Software Engineering Design 1

Assignment Three

Due 1pm, Monday 30ᵗʰ September, 2019

This assignment is to be done in pairs, assigned by the lecturer.

Purpose:
1. To create the practise module for VARpedia to enable users to have a multimedia interface with Wikipedia.
2. To gain experience using media playing tools (eg ffmpeg, festival).
3. To gain experience working in small groups.
4. To gain experience in giving presentations.

Interface Requirements:

Basic text to speech requirements
- The text retrieved from the wikit search should appear in a text area, enabling the user to
  - Edit the text (add and remove characters),
  - Select parts/chunks of the text and preview it playing in a speech synthesizer without requiring it to first be saved to a file,
  - Select parts/chunks of the text and save the synthetic speech of the text to an audio file.
  - Allow the combining of multiple audio files of synthetic speech to be combined for a "creation".
  - For each chunk of selected text the user should be able change the synthetic speech setting (e.g. change voices, or change speech synthesizers)
- What will happen if there is too much text to synthesize? For the sake of simplicity it is advisable to set a maximum possible number of words for each chunk – somewhere between 20-40 words. If the user selects more than this a warning message should be given to the user to select a smaller chunk.

Playback and Manipulation Video/audio
- In addition to the wikit text being retrieved, images must also be retrieved from Flickr related to the creation's keyword (e.g. Vehicle) and download N images, where N is determined by the user, but cannot be greater than 10.
- The user must be able to create a video file (mp4), which is a slide show of the images downloaded from Flickr, with the keyword superimposed on it, plus the audio created from the synthetic speech edited from the wikit entry of the keyword. Note this video will not only contain multiple images, but it could also contain multiple audio chunks to form a single creation.
- The user must also be able to play their creation once it's been made.

Ease of Use
1. This interface has to be easy to use for a non technical person:
    a. This includes the look and feel of the interface.
    b. The read-ability of the interface.
    c. The robustness of the interface.
    d. 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. 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)*. Also in this readme file, you must clearly specify where you application should be tested (e.g. in the VirtualBox image, or the ECSE lab Linux image).

2. **A brief 1-2 page report (*to be done alone*)** Collaboration is said require interdependent relationships in which individuals behave cooperatively to achieve a common goal, rather than competitively or independently achieve distinct goals. It is more than about production efficiency though, its central aim is collective innovation and creative problem solving. Bearing this in mind reflect on the manner in which you worked with your partner to do the assignment, and consider the nature of the collaboration. Cover the following:
    a. How did you establish the parameters for collaboration? What was your team's common vision?
    b. What was your manner of working with your partner? How did you break down the work throughout the assignment 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? Give an example for all the different working styles you used, and reflect on whether it was a true collaboration.
    c. Part of collaboration of code development is version control. Discuss how your team dealt with version control of the developed software.
    d. Describe two instances where you and your partner had different perspectives, and discuss how these differences were resolved or influenced the project.
    e. What do you think was successful about the partnership? Justify your answer with examples.
    f. What would you do differently next time?

    Please your report will need both an introductory paragraph, and a conclusion. There is no need for any section headings, nor an abstract/summary. It should , however have a title.

    *Please save the **report as a pdf file** using the file naming convention **Assign3<UPI>.pdf** (for example I would submit Assign3cwat057.pdf), & submit that.*

3. You should be making use of Git and keeping a wiki of your work on GIT. 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. Please include a link to your GIT site at the bottom of your report.

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 **7 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.