ABSTRACT

Reading activity builds a strong foundation to learn and understand any knowledge that you want, it is important for everyone, especially for the blinds. Without having a skill to read the braille letters, they will get a hard situation in studying, because almost every learning activity (writing and reading) are using the Braille Letters.

On the previous research entitled "Kannada Speech Recognition Using MFCC and KNN Classifier for Banking Applications" using mel frequency cepstral coefficient and k-nearest neighbor method with accuracy 91,5% and in previous research incorporate ITS students in MOCO Warrior team with edu braille product presented at final Gemastic 9 at University of Indonesia, they make a tool for learn to read for blind arduino based. However on the previous research only processing voice to text and on tool edu braille research, in input data only limited from database not yet based on sound while in this final task will build a tool like edu braille but in it's input data only a sound signal.

In this final task, there will be built a tool to help the blinds to learn how to read Braille Letters, this tool will process sound signal's input into a text by mel frequency cepstral coefficient and k-nearest neighbor method. Then the text will be transformed into braille pattern using Arduino UNO.

The test results showed that the combination of mel frequency cepstral coefficient and k-nearst neighbor method be able to recognize sound signal of alphabet with the highest accuracy up to 87,3%.