# Speech to Text Recognition System

## Sheela Deshmukh[1], Neha Jundare[2], Mohini Gore [3,] Harsha Sarode[4]

[1]*Sheela A. Deshmukh, student, B.E. (E&TC), NMIET-Talegaon, Pune.*
[2]*Neha B. Jundare, student, B.E. (E&TC), NMIET-Talegaon, Pune.*
[3] *Mohini N. Gore, student, B.E. (E&TC), NMIET-Talegaon, Pune.*
[4]*Harsha  Sarode, Asst. Professor, E&TC, NMIET-Talegoan, Pune.*

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**Abstract –** For past several decades, designers have processed speech for a wide variety of applications ranging from mobile communication to automatic writing machines. In daily life Speech and spoken words have always played a big role in the individual and collective lives of the people. The speech that represents the spoken form of a language. Speech synthesis is the process of converting message written in text. In this paper ,we are explaining single speech to text (STT) system for many languages Viz., English, Hindi, Marathi and Punjabi to generate text. The conversion of speech into text is done by using a stored speech signal data. Speech to Text conversion module is designed by the use of MATLAB.

*Key Words***: Speech to Text, Properties of speech, Another way of data entry, makes communication easier for handicapped user, Speech to text system**
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# 1. INTRODUCTION

In this we are using voice processing using MATLAB. In MATLAB , we are adding multiple languages through voice protocol interfacing with microcontroller. When a voice occurs or any language is announcing then indicates the beep sound through a BUZZER and then RTC (Real Time Clock) takes time when an announcement which is display on LCD. RTC work for to take some particular time of task.

Our speech-to-text engine directly converts speech to text. It can complement the idea giving users a different choice for data entry. Our speech-to-text engine can also provide data entry options for deaf and physically handicapped users.



## 1.1  Software Design

First open the window of MATLAB. In this process voice input is given to the MATLAB with the help of microphone. The input signal which is given will be processed by MATLAB. Feature extraction, feature classification and feature vector will be carried to the given signal. In this system we are using two algorithms. K-Nearest neighbor (KNN) and Mel Frequency Cepstrum Coefficient (MFCC).
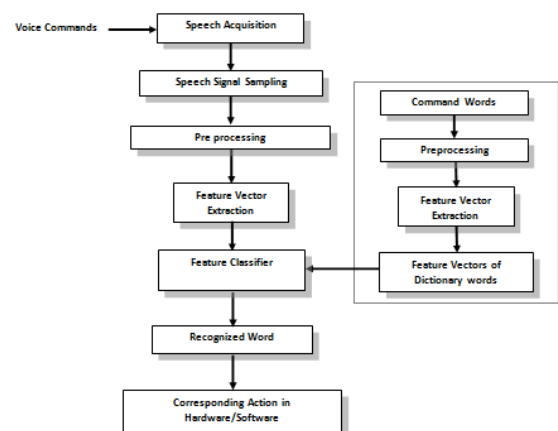KNN is used to detect the nearest possible word and MFCC is used for feature extraction.



**Fig-1:** Flow chart of software design

## 1.2 Hardware Design

In this project the hardware part is used as an application. First Turn ON the switch of the hardware. Initialize RS232, I²C, LCD and GPIO.

The serial port (USB) will receive the data from the LAPTOP or PC. And will be given to the microcontroller as an input. This data will processed by the microcontroller and will be displayed on the LCD. For example, If we give a command to forward the schedule of the meeting to the stored phone numbers, the microcontroller will send the message via GSM, to the respective phone numbers. And we can also set an alarm as a reminder for the meeting.

laptops or PC's. This project can also be used as a personal assistant for higher authorities to schedule meetings for working or non-working staff.

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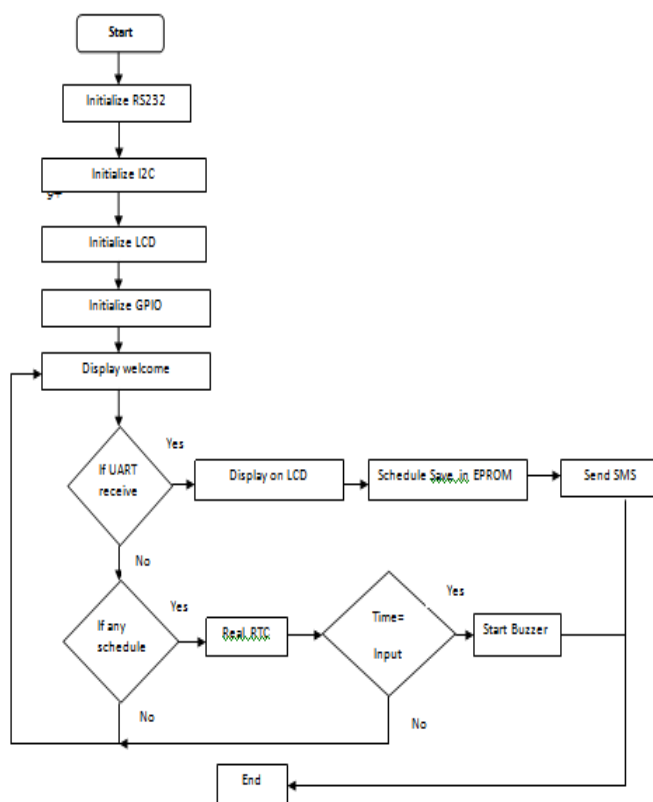


**Fig-2:** Flow chart of hardware unit

## 3. FUTURE SCOPE

1. we can use this project in physically handicap School/College/University labs.
2. It can be also used for various research projects.
3. Another scope of changing is that this project can be built for mobiles.

## 4. CONCLUSION

In this paper we have successfully implemented the system. Our project useful for handicapped peoples. For handicapped those who have problem for typing