**Software Requirement Specifications**

**for**

**Braille Reader**

Prepared by Group 5

Members:Alfi Thomas

Jasmin Jose

Gouri M Menon

Jais Tomy

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9. **Introduction:**

The purpose of this software requirements specification (SRS) document is to provide a detailed description of the Braille Reader project. This project aims to develop a web based app that will enable translation of Braille script.

1. **Project Overview:**

The Braille Reader project aims to provide an user interface for converting braille documents. The system will be designed to convert Braille document in the form of an image to text and speech output. The system will be implemented in a way that is easy to use and reliable.

1. **Functional Requirements:**

The following are the functional requirements for the

1. ***User Registration:*** The system should allow users to register for a customised experience and for saving braille document copies.
2. ***Image Recognition:*** The system should use image recognition technology to recognise the braille characters using optical character recognition. The system should compare the scanned characters with the pre-fed braille mapping in the system's database. If it matches, the corresponding translation will be performed.

***3.3 Integration with Website:*** The machine learning model shall be integrate with the website to complete the fully functional web app. The system as a whole scans braille document scripts, identifies the characters and translates them to user specified language.

***3.4 Speech Output:*** The generated translated text can be converted to speech output for faster and easier assessment of the script.

***3.5 Text to Braille Translation:*** The user can insert text input which will be translated to braille script . This can be accessed by connecting a hardware device designed to display braille such as Braille display monitor.

1. **Non-Functional Requirements:**

The following are the non-functional requirements for the Braille Reader project:

1. ***Performance:*** The system should have a fast response time for quick translation of input.
2. ***Reliability:*** The system should be reliable and have a high level of accuracy in processing output and minimal errors.
3. ***Security:*** The system should be secure, protecting user data and preventing unauthorized access to the system.
4. ***Usability:*** The system should be easy to use, with a simple and intuitive user interface.
5. **System Architecture:**

The Braille Reader project will consist of the following components:

1. ***Hardware Components***

* Web cam access.
* Braille Display(optional).

1. ***Software Components***

* User interface for user login
* Input module for accepting input.
* Preprocessing module for digital conversion of input
* Recognition module for identifying Braille characters.
* Translation module for converting recognised Braille into Text and Speech output.
* Output module which generates the final output.

**6. System Integration:**

The hardware and software components of the system will be integrated to provide a seamless user experience. The

1. **Conclusion:**

The Braille Convertor project aims to provide an innovative and inclusive solution that enables visually impaired individuals to access digital information through Braille input. This project will provide a software solution that can recognize Braille characters, translate them into text or speech output, and provide an intuitive user interface for ease of use. This project is designed to be flexible and customizable, allowing for easy integration with different applications and devices. \Through this project, we hope to contribute to the development of more inclusive technologies that promote equal access to information for everyone.