

# Application Development for Mobile and Ubiquitous Computing

## Beer Guide

## Final Presentation



Group No. 18  
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## Application Scenario

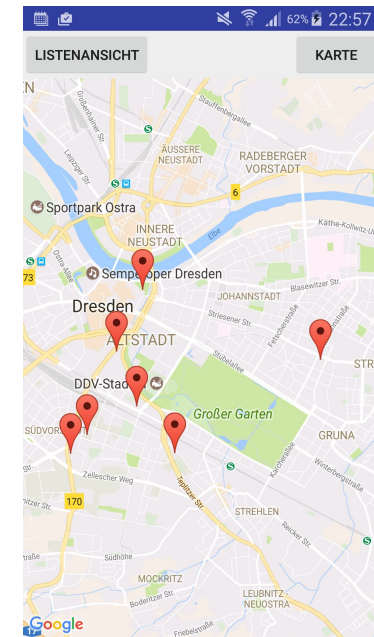
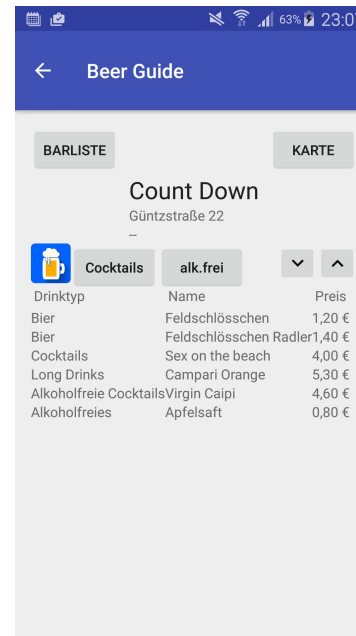
Where can I get my next beer?

- Check for bars in your surrounding
- Get bars listed based on specific criteria (distance, price...)
- Get detailed information about the chosen bar
- Show the chosen bar on map



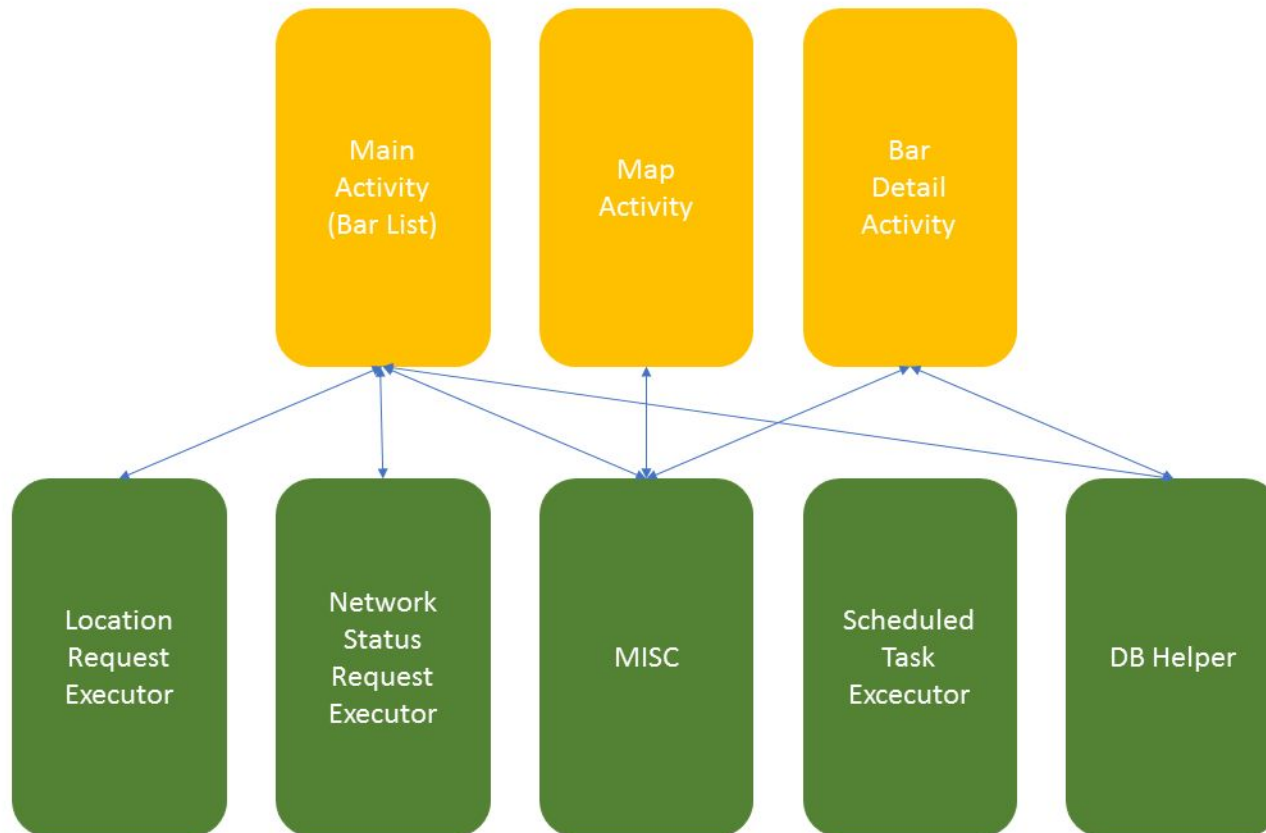
## Result

- App with 3 Views (Barlist, Bardetail, Map with Bars)
- Connection to server to get current information
- Adaptation to Network and Location Status



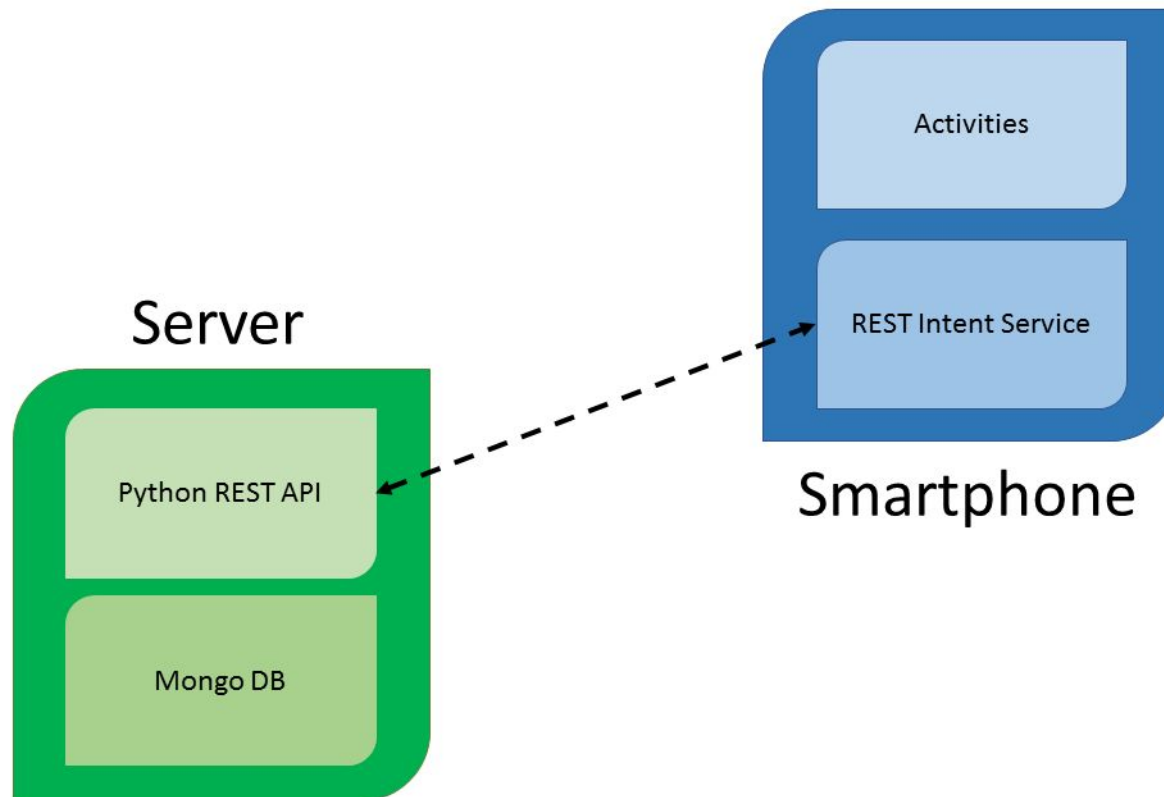


# Architecture





# Components





## Challenges

- Offline Challenge
  - Detect offline status
  - Give the user a hint that the information might be outdated without annoying him
  - Also handle “offline” GPS-Connection

↳ Let user decide if he wants to keep last position or remove position information and make the distance calculation and sorting by distance unavailable





## Adaptation and Context

### Position Adaptation

- If the current position changes the list order has to be checked and rearranged if necessary depending on the chosen order type
- When the position changes the distance information has to be recalculated and updated in the list view and the current position in the map has to be changed
- Getting Position from Android with `Fine_Location` every 5 Seconds

KARTE	
Novitatis	2.4 km
Kellerclub GAG 18	2.4 km
Club 11	2.5 km
Club Mensa	2.6 km
Aquarium	2.9 km
Gutzkowclub	3.0 km
Club HängeMathe	3.0 km
Traumtänzer	3.2 km
Bärenzwinger	3.5 km
Wu5	3.8 km
Tusculum	3.8 km





## Technology

SQLite Database



Eve Python REST API Framework



android

MongoDB





# Technology

## Layout Adaptation

- using RelativeLayout instead of LinearLayout  
→ increasing app performance



## Open issues and upcoming features

### Open issues

- Usability

### Way to go

- Offer navigation link in combination with e.g. Google Maps
- Interaction with community to report current prices



## Lessons learned

- Difficult to implement concept completely as planned
- Development can be really time-consuming
- Development for Android is complex because of large variety of different form factors and OS versions



**Thank you for your attention.**