

# Application Development for Mobile and Ubiquitous Computing

„Closest Shops Finder  
with a Smart 'Offers Presenter'”

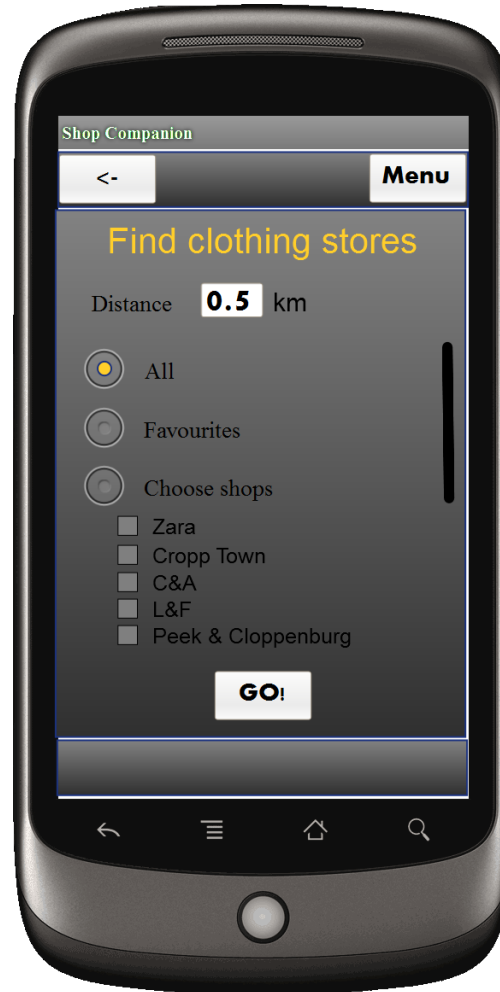
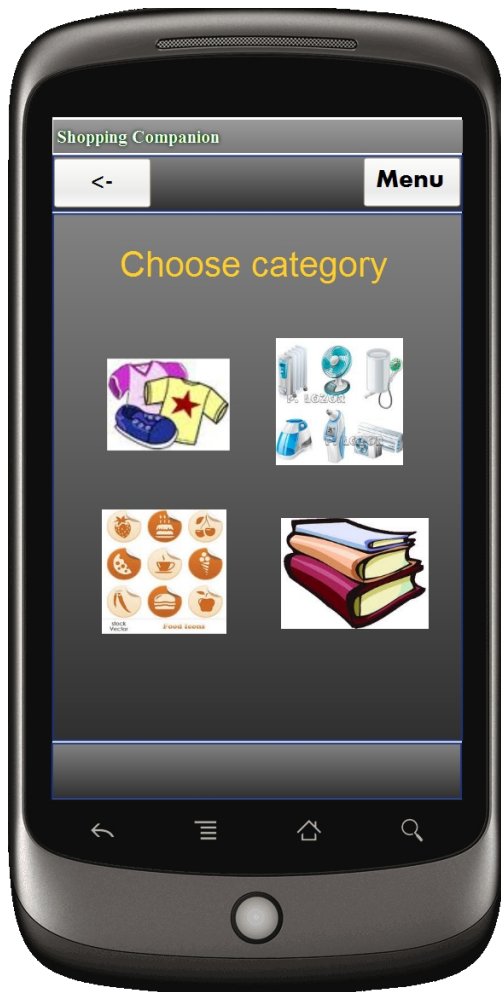
## First Presentation

GroupNo. 4

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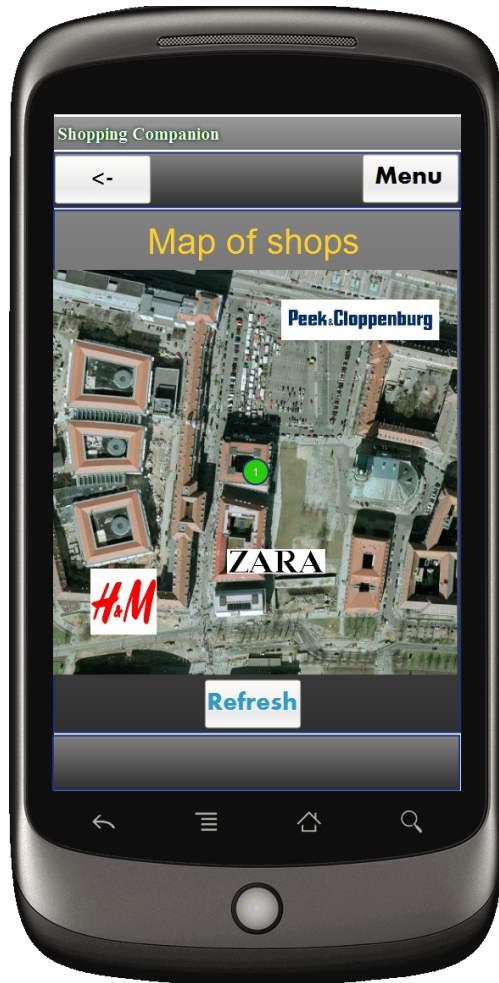
- Give the user **easy access** to offers of the **shops around him**
- Show him **the way** to them

- A choice of desired shopping category
- A search and a map view of shops within a defined distance from current position
- A detailed list of offers for a brand of a chosen shop
- A map with directions to the chosen shop
- A possibility of defining and managing favourites for each shopping category

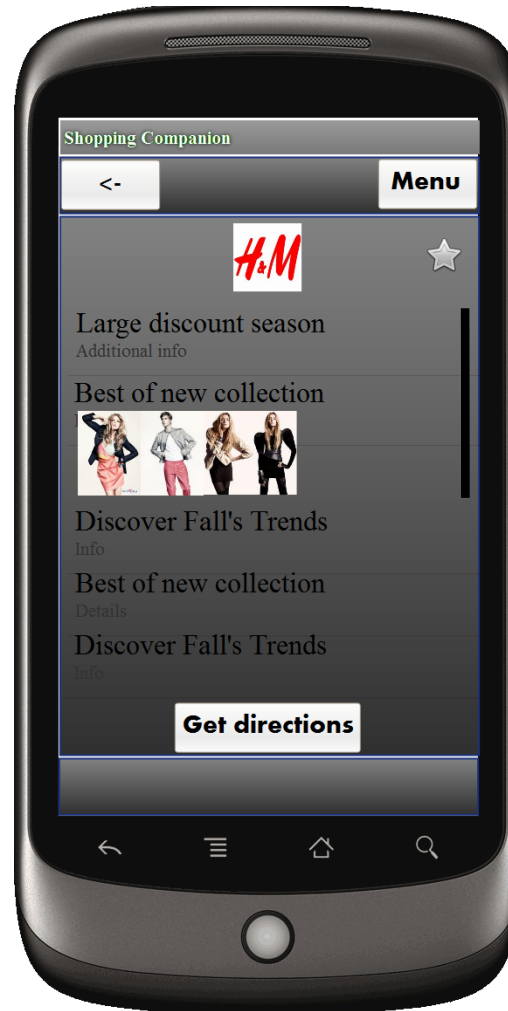


Location

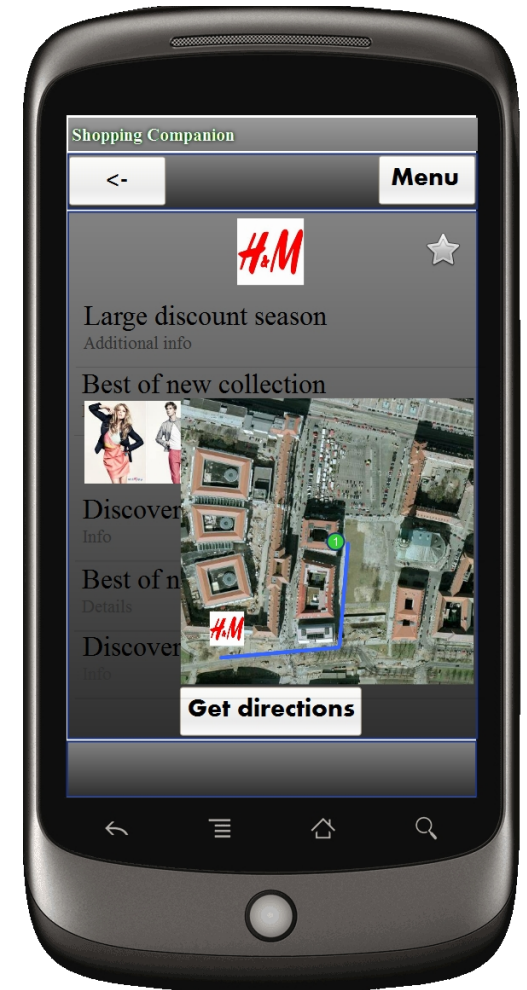




Store selection



Connection to WS



Getting directions



- Client side:
  - Android OS
  - Google Maps API (com.google.android.maps)
  - Location Services (android.location)
  - SQLite database (android.database)
  - ksoap2-android (SOAP library)

- Client-Server Communication
  - SOAP, WSDL, UDDI
- Server side:
  - JAVA EE technologies
    - JAX-WS
    - Java DB
    - JavaMail
  - other:
    - Facebook Java API
    - XML Parsers



- Mobile application challenges:
  - Determine user's location:
    - Location sources
    - User movement during operations
    - Varying accuracy
  - Disconnections
  - Response times and usability

- Server side challenge
  - “Recycling the Internet”
  - An attempt to:
    - Gather data knocking around the Internet
    - Give a user easy access to it
  - A necessity of using very various technologies
  - Smart data gathering and processing exceeds the range of the project

- System-wide implementation
  1. Definition of data to be passed between mobile devices and server
  2. Implementation of an interface of Web Service to be used by clients

- Client-side implementation

1. Technologies tests

- Creation of page views templates
- Implementation and simple tests of usage of android location services and Google Maps API
- SOAP communication tests
- Definitions of solutions to basic known problems

1. Implementations

- Fitting Maps API capabilities into needs of the app
- Implementation of SOAP communication with WS
- GUI details implementation
- Providing solutions to known problems

1. "Putting everything together"

- **Server-side implementation**
  1. Research (graph)
  2. Implementation of applications with a usage of indispensable technologies

