EECS 2311

Software Development Project

January 8, 2019

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Our project

- TalkBox is a device that helps anybody, who is unable to talk, communicate

- Each TalkBox has a number of buttons that the user can press to play pre-recorded audio files

- Some of the buttons on the TalkBox may be used to load different sets of audio files

- We will develop two pieces of software to help family members configure a TalkBox device with audio appropriate for their situation

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1. TalkBox Simulator

- A piece of software that simulates the behaviour of any TalkBox device

- Has a user interface similar to that of the device
  - The number of buttons and their functionality is configurable

- Is fully tested to behave as the hardware device

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2. TalkBox Configuration app

- A user-friendly GUI-based app that allows for the configuration of a TalkBox device with appropriate audio

- It will provide facilities to record audio, or select already pre-recorded audio files

- It will allow the user to associate audio files with buttons in an intuitive way

- It will store the configuration in a USB flash drive to be used with an actual TalkBox, or will launch the Talkbox Simulator to test.

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TalkBoxConfiguration class

- The TalkBox Configuration app and the TalkBox simulator will communicate through the use of a TalkBoxConfiguration object that will be serialized in the USB flash drive

- The API for the TalkBoxConfiguration class will be provided

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Intentionally vague requirements

- In a real software development project, requirements are vague and ever-changing

- The exact requirements will be refined iteratively by interacting with the "customer" on an ongoing basis

- Some requirements may change after the project has started

- New requirements may be added after the project has started

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Workload

- This course requires 8-10 hours per week per student

- Have to start working immediately

- In the second part of each lecture, there will be time to present your progress to the "customer" and ask questions

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Evaluation

- 10% - Lab tasks completed

- 25% - Midterm submission (due Feb 24)

- 65% - Final submission (due April 3)

- Each group submission will receive a grade based on its merit. Individual grades may be less if full participation has not been demonstrated.

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Groups

- Groups are assigned randomly by the "manager"

- As enrollment in the course changes in the first few weeks, the "manager" may rearrange the groups

- Same as a real software project!

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Class "exercise": Find your group

- Login to the EECS 2311 page on Moodle (use your Passport York credentials)

- Find your group number

- Go to the designated desk in the classroom to find your teammates

- Introduce yourselves and exchange contact information

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To get started

- Make sure you understand what TalkBox is/does
  - Ask questions if you don't

- Setup your group's github repository and make sure every group member can push / pull

- Start coding the GUI of the two apps

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All group members

- Go to github.com and sign up for an account

- If you already have a github account, you can use it for the course

- However, if your existing github account has a username that has nothing to do with your name, you might want to create another account for the course

- **Your participation in the project will be assessed based on your github activity!**

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Once per group

- Sign in to one group member's github account

- Create a new repository

- Copy the URL to access your repository

- Click on Settings -> Collaborators and add the remaining group members as collaborators

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Once per group

- Run Eclipse

- Create a new project called TalkBox that contains a main method that prints "Fun with Git"

- Go to Window -> Preferences -> Team -> Git -> Configuration

- Click Add Entry, add the pair [user.name, <yourname>]

- Click Add Entry, add the pair [user.email, <youremail>]

- These should be the same as the ones used at github.com

- Click Apply, then OK

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Once per group

- Rightclick on the TalkBox project, and select Team->Share Project…

- Select Git, and hit Next

- Click on Create…

- Provide a name for your local repository, and click Finish

- Your **local** repository is now setup.

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Once per group

- Rightclick on TalkBox and select Team -> Commit…

- Provide name, email

- Add a commit message
  - It is important that you add a message every time you commit, makes it much easier to find a version later

- Select all files, and click Commit

- Close editors, reopen, make a change to the output of your program and Commit again

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Once per group

- Rightclick on TalkBox, select Team -> Remote -> Push…

- Copy the URL from github.com in the URI field

- Enter your github.com username and password, click Next

- Select master from the Source ref pull down menu

- Click on Add All Branches Spec

- Click Finish, then OK

- You should be able to see the TalkBox project in github.com

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All group members

- Open Eclipse

- Go to Window -> Preferences -> Team -> Git -> Configuration

- Click Add Entry, add the pair [user.name, yourname]

- Click Add Entry, add the pair [user.email, youremail]

- These should be the same as the ones used at github.com

- Click Apply, then OK

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All group members

- Go to File -> Import -> Git -> Projects from Git

- Click Next, select Clone URI, click Next

- Copy the URL of your repository from github.com on the URI field

- Keep clicking Next, and finally Finish

- You now have a copy of the project in your local repository

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Push

- Make some changes to any of the classes in the project

- Rightclick on any element that has changes (could be the whole project), and select Team -> Commit

- Add a commit message

- If you do not want to publish the changes yet, click Commit

- If they are ready to be published, click Commit and Push

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Pull

- To get changes published by other group members, rightclick on the project, and select Team -> Pull

- Before starting to make changes to the code, it is important to Pull, so that you are working on the latest version

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Lab Task

- Get git working for every group member

- This should be for code / documents / notes etc.

- Demonstrate that everybody can pull / push code on Monday's lab

- Spend the rest of your time coding the GUI of your apps
  - In a couple of weeks, you'll have to demo a first prototype

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