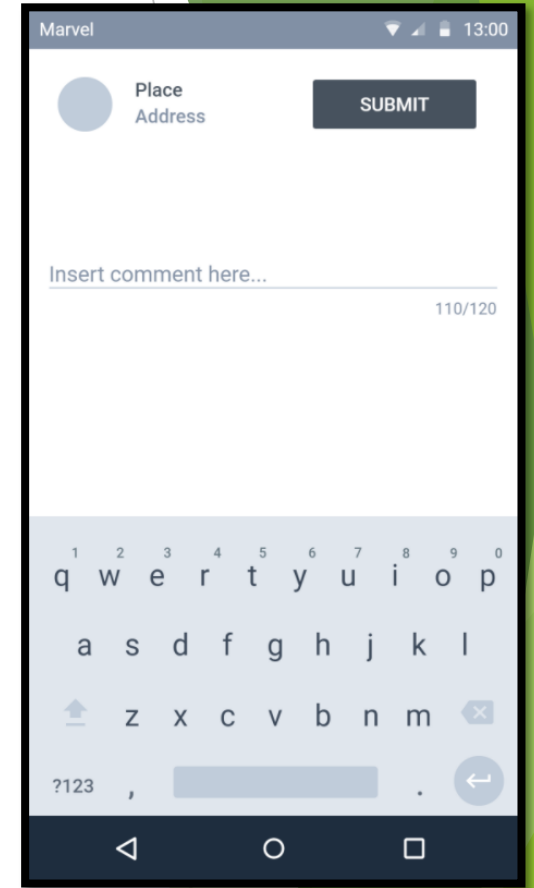
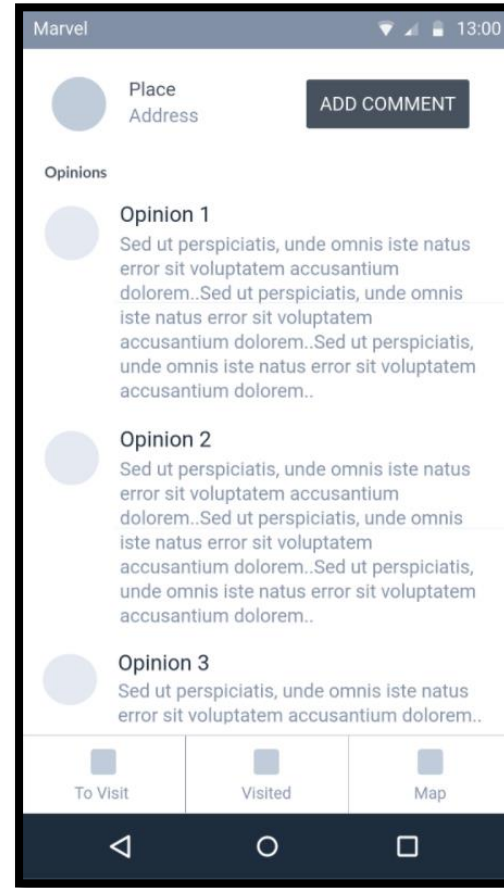
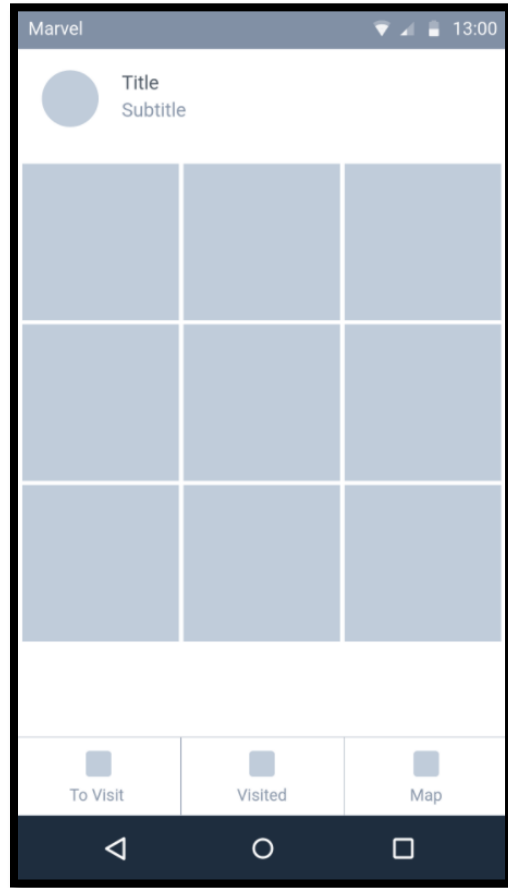
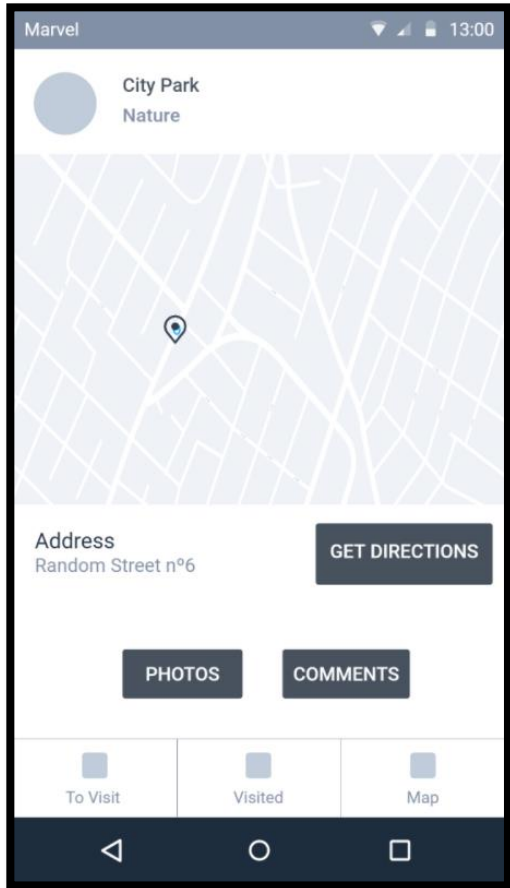


Mockups









Challenges of mobile computing

▶ Offline challenge

- ▶ **Context:** Detect if the application is online or offline.
- ▶ **Adaptation:**
 - We store information locally (in cache), such as the coordinates of the places to visit.
 - That makes possible for the user to check the address of a place, to be prompt with notifications and even taking the photo that he needs to make the place “visited”, with the app offline.
 - When the app becomes online again, all the data is synchronized with the server, and the data in cache is updated.

▶ Usability Challenge

- ▶ **Context:** Detect user location with GPS
- ▶ **Adaptation:**
 - Center the map in the user’s position automatically.
 - Detect if the user is near of an interesting place, and send a notification, so that the user can take a picture and mark the place as “visited”.

Technologies

▶ Client:

- Android
- GPS for location tracking
- Mobile camera



▶ Server:

- Firebase
- Google Cloud Storage



Architecture



Android Client



Firebase

Web Server with
JSON API

Work Plan

- ▶ **27/10/2017:** Begin of Android Studio tutorial (autonomous learning until the end of the project)
- ▶ **3/11/2017: First Presentation**
- ▶ **4/11/2017:** Begin of implementation
- ▶ **30/11/2017:** First prototype
- ▶ **8/12/2017: Adaptation concept presentation**
- ▶ **8/01/2018:** Begin of testing on real devices and bugfixing
- ▶ **25/01/2018: Final presentation**