



**Vilnius
University**

Problem-based Project / Software Engineering

Words Learning App

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Group name : **Lifruk**

Students : **Dominyka Rimova, Nikita Liakhov, Valeriia Rudenko, Fiona Pruvost**

Supervisor : **Linas Būtėnas**

1 Purpose of the system

Words Learning App is a simple app that is dedicated to learning vocabulary of a new language.

1.1 Users

- Authorized users - user that has logged into the application, this will provide more functionality in the application in comparison to being guest.
- Unauthorized users - user that has not logged into the application. Initially all users, apart from the developers, will be unauthorized (while the login system is not properly implemented).
- Developer/Tester - user that takes part in the development or testing of the application, has all the privileges.

1.2 Location

- All the code and documentation will be available on our GitLab repository. After the main release the app will be uploaded on the Google Play Store platform.

1.3 Responsibilities

The primary responsibilities of the system:

- Provide the user with 2 game modes: quiz and flashcard mode.
- Provide the user with the ability to customize flashcards and use them.
- Allow access to different difficulty levels of quiz mode based on prior quiz completion.

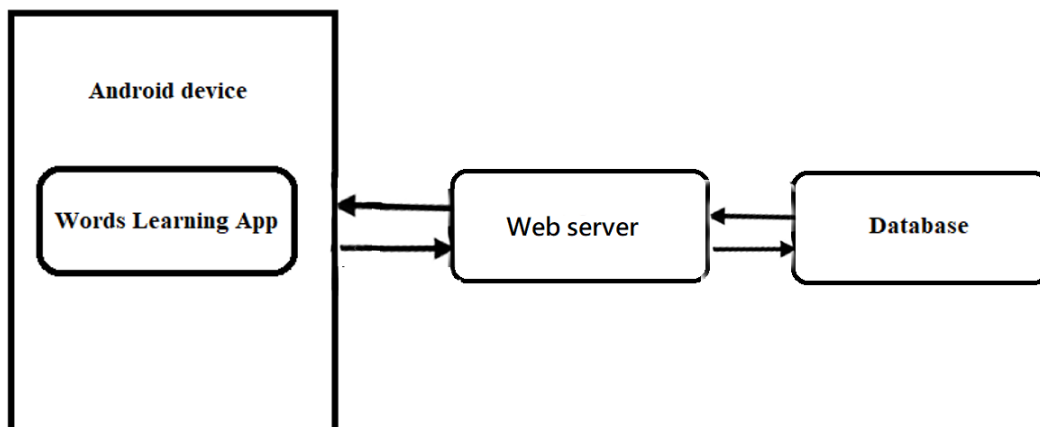
1.4 Need

- This system is necessary to educate users and increase the variety of educational and developmental applications.

2 High-level overview of the system

Mainly, the system will contain:

- The Android Quiz App - a mobile application with a functional user interface that enables users to use 2 different app modes and customize flashcards.
- The Database - a database which stores quiz questions and answers, flashcard data, user data and other relevant information.
- The Web Server - a server, which can facilitate the communication between the mobile application and the database.



3 Functional Requirements

- The app will have different languages and the user will have the ability to select separate sets of questions and flashcards for selected language.
- The user will be able to select a desired theme of flashcards and quiz topics.
- In the quiz mode, the user will have to guess/write the word by looking at the displayed picture and vice versa.
- In the flashcard mode, the user will be shown a picture in the displayed card and the user will be able to flip it repeatedly by tapping it and the ability to go to the next flashcard.
- The app will be able to display user's quiz score.
- Flashcard and quiz mode will have word audio.
- The app will be able to save the progress every time the user finish a set of questions, so that the user does not have to answer the same questions repetitively.
- The user will be able to add new sets of custom flashcards (without the need of editing the mobile application code).

4 Non-Functional requirements

4.1 Compatibility

- The mobile app must be able to run on mobile phones running Android 5.0 Lollipop (and later).
- Implement Unicode compatibility in every step of the system: users must be able to type, submit and see non-latin characters.

4.2 Reliability

- The system should not have any bugs or issues that prevent the learner, non-frustrating experience.

4.3 Security

- Encrypt user password and other data that could personally identify a user.

4.4 Performance

- The app should function smoothly (without noticeable lag) on mobile phones running Android 5.0 Lollipop (and later).
- User can use this application quickly with a 3G internet connection.

4.5 Visual mock up of screens

