SPL – III Project Proposal

# Bengali Braille to Text Translator

## Course: Software Project Lab – III

## Course No: SE – 801

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### 1. Project Specification

Braille is a reading and writing system which can only be read with the sense of touch. It is used by blind and visually impaired people who cannot access print materials. Braille is not a language. Rather, it is a code by which many languages can be written and read.  It uses raised dots to represent the letters of the print alphabet. It also includes symbols to represent punctuation.

This project aims to extract Bengali text from a scanned image of the paper on which Bengali braille code is typed.

### 2. Project Overview

The main focused of this project is to develop a system for converting Bangla Braille document into its equivalent natural language characters and words which is called Optical Braille Recognition (OBR). It involves two main steps like Recognition of braille cell and transcription of the Braille cell. The first step involved a few pre-processing steps, dot and cell recognition, etc. Second step aimed at converting the segmented Braille character into its natural language character. The following methods will be applied to develop the system.

i. Preprocessing

* Converting the image to Gray Level
* Image thresholding
* Converting image to binary image

ii. Braille Characters Identification

* Dot identification
* Line identification
* Braille cell identification
* Character identification

iii. Post Processing

* Word identification
* Spell checking
* Bangla text generation

### 3. Motivation

There are a lot of people who don’t have much knowledge of Bengali Braille Code. This project will help people to read the Bengali Braille Code easily. Blind people will benefit from this system as they will be able to reach readers who are not blind.

This tool will be helpful for natural language processing. It will also affect people’s interest to increase application based on natural language processing.

While implementing this project, I will learn several algorithms for image processing and natural language processing.

### 4. Timeline

The proposed timeline of this project is given below.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Weeks | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th | 11th | 12th |
| Requirement Analysis | X | X | X |  |  |  |  |  |  |  |  |  |
| Literature Review |  | X | X | X | X | X | X | X |  |  |  |  |
| Implementation |  |  | X | X | X | X | X | X | X | X | X |  |
| Result Analysis |  |  |  |  |  |  |  | X | X | X | X | X |
| Documentation |  |  | X | X |  |  |  | X | X | X | X | X |