BRAILLE CORP.

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Requirements Document

Braille Authoring App

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Submitted to:

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1 Introduction

1.1 Purpose of the document

This Requirements Document reviews the design, development and materialization of the Braille Authoring App's technical components. This document establishes the system concept and further reviews the consultation of users. Document users include programmers as well as external customers of the software.

1.2 Use of this Document

The remaining sections establish a template that construct the project-specific Requirement document. Particular sections should be considered given the user requirements, be that a programmer or external customer.

1.3 Definitions, Acronyms and Abbreviations

Systems Context diagram	A diagram showing how this system fits with its external interfaces
Capability requirements	What the system has to do for users
GUI	Graphical User Interface

2 Project Description

2.1 General Capabilities

Project EECS2311 involves designing and programming a system that enables educators to teach visually impaired students how to read braille. The software creates a user-friendly environment that is both easy to navigate and supportive toward a wide range of educational options.

This system is designed to perform a range of educational programs that may be created by educators. Such programs may be divided into three categories: Quiz, Storytelling, Test. Educators may add or modify content to their customized program by modifying past material or by uploading audio recordings. Given these programs, students learn how to read braille cells. This cell is comprised of 8 buttons and is modified according to the teacher's customized program. Students may pause, stop and replay audio recordings.

2.2 Project Context

The *Braille Authoring App*, prepared by Team 14, has been created over the course of various phases that involved diligently working with the client to build a user-friendly, interactive and effective design. Throughout each phase, the project encompassed user-friendly buttons and braille cells as well as interactive audio scenarios.

2.3 User Characteristics

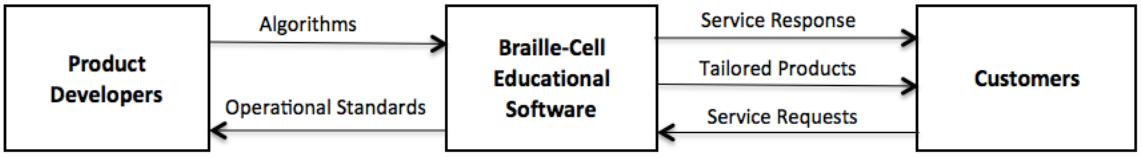
Customers branch into two sections: the educator and the student. While the educators may add, modify or upload data to the program, students will directly interact with the braille cell that corresponds to the teacher's assignments.

2.4 User Requirements

1. User can customize scenarios given labelled GUI icons such as buttons, menus and instructions
2. User can create and modify customized scenarios by involving text
3. User can add or delete parameters such as including questions, messages and stories
4. User can create and modify customized scenarios by using audio that is recorded, incorporated into their scenario, and played
5. User can save and delete created customized scenarios
6. User provided a user-friendly interface that is organized and concise given audio options, text options and visual options

2.5 Systems Context Diagram

The image below is a Systems Context diagram that displays inputs and outputs, as well as all external factors that interact with the system.



2.6 Operational Characteristics

2.6.1 Performance

The user interface is menu-driven. It provides dialog boxes, help screens, radio buttons, dropdown list boxes, and buttons for user input. When the user accesses any screen, it appears on the monitor within 2 seconds.

2.6.2 Confidentiality

Users without a Login ID with a corresponding Password cannot access this software. The storage of Login IDs and Passwords are encrypted to prevent unauthorized access. The system will not disclose any personal information about customers apart from their name and reference number to the operators of the system.

2.7 System Architecture and Construction

The progression of software development involves:

- Designing the layout of the GUI
- Developing the architecture of the code
- Creating test cases according to test-driven development
- Completing the back-end code required to connect aspects of the software together

3 Capability Requirements

3.1 User-Friendly Software Aesthetic

The Graphical User Interface clearly displays user options and programs to educators. It displays customized programs to the student according to its section type: Quiz, Test, Audio Recording.

3.2 Speed

The screen refresh time takes approximately 0.25 seconds per screen.

3.3 Number of Users

Any number of users may access the software provided they have a Login ID and Password. Educators who create customized programs shall have access to the program, as well as the registered students whom they choose to share the program with.

3.4 Operating System

- Linux
- Windows
- Mac