TalkBox User Manual

Version 2.0

EECS2311 Submission: Group 12

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1.0 Introduction:

The purpose of the TalkBox application is to introduce a virtual environment allowing the simulation of a TalkBox. This software is suited towards users with speech impairments. The components of the applications are easily configurable to the liking of the user. The design is simple, yet effective.

The software makes use of ".tbc" files as the saved state of various TalkBox configurations. These configurations are sets of images, audio files, and labels. The three of these components make a single button. These buttons are configurable.

The TalkBox application consists of two different programs:
1. TalkBox Configuration Application
2. TalkBox Simulator Application

The TalkBox Configuration Application is suited towards creating configuration files.

The TalkBox Simulator Application is suited towards creating the virtual environment for the various configurations.

The both programs are interconnected.

The various functionalities of these application will be explained in depth, however at brief they include:

- Creating new configuration files
- Editing existing configuration files
- Recording Audio
- Saving configuration files
- Opening existing configuration files
- Volume adjusting
- Drag and drop functionality
- Ability to choose images
- Ability to choose audio files
- Ability to playback audio files
- Intuitive and easy to use interfaces
- Multiple Page support
- AutoFill Audio Button functionality
- Log which displays statistics of your session.

2.0 System Summary:

System Summary section provides a general overview the system. The summary outlines the uses of the system's hardware and software requirements and the system's configuration,

2.1 System Configuration

TalkBox operates on computer devices with any supported operating system. It requires JRE 8 and higher versions. The application requires internet connections for specific functionality such as loading documentation and AutoFill. The hardware required is graphics, a microphone to record audio and a mouse to interact. Data from the TalkBox applications are stored into the user's home directory. It is saved under "TalkBoxData" directory.

3.0 How to get started:

3.1 To open in an IDE and build:

1. Navigate to https://github.com/amaanvania/TalkBox and download or pull the project
2. Start the project in the IDE of your choice
3. Open Builder.java class and run the project

3.2 To download as a JAR

1. Navigate to https://github.com/amaanvania/TalkBox/releases and download the TalkBoxConfig.jar
2. Save and run the JAR as shown below

# 4.0 Config App User Interface:

This is the initial prompt (Welcome Screen) for the Configuration App.

1. There are two options: Create New Project or Choose Existing Project.

2. Creating a new project opens the following prompt:
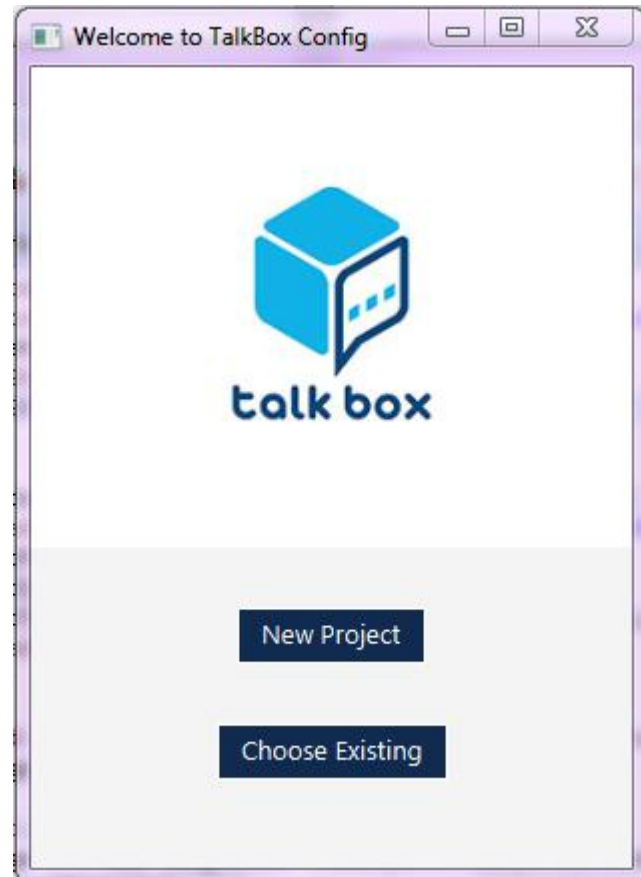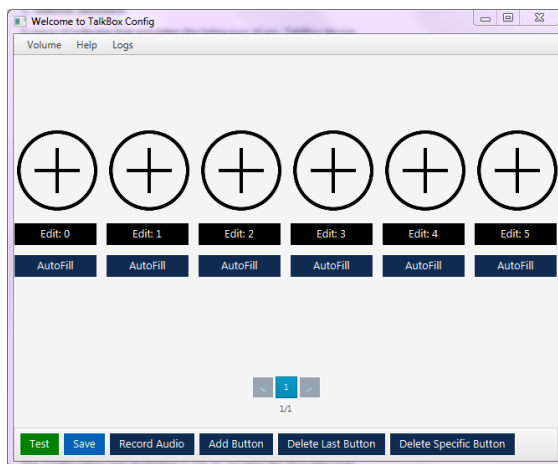
Six default Audio Buttons are initialized, and ready to be updated.

3. Choose existing opens a file chooser, where it is possible to open an existing Talk Box file (. tbc extension)
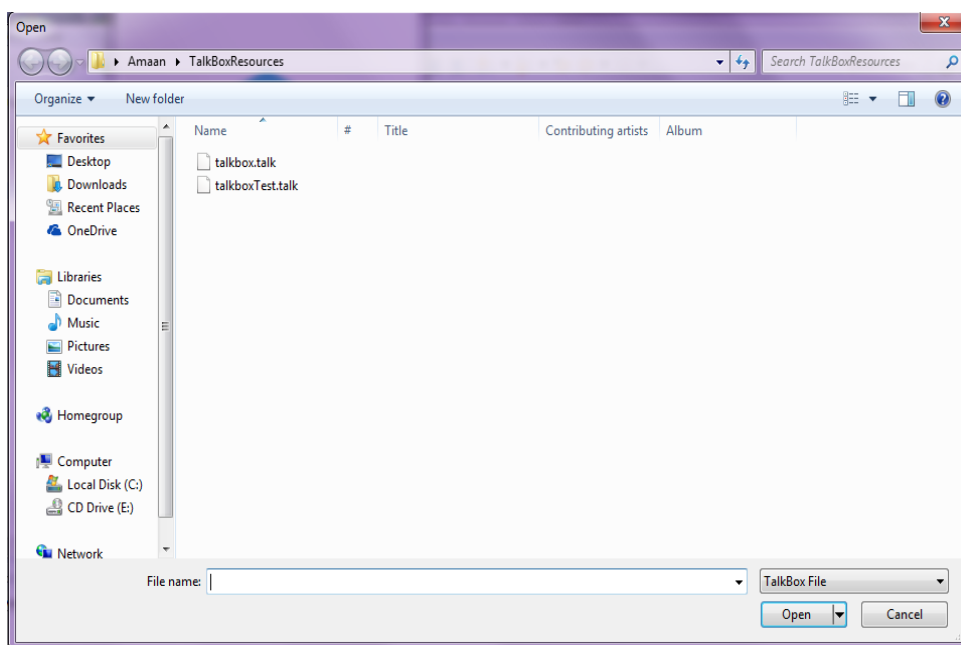
4.1   Edit:

1. The edit button allows you to set the title, picture, and sound recording of any button.

2. Upon clicking the button, a prompt is shown, as seen below:
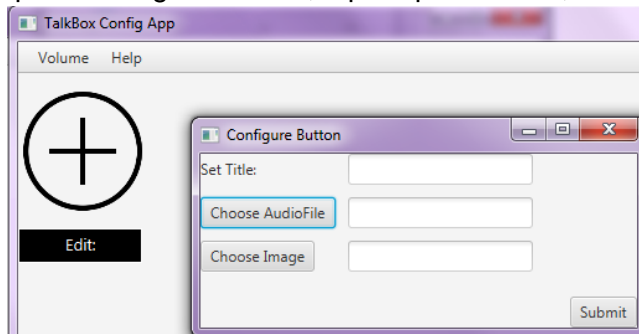
3. Clicking on "Choose AudioFile" and "Choose Image" will prompt a file chooser like that seen from the welcome screen.

4. Once the text fields are set, click submit.

5. This will update the main interface as seen:

4.2   AutoFill:

1. Below every Audio Button, there exists a button named "AutoFill".

2. Clicking on this button prompts a menu as seen:
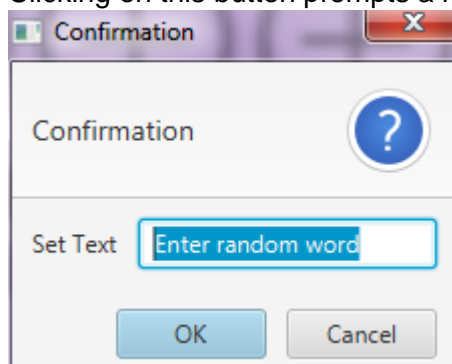
3. Entering a random word will generate an image found on the internet, and audio file of that word. This is then playable in the application, and the image updates.

4. This feature requires an active internet connection, in order to download the image and audio file. It may not work for complex words because a matching image will not be found.

5.0 Functionality

5.1 Run:

1. The run button allows you to run the current configuration in the TalkBox Simulator Application.

2. You must first save the configuration before attempting to run.

3. The TalkBox Simulator Application for this specific configuration is seen below:
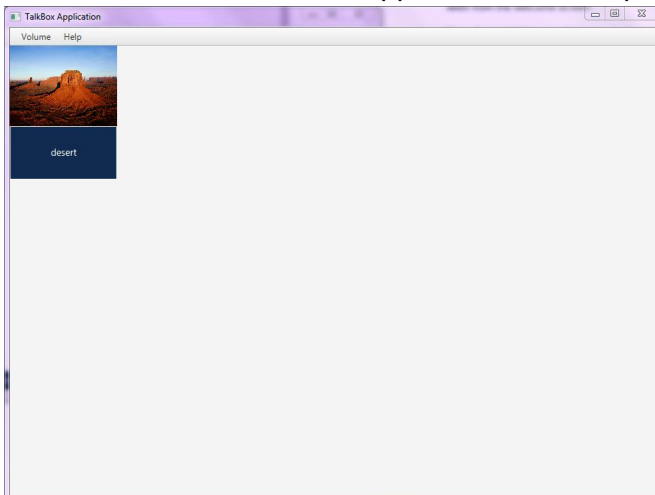
5.2 Save:

1. The save button allows you to save the current configuration using a file saver.

2. The configuration is serialized and saved as a .tbc file.

3. Upon clicking the save button, the following prompt will appear:
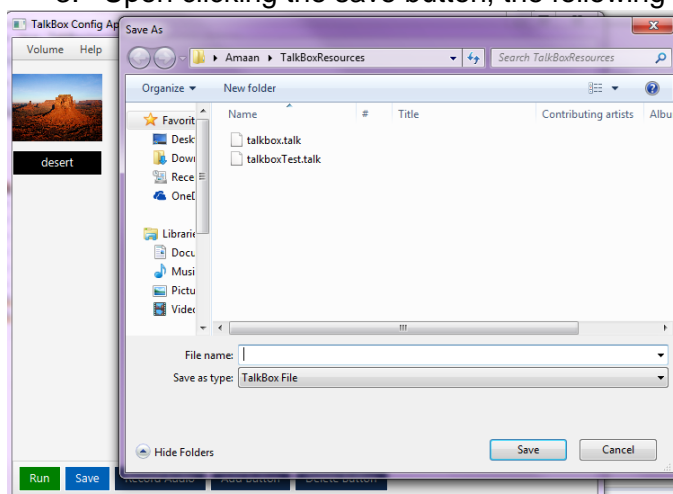
4. Now that the configuration is saved, it is possible to re-open the configuration using the "choose existing" option from the welcome screen.
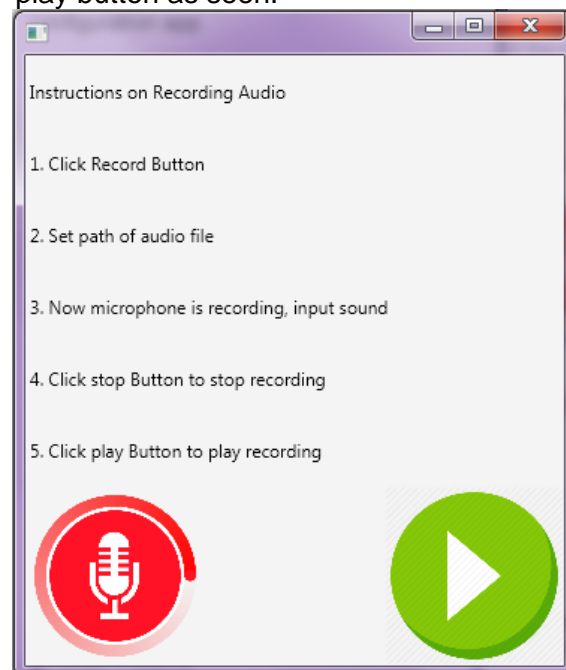
5.3 Record Audio:

1. The record audio button is useful for recording audio directly from the microphone.

2. This allows you to create your own .wav files. These files are supported by the TalkBox configuration app.

3. Upon clicking the Record Audio button, the following prompt appears:

Instructions on Recording Audio

1. Click Record Button

2. Set path of audio file

3. Now microphone is recording, input sound

4. Click stop Button to stop recording

5. Click play Button to play recording

4. To start recording, simply click the record button.

5. Set the path and name the audio file of your choice.

6. The microphone will then start recording, speak or input sound.

7. To stop recording click the stop button as seen:

Instructions on Recording Audio

1. Click Record Button

2. Set path of audio file

3. Now microphone is recording, input sound

4. Click stop Button to stop recording

5. Click play Button to play recording

8. To play the recorded audio, click the play button as seen:

Instructions on Recording Audio

1. Click Record Button

2. Set path of audio file

3. Now microphone is recording, input sound

4. Click stop Button to stop recording

5. Click play Button to play recording

5.4 Drag and Drop

1. TalkBox Configuration App can accept Drag and Drop resources.

2. To do this simply select a resource and drop it onto the Image of your choice as seen below:
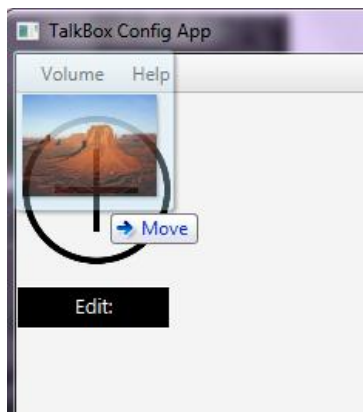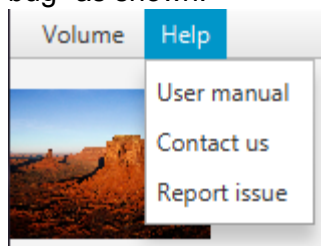
3. The Image will now update as shown:
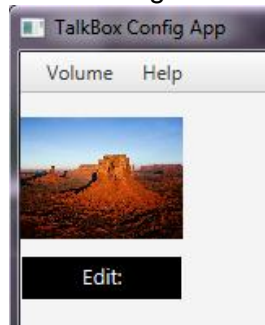
4. This feature is only supported with images and audio files.

5.5 Top Tool Bar

1. The top toolbar includes a volume slider, dropdown help menu and Logs dropdown menu.

2. The volume slider can be changed, to set the volume of the application accordingly.

3. The dropdown help menu has 3 options, "user manual", "contact" and "report bug" as shown:

4. Clicking on user manual will forward to this document on GitHub.

5. Clicking on contact will forward towards the wiki page on GitHub.

6. Clicking on report issue will forward towards issues page on GitHub.

7. Clicking on "Open the logger" will open the log tracking the current scenario. The logger will be explained in depth in the sections to come.
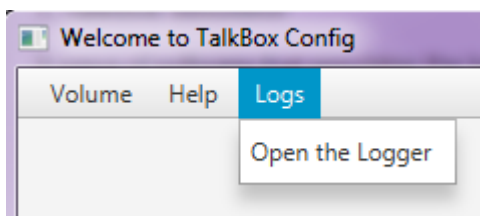
5.6 Add and Delete Buttons

1. On the bottom toolbar, there are "Add", "Delete Last Button", and "Delete Specific Button" buttons.

2. These buttons allow you to add, delete the last, or delete an audio button at a specific index.

3. Each page contains up to 6 audio buttons. If more than 6 buttons are present on a page, a new page is created. The total number of pages is shown on the interface.

TalkBox Application

6.0 Getting started:

6.1 To open in an IDE:

1. Navigate to https://github.com/amaanvania/TalkBox and download or pull the project
2. Start the project in the IDE of your choice
3. Open TalkBoxApp.java class and run the project

6.2 To download as a JAR

1. Navigate to https://github.com/amaanvania/TalkBox/releases and download the TalkBoxApp.jar
2. Save and run the JAR as shown below
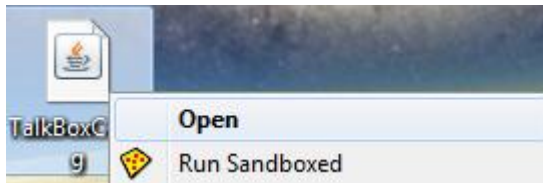
7.0 TalkBox Simulator User interface

1. Upon starting the TalkBox simulator, you will be met with a welcome screen as shown below:
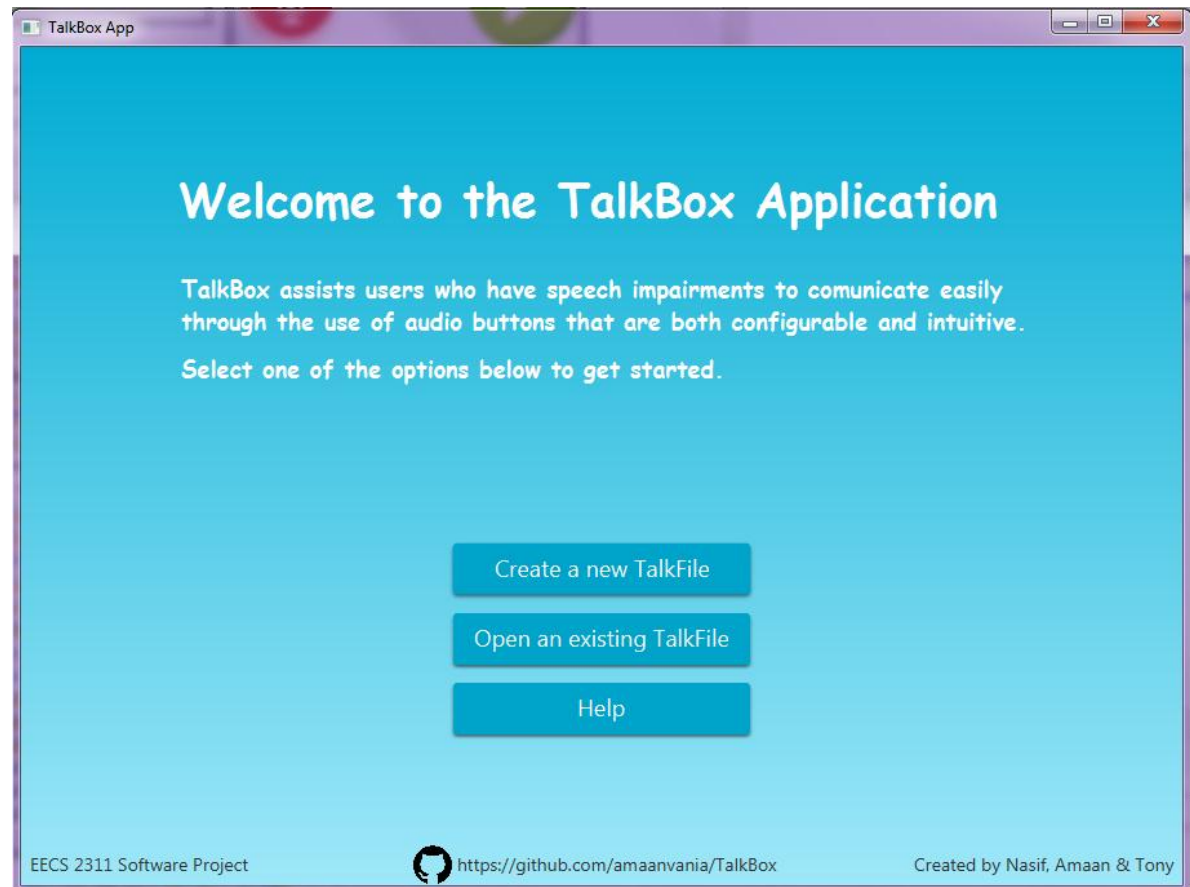
2. Create a new TalkFile button will create a new configuration application as shown:
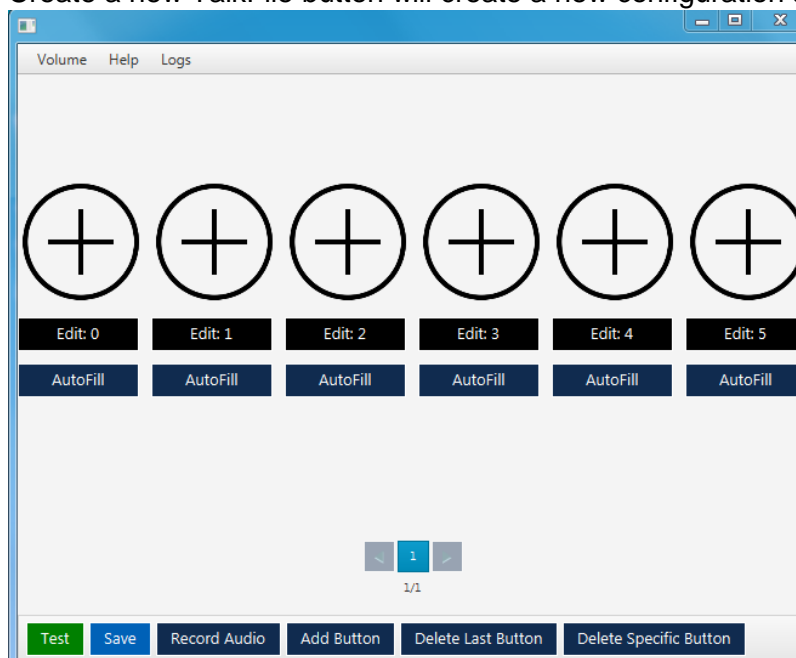
3. Open an existing TalkFile will prompt a filechooser like the "Choose existing" button from the configuration application. An example is shown:
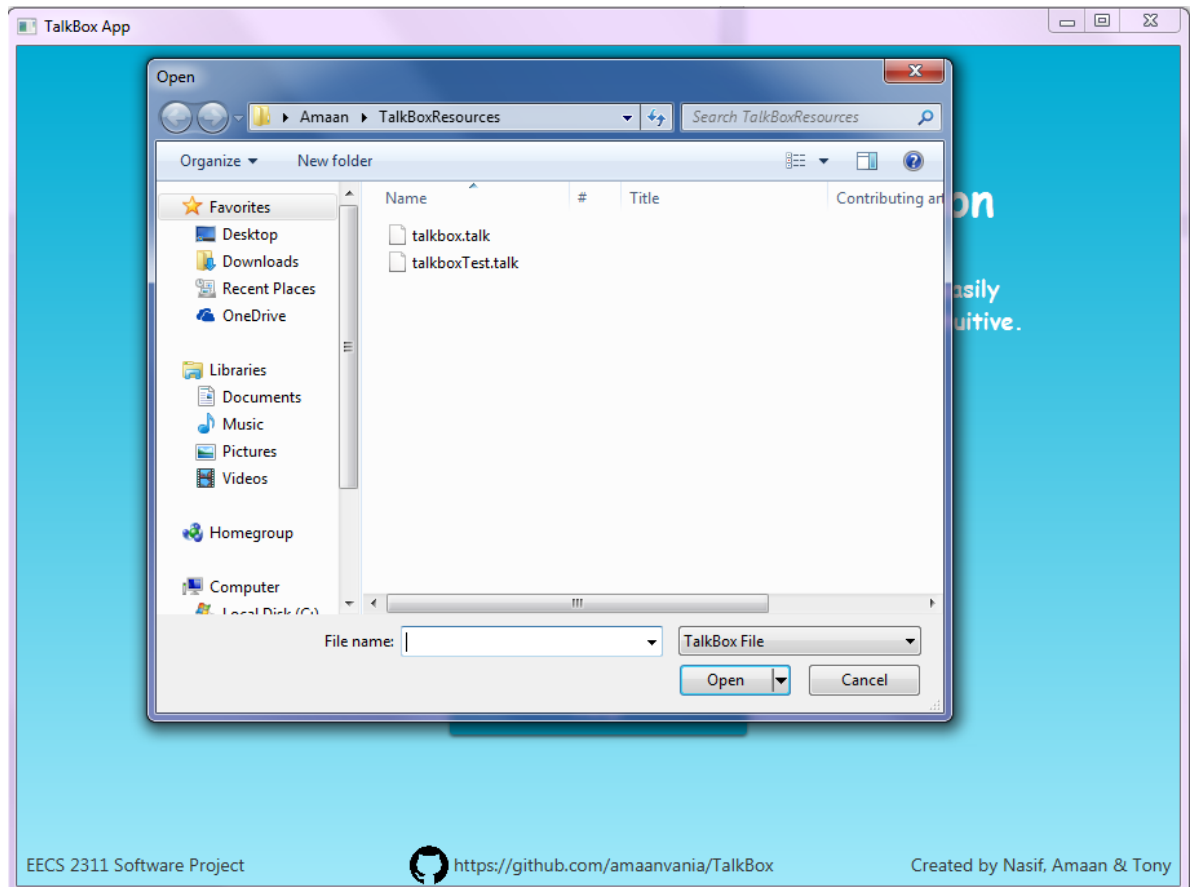
4. Upon selection of an existing file, the TalkBox Simulator Interface is shown.
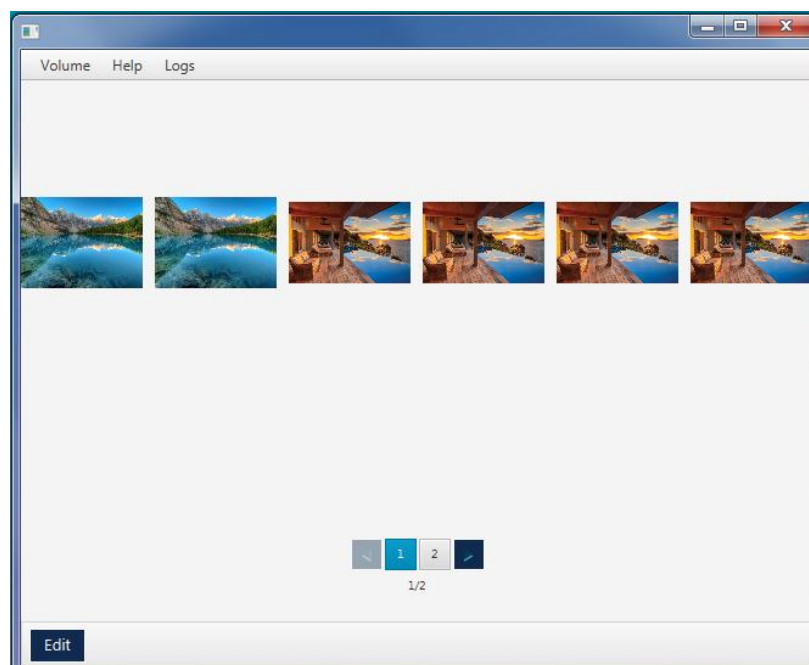
8.0 Functionality

8.1 Image Button:

1. The image button is known as the clickable image.

2. Upon clicking the image, the corresponding audio file of that image is played.

8.2 Top Tool Bar:

1. The top toolbar includes a volume slider, dropdown help menu and Logs dropdown menu.

2. The volume slider can be changed, to set the volume of the application accordingly.

3. The dropdown help menu has 3 options, "user manual", "contact" and "report bug" as shown:
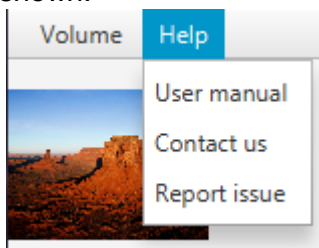
4. Clicking on user manual will forward to this document on GitHub.

5. Clicking on contact will forward towards the wiki page on GitHub.

6. Clicking on report issue will forward towards issues page on GitHub.

7. Clicking on "Open the logger" will open the log tracking the current scenario. The logger will be explained in depth in the sections to come.
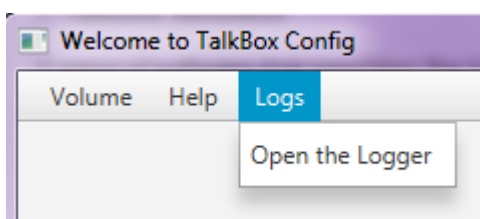
TalkBox Logger

9.0 Getting started:

9.1 To open in an IDE:

4. Navigate to https://github.com/amaanvania/TalkBox and download or pull the project
5. Start the project in the IDE of your choice
6. Open TBCLog.java class and run the project

9.2 To download as a JAR

3. Navigate to https://github.com/amaanvania/TalkBox/releases and download the TBCLog.jar
4. Save and run the JAR as shown below

9.3 TalkBox Logger User Interface and Functionality
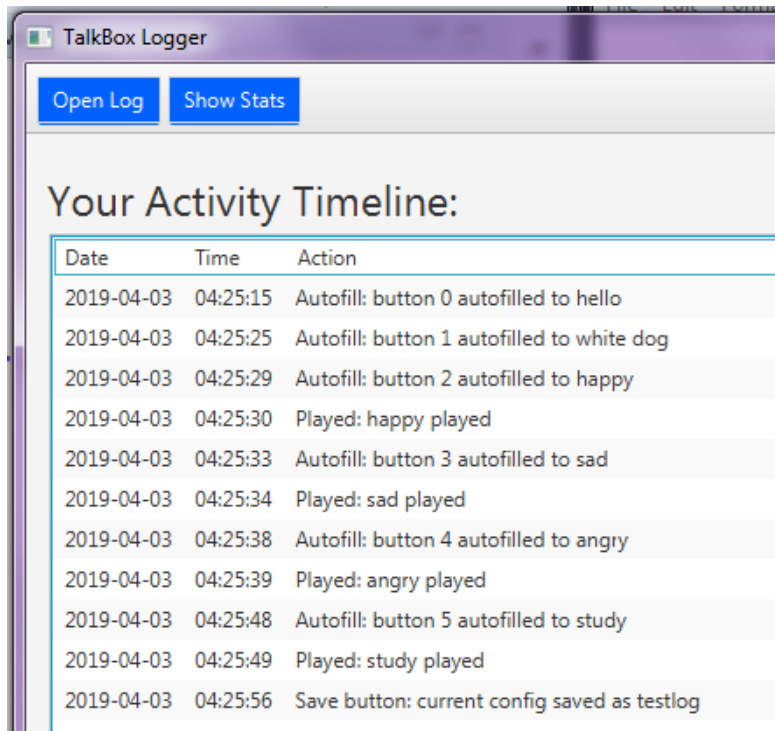
1. The Logger is useful in both TalkBox configuration, and TalkBox Simulator applications.

2. The Logger is also standalone (can be ran by itself). It can open any supported log file.

3. The initial interface for the logger is as follows:
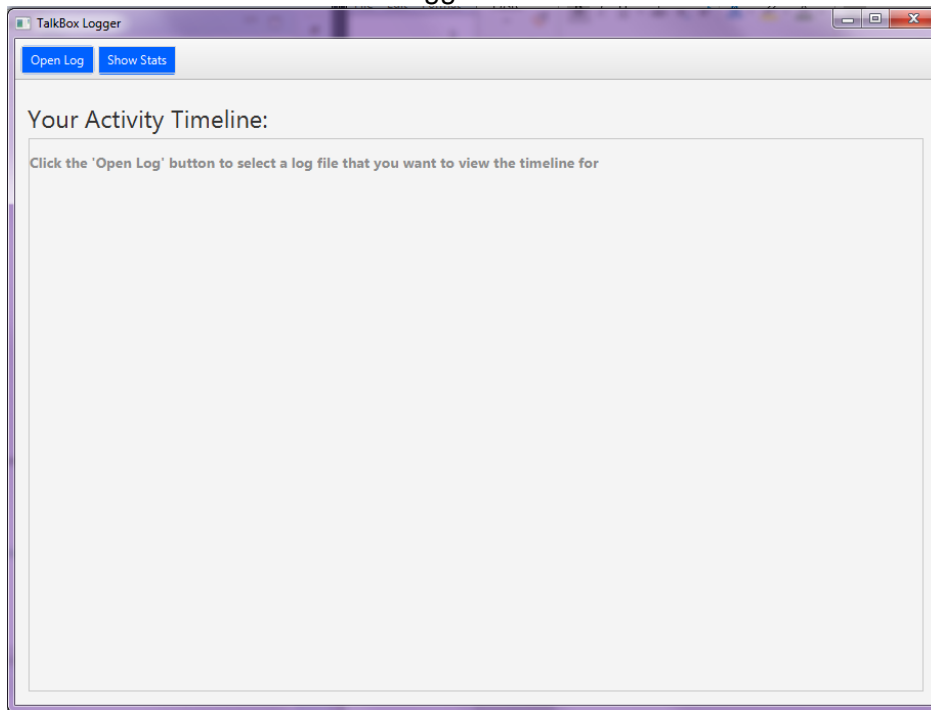
4. The open log file allows you to open a saved log file, which is created upon creation of a .tbc file. It prompts a file chooser as shown:
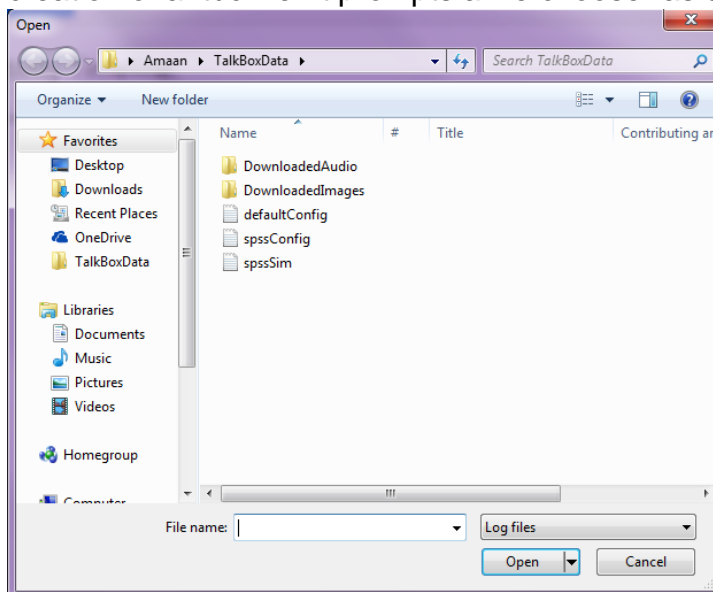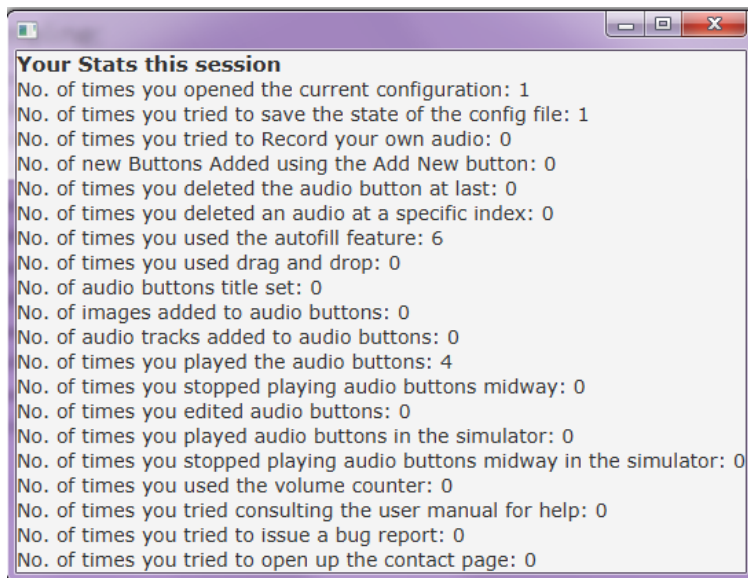
5. The logger keeps track of everything you've done within the applications. An example of what an existing file looks like is shown:

6. The show stats button tracks how many time each button was pressed. An example for this case is shown:
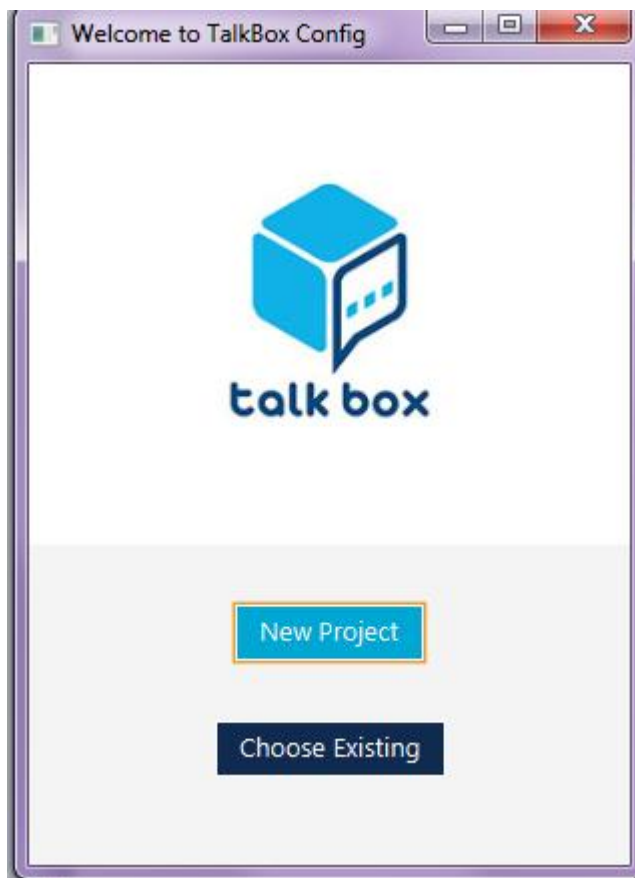
10.0 Example use case

In this section, an example of a .tbc (talk box configuration) file will be created.

For our case, we assume a person wants to create a TalkBox to express their emotions.

To do this, we can recreate the following steps:

1. Download and run the TalkBoxConfig.jar file.

2. Next, you will be met with the welcome screen as follows:

3. Click on "New Project" button

4. Now, the configuration interface is open. We are welcomed by 6 blank Audio Buttons. For the purpose of this example we will create 6 of our own Audio Buttons. The interface should be as follows:
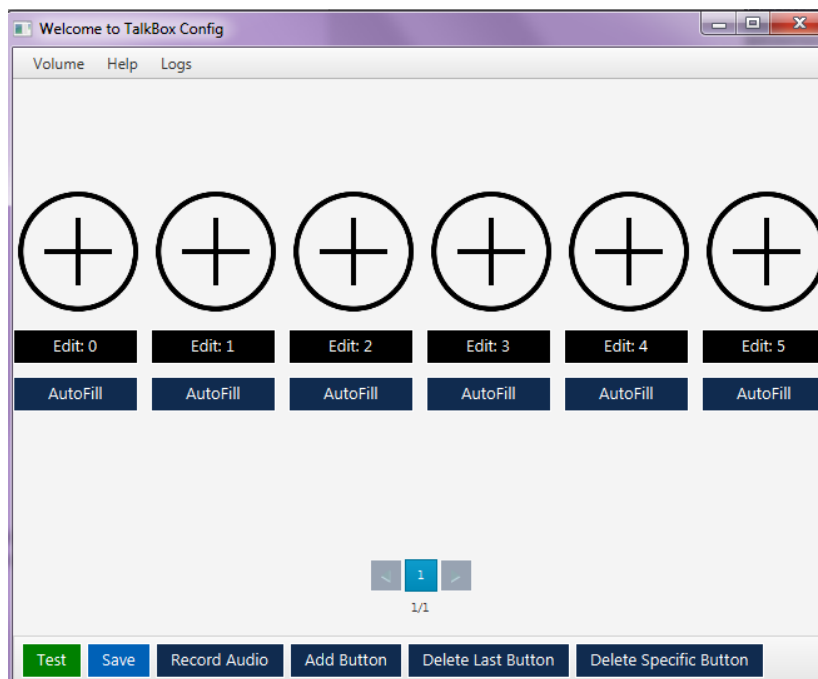

5. For simplicity sake, we will only use AutoFill for this demonstration. However, it is extremely easy to edit an Audio Button. Examples of manually editing Audio Buttons are shown above. We will create 6 Audio Buttons with the focus of this example on emotions.

6. For the first button, we click on AutoFill. We will be met with the following prompt:

7. We input the word "Happy", and this will download a "Happy" image on the internet, and download a text to speech audio file of "Happy"

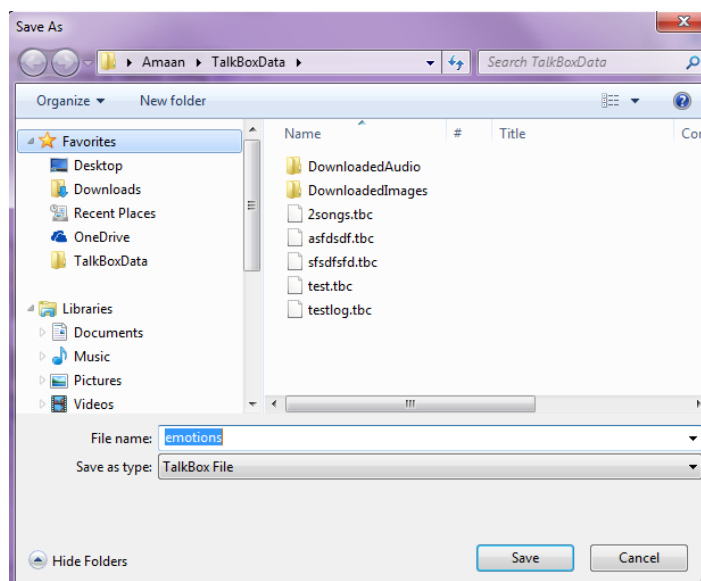8. Now, our configuration application is as follows:
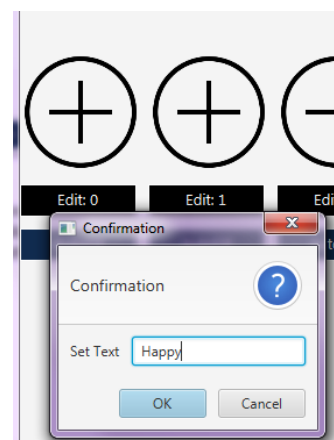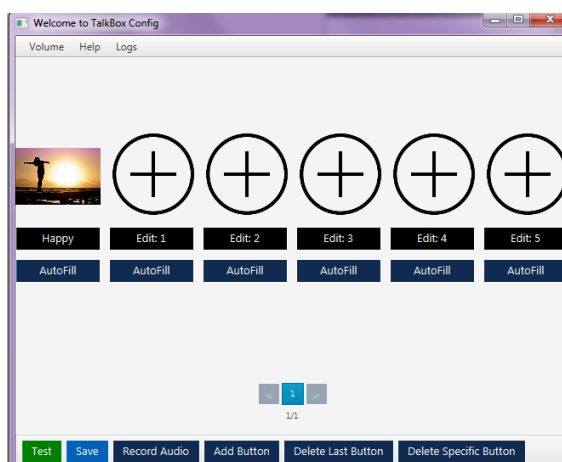
9. Repeat steps 7 and 8. In our case, we will use the words: sad, angry, curious, confused, euphoric.

10. The configuration application is now as follows:
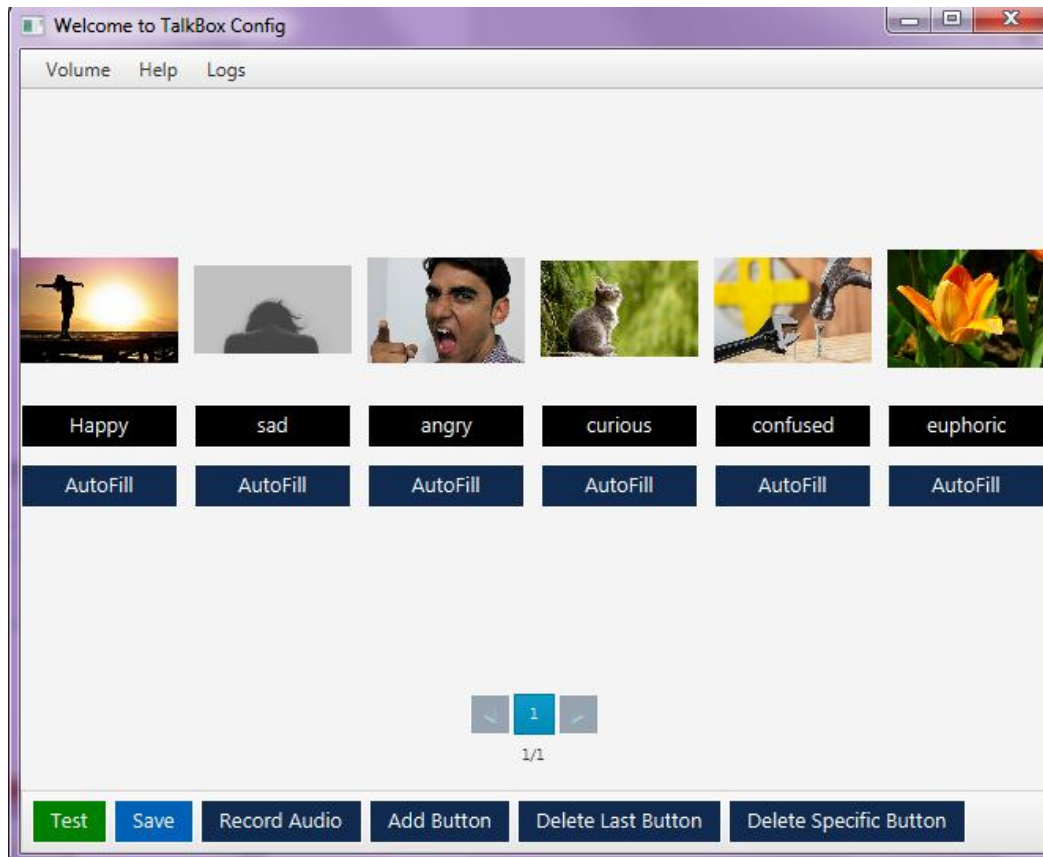
11. We will now save this file, and name it as emotions:

12. Now we are done! We have made our first TalkBox configuration file. This is re-editable and can be opened in the TalkBox simulator.