

Application Development for Mobile and Ubiquitous Computing

# ADAPTATION PRESENTATION

## Event\_Log

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## Structure

- Challenges
- Adaptation and Context
- Architecture
- Technologies

## Challenges

- Connectivity/Offline challenge
  - Find a route to your event even without internet connection
  - If one contact channel isn't available, e.g. can't send E-Mail because there is no internet connection, use another channel
- Usability challenge
  - Easy-to-use and intuitive UI
  - Not too many buttons, options, etc.
  - Fulfill the needs of the user, e.g. inform user about date collisions

## Adaptation and Context

### Connectivity/Offline challenge

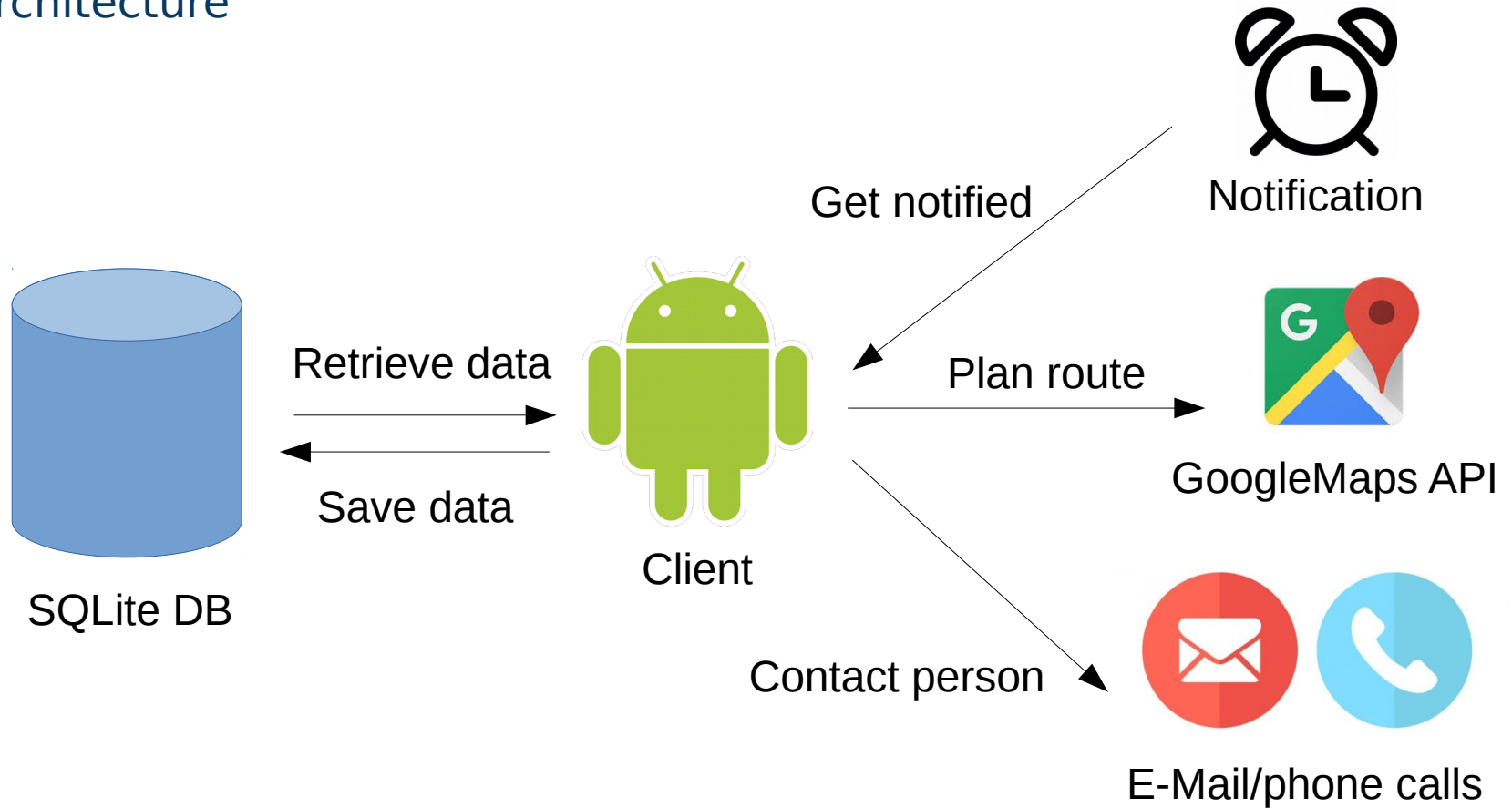
- Inform the user about GPS and internet connection and provide alternatives
- **Context:** detect if the device's GPS/internet connection is available
- **Adaptation:**
  - Inform user that GPS isn't available → detection of current location for route planning via internet
  - Route planning without internet connection → make use of offline maps (?)
  - Disable the option to use a specific contact channel if it's not available; e.g. disable call function if network connection is lost

## Adaptation and Context

### Usability challenge

- Offer the user an intuitive and easy-to-use UI and try to scale with different screen sizes; reduce user input; inform user about date collisions, etc.
- **Context:** handle different display sizes; detect user input, empty fields and “predicted” behavior (operational context)
- **Adaptation:**
  - Scale to display size by trying to use only weight values in layouts (e.g. `android:layout_weight="0.5"`)
  - Hide text views, inputs and other layout elements if they aren't needed → therefor scale other layout elements
  - Auto fill inputs in some special cases for less user input
  - Make user aware of collisions and wrong inputs with highlighting and the usage of Toasts (text bubbles in Android)

## Architecture



## Technologies

- OS: Android OS (minimum SDK 19, targeted SDK 24)
- Language: Java; Framework: Android Studio
- APIs: GoogleMaps (so far)
- Storage: SQLite DB to store events and contacts
- GPS for route planning and setting of location of event
- GitHub as VCS

