



Prof. R. Wattenhofer

## BA: *VocMinder 2.0*, the smart language trainer

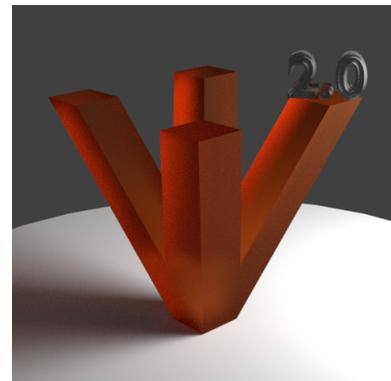
This document describes the subject and the general time schedule of the bachelor thesis of *Simon Wehrli* in the fall term 2013. Adaptations or changes can be agreed upon by the advisors.

### Motivation

Many people face to the task of learning languages. In today's world it is of great advantage to be able to speak different languages. But the way we learn them hasn't changed much with the introduction of modern technology. We want to change this.

The essence of successful learning is the selection of the right content and a good learning method. This project will produce a training application that pursues both goals. It automatically selects the right content **for you** and brings it with your favorite exposition at your fingertips.

This becomes more than a traditional vocabulary trainer<sup>1</sup>. Still, your learning progress is automatically rated and thereby it complies with the **programmed learning methodology**<sup>2</sup> of which one principle is *immediate feedback*. An Android client should be implemented to make the trainer easily accessible and support learning on the road.



### Informal Description

The main system components are:

- Centralized database for storing vocabulary books, units, and meta information, as well as basic user data and their individual progress.
- Decentralized Android application for interactive training (with Offline-Support) with a simple but powerful user interface (for phones and tablets).
- Synchronization system to keep the database up to date, serve user requests for specific units and spread knowledge across user devices to improve individual training programs.

**Requirements:** Creative thinking, basic (Android) programming skills, ability to design a complex data model, and the ability to work independently are necessary to work on this project successfully.

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<sup>1</sup>as the desktop application *VocMinder 1.0* which I built for the 'Maturaarbeit'

<sup>2</sup>[http://en.wikipedia.org/wiki/Programmed\\_learning](http://en.wikipedia.org/wiki/Programmed_learning)

## Contacts

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## Detailed Project Outline

We denote the following primary tasks mandatory (on the right side you find a rough estimate for the time that we allocate to the respective task):

- Study related work, existing trainers (★)
- Get familiar with advanced Android features such as multi-layout to support tablets (★)
- Design a flexible training unit format (★★)
- Model the data and dependencies for the centralized database (★★)
- Use a PLSA module to add relatedness information to the database (★★★)
- Include user feedback to improve the word relations (★★)
- Implement a web service that makes the data accessible to front ends (★★)
- Implement the Android application front end (★★★)
- Evaluate the system (★★)
- Write report (★★★)
- Prepare the final presentation (★)

## The Student's Duties

- **Weekly** meetings with the advisors to discuss current matters
- A final presentation (15 min) of the work and results obtained in the bachelor thesis
- A final report (English or German), presenting work and results