Braille Box Authoring App

Requirements Document

EECS 2311: Software Engineering Project
Team 9
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Table of Contents

List of Figures

1.0 Introduction

This document specifies the required features of the scenario creator Authoring App software. The Authoring App software allows educators to create, save, edit and test educational scenarios for visually impaired users. The program is capable of accepting text inputs and audio files of ".wav" format for creating interactive scenarios. The program also allows educators to record and save new audio files. Current version just allows to play audio in record mode after saving the file, however, the final version will have a play feature allowing to play selected audio files. By following the simple input syntax, the educators can create educational scenarios and save them as ".txt" files. This document lists the requirements, acceptance tests, and use cases:

2.0 Requirements

This section describes what the Authoring App software system does for the client. These requirements have been derived by interviewing the client.

2.1 Key Requirements:

Here are the key requirements as requested by the client.

Requirement Number	Brief Description	Comments and Rationale
R1	Software should allow the users to create the flow of scenarios (ask questions, receive answers).	The users should be able to add a prompt/question and should also be able to receive a response/answer in a flow.
R2	Software should allow the users edit scenarios.	The users should be able to edit a previously created and saved scenario anytime. The users should also be able to save those changes.
R3	Software should allow the users to record audio in .wav format.	The users should be able to record audio and save it in .wav format to be inserted in scenario file.
R4	Software should allow the users to test/play scenarios.	The users should be able to test/play their saved scenarios (before potentially handing them over to their students).

2.1 User Requirements:

Following is an important user requirement for the Authoring App.

Requirement Number	Brief Description	Comments and Rationale
R5	The Authoring App must be usable by visually-impaired users.	The authoring app should be accessible and user-friendly for visually impaired users. The assumption is that those users have screen reader software installed on their devices and know how to interact with it.

2.2 System Requirements:

Following is the system requirement for successfully running the Authoring App.

Requirement Number	Brief Description	Comments and Rationale
R6	The Authoring App should be able to run successfully on Windows, Linux and Mac operating systems.	The authoring app should be fully functional on at-least two of the operating systems.

2.3 Additional Requirements:

Some other requirements are:

Requirement Number	Brief Description	Comments and Rationale
R7	The Authoring App should allow users to set number of cells and buttons at the start of scenario creation.	After interviewing the client, we reached at mutual conclusion that only finite number of cells and buttons are needed. Client indicated that having an option to have upto 10 cells and upto 6 buttons would be sufficient. The users should be able to raise pins on all those cells and should be able to add functionality to all the buttons.
R8	The Authoring App should allow users to add audio responses in scenario.	For example, on a button click an audio file could be played to indicate right or wrong selection.

More requirements can be added as the project proceeds.

3.0 Use Case

This section includes a simple use case of the Authoring App. Below is the textual use case followed by use case diagram.

3.1 Textual Use Case

Here is one flow of actions for creating, saving and testing a scenario.

1. **Launch** the Authoring App
2. **Create** a **New** Scenario
3. **Save** the Scenario
4. **Edit** the saved scenario
5. **Save** the scenario
6. **Test/Play** the saved scenario
7. **Exit** the Authoring App

Some actions can have multiple actions associated with it. For example, “Create a New Scenario” would have actions associated with setting cell and button numbers, setting title, adding audio file, recording audio files, adding questions, raising pins, adding response actions, reordering cards/scenario sections and so on.

3.1 Use Case Diagram

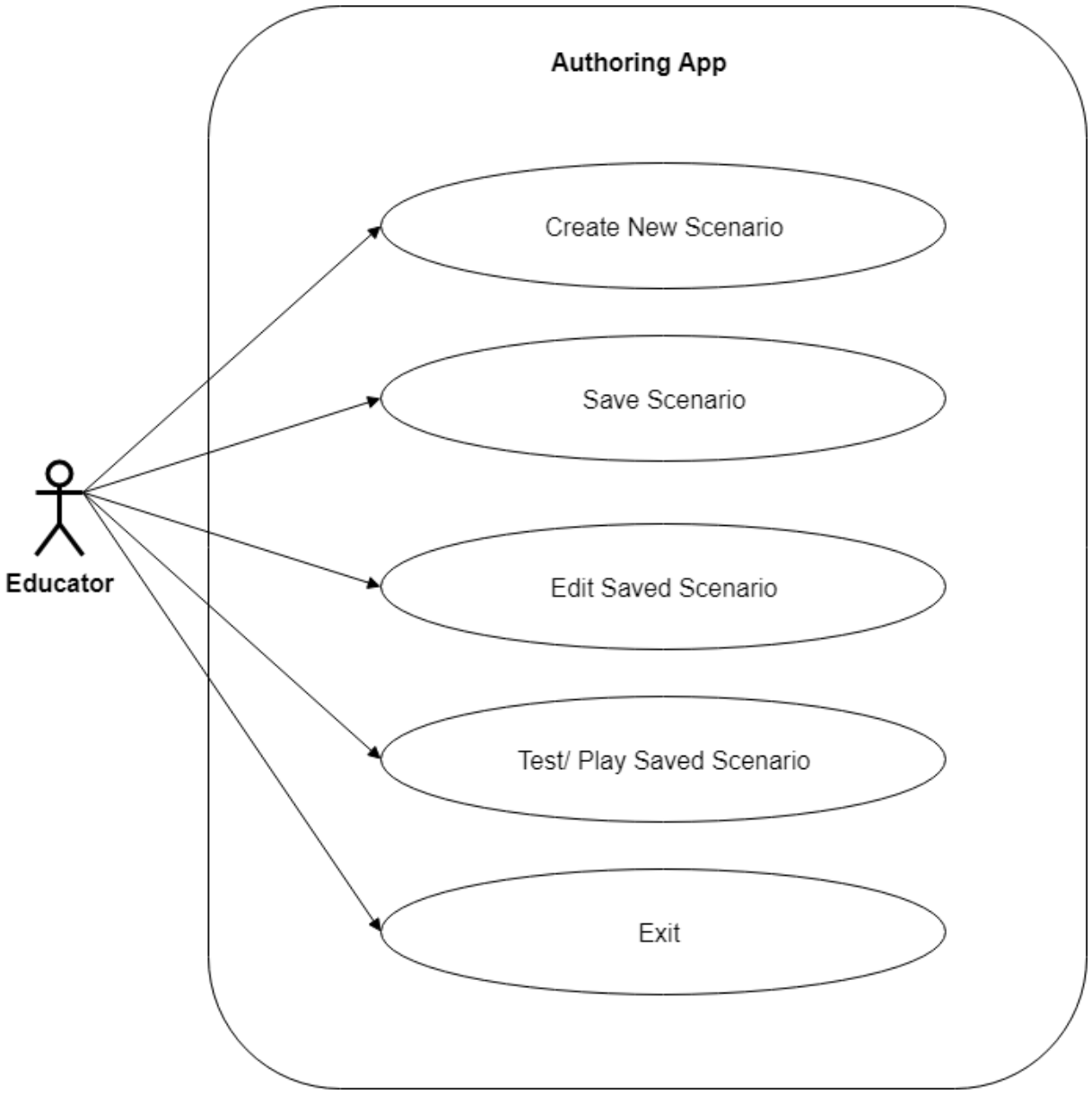

Figure 1. Use case for Authoring App

4.0 Acceptance Test Case

This section list the acceptance tests (performed by users to test the real life use of the app).

1. User should be able to save the scenario files in .txt format, as it is the format required to run test simulator for Treasure Box Brail (TBB). The saved version should have respective markers as described in Scenario File Format Documentation. [1]
2. User should be able to load a properly formatted scenario '.txt' file in the authoring app to edit different components associated with it.

3. User should be able to insert audio files of '.wav' format in the scenario. This audio would be played while running test simulator.
4. User should be able to record new audio files and save them in '.wav' format.
5. User should be able to raise pins particular pin on braille cell in TBB simulator.
6. User should be able to specify finite number of cells and buttons for a particular scenario on creation.
7. User should be able to ask a question and receive a response in terms of button clicks.
8. User should be able to associate a sound file and text feedback with each button click.
9. User should be able to rearrange the order of different question and response segments of scenario.
10. User should be able to successfully test a saved scenario file with TBB simulator.

5.0 References

[1] B. Tzerpos,"Scenario File Format Documentation" *EECS 2311 – Software Development Project*, https://wiki.eecs.yorku.ca/course_archive/2017-18/W/2311/_media/scenarioformat.pdf. [Accessed: 21- Jan- 2018].