

EECS 2311 Requirements document

Team 2:

Members: Ashish Ranjan, Dion Tu, Richard Robinson, Roshani

General Requirements/Needs of customer:

The major goal of the project is to create a Talk Box device that helps anybody who is unable to talk, communicate. The Talk Box will have a number of buttons that the user can press to play pre-recorded files. There are buttons available on the Talk Box used to load different audio files. The Talk Box simulator is a graphical user interface designed to behave as a physical hardware device and reproduce all of its features digitally (buttons and other features). The Talk Box configuration app sets up the number of audio buttons, the path in which the file is saved and the number of swap buttons. The user can also use a feature in the configuration app to associate specific audio files to specific buttons. As an additional feature the user can click on an empty button to reveal a text to speech option. In this text to speech feature the user will have the option to, type the sentence and then choose from six voices which will read the text and will save as a .wav form once the user exits the window.

Detailed requirements:

1. Talk box simulator

The talk box simulator is designed to simulate the physical device and reproduce all of the device features digitally such as buttons, save and any other feature. It needs to be fully tested in order to prevent bugs. Furthermore the number of buttons and functionality of the buttons should be fully configurable.

1.1 New talk box file

- The user should have the option to create a new talk box file and set number of audio and swap buttons for that file, along with the directory in which to save the file.

1.1.1 Finish

- The user should have the option to finish the task of creating a new talk box file.

1.1.2 Cancel

- The user should have the option of cancelling the task of creating a new talk box file.

1.2 Open existing talk box file

- The user should have the option to open an existing talk box file.

Other requirements:

- The user should be able to minimize and close the talk box simulator.

- The user should be able to launch the talk box configuration app from the talk box simulator.

2. Talk box configuration app.

The talk box configuration app provides the user the functionality to associate audio files to a new button, select pre recorded audio file, record an file and associate it with a button.

2.1 New audio file to a button

- The user should be able to simply associate the empty button with their own audio file.

2.1.1 Play

- The new file should play when button is clicked on.

2.2 Select pre recorded file

- If the file has just been opened by the use of the talk box simulator, the pre recorded file should already be associated to the specific buttons.

2.2.1 Play

- The pre recorded file should play when the button is clicked on

2.3 Change file

- The user should be able to easily change the current recording bounded to the button for their own recording.

2.4 Remove

- The user should be able to remove the current recording on the button.

Additional requirements if permissible:

2.5 Text to speech

- When clicking on an empty the button the user should have a text to speech panel pop-up.

2.5.1 Type sentence

- There should be a text box which allows the user to type there sentence in.

2.5.2 Selecting voice

- The user should have the option for selecting the voice in which the sentence is being spoken in.

2.5.3 Play

- The user should have the option to play and thus listen to the sentence in the voice they have selected.

2.5.4 Bind to button

- The user should have the option to finish the task with and thus bind the sentence to a button of their choice.

2.5.5 Cancel

- The user should have the option to cancel the task.

Test cases:

Case 1:

- Open the talk box simulator.
- Click the “create a new file” button.
- Type any file name.
- Type different number of buttons than swap buttons.
- Click finish.

Case 2:

- Repeat case 1 but type same number of buttons than the swap button.

Case 3:

- Type same file name as one of the cases, should get overwrite prompt:

Case 4:

- Open the talk box simulator.
- Click “open an existing file”.
- Click on a .tbc file.
- Click the “ok” button.