Application Development for Mobile and Ubiquitous Computing

Shisha
Adaptation concept presentation

Group 1:
Yevhenii Semendiak
Roman Kosovnenko

Dresden, 14. December 2018

Problem & Idea

What flavor to try?
Where can I chill?
With whom?

Challenges

Offline Challenge

Prefetched and cached information on client side

Connectivity Challenge

Prioritization of information

Usability Challenge

Follow Material Design, intuitive interface, tips

Energy Challenge

Follow Material Design, intuitive interface, tips

Offline Adaptation

Challenge

- User actions should not be lost.
- Suggestion feature and top rating entities still available.

Solution

- Feedback stored locally and send after reconnection with high priority (firebase)
- Prefetching and caching rating list (~50 entities)
- Using matchmaking (user preferences <> tastes in prefetched list)

Detection:

- On activity creation / network change
- User notification in *snackbar*

```
dependencies {
 …
 …
 implementation 'com.android.support:design:26.1.0'
}
```

Connectivity Adaptation

Challenge

- Poor network quality affects loading time of pictures.

Solution

- Some pictures could be cached.
- Leave only text description of tabaco.

Detection:

- What type of network is currently connected (WiFi / LTE, HSDP or *worse*)

- New activity / network changes broadcasting by system

Energy Adaptation

Challenge

- Constant location updates consume a lot of energy

Solution

- Stop background tasks

  - Local map with shops and bards updates *(first – register, after - push notifications from server, updates of location from client site)*

  - Background reviews and new items publish

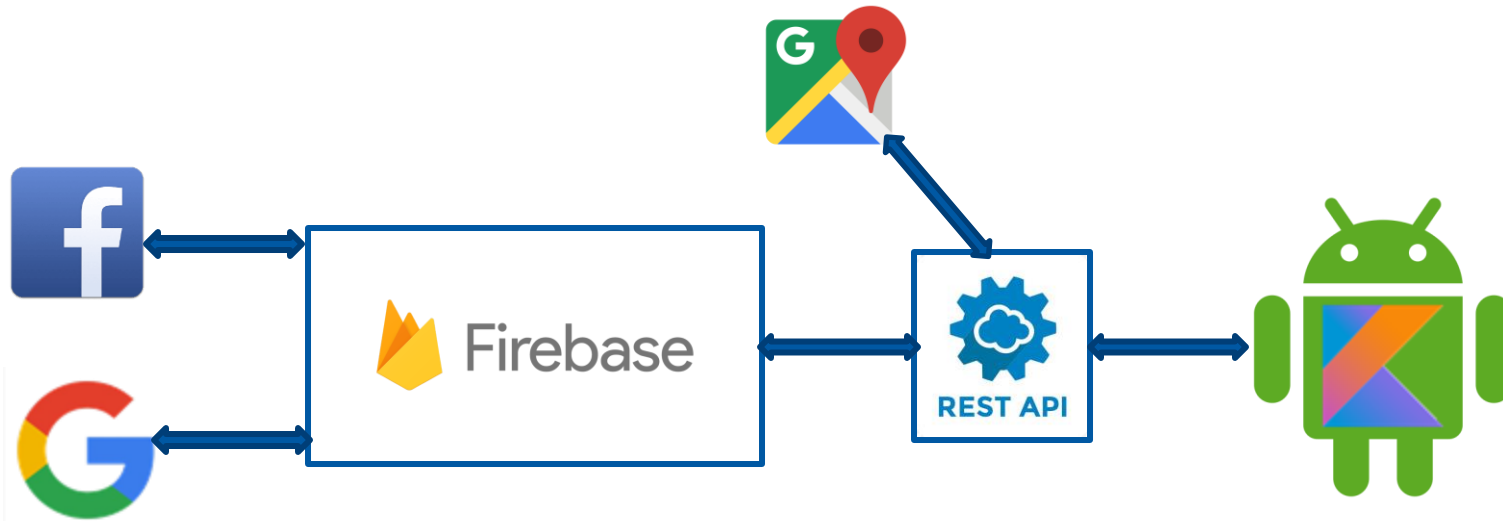- Change current location update frequency

Detection:

- System notification, compare with threshold values

Callback:

- Change interval, later – disable

- Notify user

Technologies & Architecture

Thank you for your attention!

Smoking is bad and could kill **you**.
Do not smoke!