

Digital Notice Board with GSM Interface Using Visual Basic 6.0

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Abstract-With the rapid development of digital technology in consumer electronics, advertising and notification system has greater importance. Earlier systems had the drawback that the notice board or systems that were to display notice has been done manually. The idea proposed to this project is that using GSM technology so that the updates could be made with mobile and check for the authority in the system. So updates to these notice boards could be made through a simple SMS. The importance of notice in academic is well known to us but this system could be not only in the school or educational but also for commercial purposes such as advertising or emergency notification system.

Keywords: GSM modem, AVR 328, visual basic 6.0, LCD Display.

I. INTRODUCTION

This is an inserted based venture. An inserted framework is a blend of equipment and programming and maybe other mechanical parts intended to perform a particular capacity. A Notice Board is an exceptionally fundamental gadget in any establishment/association or open utility spot like transport stations, railroad stations and stops. The huge issue with these presentations is to convey a PC or extraordinary console for creating and sending messages to LCD moving showcase board powerfully. Conveying a host PC or uncommon console each opportunity to create message for LCD show sheets is enormous cerebral pain furthermore build cost on the off chance that it go for remote based message sending. To make the

LCD show more compact, a GSM cellular telephone is utilized as opposed to conveying console or a host PC for producing and a making an impression on LCD show board. The primary point of this anticipate is to outline a SMS driven programmed show which lessens the manual operation. The data can thus be redesigned in a split second at the wanted area. The message to be shown is sent as a SMS to a GSM collector module. This message

is then put away in PC and is sent to the LCD shows through the controller. The messages put away in the PC goes about as a record for future reference.

II. LITERATURE SURVEY

M.K. Shrivastav in his entitled paper "GSM Modem Based Moving Message Display" has clarified in the most recent couple of years the innovation has definitely changed and advanced. Publicizing or Notification frameworks have accomplished more prominent significance. Prior frameworks had the disadvantage that the Notice sheets or frameworks that depended on Bluetooth or console/PC required appropriate association for redesigning the data to be shown. The thought proposed in this paper is that of utilizing GSM innovation so that the overhauls could be made remotely. These days SMSs are exceptionally basic and each normal cell telephone has this administration. So redesigns to these notification sheets could be made through a basic SMS. The approaching number and the message are put away in EEPROM. [1]

III. PROPOSED WORK

The system will work like when user wants to update or display the notice board. User sends the message using the mobile and the mobile number of the sender is given to the administrator. Here visual basic 6.0 is work as administrator. In the visual basic 6.0 there is GUI (Graphical User Interface) is created in which the database is link to this. Database has records of authorized user like mobile number and name. In the visual basic 6.0 there is multiple frame is prepared for the upcoming data and each frame is link to database. If User sends a message to the GSM modem this modem receives and breaks the information accordingly. Mobile number, timing of message arrived and the main message body. Then GSM modem communicates with the system via RS 232 interface. Once the information is transfer to the system, system gets evoked and stores all the information send by the GSM modem into system. This system checks the database where all the records are stored. If the sender's mobile number is not in the database the then system doesn't allow this sender to display the notice to digital notice board and generate the message for that unauthorized user is "you are not the authorized for this service" and if the user is authorized then system stores the message arrival timing, message and number and processes further. After the verification of mobile number this main message body is send to AVR 328 which is connected via USB ports. As the data is come to controller, the controller works begins and it evoke the LCD to display the notice on digital notice board. Once the all process is done system generate the message to the entire user which has records in database.

Proposed System:

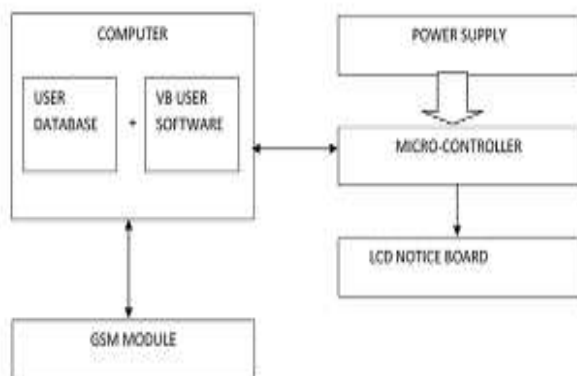


Fig 1: Block Diagram of System

IV. HARDWARE DESIGN

1. Power supply: Power Supply is an imperative part of a circuit. It gives obliged supply to various pieces of the circuit from information 230 V AC. The fundamental pieces incorporate transformer, rectifier circuit, channel circuit, and controller circuit. Voltage controller IC LM7805 is utilized as a voltage

controller. The microcontroller and different gadgets get power supply from AC to DC connector through 7805, 5 volts controller. The connector yield voltage will be 12V DC non-managed. The 7805/7812 voltage controllers are utilized to change over 12 V to 5V/12V DC.



Fig 2: A power supply system

2. GSM900 modem: This is an attachment and play GSM Modem with an easy to interface serial interface. Use it to send SMS, make and get calls, and do other GSM operations by controlling it through straightforward AT charges from miniaturized scale controllers and PCs. It utilizes the very famous SIM900 module for every one of its operations. It accompanies a standard RS232 interface which can be utilized to effortlessly interface the modem to small scale controllers and PCs.

The modem comprises of all the required outside hardware required to begin trying different things with the SIM300 module like the force control, outer receiving wire, SIM Holder, and so forth, etc.

3. RS 232: Key part of RS232 converter (Max 232n) in, GSM based LED show. RS232converter is a chip to change over the TTL voltage levels into RS232 level and the other way around. In this framework GSM modem is spoken with the microcontroller utilizing RS232serial information group. Keeping in mind the end goal to make MODEM serial port perfect with microcontroller serial port the RS232 converter is utilized.

4. AVR 328: It is generally acknowledged that AVR remains for Alf (Egil Bogen) and Vegard (Wollan's) RISC processor. Note that the utilization of "AVR" in this article by and large alludes to the 8-bit RISC line of Atmel AVR Microcontrollers. Among the first of the AVR line was the Atmega 328, which in a 28-pin DIP bundle has the outside multiplexed location and information transport. The AVR 8-bit microcontroller design was presented in 1997. By 2003, Atmel had transported 500 million AVR streak microcontrollers. The AVR328 has worked on 16 MHz precious stone oscillator for quick preparing.

5. LCD display: It is a level showcase, electronic visual presentation that uses the light regulating properties of fluid precious stones. Fluid gems don't discharge light specifically. LCD is utilized as a part of extensive variety of utilization including PC screens, TV, instrument, board, air ship cockpit presentation, and signage. They are regular in customer

gadgets, for example, video player, gaming gadget, tickers, watches, adding machines, and phones. They are accessible in more extensive scope of screen sizes than CRT and plasma show, and since they don't utilize phosphors, they don't endure picture blaze in. The LCD screen is more vitality productive and can be discarded more securely than a CRT. Its low electrical force utilization empowers it to be utilized as a part of battery-fueled electronic gear. It is an electronically regulated optical gadget made up of any number.

TABLE 1
 PIN CONFIGURATION OF LCD

JP1/JP14 Pins 1 - 8	Description	JP1/JP14 Pins 9 - 16	Description
Pin1	Ground	Pin9	D2 (Not Used)
Pin2	VCC (+5)	Pin10	D3 (Not Used)
Pin3	Contrast	Pin11	D4
Pin4	Data/Command (R/S)	Pin12	D5
Pin5	Read/Write (W)	Pin13	D6
Pin6	Enable (E1)	Pin14	D7
Pin7	D0 (Not Used)	Pin15	VCC (LEDSV+)
Pin8	D1 (Not Used)	Pin16	Ground

V. SOFTWARE DESIGN

1. **Visual basic 6.0:** Visual essential is a third-era occasion driven programming dialect and coordinated advancement environment (IDE) from Microsoft for its COM programming display initially discharged in 1991. Microsoft means Visual fundamental to be generally simple to learn and utilize. Visual fundamental was gotten from BASIC and empowers the fast application advancement (RAD) of graphical client interface (GUI)

applications, access to databases utilizing information access objects, Remote information items, and production of ActiveX controls and questions.

A software engineer can make an application utilizing the segments gave by the Visual fundamental system itself. Program written in visual fundamental can likewise utilize the Windows API, yet doing as such requires outside capacity statement. Despite the fact that the system has gotten feedback for its apparent flaws, form 3 of visual essential was a business achievement, and numerous organizations offered outsider controls enormously expanding its usefulness. With the visual essential 6.0 we can make any system contingent upon our goal. For instance, in the event that you are a school or college teacher, you can make instructive projects to show business, arithmetic, science, financial matters, building, data framework and more to make showing more compelling and fascinating.



Fig 3: New project dialog box

Visual basic 6.0 consists of the tool box and form. From tool box we drag out the tools which are requiring for the system and create form accordingly.



Fig 4: VB6 programming environment

2. **Microsoft office access:** Microsoft Access, otherwise called Microsoft office access, is a database administration framework structure Microsoft that consolidates the social Microsoft plane database motor with a graphical client interface and software-development device.

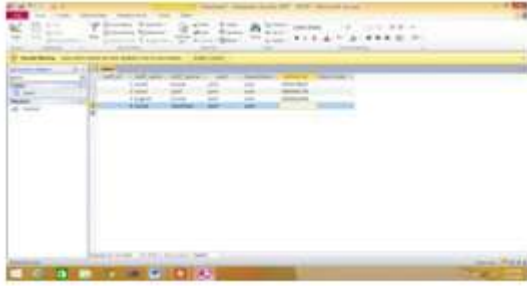


Fig 5: Database of the system

VI. DESIGN METHODOLOGIES

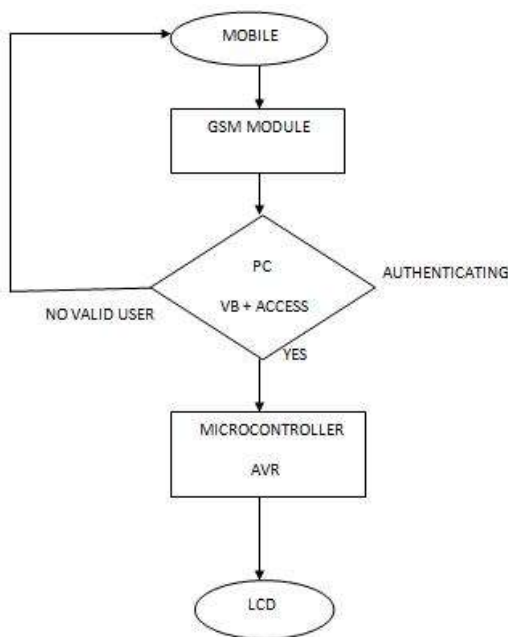


Fig 6: Flow of the proposed system

As appeared in figure no. 6. At the point when message is sent from portable to GSM module it straightforwardly hunt down confirmation by visual essential 6.0. On the off chance that the message send by the individual is not a legitimate client VB offers input to client that is you are "not a substantial client". Else VB will store the message and show it on LCD utilizing microcontroller AVR 328. Likewise input given by VB to all the client in the database.

VII. CONCLUSION AND FUTURE SCOPE

GSM innovation is one of the new advances in the implanted field to make the correspondence amongst microcontroller and portable. Presently every implanted framework is use to speak with other framework utilizing GSM and GPRS innovation, in this anticipate MODEM is utilized to get to message send by the client to show in notification board. The model of the GSM based presentation toolbox was proficiently planned. This model has offices to be coordinated with showcase board along these lines making it genuinely

portable. The toolbox acknowledges the SMS. stores it, and the presentation it in the LCD module. The model can be actualized utilizing business show sheets. For this situation, it can take care of the issue of moment data move in the grounds.

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