Software Engineering Design 1

Assignment Three

Due 5pm, Friday, 23rd September 2016

This assignment is to be done in pairs.

Purpose:

1. To create a prototype for VOXSPELL. Users will be tested from a spelling listed compiled from a spelling level. In the first interaction with the application, users may select any level to commence at. After this, the spelling tests progress "up the levels". If the users get 9 out of 10 words from a given level correct, they get the option of playing a video reward. If they complete a level they also get the option on going up a level, or repeating tests to practice more words in that level. Accuracy rates for the different levels will be displayed to the user at all times. 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 using the functions in ffmpeg (remember that it needs to work in the ECE Linux lab images, e.g. UG4)
3. To gain experience working in small groups.
4. To gain experience in giving presentations.

Interface Requirements:

Spelling List requirements

- The user should be able to select which spelling level they may commence from (the spelling level is given in the supplied vocabulary list).
- Spelling lists need to be compiled from within a level. For Assignment 3, set the size of each spelling list to be 10 words. The spelling list should be compiled randomly from words within a level (except in the case of level 1 where there are only 10 words).
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Basic text to speech requirements

- The words from the Spelling lists are passed to festival for reciting.
- The user should be able to hear a word (played in festival) and be able to write their effort for spelling the word in a text box.
- The User should be given a chance to relisten to the word spoken in Festival, without "penalty", before submitting their spelling attempt.
- If the User spells the word wrong they are given a second chance to spell the word (as per Assignment 1)
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- The user should be given the ability to change the voice in Festival (currently the option is one of two voices).

Spelling Feedback

- When using the spelling aid, the words need to be selected from the selected level. The user must be given feedback how many words they have got right from a given level.
- Once the user has correctly spelt 9 out of 10 randomly selected words correct on attempting a level, they can then progress to the next level.
- For any given session, the statistics on every level must be shown.
- When the user has got 9 out of 10 different words right within a level they need to be given the option to play the video reward.

Playback and Manipulation Video/audio

- Once the user has completed a level, the user needs to be given the option to play the video (sample provided on Canvas). This functionality should be achieved via push buttons.
- The user should be able to pause or stop the video file.
- BONUS MARK: Create an additional Video reward by using FFMPEG to manipulation the Video in some way.

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 Ubuntu platform on ECE's remote linux. 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. More details will be given about this closer to the time.