**Software Requirements for "Learn by Heart"**
**Application for recording customized words for study**
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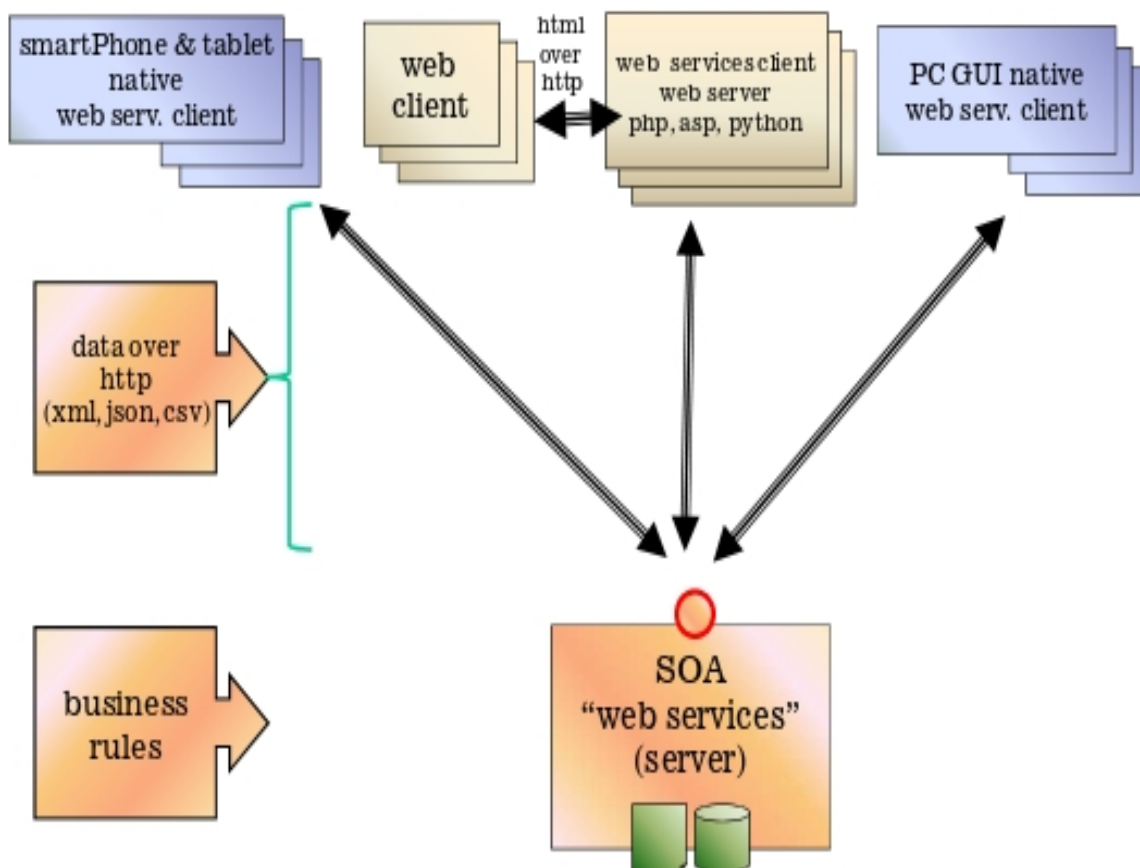
## Sumário

# Introduction

The main idea behind this project rests on the learning process of any language, be it English, Portuguese, Spanish, or any other. For those who are learning on their own, however, there is a certain moment during this process in which the presence of a teacher becomes highly essential, such as when delving into the fundamentals of grammar and spelling. Consequently, in this crucial stage, the learner depends solely on their own efforts. These circumstances allow for a higher probability of failing to recall important words needed to express thoughts

and ideas in the language being acquired. The key to solving this problem lies in the expansion and development of vocabulary. Our focus aims at helping to increase the client's vocabulary by playing games.

## Project Presentation

The system will consist of two modules - an Android application and a server - both in communication with each other. This will allow the client to make use of different devices. The client will be able to add words to the system, which may include multiple meanings, each with its own examples. Moreover, the words may be segregated into different groups, or "dictionaries", for easier access. Currently, there is only one type of user, but new features can be added in the future, such as a web interface.



Source: http://www.sbvb.com.br/proposals/SOA-MC-sbvb.com.br.pdf

# Server Requirements
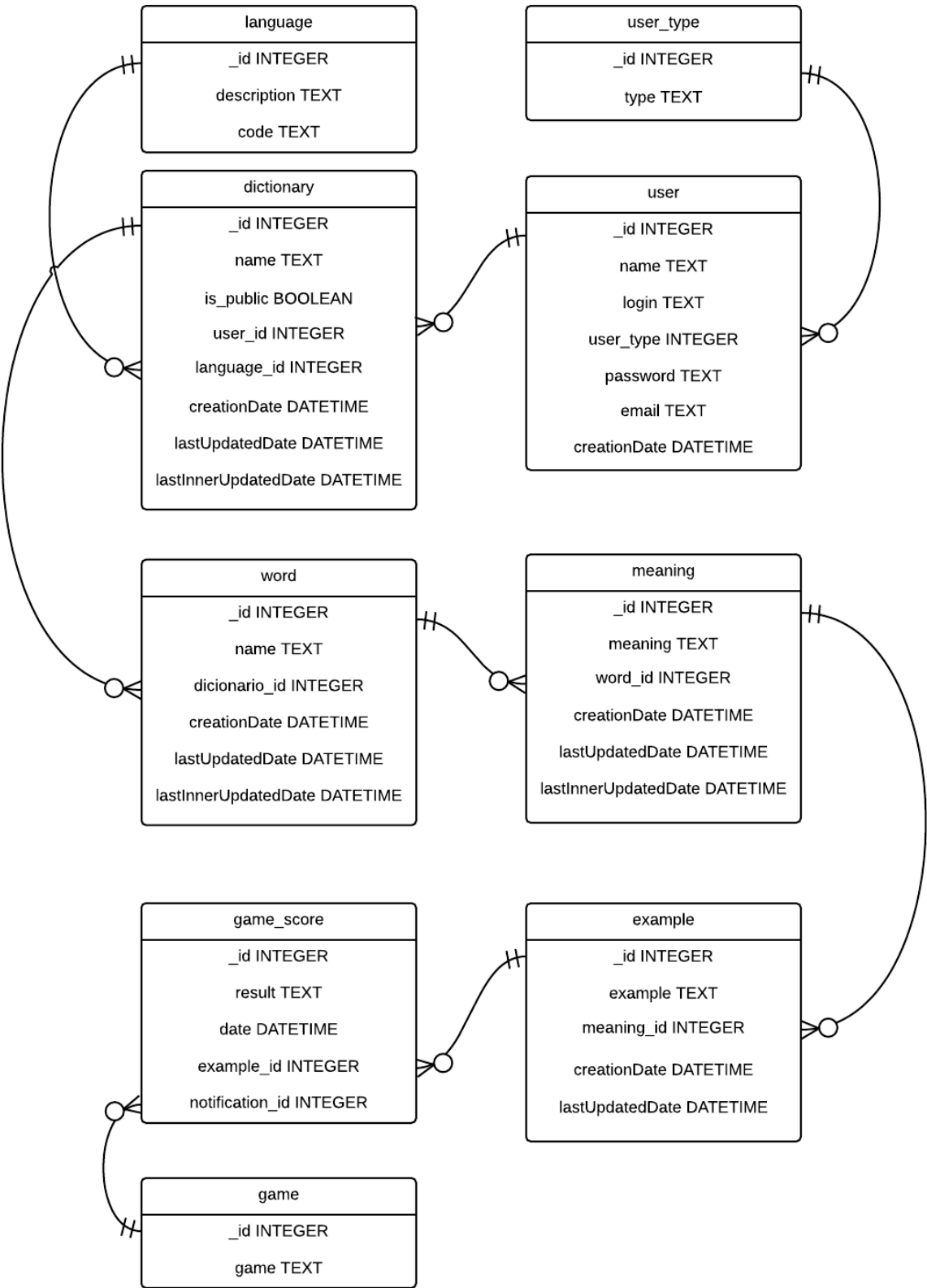
The server must be able to:

- Create new users

- Login/logout users of the system

- Synchronize the client's device data

# Android Application Requirements

The application must be able to:

- Manage the dictionaries using CRUD functions (create, read, update and delete) for each dictioanry, as well as all of the following sub entities: word, meaning and example.

- Login/logout of the system.

- Sign up to the system.

- Synchronize the client's device data.

# Entity-Relationship Diagram

## language
- _id INTEGER
- description TEXT
- code TEXT

## user_type
- _id INTEGER
- type TEXT

## dictionary
- _id INTEGER
- name TEXT
- is_public BOOLEAN
- user_id INTEGER
- language_id INTEGER
- creationDate DATETIME
- lastUpdatedDate DATETIME
- lastInnerUpdatedDate DATETIME

## user
- _id INTEGER
- name TEXT
- login TEXT
- user_type INTEGER
- password TEXT
- email TEXT
- creationDate DATETIME

## word
- _id INTEGER
- name TEXT
- dicionario_id INTEGER
- creationDate DATETIME
- lastUpdatedDate DATETIME
- lastInnerUpdatedDate DATETIME

## meaning
- _id INTEGER
- meaning TEXT
- word_id INTEGER
- creationDate DATETIME
- lastUpdatedDate DATETIME
- lastInnerUpdatedDate DATETIME

## game_score
- _id INTEGER
- result TEXT
- date DATETIME
- example_id INTEGER
- notification_id INTEGER

## example
- _id INTEGER
- example TEXT
- meaning_id INTEGER
- creationDate DATETIME
- lastUpdatedDate DATETIME

## game
- _id INTEGER
- game TEXT

# Android Application Mockup

# Start Screen



1. "Cloud synchronizing" button

2. "Show dictionaries" button

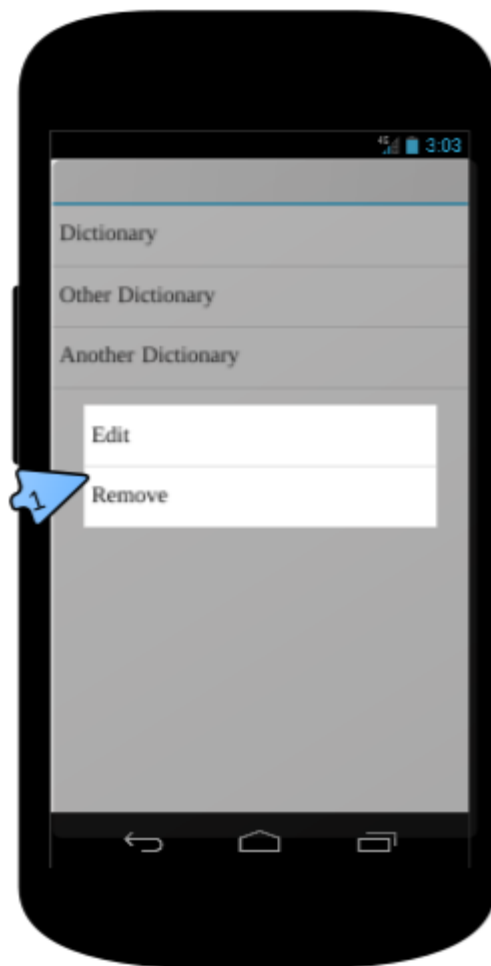3. "Settings" button

4. "Feedback" button

# Login Screen

4G 3:03

e-mail

••••••••••

Login

Sign up

# Sign-up Screen

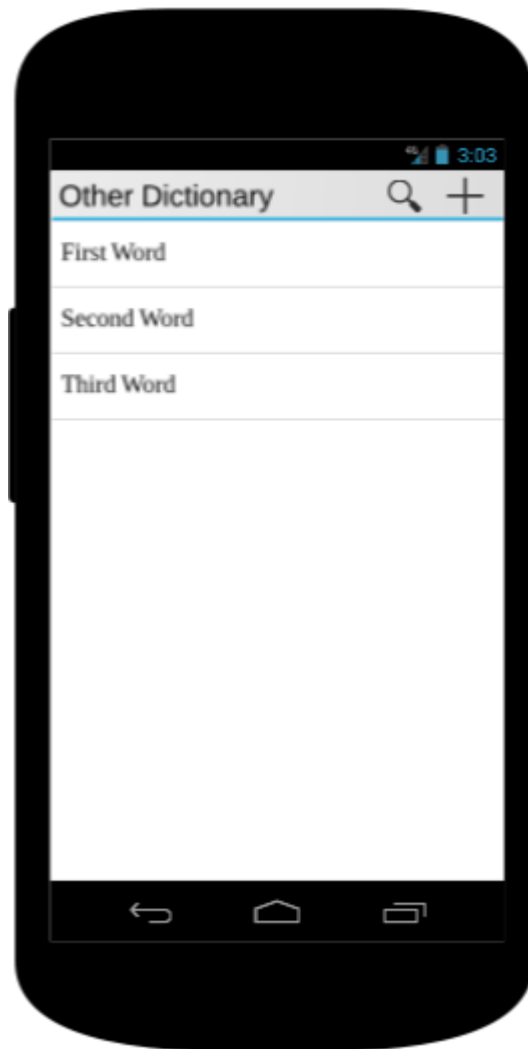# "Show dictionaries" screen



1. "Create dictionary" button
2. There are two events on the list:
    1. Click item: show dictionary words
    2. Press item: show dictionary actions
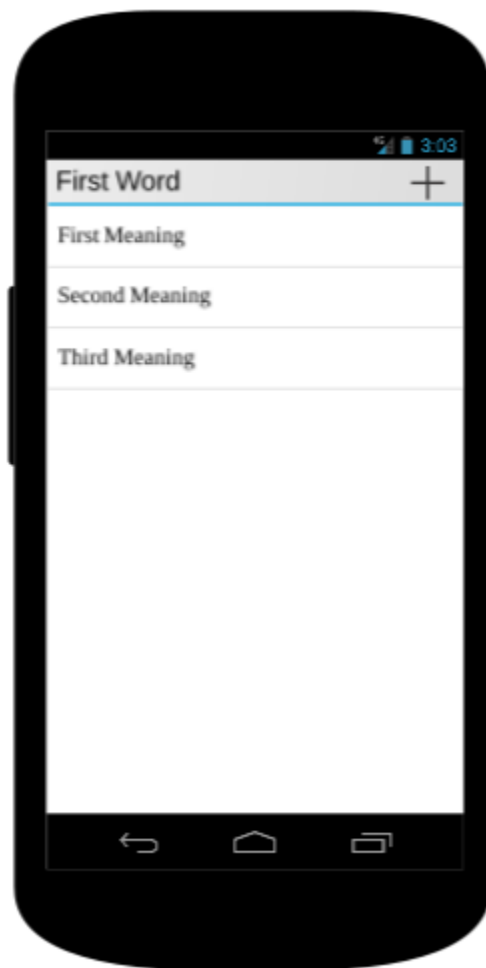
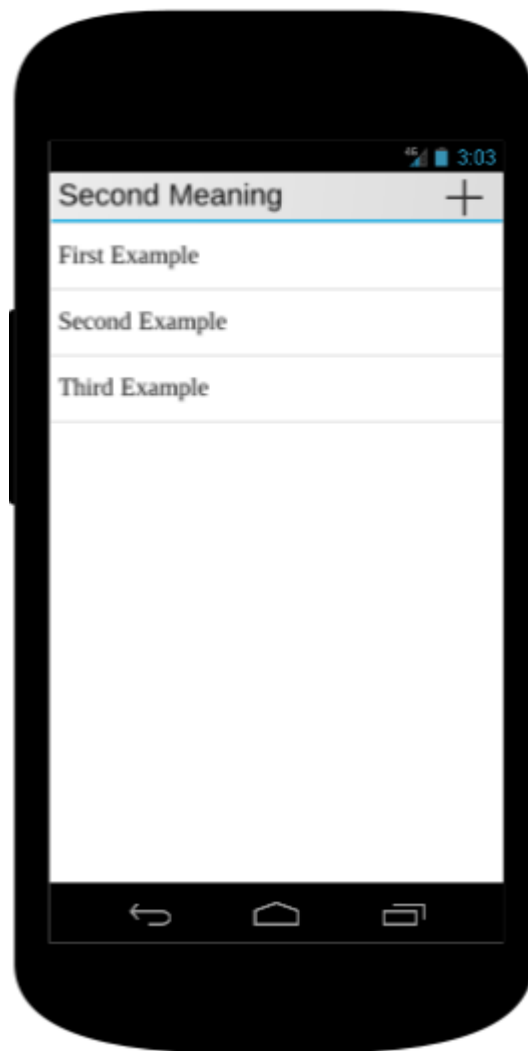# "Dictionary actions" screen



1. Dictionary actions

## "Show words" Screen

# "Show meanings" Screen

# "Show examples" Screen

# "Settings" Screen



Games
Enabled                    ON

Frequence of Games
Interval between notifications

Playable Dictionaries
Select dictionaries to be questioned

1. Able/disable games

2. Alter the games' intervals

3. Choose which dictionaries can be played

# "Dictionary create/edit" Screen



1. Specify the dictionary's language
2. Define the dictionary as public/private

# Tools

- LucidChart:

    - to develop Entity-Relationship model

    - to develop the Android Applications's mockup

- Android ADT Bundle

    - to develop the android application

- Netbeans

    - IDE to develop the server

- Axis2

    - framework to develop the server

# Repository:

The project official repository is located at
https://github.com/lucasvg/Learn_by_Heart_UFRJ

# Bibliography

Service Oriented Architecture:
http://www.sbvb.com.br/proposals/SOA-MC-sbvb.com.br.pdf