



IOT BASED DIGITAL NOTICE BOARD USING WI-FI

P.GEETHA, S.ANANTHAKUMAR, Dr.J.CHANDRAMOHAN K.SATHEESHKUMAR

PG Student,Gnanamani College of Technology,Namakkal,India

AssistantProfessor,GnanamaniCollegeof Technology,Namakkal,India

Professor ,Gnanamani College of Technology, Namakkal, Tamilnadu, India

AssistantProfessor,GnanamaniCollegeof Technology,Namakkal,India

ABSTRACT : This project presents digital notice board using WiFi module. The idea behind this project is to provide its users with a simple, fast and reliable way to put up important notices in the LCD where user can send messages that are to be displayed in the LCD. These messages can be sent through an android application designed in this project, through the WiFi module . So, notices can be put up in an LCD display from any location in the world. It uses a microcontroller for system control, WiFi based technology for communication and sends the message through the android application. The project consists of a 32-bit ARM based microcontroller LPC2148, WiFi module, an LCD, and an android application for user interface with the hardware. This device can be used anywhere irrespective of the place of deployment provided mobile network connectivity is available.

I.INTRODUCTION

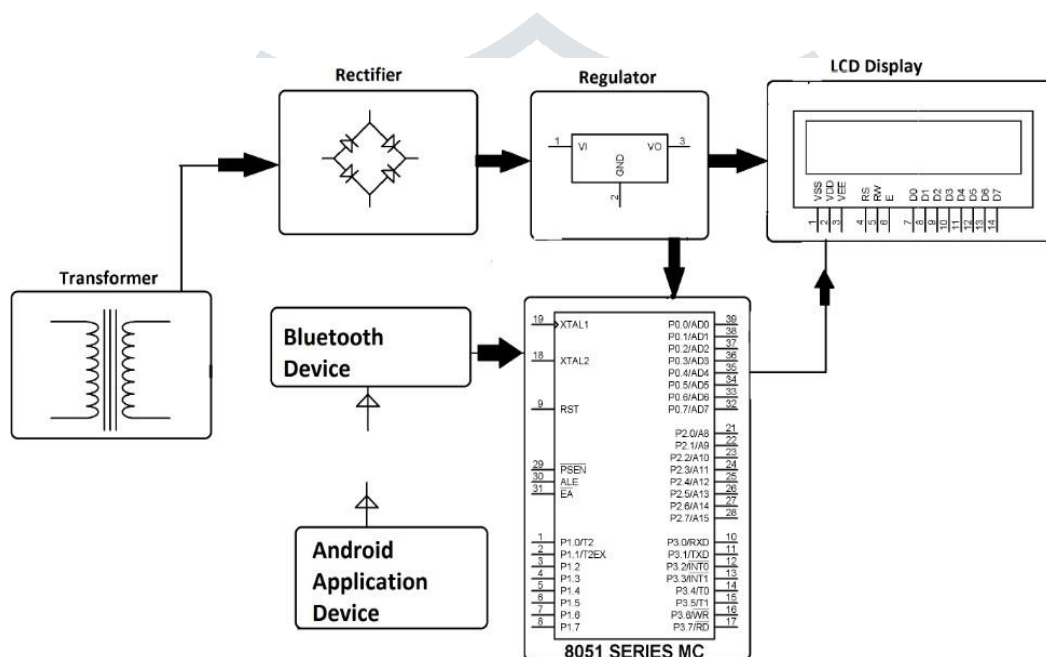
As technology improves, efficient, financially affordable and highly productive output becomes an absolute necessity, and this leads us to be more inclined towards using automated control systems. Human intervention, although it offers variety, adaptability and interactivity, could lead to errors, as it is a natural and inevitable result of this variability. Hence, automation of a system is an accepted means to minimize human error and its impact.

Applying this to the situation under scrutiny now, the traditional methods of writing typing the notice on paper, and having a man/woman deliver the notice to the respective groups, or having him/her paste the notice on the notice board, is prone to errors. With the electronics industry moving at a fast pace, we are able to solve many such problems with digital replacements. Our

project, Multi Electronic Notice Board, aims at eliminating the use of paper in offices, schools & colleges, and other institutions also minimizing the risk of errors, by replacing paper with LCD displays.

In order to display notices, a user can use the android application to type a notice and click on the send button to get it displayed. The functionality can be used only if wifi module is connected to hot spot of the host. The hardware consists of an ARM based microcontroller LPC2148 that communicates to the application through a WiFi module to receive messages. LPC2148 itself retrieves message and sends signal to switch on/off a device or display a notice.

II.BLOCK DIAGRAM



III.LITERATURE SURVEY

TITLE : IOT BASED DIGITAL NOTICE BOARD USING WI-FI

Literature survey is mainly carried out in order to analyze the background of the current project which helps to find out flaws in the existing system and guides on which unsolved problems. GSM network is widely used today whether it is for calling or SMS. Also some of the places needs urgent notices like in college, railway stations, sharemarkets, and this notice should be in real-time, so we need a real-time notice.

This project is about writing the message which is to be displayed in mobile and send it as SMS to other side. This received message is fetched into Microcontroller and after authentication it is displayed on LCD screen. Also by interfacing a voice data recording IC with Microcontroller we can also do announcements in real-time. This paper is designed using ARM-LPC2148 interfaced with Graphical Display.

At present, when information has to be updated in a notice board, it has to be done manually. Also in present electronic systems, no matter how many displays are present, only a single notice can be sent to all of the notice boards irrespective of their places. In order to overcome this disadvantage, multiple displays along with a decoder are used to select a particular display and the corresponding information is sent through an ARM controller by using GSM technology.

Display boards are primary thing in any institute, organization, public utility places like bus stops, railway stations, parks, shopping malls to display information regarding platforms, various advertisements about the products, or important notices. People are now adapted to the idea of the world at its fingertips. The old wired display boards are controlled by microcontroller.

To change message, we need to change the microcontroller program code again and again. By adding GSM wireless communication interface, we can overcome these limitations. It is a start to the era of smart and real-time displaying of messages on display boards. This paper explains the development of GSM based Smart LED Display Boards using Short Message Service(SMS).

Summary

Literature survey is mainly carried out in order to analyze the background of the current project which helps to find out flaws in the existing system and guides on which unsolved problems we can work out.

IV.SYSTEM DESIGN

OVERVIEW :

Software design is a process through which the requirements are translated into a representation of software. Design is a place where design is fostered in software Engineering. Based on the user requirements and the detailed analysis of the existing system, the new system must be designed. This is the phase of system designing.

System development methodology :

Coding:

In system specifications are only converted in to machine readable compute code. Implementation: The implementation phase involves the actual coding or programming of the software. The output of this phase is typically the library, executables, user manuals and additional software documentation .

Testing:

In this phase all programs (models) are integrated and tested to ensure that the complete system meets the software requirements. The testing is concerned with verification and validation.

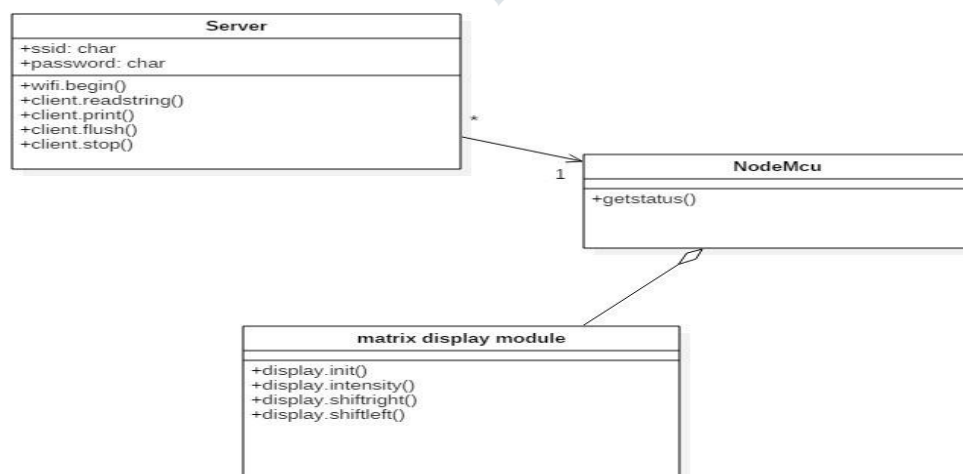
Maintenance:

The maintenance phase is the longest phase in which the software is updated to fulfill the changing customer need, adapt to accommodate change in the external environment, correct errors and oversights previously undetected in the testing phase, enhance the efficiency of the software.

Reason for choosing Waterfall Model as development method

1. Clear project objectives.
2. Stable project requirements.
3. Progress of system is measurable.
4. Strict sign-off requirements.
5. Helps you to be perfect.
6. Logic of software development is clearly understood.
7. Production of a formal specification.
8. Better resource allocation.
9. Improves quality. The emphasis on requirements and design before writing a single line of code ensures minimal wastage of time and effort and reduces the risk of schedule slippage.

Architectural Design



The class matrix display is used for fetching the user input from the user and displaying it on display. Whereas server class is used for storing the local host user name and password .It was also used for connecting of the device to local host.

Actors

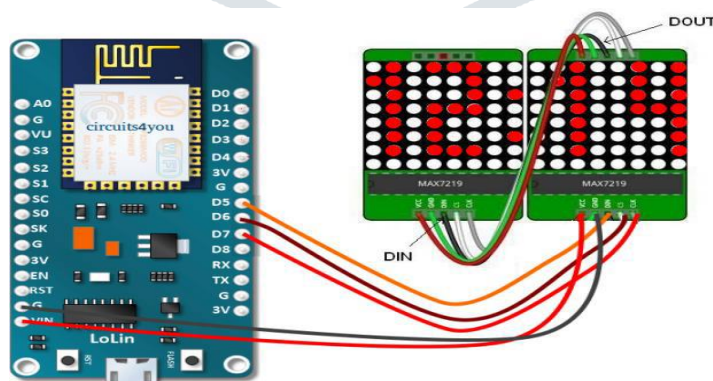
1.app 2.Lcd

Use Cases

1. Connect to network
2. Display IP
3. Enter text
4. Receive text
5. Display text

IMPLEMENTATION

- Careful planning.
- Investigation of system and constraints.
- Design of methods to achieve the changeover.
- Evaluation of the change over method.
- Correct decisions regarding selection of the platform.
- Appropriate selection of the language for application development.



Hardware wiring from Arduino to dot matrix display

data pin D5 from arduino is connected to the display pin Din.

data pin D6 from arduino is connected to the display pin CS

data pin D7 from arduino is connected to the display pin CLK.

V.TESTING

- To affirm the quality of the project.
- To find and eliminate any residual errors from previous stages.
- To validate the software as a solution to the original problem.
- To provide operational reliability of the system.

RESULTS & EXECUTION

Snapshots



The above screenshot shows the front end of the android application. It consist of two text boxes. One for entering the IP address of the local host to get connected and other box is used to type text which text user like to display on matrix display.

This screenshot shows us how a simple word was displayed in dot matrix from left to right. Here the user had typed the message which to be displayed in the textbox in the app which we can observer in the figure. Here both mobile and hardware device.



CONCLUSION

The prototype of the proposed WI-FI based electronic notice board was successfully designed. It can be easily integrated with all general purpose display board thus proving its mobility.

The message is transferred using wireless technology and is eventually obtained on the LED matrix. Thus we are using modern technology to replace conventional display boards the android app interface can make this system even more user friendly and popular.

The system accepts the message from app to be displayed in the form of Short Message Service (SMS) stores it, checks for its validation and then displays it on the display unit if it meant for that particular display unit, it decided based on IP address.

This system supports only one message at a time. The proposed system can be efficiently used for transfer of message instantly on campus.

REFERENCES

- [1] Darshankumar C. Dalwadi, Ninad Trivedi , Amit Kasundra ,(2011) Wireless notice board our real-time solution, National Conference on Recent Trends in Engineering & Technology.
- [2] Nivetha S. R, Pujitha. R, Preethi Selvaraj & Yashvanthini S.M,(2012) SMS based Wireless Notice board with monitoring system ,International Journal of Advanced Electrical and Electronics Engineering, (IJAE) ISSN (Print) : 2278- 8948, Volume-2, Issue-3, 2013.

[3] Pawan Kumar, Vikas Bhrdwaj, Kiran Pal, Narayan Singh Rathor & Amit Mishra, (2012) GSM based e-notice board: Wireless Communication, International Journal of Soft Computing and Engineering (IJSCE), ISSN: 2231-2307, Volume 2, Issue-3, pp 601-605.

[4] Prachee U. Ketkar, Kunal P. Tayade, Akash P. Kulkarni & Rajkishor M. Tugnayat, (2013) GSM mobile phone based led scrolling message display system, International Journal of Scientific Engineering and Technology (ISSN : 2277-1581), Volume 2 Issue 3, pp 149.

