

Running Updates Display on E-Notice Board Using GSM

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Abstract: - Notice board is an essential asset in any institution or organisation or public utility places like bus stops, shopping malls, railway station or parks to improve the security system as well as to make awareness of the emergency situation and also avoid many dangerous situations. But providing various updates on daily basis is a tedious process. This project deals with an advanced electronic notice board. An SMS based electronic notice board connected with the widely used GSM which is well integrated with a GSM technology. This will help us in sending any message almost within fraction without any delay just by sending a SMS which is far better and more efficient and reliable than the orthodox way of pasting the message over notice board. The message to be displayed is sent from the user's mobile phone and the message is displayed on e-notice board. As engineer's main aim is to make life simple with the help of technology this is one step to simplify real time noticing.

Key Words— GSM, Campus Display System, Mobile Identification Number, e-notice board.

I. INTRODUCTION

The GSM based e-notice board also called Campus Display System (CDS) is aimed at the colleges and universities for displaying day-to-day information continuously or at regular intervals during the working hours. Being GSM-based system, it offers flexibility to display flash news or announcements faster than the programmable system. GSM-based campus display system can also be used at other public places like schools, hospitals, railway stations, gardens etc. without affecting the surrounding environment. The CDS mainly consists of a GSM receiver and a display toolkit which can be programmed from an authorized mobile phone. It receives the SMS, validates the sending Mobile Identification Number (MIN) and displays the desired information after necessary code conversion. It can serve as an electronic notice board and display the important notices instantaneously thus avoiding the latency. Being wireless, the GSM based CDS is easy to expand and allows the user to add more display units at any time and at any location in the campus depending on the requirement of the institute.

II. WORKING MODEL COMPONENTS

To understand the working of my project, understanding of the components is required. They are mentioned below Components essential for the working of the project are:

- GSM Modem

- SIM 300
- LCD
- Microcontroller
- MAX 232

A. GSM Modem:

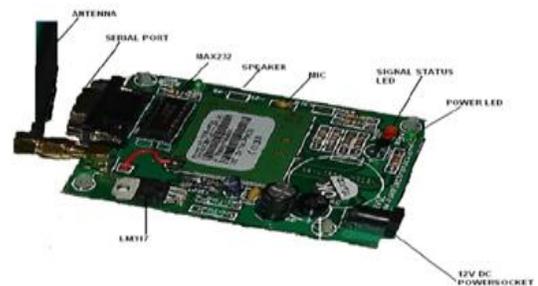


Fig.1. GSM Modem

A GSM Modem is a wireless Modem, that works with a GSM wireless network. A wireless modem behaves like a dial-up modem. The main difference between them is that a dial-up modem sends and receives data through a fixed telephone line while a wireless modem sends and receives data through radio waves. Like a GSM mobile phone, a GSM modem requires a SIM card from a wireless carrier in order to operate.

B. SIM 300:

SIM300 is a Tri-band GSM/GPRS engine that works on frequencies EGSM 900 MHz, DCS 1800 MHz and PCS1900 MHz. SIM300 provides GPRS multi-slot class 10 capability and support the GPRS coding schemes CS-1, CS-2, CS-3 and CS-4. SIM300 can fit almost all the space requirement in your application, such as Smart phone, PDA phone and other mobile device

C. LCD Display:



Fig.2. LCD Display

One of the most common devices attached to an 8051 is an LCD display. Some of the most common LCDs connected to the 8051 are 16x2 and 20x2 displays. This means 16 characters per line by 2 lines and 20 characters per line by 2 lines, respectively. In recent years the LCD is finding widespread use replacing LED's.

This is due to the following reasons:

- Declining prices
- Ability to display numbers, characters and graphics.
- Incorporation of a refreshing controller into the LCD.
- Ease of programming

D. Microcontroller:

Microcontroller is a small computer on a single integrated circuit containing processor core, memory and programmable i/o peripherals. We have used microcontroller ARM7 LPC2148 Programmed in assembly language.

ARM, Previously Advanced RISC Machine Originally Acorn RISC Machine is a family of reduced instruction set computing(RISC) for computer processor, configured for various environment. ARM7 is used as a main controller which is used to control, monitor and convey information between sub units connected to entire proposed system. ARM

powered by a regulated supply from main supply of 230volts ac.

E. MAX 232:

It is use for GSM, GPS, Microcontroller to communicate serially.

III. SYSTEM DEVELOPMENT

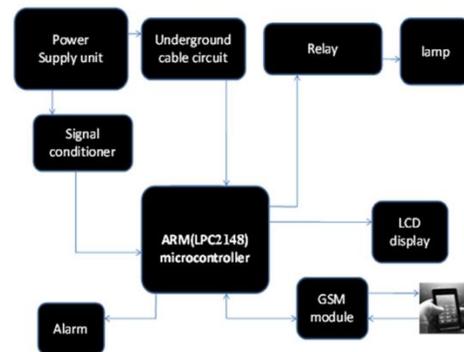


Fig.3. Block Diagram of Display Management system

Here GSM300 is used as a trans receiver section to ARM 7. It can be connected via MAX 232 or directly to the ARM 7. The function of GSM is to receive message to be displayed on notice board, received from authorized person only. As shown in the figure LCD is used to display message received from GSM technology. Here the authorized person can send message through any GSM device to notice board. The message was then sent to the SIM card in the GSM Modem. AS the message got to the GSM Modem, then immediately updated on the screen of the display board.

This message keeps scrolling on the display board until a new message is arrived by the MODEM.

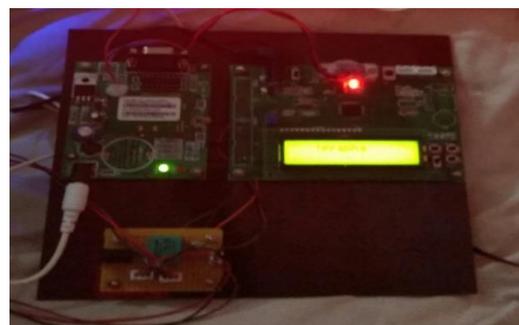


Fig.4. Hard ware working module



Fig.5. Display Board

IV. CONCLUSION

The display board one of the major communication medium for mass media. The prototype of the GSM based display Tool kit was efficiently designed. This prototype has facilitated to be integrated with a display board thus making it truly mobile. The design was implemented via a wireless network which eliminates both the unnecessary wired connection and the task of manual reprogramming of the microcontroller whenever a new message has to be displayed. This research model can be used efficiently for immediate information transfer in school, public transport, airports, railways, bank and so on with less error and maintenance.

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