Software Engineering Design 1

Assignment Three

Due 9 am, Monday, Oct 2nd 2017

This assignment is to be done in pairs.

Purpose:

1. To create the practise module for Tātai!. Users will be tested on their ability to correctly pronounce the numbers from 1 to 99. There will be two levels, 1 to 9, and 1 to 99. Users should be able to select which list they will practise from. This protoype is focused on the core functionality. The gamification will happen by Assignment 4/Project Submission.
2. To gain experience using media playing tools (eg ffmpeg) and speech recognition tools (eg HTK).
3. To gain experience working in small groups.
4. To gain experience in giving presentations.

Interface Requirements:
Number List requirements

- The user should be able to select which number level they may start from (less than 10, or less than 100).
- Numbers need to be randomly generated from within a level. For Assignment 3, set the size of each number list to be 10 words.

Basic speech recognition requirements

- Users see the number, when they have the correct word, they need to press a record button and say the number in Māori.
- The user should be able to hear their recording.
- If the User says the word wrong they are given a second chance to pronounce it

Pronunciation Feedback

- For each number the user must be given feedback on whether their answer is correctly pronounced or not.
- At the end of the number list the user needs to be given their score out of 10. If they are in the first level and get a score of 8 or more they should be given the option to advance to the second level.
- For any given session, the statistics on every level must be shown.

Easy of Use

- This interface has to be easy to use for a non technical person:
    - This includes the look and feel of the interface.
    - The read-ability of the interface.
    - The robustness of the interface.
    - The interface should not freeze.

Assignment Outputs

There are three things to submit.

1. **A working version of the prototype**. Including any extra libraries required for the audio functionality. Please include with this working version a `readme` file that has very clear instructions on how to run the prototype. The assignment must be able to run on the supplied VMware virtual box. You should include both the source code, as well as an "easy to run" option that does not require compiling to run your prototype *(**One working version per group**.)*
2. **A brief 1-2 page report (*to be done alone*)** reflecting on the manner in which you worked with your partner to do the assignment. Cover the following:
    a. A Brief description of the prototype you developed for Assignment 3.
    b. How did you break down the work throughout the assignment with your partner?
    c. What was your manner of working with your partner? Did you both work on the same bit at once, did you each do separate tasks, Did you do a combination? Did you do something completely different?
    d. How did you handle version control?
    e. What do you think was successful about the partnership? Justify your answer.
    f. What would you do differently next time?
    g. How did you reach the design decisions mentioned above?

    *Please save the **report as a pdf file** using the file naming nomenclature **Assign3UPI.pdf** (for example I would submit Assign3cwat057.pdf), and submit that.*
3. You should be making use of Git and keeping a journal of your work. There may be a mark (in future submissions) for proof of you demonstrating this. It will be checked during the semester in the other assessments.

Online Submission: Separate dropboxes will be set up for the code and report, to be submitted in Canvas

In addition all groups will give a 5 min presentation on their Assignment 3 in the week 9 lab. This presentation is assessed. More details will be given about this closer to the time.