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A Survey on Smart Messenger Notification Board

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ABSTRACT:Notice Boards are a common occurrence in institutions or organizations which occurs on a daily basis. Notice board is primary thing in any institution or organization or public places like bus stops, railway stations or parks etc. Current notice boards are updated manually which cause waste of resources like paper, printer ink, man power and also brings about loss of time.Some of the schools and colleges are using programmable digital notice boards that require enough time and man power to change the notices every time as these boards need to be reprogrammed each time. This makes them inefficient for immediate information transfer.
In this paper we have proposed a system which will enable people to wirelessly transmit notices on a notice board using arduino. In this system only authorized people can give the notices. We can also make the system compatible with more than one wireless technology. In this paper, we have designed a smart notice board by which we can update the notice to be displayed from any part of the world in no time and it is advantageous during emergencies when we want to display alert messages or changed schedule speedily.

KEYWORDS: Arduino circuit, LCD [Liquid Crystal Display], Bluetooth.

I. INTRODUCTION

Now-a-days advertisement is become a digital thing. notice board is important thing for organizations and public places. But in today's faster life it is very too difficult to stick many notices on notice-board .So the organizations, industries, malls are now-a-days using the digital noticeboard... also, in trains and buses the important information like platform number, information of ticketed is displayed in digital notice boards. people are now adapted to the idea of the world at its finger-tips.in previous day due to extensive cabling there were too many limitations. So the next technology was wi-fi based system but it can only cover area up to 400mtrs. So the GSM technology has the capability to send & receive the message from any part of the world.

In our system we are going to built a noticeboard using arduino circuit .Here we will also use the concept of cloud computing. The authorized user will send the notice. If user is near the noticeboard (in the range of Bluetooth) then message will fetch by Bluetooth device and will be display on noticeboard. If user is far from noticeboard then message of notice will go on the cloud and then notifications will be send to Bluetooth device.

II. LITERATURE SURVEY

In normal scenario we spend lot of resources like paper, manpower &printer ink and the most important time. Separate individual is require for taking care of notices. Using wireless network following exist systems are as follows –

1) Wireless electronic notice board -
This notice board is developed by using zigbee. In this model the transmitter module will be interfacing computer via serial interface to the zigbee module. The receiver module placed at the remote end consists of zigbee module which is interfaced with microcontroller for displaying the message on LCD. The power consumption of zigbee is less them Wi-Fi. But its range is limited.

2) DTMF based smart notice board –
In this system the mobile phone technology i.e. Dual tone multifrequency (DTMF) & GSM are used. The DTMF module is put together functionally with microcontroller & LCD modules to complete the task of automatically &

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providing mobile control to the noticeboard. The DTMF is connected to mobile phone which is used to receive the calls from the all phone & facility who wish to update/change the notices. During the on going call a DTMF tone is generated which is decoded into its equivalent binary by the decoder. This binary equivalent of tone is then sent to the microcontroller which is preprogrammed to take a decision for any given input. Any mobile which will act to he mobile attached to the board will act as remote device. So the new updates can display automatically & speedily. But the circuit of this system is too complicated.

3) Notice board using GSM –
It presents a SMS based notice board incorporating the widely used GSM to facilitate the communication of displaying message on noticeboard using user's mobile phone. Its operation is based on microcontroller ATMEGA32 program in assembly language. A SIM300 GSM modem with a SIM card is attached to the parts of the microcontroller with the help of AT commands .When the user sends a SMS via a registered number from his mobile phone, it is received by SIM300 GSM modem at receivers end .SIM300 is duly interfaced through a level shifter ICMAX 232 to the microcontroller. The message is thus fetched into microcontroller. It is further display on electronic noticeboard which equipped with LCD display interfaced to microprocessor powered by a regulated power supply from main supply of 230 VOLTS AC.

4) WI-FI Based Notification System :
In this system IEEE 802.11 protocol i.e. WI-FI. Also microcontroller, VGA module, RTC (real time clock), Graphic LCD is used in this system. In this system when authorized user sends a message from this system it will be received by WI-FI receiver .For this purpose RN chip is being used. The received data will be decoded by chip and connected to PIC microcontroller using SPI protocol .It uses RTC which will fetch the current time and day by interfacing the microcontroller with a RTC. After knowing the day and time, the respective details of the notice will be display on the LCD .But the WI-FI chip can cover the distance up to 400 mtrs.

III. OUR PROPOSED SYSTEM

1) Detail Information on Arduino Ckt :

Arduino is an open-source platform used for creating or developing an electronics based projects. Arduino consists of both a physical programmable circuit board and a piece of software or (Integrated Development Environment) that runs on your computer, used to codify and modify the computer code to the physical board known as integrated ckt board with the wide use of electronic component The arduino has become popular, and for good reason. Instead of using seperate hardware piece to load new code we can simply use a USB cable. The Arduino IDE also uses a simplified version of C++ so program can be easily learned. It also provides a standard form factor that breaks out the functions of the micro-controller into a more accessible package.

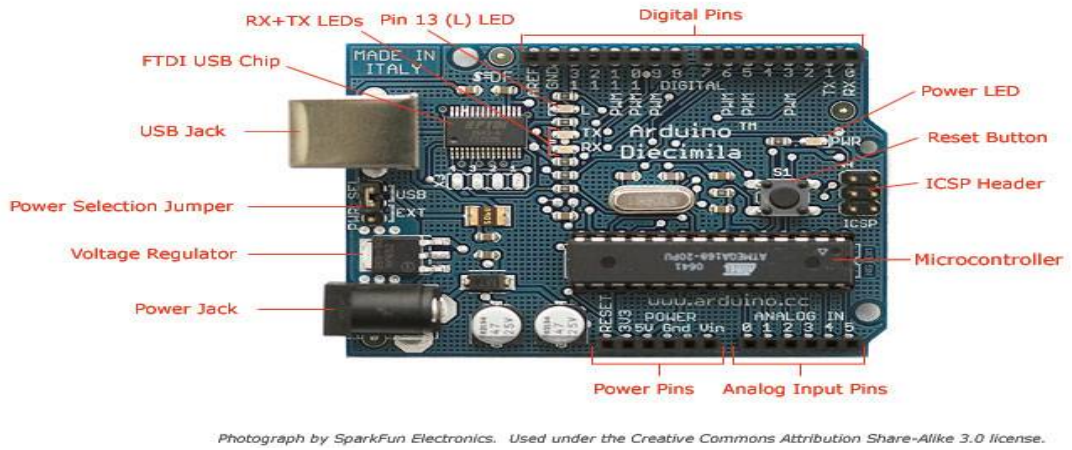

Figure 1: Arduino Circuit

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2) Technology used"BLUETOOTH":

A Bluetooth device uses radio waves instead of wires or cables to connect to a Mobile phone or Pc's. A Bluetooth product, like a headset or wireless printers, contains a tiny computer chip with a Bluetooth radio and software that makes it easy to connect. When Bluetooth devices want to communicate with each other, they need to pair. Communication between Bluetooth devices happens over short-range, adjacent networks known as piconets. Network of devices connected using Bluetooth technology known as Piconet. The network can be connected with two to eight devices. When a network is created, one device act as master while all the other devices act as slaves. Piconets are established automatically as Bluetooth devices enter and leave radio proximity.
As the implementation of our notice board is over a small range of area "BLUETOOTH " technology is best in use as it can cover a small area over less cost implementation of Bluetooth can enable the user to use notice board without wires and can extends this range by using cloud which helps you to access the board over large distance area.

3) Language used: Android :

Android is very friendly language which is popular now a days. This language is used to make the software part that will be visible to the user to access the wireless notice board . Software which is develop uses android language to make the user screen more interesting .Android was develop by Android comes with an Android market which is an online software market. Android was developed by Google. Android allows users to select, and download applications which are developed by third party developers and they can use them. There are around 2.0 lack+ games, application and widgets available on the market for users.For Android programming is done in java. Android is available as open source for developers to develop applications which can be further used for selling in android market. 200000 applications are developed for android with over 3 billion+ downloads. Android deals with Linux version 2.6 for core system services like security, memory and process management, network stack, and driver model.

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V. CONCLUSION

The Arduino based notification system demonstrates the successful implementation of noticeboard. In our system authorize user can send the notice successfully. Using the concept of cloud in future we will implement the system in which the notices will be also send on the receivers mobile phone.

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