TECHNISCHE UNIVERSITÄT DRESDEN

Department of Computer Science Institute for System Architecture, Chair for Computer Networks

Application Development for Mobile and Ubiquitous Computing
Words Learning
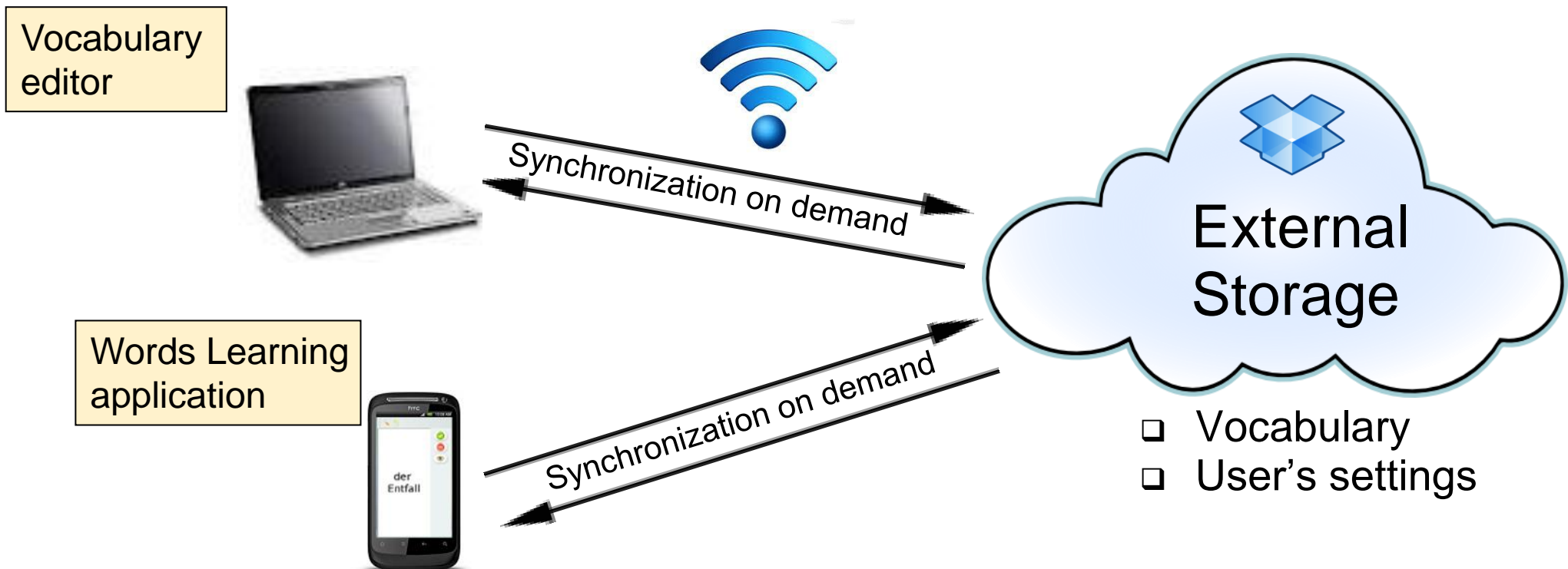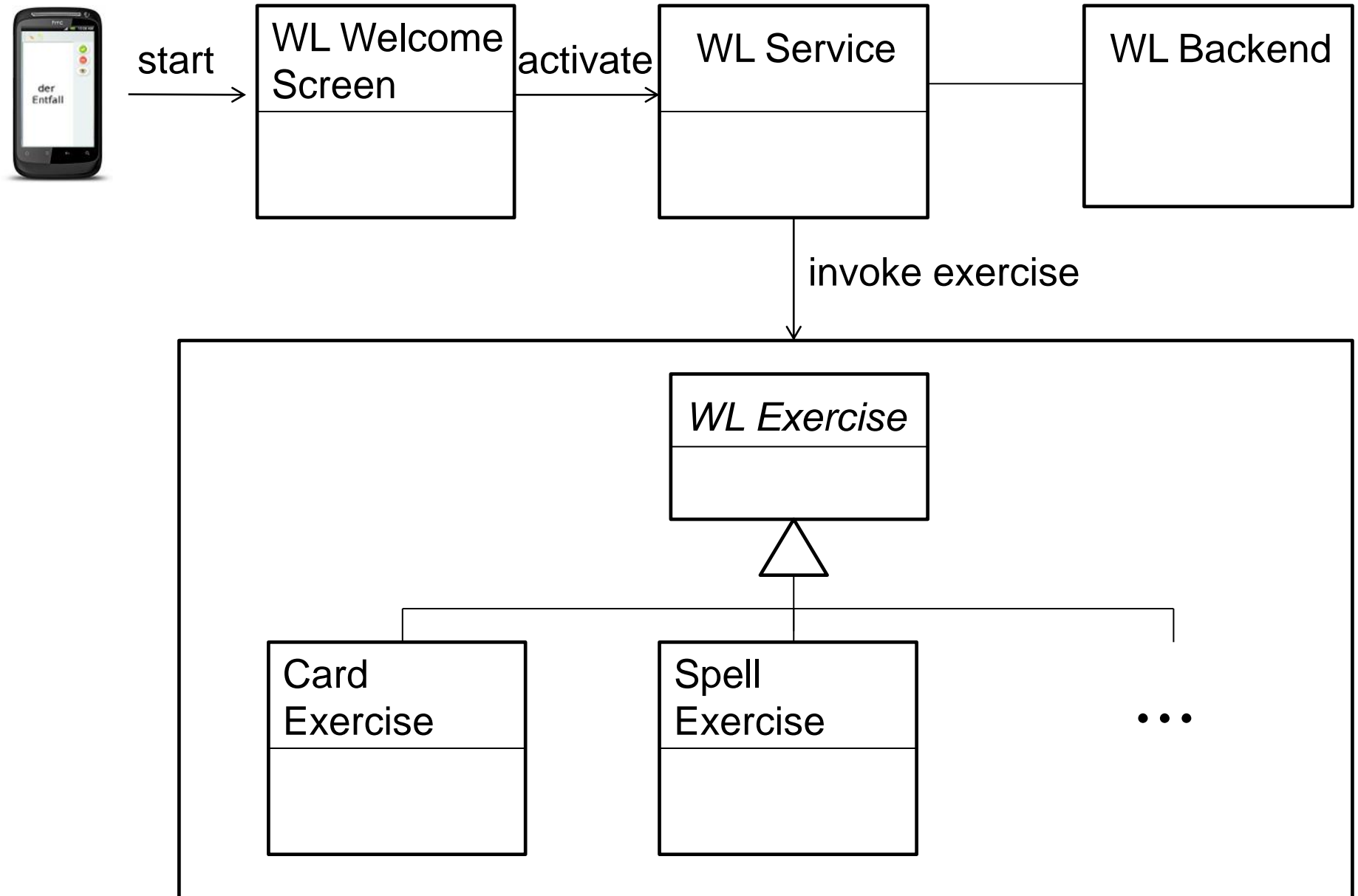# Second Presentation

GroupNo. 13
Team:
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- Standalone application for learning and improving foreign language skills

- Setting personal preferences (for example, learning new words or repeating the old one)

- Adaptation to client resources and connectivity

- Possibility to create many "Workspaces" (phone, PC, laptop)

- Users should be able to modify settings (period of notification, number of words, etc.)
- Users should be able to define custom vocabularies
- Users should be able to add new words and phrases (not restricted)
- Users should have possibility to skip the exercises

- Android SDK for creating application GUI and providing interface between application backend logic and GUI

- Java SE for developing application backend logic

- Dropbox - free service, provides easy file sharing

- Wireless Local Area Networks and Wide Area Networks for connection

start →

WL Welcome Screen

activate →

WL Service

WL Backend

invoke exercise ↓

WL Exercise

Card Exercise

Spell Exercise

...

WL Service is responsible for transferring the instructions and data between the backend and GUI:
* reads user's data (vocabulary, settings) from local storage;
* passes this data to backend;
* receives backend information about word and exercise ID;
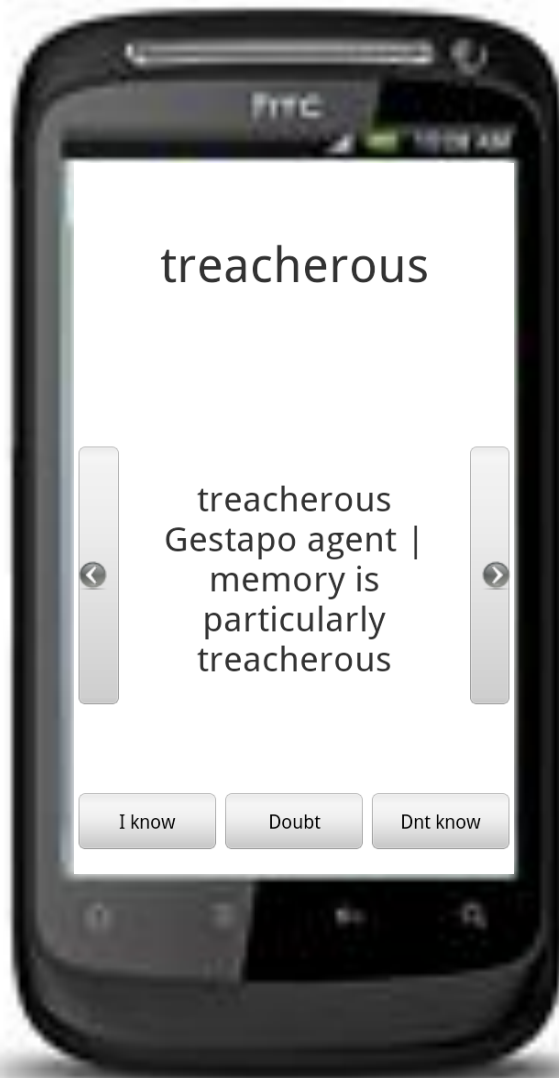* calls exercise with given ID filled in with a given word.

WL Backend provides the following functionality:
* resolving current user settings;
* keeping temporary data about currently learned words;
* selection words from the vocabulary;
* selection exercise for the particular word;
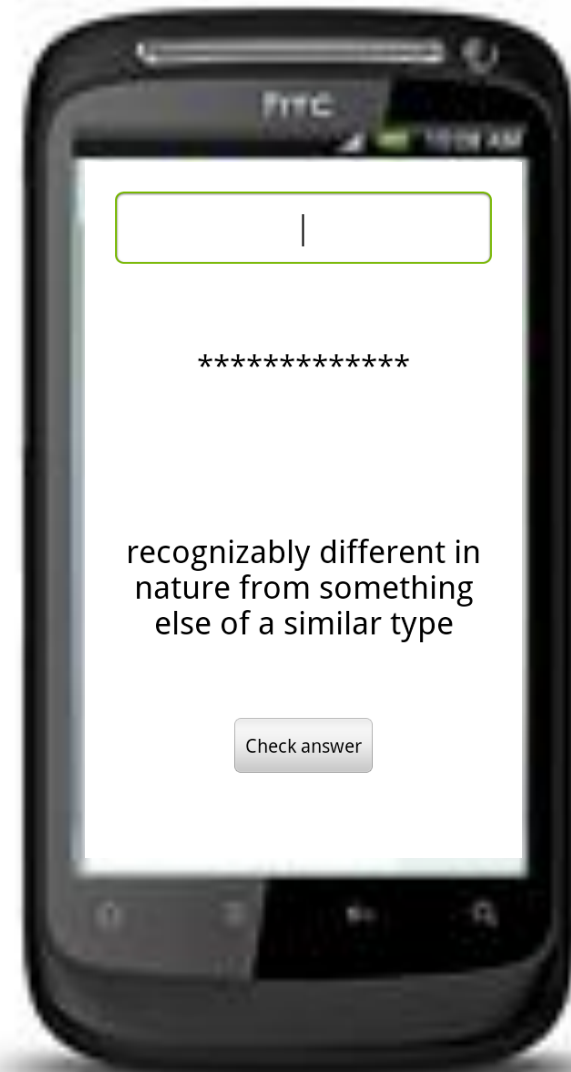* handling user answer on exercise.

Exercises
* different type of exercises with different GUI;
* handling user interactions.

Card Exercise

treacherous

treacherous
Gestapo agent |
memory is
particularly
treacherous

| I know | Doubt | Dnt know |

Spell Exercise

|

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recognizably different in
nature from something
else of a similar type

Check answer

- Device resources:
  - Adopt GUI to small screen of mobile device
  - Optimize usage of processing power by using efficient library for implementing periodic tasks

- Connectivity:
  - Provide low dependence on the Internet connection
    - ✓ by using local storage for vocabulary and settings
    - ✓ on demand synchronization with external storage

- Synchronization:
  - synchronization of the local storage and external storage for providing possibility to work with several instances (mobile phone, laptop, PC)

- Creating more types of exercises – Synonym Exercise, Select Exercise

- Implementing "waiting in background"

- Synchronization of local storage on mobile device and external storage
- GUI style
- Testing application on different devices