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Voice Based Notice Board Using Android

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ABSTRACT: This paper deals with an innovative rather an interesting manner of intimating the message to the people using a wireless electronic display board which is synchronized using the Bluetooth technology. This will help us in passing any message almost immediately without any delay just by clicking which is better and more reliable than the old traditional way of passing the message on notice board. This proposed technology can be used in colleges many public places, malls or big buildings to enhance the security system and also make awareness of the emergency situations and avoid many dangers. g Bluetooth module display the message onto the display board.

KEYWORDS: innovative, public places,Arduino Uno, Bluetooth, Android, Data processing, speech recognition.

I. INTRODUCTION

In this world Mobile Phones and the related technologies are becoming more and more prevalent. Various technical arenas in the field of Telecommunication and Embedded Systems are becoming omnipresent in the people. The use of cell phones has rapidly increased over the last decade and a half Upgradation in networking technologies has encouraged the development and growth of very dense networks. Now-a-days the general mass prefer communicating while on the move therefore landlines usage has been drastically reduced. Notice boards are one of the widely used ones ranging from primary schools to major organizations to convey messages at large. A lot of paper is been used and which is later wasted by the organizations. This in turn leads to a lot of deforestation thus leading to global warming. Small innovative steps in making use of technology for regular purposes would have an adverse effect on the environment issues which we are presently concerned about. The main aim of this paper is to design a SMS driven automatic display Board which can replace the currently used programmable electronic display and conventional notice boards. It is proposed to design to receive message in display toolkit which can be used from an authorized mobile phone. The whole process can be described from the transmitter and receiver section. The BLUETOOTH module receives a message from the authorized mobile phone and the message is extracted by the microcontroller from the BLUETOOTH module and is displayed on the MATRIX display board. Serial to parallel communication is used for the entire process from WIFI module to Microcontroller and from microcontroller to the matrix display. And for the acknowledgement LCD display is used. This proposed system in this paper has many upcoming applications in educational institutions and organizations, crime prevention, traffic management, railways, advertisements etc. Been user friendly, long range and faster means of conveying information are major bolsters for this application.

II. RELATED WORK

The main problem that prompts us to undergo this research work was the inability of display boards in most places particularly tertiary institution to be easily updated. This work seeks to eliminate this challenge by allowing for easy update of notice board electronically via GSM Network. The message that is to be displayed is sent through an SMS from a mobile phone to the authorized in the Bluetooth module. The microcontroller receives the SMS from the authorized transmitter, validates the sending Mobile Identification and displays the desired information on the Liquid Crystal Display (LCD) which serves as the notice board .And send the SMS to the Student .
• The proposed model is used in bus stations, railway stations, parks, etc. to display the messages wirelessly.
• This Project can also be used in colleges and organizations.
• The multi terminal is intended for simultaneous management of multiple accounts, Bluetooth for which is mostly helpful for transmitting message to the display.

III. PROPOSED ALGORITHM

3.1 Arduino Uno (Atmega 328): Arduino board is the heart of our system. Entire functioning of system depends on this board. The Arduino Uno is a ATmega328p microcontroller board. This board has 14 digital input/output pins (6 as a PWM outputs), 6 analog inputs, a 16 MHz crystal oscillator, a USB connection, a power jack, an ICSP header, and a reset button.

3.2 Power Supply: This project utilizes a controlled 5V, 500Ma power supply,7805 three terminal voltage controllers is utilized for voltage regulation. Bridge type full wave rectifier is utilized to rectify the ac output of secondary of 230/12V step down transformer.

3.3 Bluetooth Module (HC-05): The HC-05 is a very cool module which can add two-way (full-duplex) wireless functionality. one can use this module to communicate between two microcontrollers like Arduino or communicate with any device with Bluetooth functionality like a Phone or Laptop. There are many android applications that are already available which makes this process a lot easier. The module communicates with the help of USART at 9600 baud rate hence it is easy to interface with any microcontroller that supports USART. We can also configure the default values of the module by using the command mode.

3.4 Android App: BT Terminal is a terminal app with UART serial communication protocol that transmits & receives data wirelessly through bluetooth connections.The app can be used for Robotics Communication, Configuring Bluetooth Modules (using AT Commands), Home Automation,etc.

IV. FEATURES

1. Works on HC-05 Bluetooth Module.
2. The app features both, transmitting and receiving data.
3. "Connect" and "Disconnect" buttons to quickly switch between connections without closing the app.
4. "Clear" button to clear all the received data, at once.
5. Single-page user interface for convenient usage.
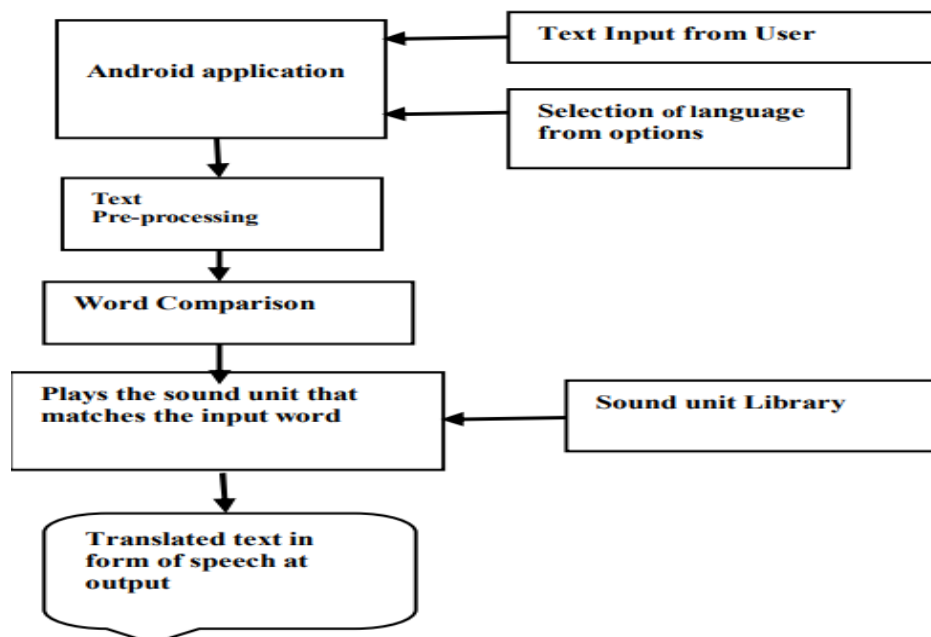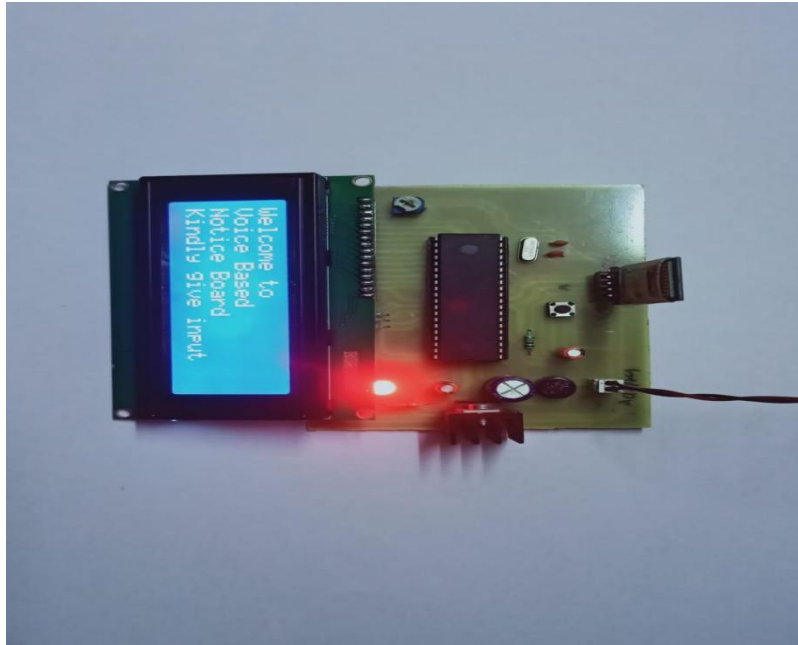6. Completely FREE! No Ads!

V. WORKING FLOW

Fig 1. Working Flow Diagram

VI. **RESULTS**

VII. CONCLUSION AND FUTURE WORK

As the technology is advancing every day the display board systems are moving from Normal hand writing display to digital display. Further to Wireless display units. This paper develops a photo type laboratory model wireless notice board system with BLUETOOTH connected to it, which displays the desired message of the user.

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