

Application Development for mobile and ubiquitous systems

# MENSA BUDDY – ADAPTION CONCEPT

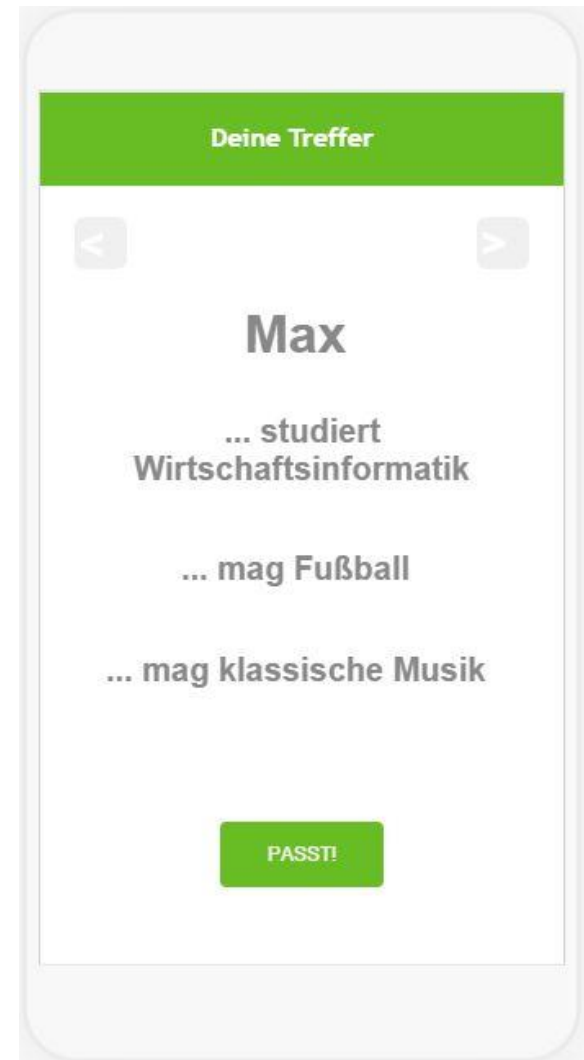
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Dresden, December 16 2016

## Overview

1. Scenario
2. Context features
3. Adaption mechanisms
  - a. Location
  - b. Canteen meals integration
4. Architecture/Technologies

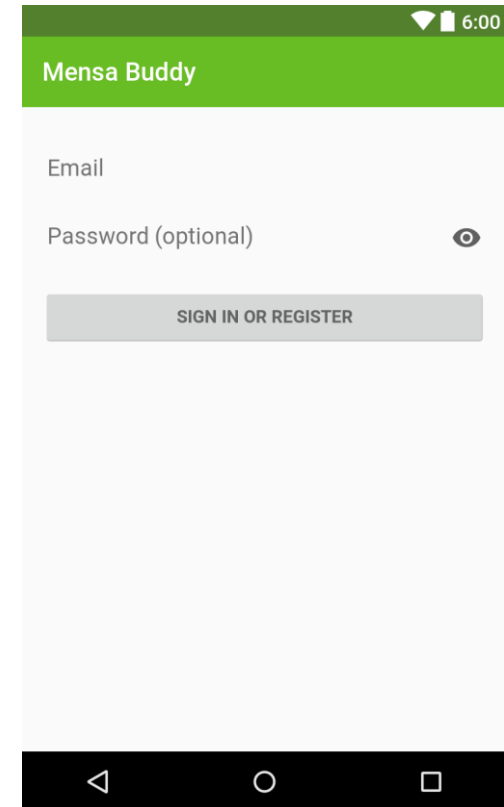
## Scenario

- Goal: Nobody should have to eat lunch alone
- Solution: Mensa Buddy matches people based on their interests to eat lunch together



## Procedure

- Users register at Mensa Buddy and fill in a short personal profile
- User chooses when and where he wants to eat
- Mensa Buddy matches two users so they can exchange contact details and arrange their lunch



## Context features

- By device
  - Location
  - Date
- By user
  - Profile information
  - Preferred canteens
- By API
  - Canteen information

## Location

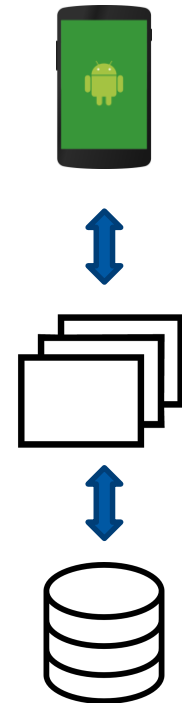
- Canteen suggestion changes based on last location
  - Coordinates of canteens at users university get cached on smartphone
  - App compares last location with canteen coordinates
    - suggestion: next canteen

## Canteen Meals integration

- Canteen view adapts to user interaction
  - Last Location determines canteen suggestion
    - Client requests meals from webservice for certain canteen and current date
    - Webservice responds with selection of meals in json
  - Selection of suggested canteen changes view to show available lunches
    - Implementation via ViewPager

## Architecture/Technologies

- Frontend
  - Android Application
- Middleware
  - Tomacat Server
- Backend
  - MySQL

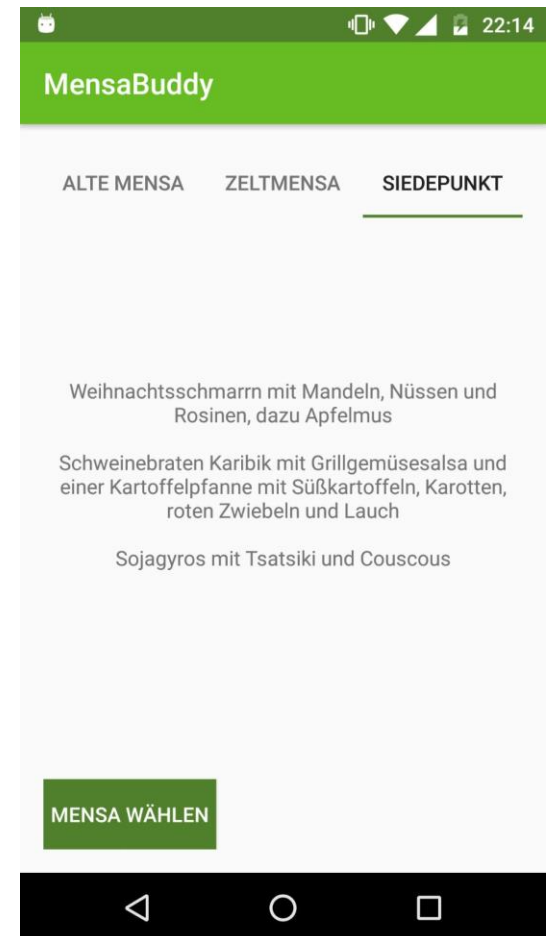




## Frontend

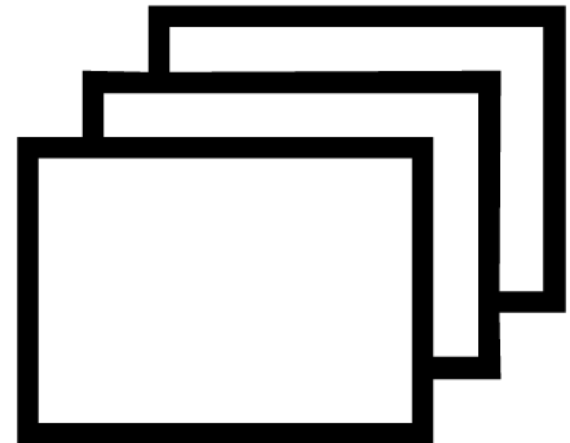
- Android Application → Java
- JAX-RS Client → Volley

→ Communication only with middleware



## Middleware

- Tomcat Webserver
  - JAX-RS Webservice
  - Provides data to frontend including:
    - Available lunches
    - Matches
    - Profile information
  - Manages matching process
    - Individual algorithm



## Backend

- MySQL Database
  - Communicates with middleware
    - → SQL
  - Stores: profile information, matches, match-history

