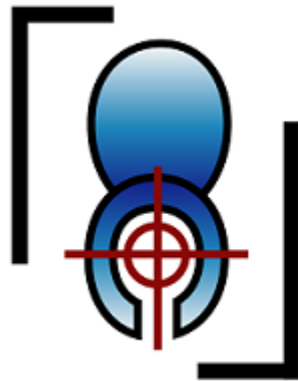


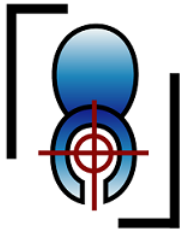
Application Development for Mobile and Ubiquitous Computing



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Group 8

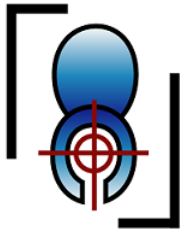
Lukas Siedel, Kevin Seppelt



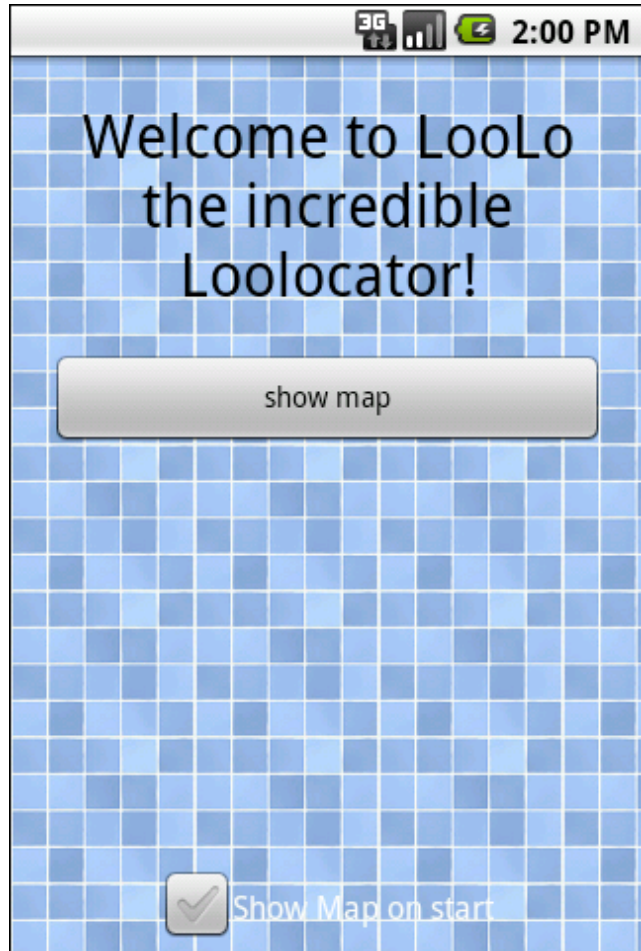
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Use Cases

- User gets all toilets nearby on the map
- User gets a compass, pointing on the nearest toilet



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UI Screenshots

Menu Screen

Options:

- Hide Menu Screen on startup
- Get the map
- will get more options:
 - Loading range
 - Show only wheelchair toilets
 - etc.

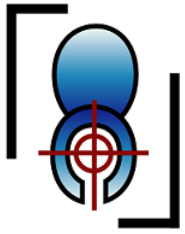


UI Screenshots

Map Screen

- Shows all nearby found toilets (different icons for: public standalone and toilets inside buildings) → Tapping one toilet will open the Detail Screen
- Buttons to get back to the Menu Screen (left corner) and to show the compass that points to the nearest toilet (right corner) (← still in development, coming soon)



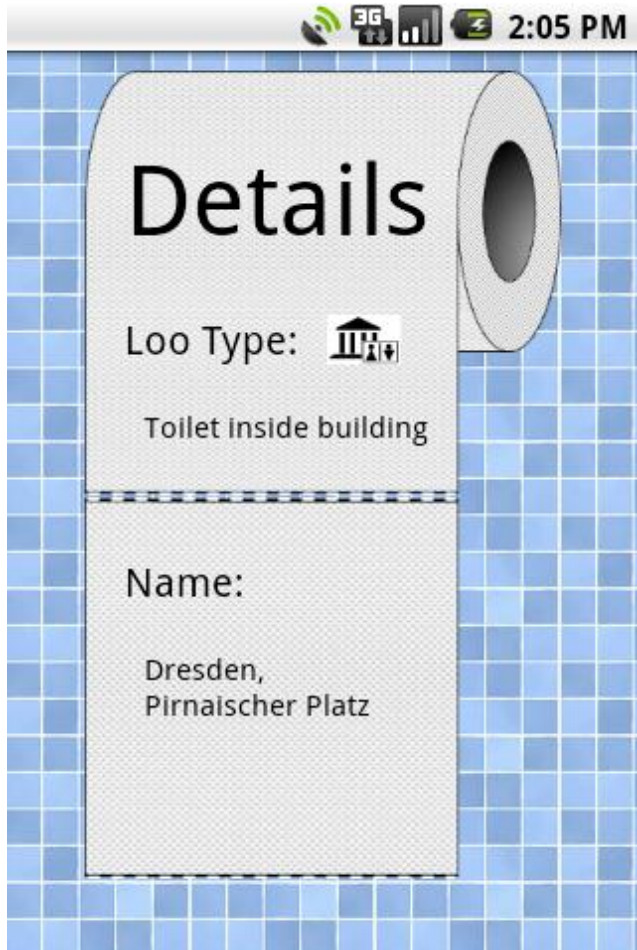


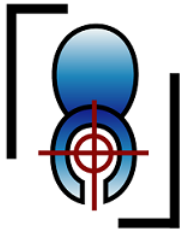
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UI Screenshots

Detail Screen

- Shows all available information for the chosen toilet
- Every single information is written on a single sheet of paper
- All sheets are added to the scrollable roll of papers



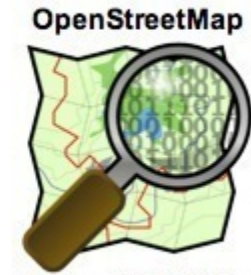


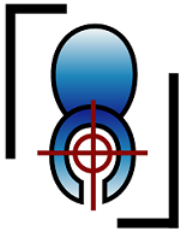
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Architecture and Technologies

- If necessary toilets are fetched from Openstreetmap.org
- Fetched toilets are stored inside the database
- Displayed toilets are loaded from the database





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Challenge 1

Wireless access issues

- Low traffic: Toilets are stored on the device only new ones are loaded
- Async loading, fast display of known locations:
Toilets from device database are loaded immediately on the opened map and new fetched toilets are added on the map when loaded.
- If no connection is available use only data from the device database

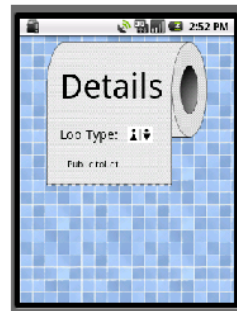


Challenge 2

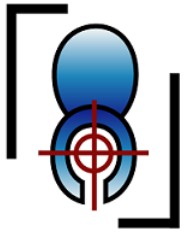
Form factor of mobile device



- Screen size doesn't matter → every background, button, map will be free scalable
- Relative layouts ensure right placement of menu components



➔ Usable on every tiny Android Phone or big tablet

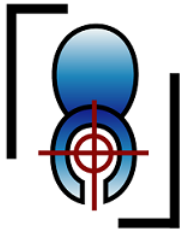


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Challenge 3

Varying Locations

- Toilets are updated when app is active and location is changed more than X meters in relation to the location where the last update was done
- X should be controlled by the users settings

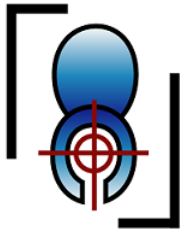


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Challenge 4

Usability

- Very simple usage
- Not so much options, just the most necessary to keep it as simple as possible
- easy to use when you are in "hurry":
Map can be shown instantly on app start.



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open tasks and issues

- Open:
 - Compass
 - (much) Performance optimization
 - Offline Maps (?)
- Issues:
 - XML-Parser very slow
 - Random VM Budget overflow