E-Black Board System-A Step Towards Digital Education

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ABSTRACT

E-Black Board system provides the easiest and convenient way of learning in Educational systems. This project presents a system which takes a small step digital learning. Android application is provided which takes the speech from the user and work in collaboration with the Bluetooth device. In Listening mode, application converts the spoken words into text and displays them onto the LCD screen. Power supply will supply the system energy needed which can be connected to any digital devices (like PC, Laptops, Mobile, etc). The converted text will be then displayed to the LCD screen with the help of Microcontroller. Along with this the customer would be informed about the on-going offers in the store. In today's digital environment this system provides easy and fast learning facility.

Keywords : Speech-to-Text API, Android application, Bluetooth, LCD Display.

I. INTRODUCTION

The objective of this project is to propose a real time Education System. Presently almost all Black Boards are providing the traditional workings i.e. they work on the manner of manually writing on it with a chalk or by marker. One of the drawbacks of this system is that, it is inflexible in term of convenience. The aim of this project is to develop a wireless black board that will be used by the faculty in order to teach the students.

So this system verifies voice by capturing it through the smart phone application, then decodes and sends it to the internal Bluetooth which then generate commands and convert speech into text form. In particular, we concentrate on the cases where the system takes the power supply for the working of the whole system. Particularly, we focus on minimizing work to manually write on the black boards. The faculty will simply speak through the application provided on the smart phone and the text will be displayed by using the Speech-to-Text API.

The speech converted to text will be displayed on the LED screen which works wirelessly with the help of the Internal Bluetooth. The Android system interacts with the command set to select the appropriate words to be displayed. It takes the power supply for the internal wireless working. The system in future can work as the wireless notice board also. So, this system reduces the total manpower requirement and also the frustration due to dust.

In a world where technology is replacing the ways we pursue everyday activity, the future of the Education System also lies in more and more automated and digital devices.

II. EXISTING SYSTEM

In present scenario, the black boards are used as follow:-The faculty go through the black boards manually again and again to write the study material needed. This process in the Education system is quite tedious and time consuming and increases the risk of health issues produced due to dust. Due to this reason, there is requirement of more & more human power on such education system but still the scenario is same: MORE FRUSTRATION. Limitations of the manual system:

- Required manual writing work load
- It consumes lot of manpower.
- Traditional methods are not convenient as they need more human work.
- Today's digital environment needs E- black boards for more convenience.
- Manual writing takes more time.

Hence, a digital system to enhance the education system is proposed. The new system completely removes all manual burdens and provide efficient on the entry system.

III. PROBLEM DEFINATION

In today's accelerating world, education system has become the essential part of human life, and time is concerned as one of the important factors. Innovation in technology is basically aimed towards making day to day life of people easier and faster. Most of the Educational bodies need convenient study patterns. Faculties have data and they write that data manually on the traditional black boards. After all these manual methods they also have to face problems arise due to dust produced by chalks. This is very time consuming and increase the user frustration. System is developed to help educational systems to move towards digitalization. The main objective of proposed system is to provide a technology oriented, convenient, easily handled and efficient system for Education.

IV. PROPOSED SYSTEM

In the proposed system, we are using multiplexing and de-multiplexing algorithm for recognizing barcode image of products and card provided by the malls. Smart phones are used to check authenticity of any product. As the customers enters the mall they are required to activate their mobile application by scanning the bar code of the card provided by the mall which would connected the application with the service database so that one can access the services provided.

V. OBJECTIVES

- The main objective of this project is to reduce and eliminate time taken for manually writing the text on the black boards.
- A simple and convenient way of teaching.
- Faculty can simply speak, via mobile app and the voice is converted to text and printed to the LED board
- Reduces amount of time wastage.
- Digitalizes the way of education and provide High accuracy.

VI. ADVANTAGES AND APPLICATIONS

1. **Advantages**

- Wireless Black board is easy to install and easy to use.
- Very cost effective and durable.
- Reduces, for faculties, the need of standing again and again to write anything on board.
- Efficient access and maintenance.
- Problems due to dust produced by chalks will not arise. .
- Reduces the time required.
- User satisfaction.

2. Applications

- It can replace the contemporary Black board from school and colleges with very less efforts.
- Faculties can send notices to the students of the specified class.
- Sending the notices to the students via e-mail, and additional facility for providing the normal massages on the student's mobile numbers at the same time.
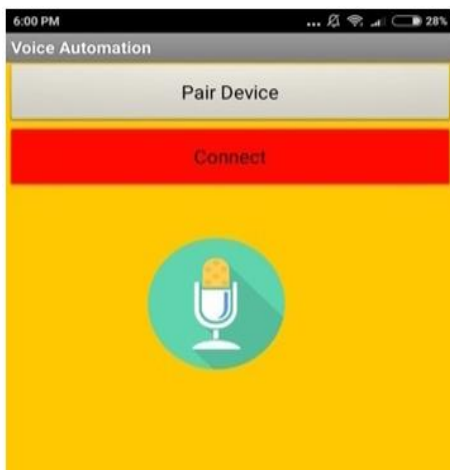
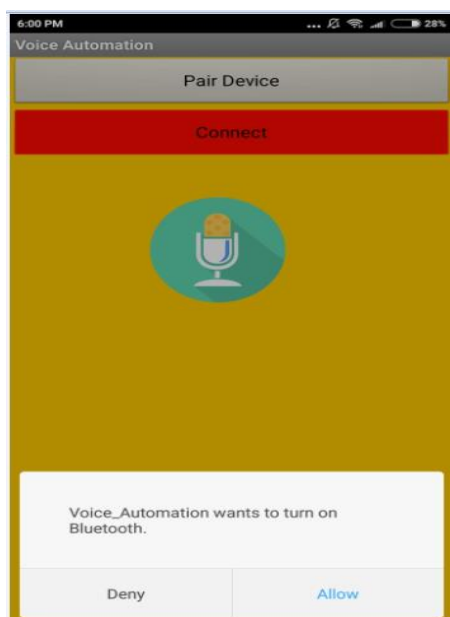## VII.   RESULTS

Figure 1 : Starting view of Android Application
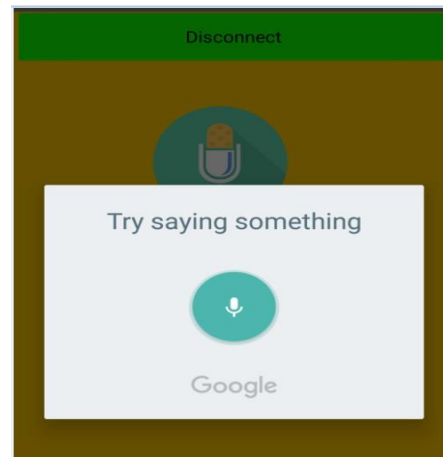

Figure 2 : Turning on Bluetooth to connect to the LCD screen

Figure 3 : Speak something to display it on LCD screen
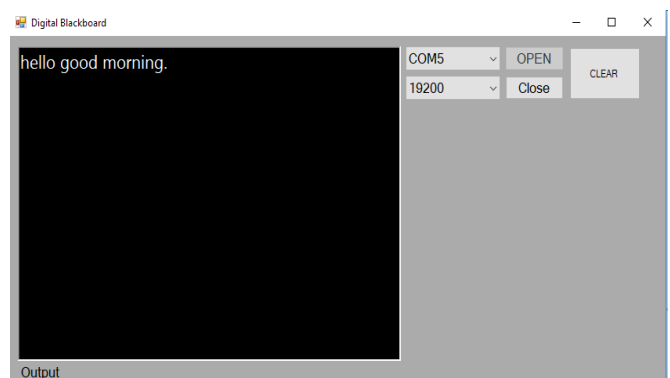

Figure 4 : LCD screen used to Display Text

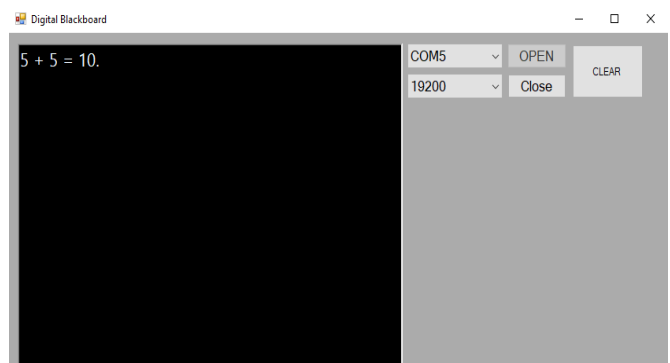**Figure 5 :** Spoken text displayed on the Computer screen
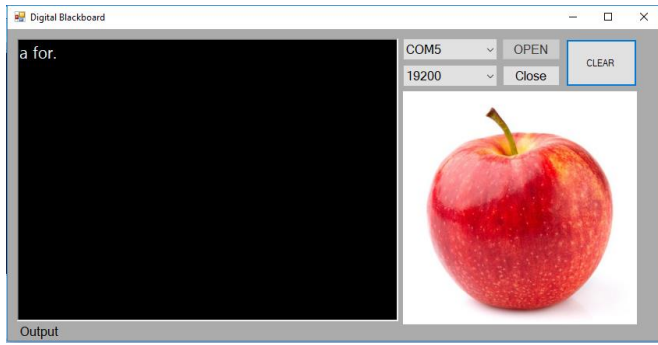

Figure 6 : Equation displayed

Figure 7 : Image Displayed

VIII. CONCLUSION

As the demand for the digital world, increases the requirement of more secure and convenient digital devices. It also eliminates the need of writing the text on black boards. This system saves time and manpower. As whole access is provided through a simple mobile app it is more convenient. I today's digital environment manual methods increase the need of more human power and also increase the user frustration. So this is the Step towards digitalization.

IX. FUTURE SCOPE

- Further enhancements for displaying the images to the screen can be done same as for text.
- Features for video visualization will be added for easy understanding.
- Complicated numerical will also be solved using the system.
- Faculties are also allowed to send notices to the students of the specified class, to all at once.
- For the purpose of sending the notices to the students via e-mail, an additional facility for providing the normal massages on the students mobile numbers at the same time.

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