TECHNISCHE UNIVERSITÄT DRESDEN

Application Development for Mobile and Ubiquitous Computing

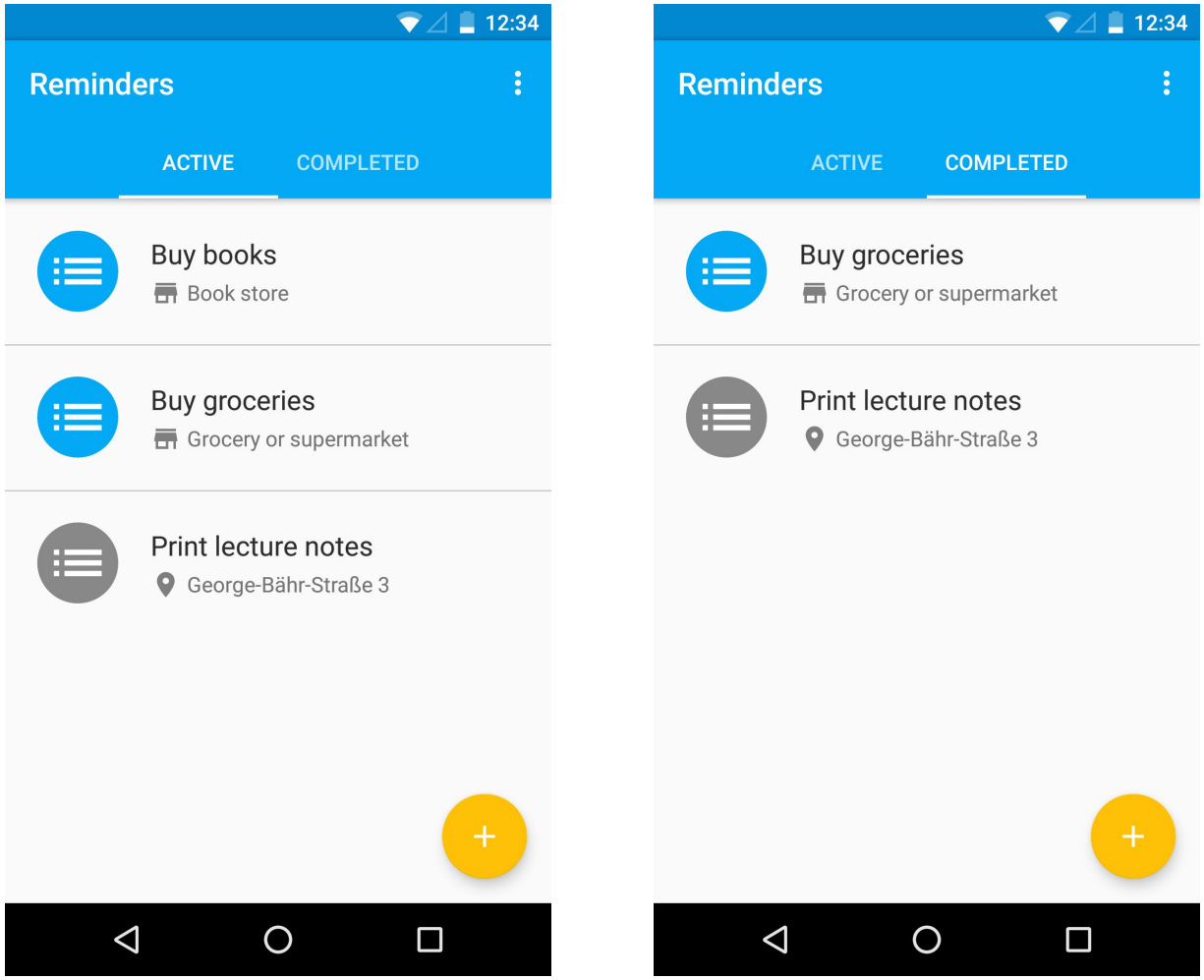
Location Reminders
Adaptation Concept

Group 10

DRESDEN concept
Exzellenz aus Wissenschaft und Kultur

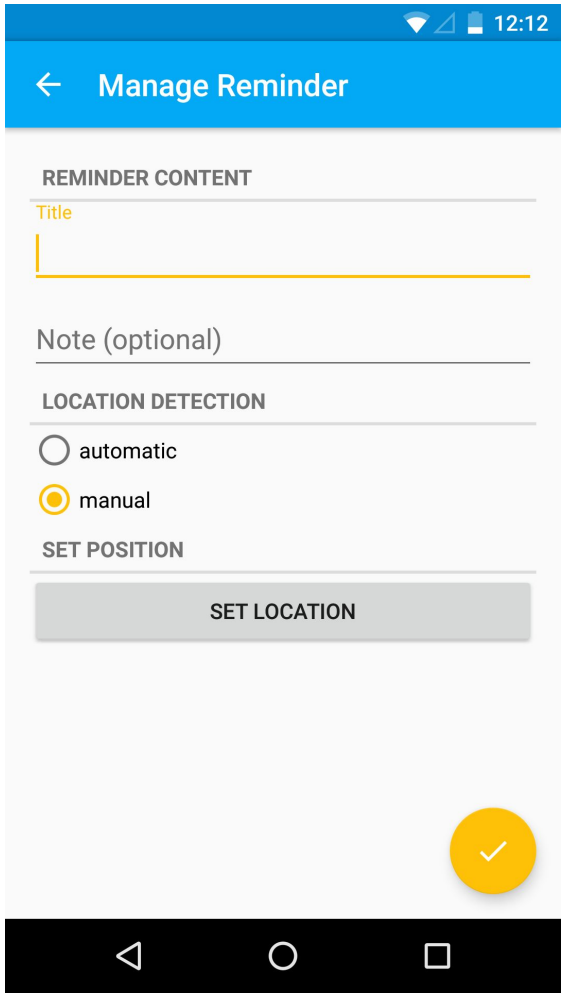
Dresden, 18.12.2015

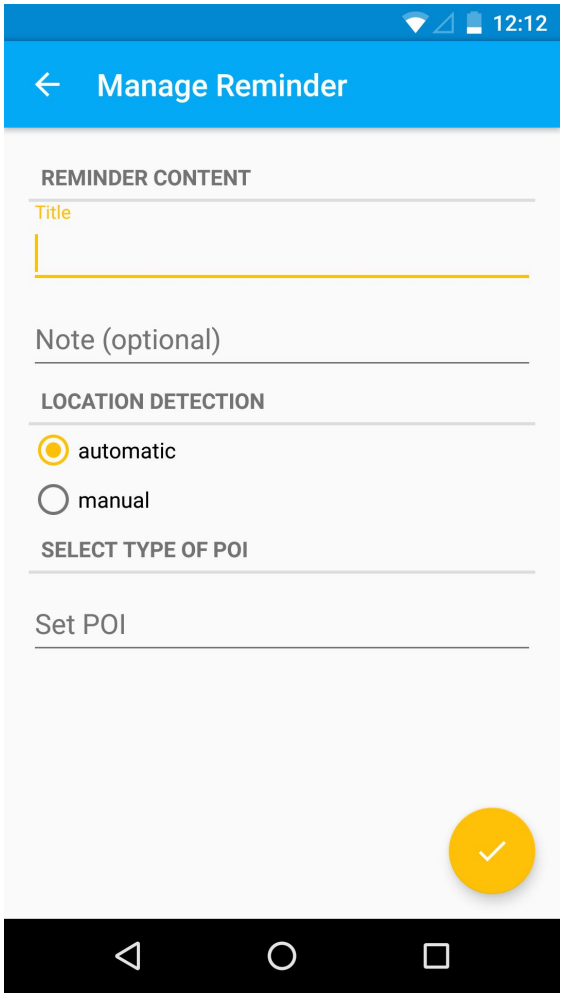
MainActivity with Reminder Overview



Tab Layout for active and completed reminders

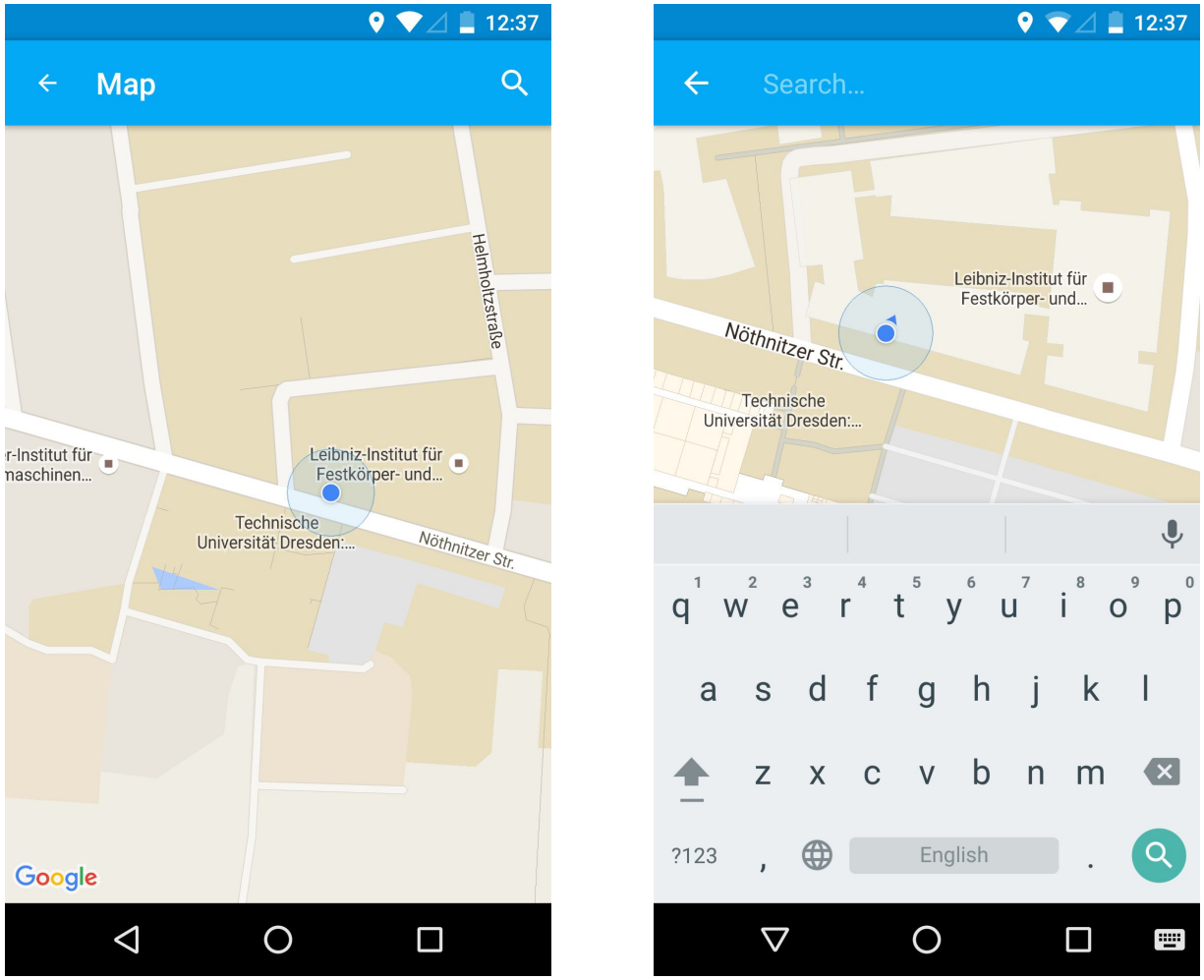
ManageActivity - Reminder-CRUD





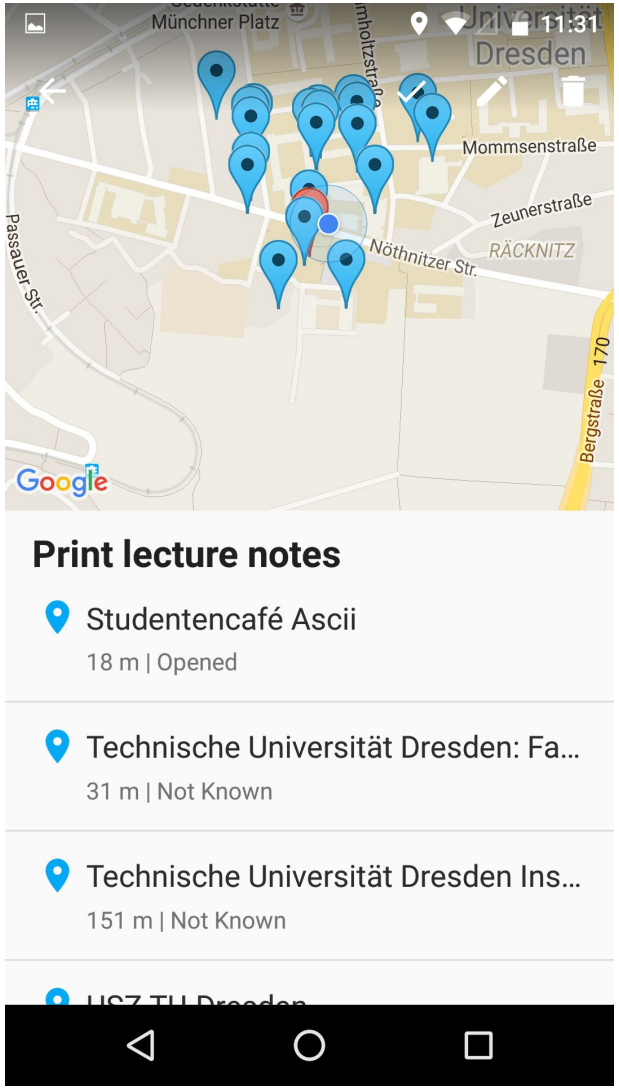
Create new reminders (active and manual)

Select Location - Reminder-CRUD



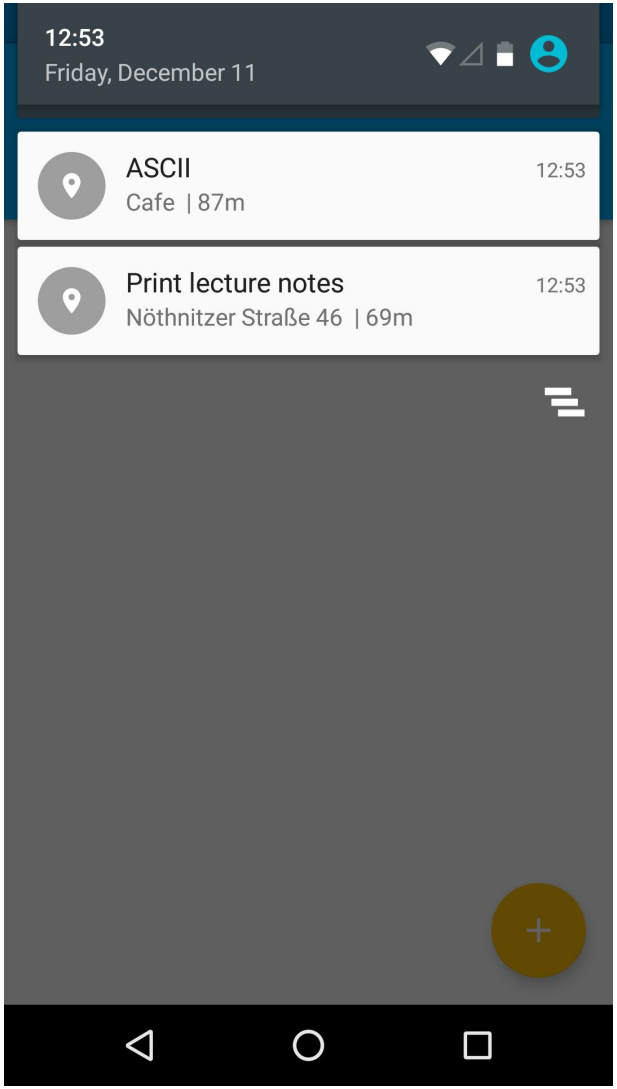
Select location for manual reminders

DetailActivity - Reminder details



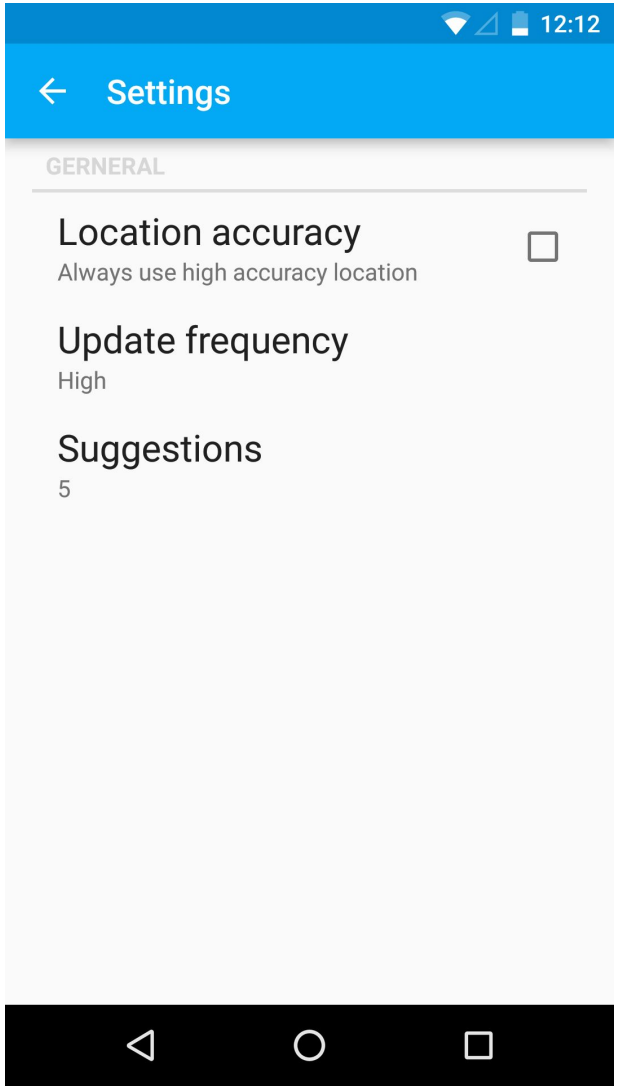
- Contains information about nearby places
- Places are displayed on the map
- Mark reminders as completed
- Edit, delete reminders

Notification - Reminder



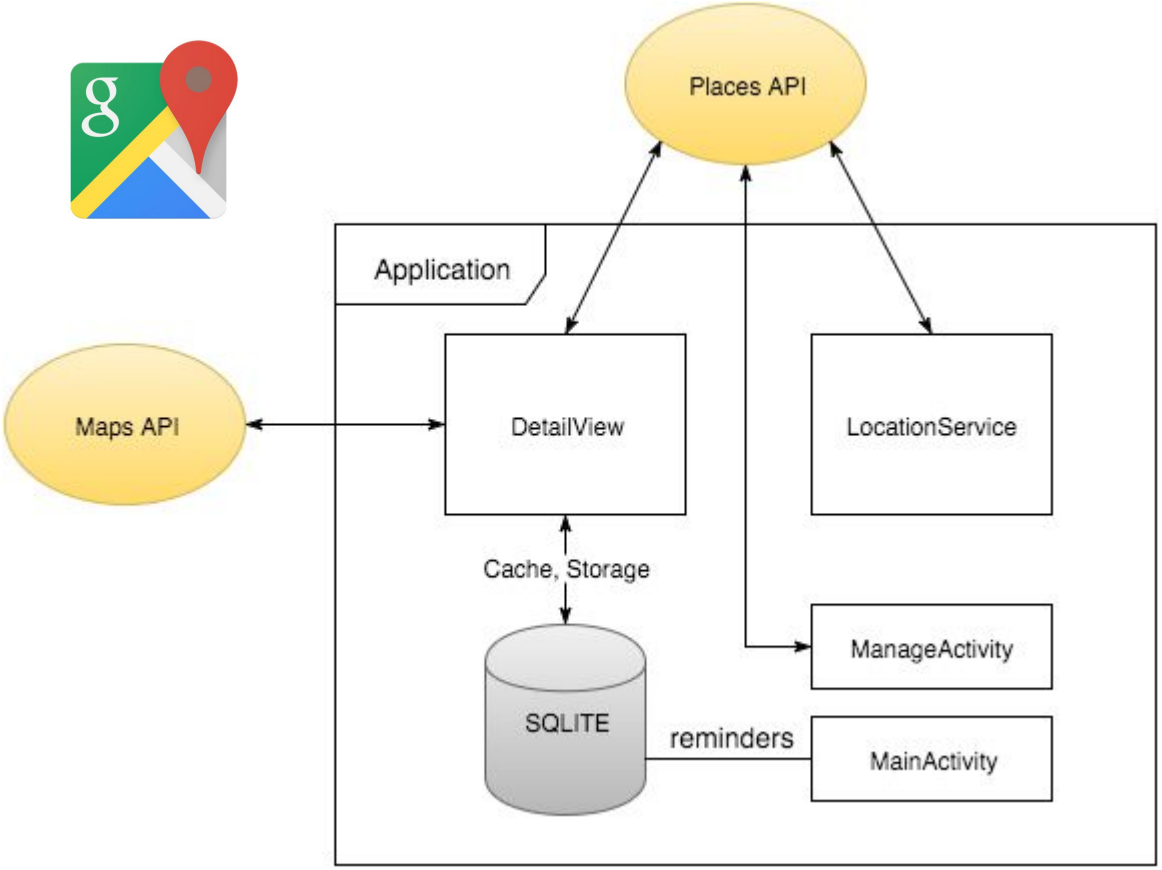
- Shows distance in meters
- Starts DetailActivity on click

SettingsActivity



- Location accuracy
- Update frequency
- Number of suggestions

Architecture



Challenges

Offline Challenge

- save reminders locally
- store downloaded information on device

Connectivity Challenge

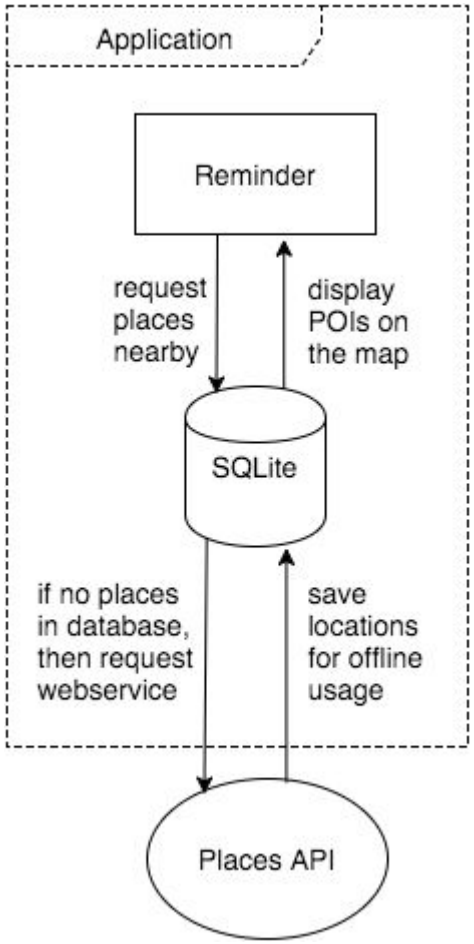
- use location data from multiple sources
- use local information when internet connection is lost

Energy Challenge

- limit update frequency
- let users choose location accuracy

Adapting access time

- Caching, Prefetching
  - save locations in the database
  - save POI-types locally
- **Effect:**
  - offline availability
  - reduced data usage
  - increased response time



Reducing data

- Filtering
  - select area radius of POIs near my location
  - select type of location
- **Effect:**
  - save data by only requesting relevant POIs (location and type)

Data transmission

- Adjusting protocol parameters
  - select update frequency
- **Effect:**
  - reduced number of API requests
  - avoid unnecessary requests via location change

Open Tasks

- improve User Interface
- add more settings (start service, radius)
- distance based request limiting
- responsive map in DetailView

Demonstration

https://goo.gl/263Fip

Thank you for your attention!