An Intelligent Notice Panel System

[1] N.S.YogaAnanth,[2] V.Madhumitha, [3]B.Manjula Devi,[4]A.Murugalakshmi
[1]Assistant Professor, [2,3,4]UG Student,
Department of Electronics and Communication Engineering,
P.S.R Engineering College, Sivakasi.

Abstract—Noticeboard are very abundant in the modern world and being used at many different places such as railway station,school, colleges and offices. Displaying information is an important part in day to day life, so that we are trying to display the message through the matrix display in every area and the message will be send through the mobile phones by using GSM and the information can be displayed on the matrix display. The authentication purpose we are using the GSM technology which improves security in displaying message. Here the message will send by the authorized person for only security purpose.

INDEX TERMS— GSM,Matrix display

I. INTRODUCTION

Today's world is so much fast and technical it having importance to get the message for the communication and getting information to each and every person, so that it can work according to the given message.All electronic boards are designed with a wired system. The major drawback of designing these boards is; not flexible and cannot be located anywhere due to messy wire. Our objective is to create to display the information from any area through mobile or system.

There are thousands of bulletin board systems across the country which fall into the above two categories, and there is a very good chance that a bulletin board is in operation 24 hours a day within your local calling area. The third class of bulletin boards are the national systems. There is approximately twelve large, commercial bulletin boards in operation on a national level. CompuServe®, for example, has about 250,000 subscribers, who pay an hourly connect fee for the use of its services, which include electronic mail and message boards organized into special interest groups (SIGs), plus extensive databases and software archives. These national boards are often based on large commercial time-share networks, which are used during the non-prime-time evening and weekend hours as bulletin board systems, but are accessed by local telephone calls in major cities across the countries.

Additionally, the U.S. government also operates several national networks which offer many of the noncommercial features of the national bulletin boards. The ARPA Net is a good example of a government network which offers electronic mail services and a large storehouse of public domain software. Many colleges and universities have access to the ARPA Net.

  Six Steps to Effective Use Step 1 – AUDIT

Identifying the locations of notice boards can be the first, difficult step. There are many different boards, often hidden away.

Here are some criteria to identify the boards to concentrate on:

 Position – e.g. in a populated office area where staff work, or a waiting room. Footfall – i.e. how many people pass the notice board and will see it. Bear in mind that many facilities have developed organically. Most staff may use different entrances to the original entrance hallways, but notice boards might not have migrated along with the footfall.

 Size – larger boards can become 'wallpaper' and not really arrest the eye. Anything posted above average eye height in a corridor will probably not be seen. Visibility – is a board obscured by equipment.

Current usage – do people look at it / act on information they see already? Use local staff contacts to identify the best boards for staff traffic. (This may be problematic in some places e.g. in one Welsh health board there are no major footfall sites.)

The challenge is large. There are thousands of notice boards and it is not feasible to deal with every single one. Auditing current boards will help identify the key boards and focus on them.

At this point, it's worth identifying boards that are 'standing empty' – if they are not being used then it should be easy to claim them and corporatize them with key messages.

Step 2 – RESITE

Position is very important –a great board can be in totally the wrong place. It might be necessary to reposition boards and the criteria identified in the previous step all apply. Conversations with staff are valuable at this point to identify areaswhere people are, and where they linger. Notice boards in staff break rooms are more likely to have an impact than in busy corridors where people rush past. Unusual sites can catch the eye. Posters in toilet facilities (in easily-cleaned plastic poster holders) are used in many commercial settings for advertising and raising awareness.

Step 3 – RECRUIT

Promote local ownership / management of general boards, e.g. by asking people working in the area to be 'board guardians'. It's important for people to know which boards they are responsible for, and what exactly they are required to do. Think of what a 'job description' would look like – maybe a commitment to put items up when required, spend afew minutes at the end of each month reviewing notices and removing out-of-date ones, and so on.

Informal training in 'good practice' will help. For example, taking photos of good boards to show what 'best practice' looks like.

In some places, e.g. onwards, there may be certain boards designated for specific purposes like communicating progress on patient safety initiatives. These will probably already have 'owners' who may be willing to take responsibility for other boards as well.Step 4 – ADD CONTENT

Before adding content, it may be useful to purge boards of out-of-date or tatty material.

The first step to adding content is to decide what key messages should be standard across all 'official' notice boards. This may include a values statement, the latest edition of a newsletter, patient safety and other improvement messages, contact details for patient feedback, and so on.

The Downsides of Conventional Notice Board:

One of the most obvious flaws in using the conventional notice board as a tool to deliver information is that it is not accessible everywhere and every time. This happens as the notice board is only placed at specific location in the campus. Students need to plan their ways to the notice board which is located such as at the Head of Programmer's office, Academic Affairs office, lecture blocks and some other locations, just to update information. It is time and energy consuming to always go back and forth and read the notice board from time to time. As a result, the information delivery will be limited and ineffective.

According to Osamor et al. (2007), the wooden notice board is a flat solid object placed at strategic positions, makes it an object with notices and posters on it. They stated that when notices are being placed on the board, some of the old notices need to be removed and if not, with time, the notice boards will get filled up with the relevant and irrelevant notice messages. As a result of this, students might not take caution or overlook some of the new notices being displayed as it is time consuming to go through the whole notice board searching for relevant information. Osamor et al. (2007) also found that many states universities in theworld still rely on wooden notice boards hanging on walls to display announcements. In addition, he stated that the overreliance of this practice in universities is still not enough to disseminate relevant information around as many problems are encountered. Osamor et al. (2007) listed 4 problems and disadvantages of using wooden notice boards as below:

1. Multiple people struggle and cluster a single wooden notice board for information which has been just released. 2. People mutilate, remove or destroy paper notices from the notice board, leaving other people to be uninformed. 3. Some people do not have ample time to read all of the relevant information posted on a notice board especially where digital printout cannot be made easily. 4. There is unregulated display of information, difficulty in storage and inefficient reference to past relevant information being posted.

II.   EXISTING SYSTEM

The notice were written on wooden notice board hanging on the wall to display announcements. The overreliance of this practice in the world is still not enough to pass relevant information around as many problems are encountered. The goal of electronic notice board is to provide the access to notices and articles quickly not only within the college premises, also wherever and whenever they need to know. Electronic display board is fast gaining acceptance and application in different spheres of life which include educational institutions, public utility places and in advertisement due to the problem associated with construction of signposts and manually placement of papers on walls, buildings, and edifies which makes the environment look untidy.

LIMITATION:

All electronic boards are designed with a wired system.The major drawback of designing these boards is; not flexible and cannot be located anywhere due to messy wire.

III.   PROPOSED SYSTEM:

All electronic boards are designed with a wired system. The major drawback of designing these boards is; not flexible and cannot be located anywhere due to messy wire.to overcome this problem we are going to make the system by avoiding wire with the internet of things. Here the information will be send by only authorized person through mobile or computer. here we use GSM for sending message through mobile. The first stage of the circuit is a transformer which is a step-down type that changes the amplitude of the input voltage. Most of the electronic projects uses 230/12V transformer to step-down the AC mains 230V to 12V AC supply. Next stage is a diode-bridge rectifier which uses four or more diodes depending on the type of bridge rectifier. Choosing a particular diode or any other switching device for a corresponding rectifier needs some considerations of the device like Peak Inverse Voltage (PIV), forward current If, voltage ratings, etc. It is responsible for producing unidirectional or DC current at the load by conducting a set of diodes for every half cycle of the input signal.

Since the output after the diode bridge rectifiers is of pulsating nature, and for producing it as a pure DC, filtering is necessary. Filtering is normally performed with one or more capacitors attached across the load, as you can observe in the below figure wherein smoothing of wave is performed. This capacitor rating also depends on the output voltage.

The last stage of this regulated DC supply is a voltage regulator that maintains the output voltage to a constant level. Suppose the microcontroller works at 5V DC, but the output after the bridge rectifier is around 16V, so to reduce this voltage, and to maintain a constant level – no matter voltage changes in input side – a voltage regulator is necessary.

The Arduino Uno can be programmed with the Arduino software (download). Select "Arduino Uno from the **Tools > Board** menu (according to the microcontroller on your board). The ATmega328 on the Arduino Uno comes preburned with a bootloader that allows you to upload new code to it without the use of an external hardware programmer.
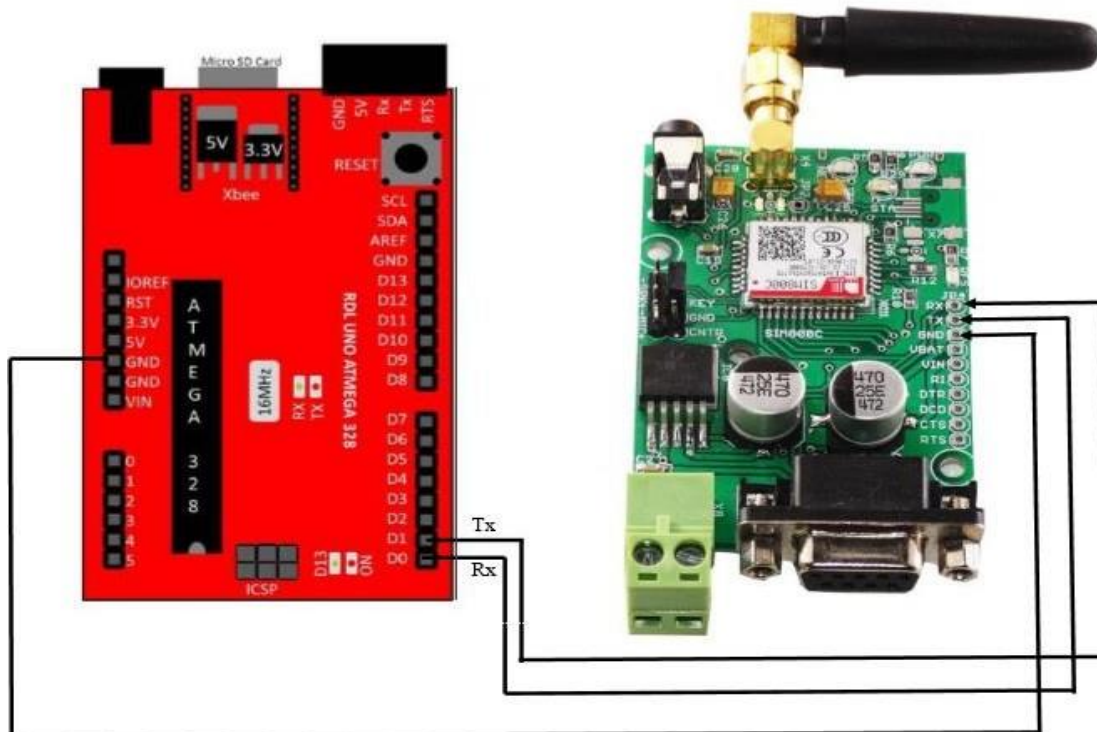
The power supply to the board should be 12v, 1-2A. The SIM800 modem described in this link has both RS232 and TTL type inputs. Make sure that the two pins labeled as power key are shorted, it is required for the modem to turn ON. When the modem turns ON the "power" and the "stat" LEDs also turn ON and the network LED starts blinking.

A light-emitting diode (LED) is a two-lead semiconductor light source that resembles a basic pin- junction diode, except that an LED also emits light. When an LED's anode lead has a voltage that is more positive than its cathode leads by at least the LED's forward voltage drop, current flows.

Electrons are able to recombine with holes within the device, releasing energy in the form of photons. This effect is called electroluminescence, and the color of the light (corresponding to the energy of the photon) is determined by the energy band gap of the semiconductor. An LED is often small in area (less than 1 mm), and integrated optical components may be used to shape its radiation pattern LEDs have many advantages over incandescent light sources including lower energy consumption, longer lifetime, improved physical robustness, smaller size, and faster switching. Light-emitting diodes are now used in applications as diverse as aviation lighting, automotive headlamps, advertising, general, traffic signals, and camera flashes. However, LEDs powerful enough for room lighting are still relatively expensive, and require more precise current and heat management than compact fluorescent lamp sources of comparable output. It displays the messages send by the user via GSM.
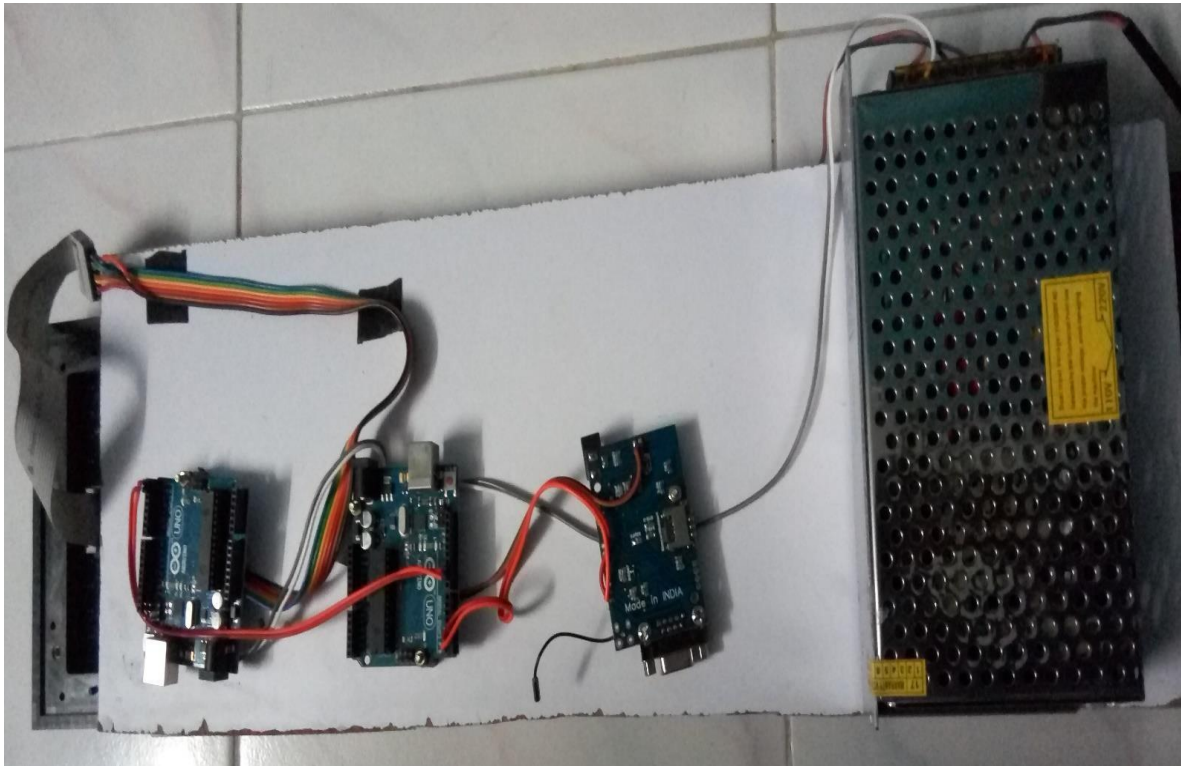
IV. CONCLUSION

The display boards are one of the major communications medium for mass media. The authentication purpose we are using the GSM technology which improves security in displaying message. Here the message will send by the authorized person for only security purpose.The master controller controls each functions of the system with a supporting device. It is also responsible for reception of commands from the host and taking necessary actions. Also we realize that this project saves time, energy and hence environment. Cost of printing and photocopying is also reduced. Thus we can conclude that this project is just a start, an idea to make use of GSM in communications to a next level.

REFERENCES

[1] N.Jagan Mohan Reddy, G.Venkareshwarlu, "Wireless Electronic Display Board Using Gsm Technology", IJEEDC, Volume-1, Issue-10, Dec-2013.

[2] DharaG.Rangani,Nikunj.V.TahilRamani, "Smart Notice Board System",ICATCCT, 2017

[3] Akshat Shukla,Dhananjay Hedaoo,"Cloud based Real-time Electronic Notice Board"IC0STSN, 2017.

[4] Sayidul Morsalin, Abdur Rahman, Md Abu Bakar Siddiqe, Prattay Saha, Md. Reduanul Halim, "Password Protected Multiuser WirelessElectronic Noticing System by GSM with Robust Algorithm",EICT, 2015.

[5] Michal Swiatkowski, Klaudiusz Wozniak, and Lukasz Olczyk, "Student Notice Board Based on LED Matrix System Controlled over TCP/IP Protocol", IEEE-2006

[6] Audy, Marcel Bonar Kristanda, Seng Hansun, "Smart Poster Implementation on Mobile Bulletin System using NFC Tags and Salt Tokenization", ICSITech, 2016

[7] Chun-Chieh Chang, Chi-Lin Chen, Chi-Wei Lin, Jen-Wei Huang, Chu-Sing Yang, "The Analysis of User Behavior and Relationship on Bulletin Board System", IEEE-2015

[8] Kazuhiro Uchida, Koji Ueda, Hiroshi Onodera, Isao Horiba, Shin Yamamoto, Noboru Sugie, "Designing Human Friendly Road Information Board for Highway Drivers from the Viewpoint of Multiple Spatial Frequency Channel Model of Human Visual System", IEEE-1999

[9] Lianhong Ding,Peng Shi, "Social Network Analysis Application in Bulletin Board Systems",
ICISIE, 2011

[10] Ding Yi, "Electronic Bus Stop Boards Promote the Intelligent Construction of Urban Public Transportation", ICCDA 2010

[11] Arvind Gopal Ghodse,Vivek Kshirsagar, Meghana Nagori, "Pattern Based Smart Notification in Education", IISC,July 10-12, 2018

[12] Anushree S P, Divyashree V Bhat, Moonisha G A, Venkatesh U C , "Electronic Notice Board for Professional College", IJSETR, Volume 3, Issue 6, June 2014

[13] Gaurav Sattiwale, Rushabh Tongase, Vaidehi Kamble, Rupesh Saut, Prof. Manish K.Shriwas, "A Past, Present and New Features of Digital Notice Board",IJSRP, Volume 7, Issue 5, May 2017

[14] ASM Mahfujur Rahman, Abdulmotaleb El Saddi, "A 3D Notice Board Metaphor for Visualizing,
Categorizing, and Sharing Learning Objects",IEEE2007

[15] Artdhita Fajar Pratiwi, Galih Mustiko Aji, Purwiyanto, Chairunnisa, Achmad Munir, "Wireless Electronic Information Board for Tsunami Early Warning System Based on FM Radio",InAES,2017

.