

# GSM Supported e-Notice Board

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## Abstract

Notice board is the one of the best medium to communicate with the mass media. Notice boards are commonly used at the public utility places. The project, GSM Supported e-Notice Board is an SMS-based and Android-driven Digital display board system, designed to improve the noticing processes by using GSM. The proposed system will help user to display notices from anywhere with the help of user's Android mobile phone, wirelessly. Android application provides security to the system. User sends the notices by SMS, which is received at GSM modem and display on LCD notice board. Performance of single-segment Short message service (SMS) (i.e., the message sizes are smaller than 140 octets) has been intensively investigated. On the other hand, multi-segment messages (with sizes larger than 140 octets) are seldom evaluated in the literature. It presents an SMS based notice board incorporating the widely used GSM to facilitate the communication of displaying message on notice board via user's mobile phone. Its operation is based on microcontroller ATMEGA32 programmed in assembly language. A SIM300 GSM modem with a SIM card is interfaced to the ports of the microcontroller with the help of AT commands. When the user sends a SMS via a registered number from his mobile phone, it is received by SIM300 GSM modem at the receiver's end. SIM300 is duly interfaced through a level shifter IC MAX32 to the microcontroller. The message is thus fetched into the microcontroller. It is further displayed on an electronic notice board which equipped with LCD display interfaced to microprocessor powered by a regulated power supply from mains supply of 230 volts ac. This project is our experiment on real time noticing.

**Index Terms** :- GSM (Global System for mobile), Android , SMS (Short Messaging Service), LCD (Liquid Crystal Display).

## I. INTRODUCTION

In this modern world Mobile Phones and the related technologies are becoming more and more prevalent. Various technical arenas in the field of Telecommunication and Embedded Systems are becoming omnipresent in the people. The use of cell phones has rapidly increased over the last decade and a half. Upgradation in networking technologies has encouraged the development and growth of very dense networks. Now-a-days the general mass prefer communicating while on the move therefore landlines usage has been drastically reduced. Notice boards are one of the widely used ones ranging from primary schools to major organizations to convey messages at large. A lot of paper is been used and which is later wasted by the organizations. This in turn leads to a lot of deforestation thus leading to global warming. Small innovative steps in making use of technology for regular purposes would have an adverse effect on the environment issues which we are presently concerned about. The main aim of this paper is to design a SMS driven automatic display Board which can replace the currently used programmable electronic display and conventional notice boards. It is proposed to design receive cum display toolkit which can be programmed and later be used from an authorized mobile phone. The GSM modem receives a message from the authorized mobile phone and the message is extracted by the microcontroller from the GSM modem and is displayed on the LED display board. Serial communication is used for the entire process from GSM module to Microcontroller and from microcontroller to the LED display. The three devices are powered by the same power supply. This proposed system in this paper has many upcoming applications in educational institutions and organizations, crime prevention, traffic management, railways, advertisements etc. Been user friendly, long range and faster means of conveying information are major bolsters for this application. By using this proposed methodology we can enhance the security system and also make awareness of the emergency situations and avoid many dangers.

## II. LITERATURE SURVEY

### 1) GSM Wireless Communication System [2010] :

[1] This paper is mainly show the character of GSM (Global System for Mobile communications) network. GSM system is today a worldwide standard for second generation mobile telephony. GSM system is very popular and important in whole world. It is have a lot of advantage and conveniences.

### 2) Display Message on Notice Board using GSM [2013]:

[2] This paper proposed the notice board system which saves time, energy and hence environment. Cost of printing and photocopying is also reduced as information can be given to a large number of people from our fingertips. Thus we can conclude that this paper gives an idea to make use of GSM in communications to a next level.

### 3) Wireless Electronics Display Board Using GSM Technology [2013]:

[3] 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. Notice boards are one of the widely used ones ranging from primary schools to major organizations to convey messages at large.

### 4) SMART NOTICE BOARD [2013] :

[4] This technical paper provides a discussion on present trends in technology and how exactly, simple carry-to-use devices play a vital role in day-to-day life. Using the present technological devices, how an efficient and smart notice board can be made is explained in this paper.

### 5) A Protocol for End-to-End Secure Transmission of SMS [2014] :

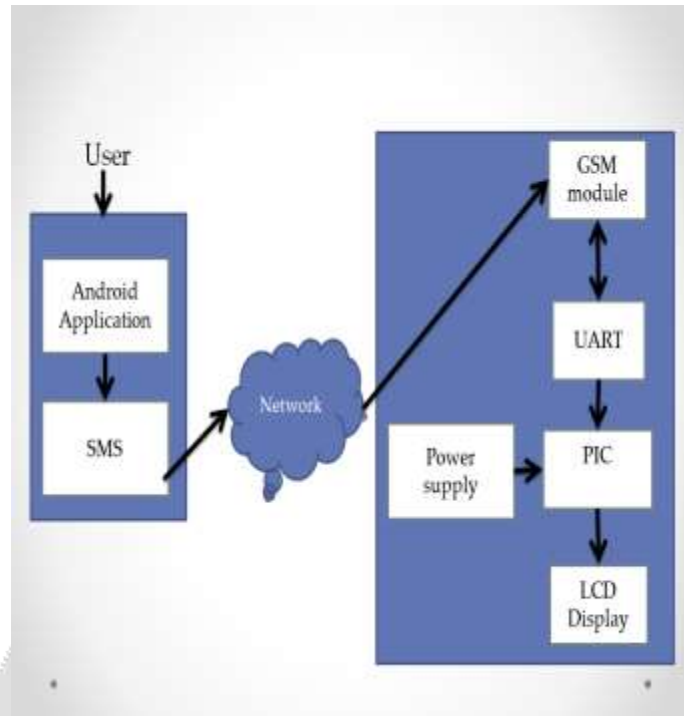
[5] explain the EasySMS protocol is successfully designed in order to provide end-to-end secure communication through SMS between mobile users. The analysis of the proposed protocol shows that the protocol is able to prevent various attacks. The transmission of symmetric key to the mobile users is efficiently managed by the protocol. This protocol produces lesser communication and computation overheads, utilizes bandwidth efficiently.

### 6) Transmission Policies for Multi-Segment Short Messages [2015]:

[6] This paper proposed analytic models to investigate two multi-segment short message transmission policies. The analytic models were validated against by more than 100 millions measured data obtained from a 6-month commercial SMS operation. This analytic model can effectively speed up network planning for commercial SMS operation.

## III. PROPOSED SYSTEM

In this GSM supported e-notice board, the module comprises of two major units. The first unit is a simple user's mobile handset. The second unit is the control unit. For instance, this system can be achieved with the help of Android application, GSM modem and LCD display. The control unit comprises of a display, the Arduino board and the GSM module. The control unit will be placed in remote places. Whenever any information or message have to be displayed the user can send the message via user's android mobile phone to the control unit. This smart notice board can be used in many applications including educational institutions, banks, public places like bus and railway stations.



**Fig :-** Architecture of Proposed System

#### IV. ALGORITHM

- Step I:  
Start with login\_page fill the details and check whether the user is valid or not if not valid output that user is invalid else ask them to register.
- Step II:-  
If the user wants to register go to the register\_page get the information and store that information in the database.
- Step III:-  
If the user is administrator go to the authentication\_page and authenticate the user who can send the notices.
- Step IV:-  
If the user is administrator he can also go to the notices\_page and there he can allow which notices to be displayed
- Step V:-  
After the user has been authenticated the user can send the notice after approval by the administrator from the compose\_page the administrator can also send the notice through compose\_page
- Step VI:  
if the user has forgotten their password they can ask to retrieve the password from the forget\_password page.
- Step VII:-  
If the user wants to change the password he can change the password from the change\_password page.
- Step VIII:-  
From the android mobile the notice in the form of SMS will go to the Notice Board .the GSM module will accept that SMS.
- Step IX:-  
From the GSM Module it will go to UART and then it will be displayed through a LCD.

## CONCLUSION

As the technology is advancing every day the display board systems 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. By developing Android application in this proposed methodology we can enhance the security system and also make awareness of the emergency situations and avoid many dangers .

## FUTURE SCOPE

- We can add Buzzer for alarm system to get the notification of Notices.
- We can change the output screen from LCD to LED.
- We can add extra memory to store large number of notices .
- We can make use of multiple LCD to show multiple notice at one time.

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