GSM Based Wireless Electronic Notice Board

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ABSTRACT

The main purpose of this project is to solve notice board difficulty means in that we are try to do remove the erase type work. Every time we can't go to erase the board and make new notice on that that's why we implement"GSM BASED WIRELESS ELECTRONICS NOTICE BOARD" .

Key Words: *Microcontroller (AT89C51), GSM, Scrolling LED Display ,SIM. Card*

1.INTRODUCTION

We know the importance of notice board in public places a like railway station bus station and airports. But changing notice day to day is a difficult task. This article explains how to design. using this project we try to minimize human efforts and time consumption for changing the notice day to day.

GSM stands for global system for mobile communication. Due to this international roaming capability of GSM are sent message, to receive from any part of the world. it has the system of sending sms [short message services]

1.1 Problem Identification

Before the invention of scrolling LED display, it was very difficult or time consuming process to display any notice on the notice board.

As it requires notice to prepare and then to display on notice bard which consumes time.

1.2 Purpose

The objective of our project is to automatic display the message on display board. The purpose is to avoid energy crisis in India and reduces the human efforts. Also GSM based notice board handle easily and keeps the operates from any where. It is totally operates on mobile phone. The whole project operates on the gsm.

2 BLOCK DIAGRAM:

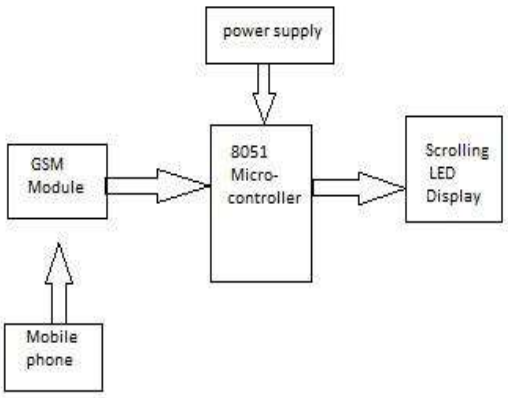


Figure (2.1): Block Diagram for GSM based wireless electronics notice board

2.1 DESCRIPTION OF BLOCK DIAGRAM

As shown in the block diagram the various parameters like mobile phone , GSM module ,8051 microcontroller and scrolling LED display. then the GSM module receive or accept the message that the user has send to GSM module. Now the GSM sends the text message to the microcontroller. As the microcontroller requires the power supply hence the power supply of 5v is provided. Now the microcontroller displays the message sent by the user on the scrolling LED display.

3.CIRCUIT DIAGRAM

As shown in below circuit diagram GSM has two pins Rxd and Txd and this two pins are connected to microcontroller pin no. 10 and 11 respectively. There are two crystals XTAL1 and XTAL2 pin no. 18 and 19 and also one quartz crystal is used. In microcontroller at pin no. 9 reset switch is present. Scrolling LED display is connected to port2 of microcontroller.

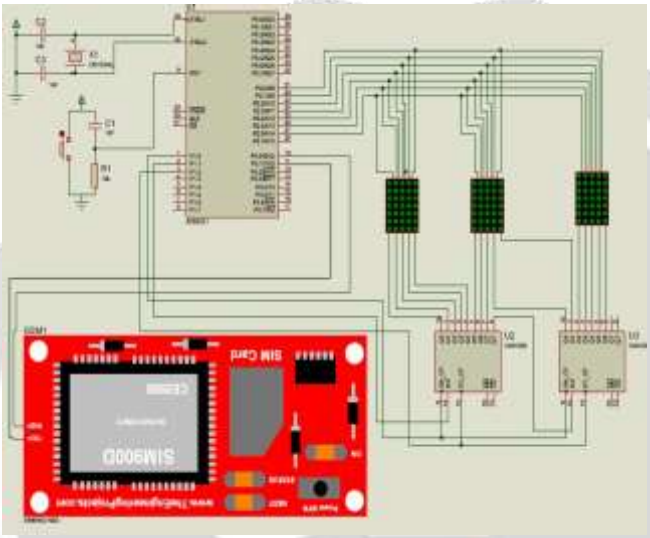


Figure (2.3): circuit diagram of gsm based wireless electronics notice board.

3.3.1: 89C51 Microcontroller

A microcontroller is a small computer used in one IC containing a processor core, memory and programmable input output peripherals. the microcontroller is low power high performance COMS 8bit microcontroller.4k bytes of flash programmable and read only memory.

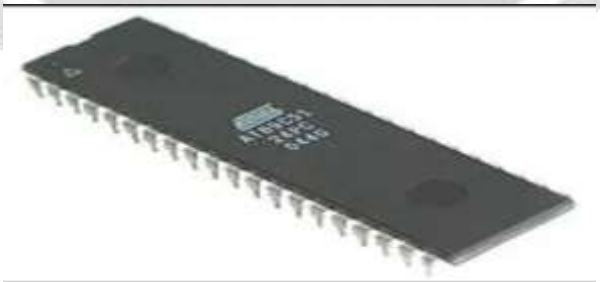


Figure (3.3.1): 89c51 microcontroller

Features: -

- 8 bit data bus and 8 bit ALU.
- 16 bit address bus-64KB of RAM and ROM.
- Onchip RAM-128 byte(data memory)
- Onchip ROM-4KB(Program memory)
- Four 8-bit bidirectional input/output ports.

3.3.2 GSM module:

A GSM module or a GPRS module is a chip or circuit that will be used to established communication between a mobile device or a computing machine and a GSM or GPRS system. GSM stands for global system for mobile communication. It is a digital cellular technology used for transmitting mobile voice and data services. GSM makes use of narrowband time division multiple access techniques for transmitting signals. GSM was developed using digital technology.

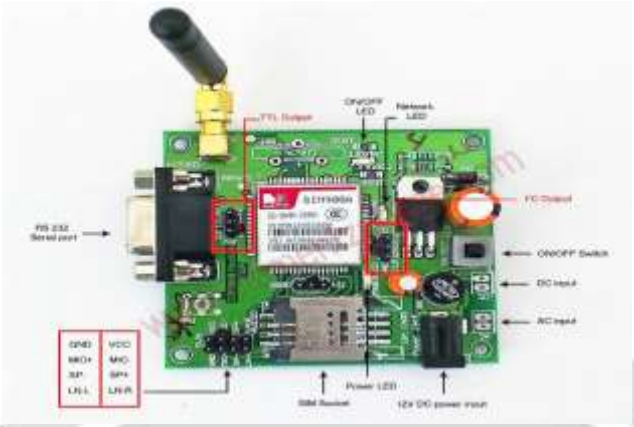


Figure (3.3.2): GSM mdule

3.3.3 shift register:

A register that is designed to allow the bits of its contents to be moved to left or right.in digital circuits a shift register is a cascade of flip flops, sharing the same clock, in which the output of each flip flop is connected to the data input of the next flip flop in the chain. The shift register is another type of sequential logic circuit that can be used for the storage or the transfer of binary data.

Figure (3.3.3): shift register

3.3.4 Scrolling LED:

It has long viewing distance and wide range viewing angle.it has the light brightness greater than 4500 cd/sq. we normally use a simple static LED display screen to convey a message. Earlier, when we want to display large data, we used to change message for every few instance. Now scrolling display are more prepared to static.

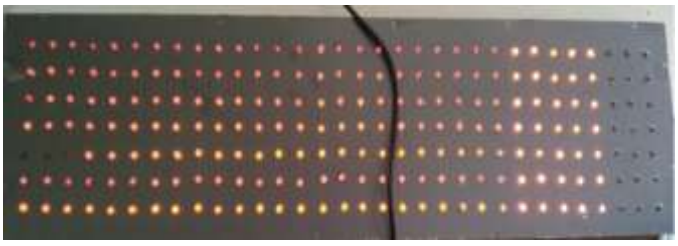


Figure (3.3.4): Scrolling LED Display

4. WORKING PRINCIPLE OF THE SYSTEM:

It has panel mounted on top of model in a particular arrangement such that angle of inclination is 45 degree hence it can receive intensity solar radiation easily. Solar panel convert solar energy into electrical energy. this electrical energy is stored in the battery .

The battery is directly connected to the motor through switch and regulator.The switch is because whenever we want the supply then the battery is ON and whenever there is no need then the battery will be turned OFF through the switch.The regulator is connected to the motor to give the particular range of voltage. Motor drive is connected to the motor to protect the motor from exceed voltage.The cutting blades tap the power from DC motor which is turned actuates the blades and hence rotating blades cut the grass.

5.Result:

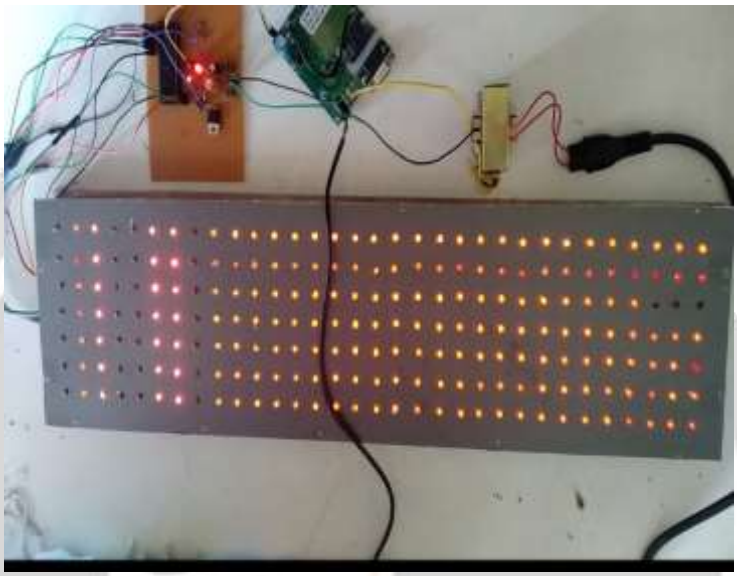


Figure (5.1): project output

As shown in below figure the message is received by the GSM module and is passed onto the microcontroller using serial communication. The GSM module uses the AT command presents in a proper syntax. The GSM module receives the message and store in memory available in the SIM card.
The fig Shows a pictorial representation of Solar based grass cutter.This cutter will be the replacement of human efforts

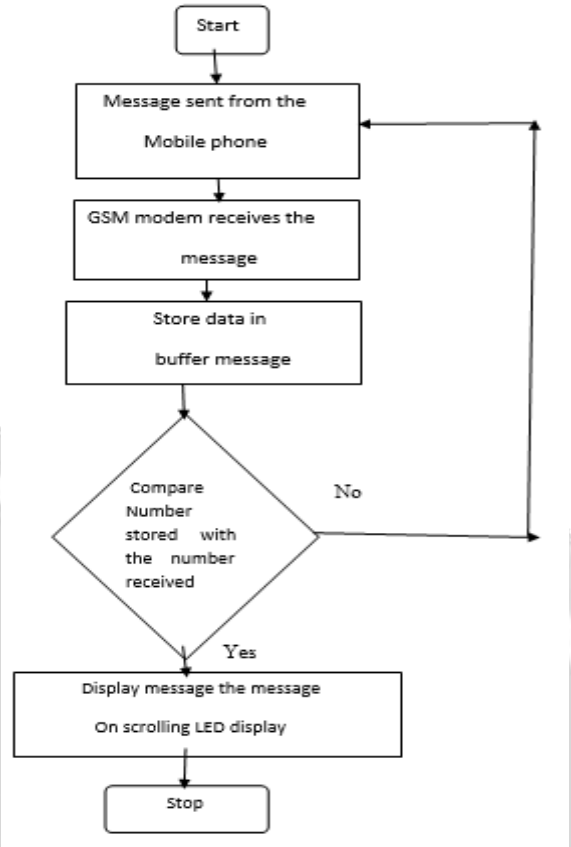
6. ADVANTAGES:

- Consumes the less power.
- Easy to operate.
- Less maintenance.
- The circuit is portable.
- Reduce the human efforts.

7. APPLICATIONS:

- Used in bus stations, railway stations, parks etc. to display the wireless message
- This project can also be used colleges and organizations.

8. Flowchart:



9. CONCLUSIONS:

As the technology is advancing every day the display board system 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 GSM modem connected to it, which displays the desired message of the user through an SMS in a most populated or crowded places.

10.FUTURE SCOPE:

- In this project we are sending messages over a GSM network and displaying it on a scrolling led by the use of AT commands.
- The same technique can be applied to control electrical appliances at distant locations.

11. REFERENCES:

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