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WIRELESS NOTICE BOARD USING GSM MODULE

[1]Ankita P Budni, [2]Bhoomika D, [3]Darshan Gowda M K,[4]Gagan V S,[5]Mr B.R Santhosh Kumar

[1,2,3,4]Undergraduate Student,[5]Associate Professor
[1] Department of Electronics and Communication Engineering,
[1]K S Institute Of Techonology , Bengaluru,Karnataka, India

Abstract : This paper introduces a GSM-based wireless display system aimed at replacing traditional methods of large-scale information sharing, such as paper-based displays. The proposed system utilizes a GSM module, an Arduino microcontroller, and an LCD screen to create a digital notice board. Designed to operate in real-time, it offers a convenient and automated solution for displaying information to a large audience. As automation continues to gain prominence in various fields, this system presents a valuable advancement in mass communication .

Keywords: GSM Module, Arduino, LCD Display...

I. INTRODUCTION

With the continuous progress in technology, more daily applications are transitioning to wireless solutions. Going wireless not only makes systems more practical but also enhances their efficiency. Reducing paperwork not only benefits the environment but also minimizes the need for human labor.

In the past, without advanced technologies like wireless communication and automation, public displays were typically managed using pen and paper. This method was not only labor-intensive but also contributed to unnecessary paper consumption, which was harmful to the environment.

To address these limitations, a new system was developed. This system uses components like a GSM modem, SIM card, power supply, LCD, and Arduino. Unlike the old method, where messages had to be typed on a PC, saved onto a USB, and then transferred to the display board, this new system allows messages to be sent wirelessly. By using SMS from a mobile phone to communicate with the microcontroller, the system enables anyone, anywhere, to send messages to the notice board, even without an authorized person being physically present.

This system can be used in various applications, such as in Smart City projects, public places like hotels, malls, colleges, cinemas, and even in homes. For example, a message like "Do not disturb" can be sent to a hotel room or home door step using a mobile phone, making it convenient and efficient for both business and personal use.

II. LITERATURE SURVEY

1) **The Genius Board is a next-generation notice display system driven by AI and Raspberry Pi**, designed to deliver tailored and dynamic content for improved communication. This innovative platform aims to enhance community engagement and strengthen connections among members. Leveraging advanced technologies such as WebSocket, machine learning, and IoT integration, it enables administrators to provide real-time updates, customized notices, and prompt emergency alerts. With features like multilingual support, analytical tools, and gamification elements, the Genius Board transcends traditional communication methods, fostering inclusivity and a sense of belonging within communities.

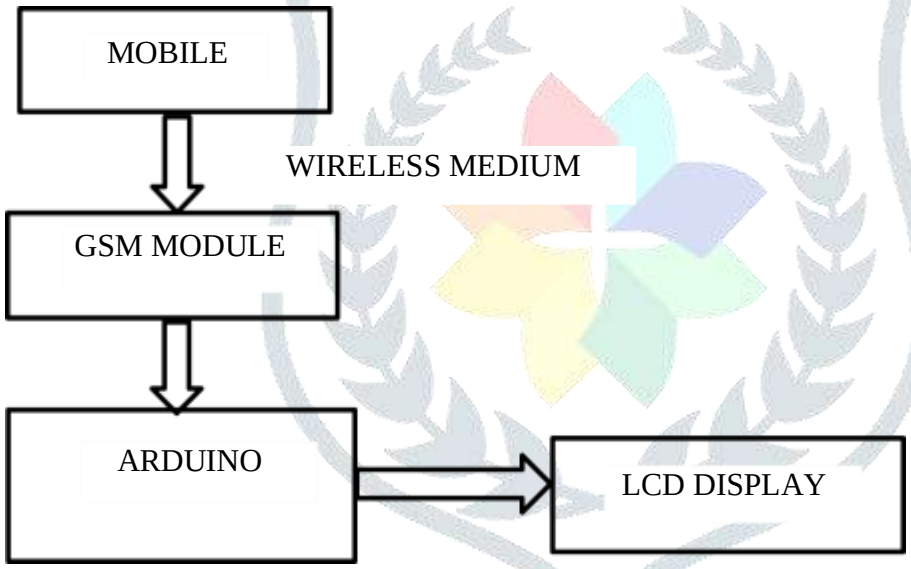
[2]The Voice-Controlled Wireless Notice Board This paper offers an affordable and user-friendly solution using an Android-based system. It employs Bluetooth for wireless serial data communication, with a microcontroller at the receiving end to handle and display messages. The system supports two types of displays: a remote digital bulletin board and wireless personal phone calls. The microcontroller is programmed using assembly language, and the setup consists of two main components: a transmitter module and a receiver module .This technology finds applications across various fields. The proposed design uses an Arduino UNO microcontroller to process information and display it on an LCD.

[3]**A Prototype-based Smart Notice Board for Smart Cities**
This paper emphasizes the potential of smart notice boards to revolutionize information dissemination in smart cities. By combining IoT and modern communication technologies, the system ensures timely, efficient, and inclusive access to information, contributing to the overall vision of sustainable and connected urban living.

[4] **Design and Development of a Smart Wireless Electronic Notice Board System**
This paper focuses on enhancing traditional notice board systems by addressing their limitations and improving overall efficiency.This work highlights the effectiveness of using wireless technologies like Wi-Fi and advanced hardware like Raspberry Pi to create a robust, smart electronic notice board system. The approach not only improves performance but also ensures security, reliability, and ease of operation, making it a significant step forward in the evolution of communication systems.

[5]**IOT based Smart Notice Board** The main purposes to design this electronic notice board system is to interface it with user's mobile phones for displaying the latest information. In other words, the user can easily send the message or information for displaying from remote areas. In this system, the user sends the information or data from remote areas and this information or data is received by the sim loaded into GSM modem which is basically receiving end. This system is designed with PIC16F microcontroller, which is interfaced with GSM modem and level shifter through serial cable.

III. METHODOLOGY



A. BLOCK DIAGRAM

Figure 1 represent the block diagram represents the block diagram of Wireless notice board using GSM module we have used the components like Arduino UNO, GSM module ,LCD display .

B.WORKING

The Wireless Notice Board using GSM Module works by enabling users to send messages from a mobile phone to an LCD display via SMS. The user sends the message to the GSM module, which is equipped with a SIM card to receive the SMS. The GSM module forwards the received message to the Arduino Uno , which processes the data and ensures it is valid, typically by checking if it comes from an authorized sender.
Once validated, the Arduino sends the message to the connected LCD display, updating the notice board in real-time. This system provides a simple and efficient way to remotely update notices without manual intervention, making it ideal for schools, offices, and public areas.

A. FLOWCHART

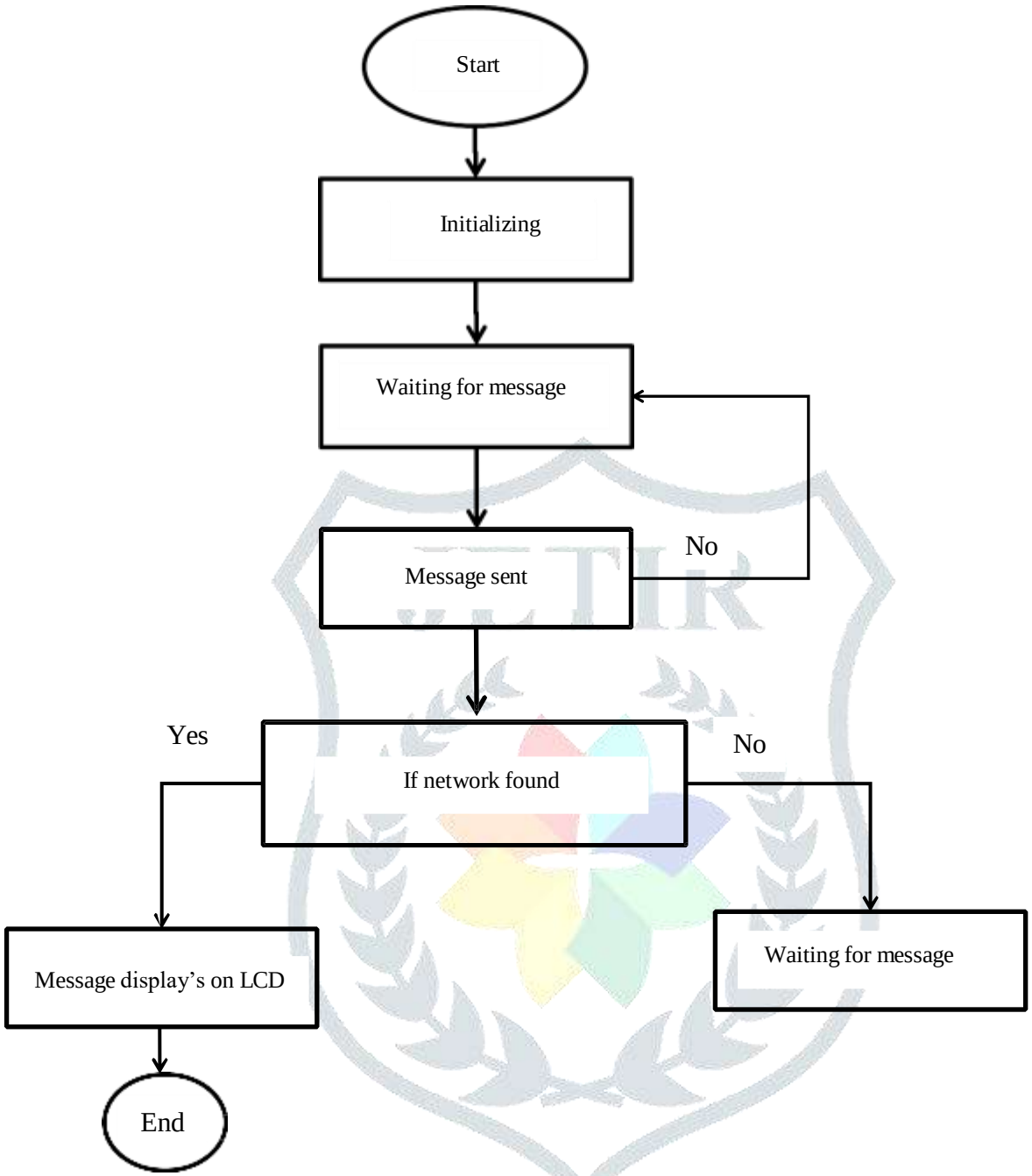


Figure 2 : Flow chart of wireless notice board using GSM module

IV. RESULTS

The prototype of the proposed system is shown in figure 3

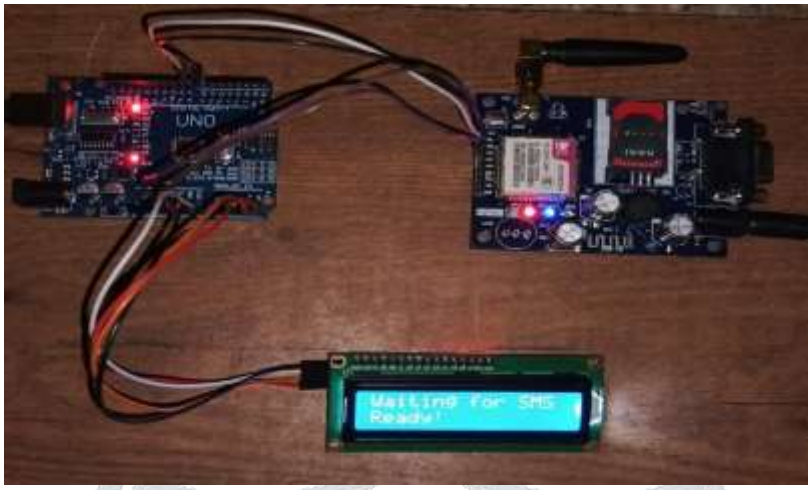


Figure 1:System of the project with complete connections

Figure 2:Initializing the message ,which is displaying on LCD

Figure 3:Waiting for SMS to display on LCD

Figure 4: SMS displayed on LCD is “HELLO”

V. APPLICATIONS

- Educational Institute
- Public Information System
- Retail and Shopping Malls
- Offices
- Hospitals

VI. REFERENCE

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