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Research Paper on Digital Notice Board

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ABSTRACT

Digital Notice Board is primary thing in any organization, institution or public utility places like bus stop, railway stations, schools, colleges, malls, etc. But sticking multiple notices every day is a hard process. An individual person is needed to take care of these notices. This project is about advanced wireless notice board. The project is built around raspberry-pi. Display is obtained on LCD. A wireless fidelity is used for Data transmission. we can add or erase or differ the text according to our need. At transmitter, authorized PC is used for sending notices. At receiving end wireless fidelity is connected to raspberry pi. When an authorized user sends a message that is to be displayed from his system, it is accepted by receiver. Wireless is a popular technology that allows an electronic device to exchange data over a computer network, including high speed wireless connections. The data is received from authenticated user, then it sends the data to raspberry pi.

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I. INRODUCTION

Now a days, people are becoming accustomed to easy access to information. Whether it's through the internet or television, people want themselves to be updated with the latest events happening around the world. In today's world people prefer wireless connection because they can interact with people easily and it require less time. The main motive behind this project is to develop a wireless digital notice board that displays message sent from the authorized user and to design a system which is user friendly, can be installed easily and is simple to use that can receive and display notice in a particular order with respect to date and time which will help the user to easily keep the track of notice board each time he uses the system. Digital notice board is designed and implemented by using raspberry pi board. The GUI which will be used by users which has been installed and ready to use on the personal computer, a web server and a raspberry pi card to display text on display device. The main aim of this system is to develop a digital notice board which is wireless that display message which are transmitted by the user and to create a easy, user compatible system, which can receive and pop notice in an order with respect to date and time which will help the user to easily keep the track of notice board every day and each time he/she uses the system. The Digital Notice Board is a new innovative source to get information from our customers, employees, visitors or students. Target your destination: You have to choose how to transmit your information, ensuring that your message is getting accessed by the right people, in the right place, at the right time. You control the content and the delivery time for your message. The versatility of the Digital Notice Board platform allows you to use all you current Power point presentations without having to make any changes or alterations. Work the way you want and the way you are used to. Now a days digitized advertisement is introduced. Multipurpose digital display unit which provides ease of communication between administration and students in colleges. Whenever a message is sent it can be directly displayed on the Digital notice board, without any of the efforts like printing on a paper and then sticking it manually to the notice board. Many people do not really have a habit of continuously checking and reading the notice board. But using digital notice board we can easily display it on a big LCD screen, which can be easily seen and read by many students at a time.

The system is used to develop a digital notice board that displays notices/messages in the form of image, text, pdf. It makes use of Raspberry Pi as a processor. Raspberry Pi is equipped with LCD display. We can display notices and can be easily set or changed from anywhere all over the world. The MQTT server is used as a broker between the cloud and the user. Then it passes to the processor which is connected to the internet by wireless fidelity. The processor, process it and displays the data on the screen. We can send the message to multiple screens or the desired screen.

II. LITERATURE SURVEY

Display Message on Notice Board using GSM

Foram Kamdar, Anubbhav Malhotra and Pritish Mahadik

An SMS based notice board involves the widely used GSM to regulate the communication of producing message on notice

board via user's mobile phone. Its working is fully based on microcontroller ATMEGA32 which is being programmed in assembly language commands. A GSM modem contains a SIM card which is interfaced to the ports of the microcontroller with the help of AT commands. When the user sends a message via a registered number from his mobile phone, it is accepted by the SIM enclaved in the GSM modem at the receiver's end. SIM is correctly interfaced through a level shifte to the microcontroller. The messages are thus fetched into the microcontroller. It is further displayed on a digital notice board which equipped with LCD interfaced to microprocessor powered by a regulated power supply from mains supply of 230 volts ac.

GSM Modem can be worked in any GSM network operator SIM card and pretend just like a mobile with its own unique phone number. This modem can use its RS232 port to communicate and develop embedded specifications. Applications like SMS Control, data transfer, remote control and logging can be implemented easily. The modem can either be connected to Personal computer port directly or to any microcontroller. It can be used to send and receive messages or can make/receive voice calls. GPRS mode can be used by GSM modem to connect through internet and do multiple applications for data logging and control hence GSM modem is a highly flexible plug and have quad band GSM modem. Microcontroller is a tiny computer having solitary integrated circuit having a processor core, memory and programmable Input-output peripherals. We have been using microcontroller ATMEGA32. Voltage Regulators: A Voltage regulator is a device that automatically keeps a voltage level constant. A regulator generates a particular output voltage of a preset magnitude that keeps the input voltages and load conditions constant regardless of any voltage changes. The voltage regulators are found in the devices where the stabilization of the DC voltages used by the processor and other elements are required [1].

Wireless electronic display board using GSM technology. : N. Jagan Mohan Reddy, G. Venkareshwarlu.
This paper give a different approach of sending the message to the people using digital display board which is synchronized using the GSM technology. This will help us in sending the messages almost in a limited time without any delay just by sending a message which is more good and more reliable than the old traditional way of sending the message on notice board. Suggested technology can be used in multiple public places, shopping malls or multi storey buildings to increase the security system and provide awareness for the emergency situations and avoid hazards. Making use of different AT commands is used to display the message onto the display board. GSM technology is used to keep the control over electronic digital board and make sure that the information is conveyed through a message which has been by an authenticated user [2].

Design and Implementation of Digital Notice Board Using Power Line Communication. Author: R. Pudumai Nayagi, R Seethalakshmi.
A new design is built by introducing various methodologies enlighten in existing systems for implementing digital notice board in educational institutions, organizations. The data is sent in an appropriately selective and secure manner via. power lines. The data to be displayed is entered into the host Personal Computer using Visual Basic software. PLC modem is to the connected serially with the PC at the transmitter side which processes the data by modulating it with carrier signal. The modulated signal is sent through A.C power line and received by another PLC modem interfaced with a PIC controller. The received signal is demodulated and the controller displays the information on the LCD[3]. The software is installed on a PC which is being used by the application. Input is procided from it and has the serial port connected to the PLC modem which transmit the messages. Power line modem receives the characters to be sent via serial port. Microcontroller passes the sms to the data modulator which uses Frequency Shift Keying method. Signal is passed by an isolator in order to protect it from over voltage and send through ac power line 230V and the receiver demodulates the carrier signal. The PIC which is a 8 bit, 40 pin IC having 5 ports is ideally used in low cost and low power applications. This receives the decoded message and displays the character in LCD [3].

Vinod B. Jadhav, Tejas S. Nagwanshi, Yogesh P. Patil, Deepak R. Patil at (2016)
This paper gives an approach to a remotely send notice to a Monitor from an Android application based on Raspberry pi card. Digital Notice Board has been rememorized in the first stage. In the second stage an application is being developed which is based on the android application. The various diagrams have been displayed. A wireless fidelity is used for Data transferring. we can sum up or erase or varry the text according to our need. At the transmitter end authorized Personal Computer is used for sending messages. At receiving end wireless fidelity is connected to raspberry pi. When an authorized user sends an information from his personnalized system, it is accepted by a receiver. Wireless technology is very popular that allows an electronic device to exchange data over a computer network, including high speed wireless connections. The data is received from authenticated user [4].

ARDUINO-BASED DIGITAL NOTICE BOARD USING ANDROID PHONES : By Christopher U. Ngene and Y unus A. Abiodun.
This paper provides a way of spreading information on an electronic notice board using Bluetooth technology which will be wireless, which inssures that there is an user authentication to clear of the misuse of the system. The notice can be prepared either by text or speech by using Google 'Speech-to-text technology. Using Arduino UNO microcontroller we are designing and implementing the notice board. The notice board can display date, time and temperature of the environment using DS3231 RTC including the normal information. A personalized Android phone is used for creating, modernize and forwarding information to the digital notice board. By using Arduino integrated development environment the program was coded in the language C/C++. The result shows considerable gain in confidentiality, safety, authenticity and less in cost [5].

Jaydeep Raiyani Mr. Dharmisht Dalsaniya at (2014)
This form gives Basic instructions for Digital signage system by using wireless fidelity. This paper gives tremendous knowledge how to operate with Digital notice board in a wireless manner. Now a days we have digital signage system which need to change their information by using pen drive but this paper gives the way for how to play with digital

signage system wirelessly and make use of good advertisement. So for that we try to find some solution regarding this research topic[6].

Real Time Notice Display System using Cloud Sachin Darekar, Bhagyashree Davane, Swati Khose, Alisha Panigrahi.

In this busy world for reducing the paper and time we are developing the real time notice display system which displays messages on the board by using raspberry pi with less cost and provides a convenient way to create a message. One of most obvious reason is the drastic effect of LED display to capture attention. Many applications are introduced having an advanced feature called real time update. These applications involves various domestic devices such as TV, smart phones etc., so are smart digital boards. So this project is developed with Raspberry pi 3. The Raspberry pi provides all the functionality to display notices. Real Time Notice Display System using Cloud is a task of displaying messages on the digital notice board using Raspberry pi which will be sent only by authorized user through cloud[7].

III. Conclusion

The digital notice board is wireless and hence wires for displaying the information on the LCD display are not required. It is very easy to operate and consumes less power. The circuit of the wireless digital notice board is portable.

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