Wireless Electronic Notice Board Using GSM

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Abstract — Notice board is basic essential thing in any institution or organization or public utility places such as bus stops, railway stations or parks. But sending various notices every day is a tedious process. This paper deals with the advanced notice board. It involves an SMS based notice board incorporating the widely used GSM to facilitate the communication of displaying a message on the notice board through a user's mobile phone. Its operation is based on microcontroller AT80C51 programmed in assembly level language. A SIM300 GSM modem is interfaced with a SIM card to the ports of the microcontroller with the assistance of AT orders. At the point when the Subscriber sends a SMS by means of an enrolled number from his cellular telephone, it is gotten by SIM300 GSM modem at the recipient end. SIM300 is appropriately interfaced through a level shifter IC MAX32 to the microcontroller. The informed is gotten into the microcontroller. It is further shown on an electronic notification board which outfitted with LCD show interfaced with chip controlled by a directed force supply from mains supply of 230 volts air conditioning. This anticipate is probed ongoing taking note.

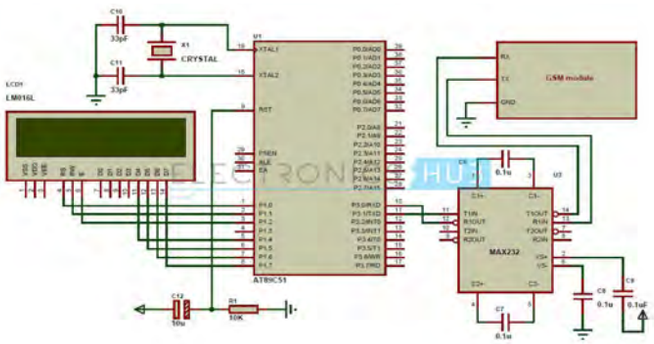
Keywords: anticipate, informed, programmed, communication

I. Introduction

Presently a-days promotion is going advanced. These days the huge shops and the strip mall use computerized shows. Likewise, in trains and transports the data like stage number, ticket related inquiries is shown in advanced loads up. Individuals are currently adjusted to the possibility of the world readily available.

The use of cell telephones has expanded definitely over years. Control and correspondence has ended up vital in all parts. 828 This gave us the thought to utilize cell telephones to get message and afterward show it on an electronic notification board. The GSM innovation is normally utilized. GSM remains for Global System for Mobile Communication. Because of the universal meandering ability of GSM, we can ready to send message to collector from any part of the world.

II. Circuit



III. Working

To understand the working of our project, Knowledge of the components is necessary. They are mentioned below.

A Components

Components essential for the working of project are:

a. GSM Modem
b. SIM
c. Power Supply
d. LCD
e. Microcontrollers
f. Level Shifter
g. Voltage Regulators

a. GSM Modem

Fig. 2. LCD 162

This GSM Modem can acknowledge GSM system administrator SIM card of anyone and act simply like a cell telephone with its one of a kind telephone number. Favorable position of this procedure is Display Message on Notice Board utilizing GSM 829 modem will be that you can utilize RS 232 port to convey and create implanted applications. Applications, for example, SMS Control, information exchanging, remote controlling and logging should be possible effortlessly. The modem can either be associated with Personal PC serial port specifically or to any microcontroller based processor. It can be utilized to transmit and get SMS or make and get voice calls. It can likewise be utilized as a part of GPRS mode to associate web and do numerous applications for information logging and control. This is a high adaptable fitting and play quad band GSM modem for immediate and simple coordination to RS 232 applications.

b. SIM

SIM can be condensed as Subscriber Identity Module. It is a chip present on little card comprising of client data and additionally telephone directory. Client can change administrator on the same unique handset according to accommodation .At present the double SIM handsets are likewise accessible in the business sector where we can utilize two administrators on the indistinguishable handset. The SIM is embedded in an opening accessible on the GSM Modem.

c. LCD

Fig. 3. LCD 162.

LCD-Liquid Crystal Display is an electronic device used for displaying text or characters. We are using 14 pin LCD. The parameter 16*2 symbolize 16 characters and 2 line display. LCD's are economical and easily programmable and can easily display special and custom characters. Pin description is followed below,

1. Pin 7 to pin 14-All 8 pins are conscientious for the transfer of data.
2. Pin 4-This is RS i.e., register select pin.
3. Pin 5-This is R/W i.e., Read/Write pin.
4. Pin 6-This is E i.e., enable pin.
5. Pin 2-This is VDD i.e., power supply pin.
6. Pin 1-This is VSS i.e., ground pin.
7. Pin 3-This is short pin

d. Microcontroller

SIM can be condensed as Subscriber Identity Module. It is a chip present on little card comprising of client data and additionally telephone directory. Client can change administrator on the same unique handset according to accommodation .At present the double SIM handsets are likewise accessible in the business sector where we can utilize two administrators on the indistinguishable handset. The SIM is embedded in an opening accessible on the GSM Modem.

e. Level Shifter

The MAX 232 is an IC that is utilized to change over signs from a RS-232 serial port to signals reasonable for use in Transistor Logic (TTL) good computerized rationale circuit component. The MAX 232 is a double driver/beneficiary and normally changed over by the RX, TX, CTS and RTS signals parameters. The driver give RS-232 voltage yields (± 7.5 V approx.) from a solitary + 5 V supply voltage by means of on-chip charge pumps. This make valuable for executing RS-232 in gadgets that generally don't have any voltage outside the 0 V to + 5 V range, as force supply propose does not should be made more convoluted.

f. Voltage Regulators

Fig. 4. LCD 162.

A Voltage control gadget is a gadget that consequently keep up a uniform voltage level. A voltage controller produces a settled yield voltage of a preset greatness that remaining parts steady changes to its information voltage or burden conditions. Electronic voltage controllers utilize the gadgets, for example, PC power supplies where they balance out the DC voltages utilized by the processor and different components.

IV. Software Used

Many software's have been used for programming and interface the microcontroller to GSM modem SIM300 as well as LCD display. They are as follows:

a. AT Commands
b. HyperTerminal
c. BascomAVR

Display Message on Notice Board use the GSM 831. We shall also discuss the applications and their use in the project.

a. AT Commands

AT commands are instructions used to control a SIM modem. AT is the extension of ATtention. Every command line starts with "AT" or "at". So the modem commands are called AT commands. Several number of the commands that are used to control wired dial-up modems, called ATD (Dial), ATA (Answer), ATH (Hook control) and ATO (Returns to online data state), are also supported by GSM or GPRS modems and the mobile phones. Besides this common AT command sets, GSM/GPRS modems and mobile phones support an AT command sets that are specific to the GSM technology, which consist of SMS-related commands like AT+CMGS (Send SMS message), AT + CMSS represents the "Send SMS message from storage", AT+CMGL stand for the "List SMS messages" and AT+CMGR represents the "Read SMS messages".

b. HyperTerminal

HyperTerminal can be utilized as a part of analyze whether an association issue is because of modem/line issues or dial-up systems administration issue, incompletely in light of the fact that it sidestep and dial-up systems administration while dialing a POP. It is likewise equipped for guiding orders to the modem called ATi, in this way giving a method for gathering important data about the modem properties, for example, the chipset, BIOS and more different components. HyperTerminal can be utilized rather than "More Info" or "Question Modem" on the Diagnostics tab of the Modem Properties in Windows.

c. Bascom AVR

For more hasty and efficient programming, we went bascom AVR which is specially used for AVRs like ATMEGA32. It is due to the build in functions for UARTs, LCD etc. So and also by simulation we can check the output on the virtual LCD terminals. Also by direct connection of AVR, we can burn the program from bascom AVR only. Then finally we provide a basic starting a code to configure LCD and UART.

```
$regfile = "m48def.dat" ' we use the M48
$crystal = 8000000 ` crystal frequency
$baud = 19200 ` baud rate
$hwstack = 32 ` hardware stack
$framesize = 24
Dim A As Byte, C As Integer, S As String * 4
A = 1
```

So as given, the code is very easy to frame and it has many other advantages than conventional Keil software.

V. Conclusion

The presentation sheets are one of the real correspondence medium for broad communications. In this anticipate the Local Language can be included by a few Variations. This can be accomplished by 832 Foram Kamdar et al utilizing design and other disentangling strategies. Likewise we understand by this anticipate we can ready to spare time, vitality and subsequently environment. Charge of printing and photocopying is likewise decreased as data can be given to various individuals from our fingertips. At last we can infer that this anticipate is only a starting, a proposition to make utilization of GSM in correspondences to a next level.

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