

SDP-16 Treasure

Treasure Box Braille

Software Requirements Document

Project Information

The Treasure Box Braille (TBB) System is an application whose purpose is to assist visually impaired students to learn the written language of Braille. The TBB runs on Scenario files which are automated lessons interactive lessons created by instructors for their students to use. Through our software application instructors will have the ability to create, edit and run scenario files. Visually impaired users will also be able to make use of screen readers to perform UI functions.

The following developers from SDP-16: Sanjay Paraboo, Damanveer Bharaj and Pengyuan Guo are involved in the development and deployment of the TBB software.

The current status of the TBB software is currently in development and can be tracked by visiting the following URL: https://github.com/SanjayP9/EECS-2311-TBB_Project. So far, the software development cycle is on track and has met all the milestones that have been set.

The TBB software final version is projected to be released on April 5th 2018.

Background and Goals

Goals:

- Our main goal is to create a software kit where instructors with visually impaired students can use our software to assist their students in learning braille.
- We also want to have no platform restrictions on the software. We are planning to have it available on all the major operating systems such as Windows, MacOS and Linux.
- Another goal of ours is to have the GUI work universally with most screen readers.

Background and Strategic fit:

As we know computers are becoming increasingly popular and widely used every day. Also, approximately half a million Canadians are visually impaired, and this number increases by about 50,000 per year. Given these staggering statistics about the number of visually impaired people living in Canada I feel that having a software kit that helps teach visually impaired people learn braille will be a success and will benefit Canada's visually impaired community.

System Use Cases

Case #	Use Cases Description
1	Reading Scenarios <ul style="list-style-type: none">Scenarios can only be read if file name and contents are validThe software interprets scenarios correctly and follows instruction in the scenario
2	Creating Scenarios <ul style="list-style-type: none">User can use software to create a new scenario file and specify the contentsThe file that's created automatically follows all conventions required for scenario filesExisting scenario files can be edited by the user using the software to add, remove and edit the current scenario.
3	Recording Audio <ul style="list-style-type: none">User should be able to record audio and save it in the correct format using the program.User can refer to the created audio file by making the software add a reference to the scenario file.
4	File Explorer <ul style="list-style-type: none">User should visually be able to see the computers directory and contents to choose and create scenario files.
5	GUI <ul style="list-style-type: none">User interface should be easy to use and have all the functions that are implemented in the software's model.
6	Screen Reader <ul style="list-style-type: none">Screen readers such as NVDA and ORCA should be compatible with the application

Acceptance Test Cases

The software should have the following acceptance cases by the end of its development cycle:

- Can successfully open Scenario files that pertain to the proper file syntax (proper name, commands order, command syntax, etc.)
 - User should be able to click on the "Player" button on the main screen
 - File explorer opens
 - User selects file
 - User is prompted whether file was properly formatted and accepted
- Properly formatted scenarios can be run by the TBB simulation software.
 - User see's TBB simulation of properly formatted Scenario files
- Properly formatted scenarios can also be edited by the client by using the editor GUI.
 - User can click "Editor" then "Modify" and a previously created Scenario file shows up in the GUI editor
- Editor GUI can create properly formatted scenarios and save it under a valid file name
 - When user saves a file the software prompts for the file name and when user enters a file name it will prompt the user whether or not the name entered is valid

- Have accessibility support for screen readers. (NVDA and ORCA)
 - When the user has a supported Screen Reader running, whenever they hover over any text inside the program window the text will be easily read by the screen reader and spoken to the user
- A file explorer should be used to let users choose their scenario files.
 - A well formatted file explorer that users will be able to see and use to select files to load.
- File explorer should be compatible with the screen reader
 - File explorer will also be able to read by a user's screen reader and folders, files, window text and more will be read by the screen reader.