



Design of Wireless Electronic Notice Board Using IOT

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ABSTRACT

Notice board is important factor in any organization or public service places like railway stations, bus stations and looking malls etc. usually notices are displayed protrusive print of notices on board that is tough task. during this system style a Digital notice board exploitation IOT Technology has been given. thus we tend to are reducing paper work and time . IOT is that the network of physical “things” or object that contain embedded technology to interface and sense to manual with their internal states or the external setting. Automation is that the most frequently spelled term at intervals the sphere of physical science. The hunger for automation brought many revolutions at intervals the prevailing technologies. bulletin board may well be a primary consider any institution or public places like bus stations, railway stations, colleges, malls etc. protruding various notices day to day may well be a troublesome technique. A separate person is required to require care of this notice show. This project is concerning advanced wireless bulletin board. In IOT based mostly internet Controlled bulletin board, web is used to wirelessly send the message from Browser to the show. a neighborhood internet server is made, this might be a worldwide server over internet. At the PIC microcontroller, semiconductor diode matrix is employed to show message and flask for receiving the message over network. Whenever microcontroller receives any wireless message from GSM module, it displays on the semiconductor diode matrix. Internet of Things (IOT) belief system is looked as an exceptionally distinctive and radically distributed networked system composed of a awfully sizable amount of specifiable good objects. These objects will convey and to interface among themselves, with end- users or totally different parts within the system. getting into the time of web of Things, the employment of little, shoddy and versatile constituent that enable end-user programming become gift. one in every of them, thought of during this, is that the PIC microcontroller, totally customizable and programmable little pc board. Relative investigation of its key elements and exhibitions with a number of current existing IOT paradigm platforms have shown that despite few disadvantages, the PIC microcontroller remains an modest with its effectively utilization in numerous vary of analysis applications in IOT vision.

Keywords: —IOT ,Wireless Communication , Raspberry pi

INTRODUCTION

Many new communication technologies had been developed within the final number of a protracted time. sharing information is that the primary saying of any despatch technology. currently a day’s humans decide upon wireless affiliation because of the very fact they’re able to interact with folks only and it need less time. The Internet Of Things(IOT) may be a major technology by that we are able to turn out varied helpful net applications. Basically, IoT may be a network during which all physical objects square measure connected to the web through network devices or routers and exchange information.. IOT permits things to be controlled remotely throughout existing network infrastructure. iot may be a wonderful and good methodology that reduces human try additionally to simple get entry to to bodily devices. this method to boot has self

sufficient manipulate perform via that any device will manage with none human interaction. iot refers to the usage of showing intelligence connected devices and machine to info gathered through embedded sensors and actuators in machines and completely different physical gadgets. iot is anticipated to unfold hurriedly over the approaching years and this convergence can unleash a spanking new dimension offerings that enhance the standard of lifetime of purchasers and productivity of enterprises, unlocking a chance that the gsm refers to because the ‘connected lifestyles’. this method may be a sevice based mostly communication interface (IOT) to the present system with a Raspberry pi with local area network at the transmittal finish. therefore if the shopper has to show any message, he will send the info inserted in a very subject enclose any email account that information can send to revered email that is about in several python code. which sent email can displays in several Raspberry pi display panel.i.e,LCD show. the most aim of the board is to find all faculty events like international conference, workshop and different faculty event. the look is finished in such some way that the system is a smaller amount in house. This digital project is style to develop a computer controlled scrolling message show board. As technology changes the method we tend to live our day to day lives, it’s fascinating to imagine what the longer term can bring. folks need to be told and up thus far with latest events happening round the world. Nowadays, folks like wireless affiliation as a result of they will act with folks simply and it needs less time. Wireless may be a well-liked technology that permits associate degree device to

speak with different devices with none linking of physical media between them. the most objective of the project is to gift a notice on a display victimisation the wide used technology IOT, to facilitate the airing of the notice on digital unit through associate degree administrator's mobile application. The board is permitted as vital info of component or public like reworked space as bus, train station, field etc. is use of board. The technology of use in daily routine sticky notice in recent scenario. At the individual is lookout is that this notice is show the replaced is that the needed the advance wireless board. Basic of the project in show is a day the notice and backup off all history. IOT use of LAN module in board. the most objective is to style associate degree automatic, self enabled extremely reliable electronic board. A show connected to a server system ought to ceaselessly listen for the incoming messages from user, method it and show it on liquid crystal display screen. Message displayed ought to be updated each time the user sends new info solely attested folks ought to update the information to be displayed on the monitor.

RELATED WORK

Dharmendra Kumar Sharma and Vineet Tiwari, IEEE 2015[1] introduces an occasional price, handheld, wireless electronic board by mistreatment Atmel's ATmega32 microcontroller and totally different wireless technologies (Bluetooth and ZigBee) and their performance analysis supported the parameter like vary, BER (bit error rate), RSSI (Received signal strength indicator), signal attenuation and power consumption. The board receives serial data from wireless module receiver and shows it on the graphical liquid show. we've got completed a standard communication receiver hardware for noticeboardhaving compatibilitywithbothwireless modules i.e. Bluetooth and ZigBee. we have a tendency to used KS0108 based mostly 128x64 graphical lcd show as display component. Neeraj Khera and Divya Shukla, IEEE 2016[2] has developed an easy and low price humanoid basedwireless board. They planned system uses either Bluetooth or Wi-Fi based mostly wireless serial electronic communication. For this purpose humanoid based mostly application programs for Bluetooth and Wi-Fi communication between humanoid based personal digital assistant devices and remote wireless display are used. At receiver finish, an occasional price microcontroller board (Arduino Uno) is programmed to receive and show messages in any of the on top of communication mode. mistreatment the developed system, 2 totally different applications for displaying messagesona remote digital board and wireless person occupation has been enforced. The developed system can thus aims in wirelessly sharing the knowledge with supposed users and additionally helps in saving the time and therefore the price for paper and printing hardware. Aniket Pramanik, Rishikesh and Vikash Nagar, IEEE 2016[3] throughout this project, a hardware capable of dominant home appliances associated displaying notices electronically mistreatment an humanoid application has been designed. So, the hardware will perform loosely 2 functions. so as to show notices, a user will use a similar application to type A notice and click on on the send button to induce it displayed. each the practicality will be used on condition that sufficient balance amount is leftin the user's SIM card since every access transacts a fixed quantity for SMS. The hardware consists of associate ARM based mostly microcontroller LPC2148 that communicates to the applying through a GSM mobile communication network module that uses a SIM card to receive messages. LPC2148 itself retrieves message and sends signal to change on/off a tool or show a notice. KruthikaSimha, Shreya and Chethan

Kumar, IEEE 2017[4] developed a wireless electronic board, that gives the plasticity to manage knowledge show inside a given vary on multiple displays. The board will show knowledge being transmitted to thatfrom a central dominant unit,employing a serial communication protocol. As technology improves, efficient, financially reasonable and very productive output becomes associate absolute necessity, and this leads North American nation to be a lot of inclined towards mistreatment machine-controlled management systems. Human intervention, although it offers choice, ability and interactivity, could lead on on to errors, because it may be a natural and inevitable results of this variability. Hence, automation of a system is associate accepted implies that to attenuate human error and its impact. S. Rubin Satyendra Nath Bose and J. opaque gem Prem IJRER 2017[5] In GSM based mostly semiconductor diode scrolling display, GSM electronic equipment communicates with the microcontroller through asynchronous serial communication. The microcontroller transmits a collection of AT commands to scan the message sent by the user. the short show of message mistreatment wireless knowledge transfer in good board. The GSM based mostly system offers flexibility to show quicker than the programmable system. this technique is simple, robust, to use in traditional life by anyone at anywhere with less errors and maintenance. The paper titled as style and implementation of multiple semiconductor diode notice boards by mistreatment ZIGBEE Technology states that the proposed system is handled by various transmissions and therefore the message feeds on only 1 receiver. Microcontroller controls multiple LED's to boost the message pattern. Here the space of wireless communication is proscribed and this technique isn't appropriate for long distance communication. M. Arun, P. Monika and G. Lavanya IJCAT 2017[6] The Raspberry Pi2 system acts because the central server of the planned system and additionally the Notice boards are accessible solely by work in with the right credentials inside the raspberry pi server. Raspberry Pi2 acts because the server for this e-Notice board system. It's connected to net using an accurate IPAddress, therefore an authorized user ofthis system will login from anywhere. Raspberry Pi is connected to the computer network network in addition. The show system in class space one can behaving associateArduino boardwith an local area network defend and a LCD show attached with it. With the assistance of the local area network defend the show node is connected to the PC network. in class space 2, the Arduino is connected with a Wi-Fi defend and a LCD show and this node is additionally connected to the computer network through Wi-Fi. These devices will have a legitimate information science address assigned towards them.

INTERNET OF THINGS (IOT)

The term internet of Things typically refers to situations wherever network property and computing capability extends to things, sensors and everyday things not unremarkably thought of computers, permitting these devices to come up with, exchange and consume knowledge with stripped-down human intervention. There is, however, no single, universal definition. the net of Things (IoT's) is represented as connecting everyday objects like smart-phones, web TVs, sensors and actuators to the net. The devices area unit showing intelligence joined along that allows new varieties of communication between things and other people, and between things themselves. Building IoTs has advanced considerably within the last few years since it's extra a replacement dimension to the planet of knowledge and communication technologies.

RASPBERRY PI

The Raspberry Pi is during a low price, credit-card sized pc that plugs into a pc monitor or TV, and uses a customary keyboard and mouse. it's a capable very little device that allows individuals of all ages to explore computing, and to be told the way to program in languages like Scratch and Python. It's capable of doing everything you'd expect a PC to try to to, from browsing the web and enjoying high-definition video, to creating spreadsheets, word-processing, and enjoying games. The Raspberry Pi is not just an excellent platform for building web of Things (IOT) project: it is a super platform for learning regarding the IOT.

PROPOSED SYSTEM

The main advantage of this device are going to be giving could be a Raspberry pi card for receiving commands from humanoid applications on transportable. This device could be a wireless board that displays the message sent from the user and to style an easy, user friendly system, which may receive and show notice in a very explicit manner with relevance date and time which is able to facilitate the user to simply keep the track of board on a daily basis and every time user uses the system. In transmission section the data that we would like to show on the LCD ought to be entered within the net type as show in figure.1 The webform is created by victimisation markup language and java script script is employed to feature practicality to the net form. To show the information that ought to be entered in enter notice text box and opt for field as one then click on submit. the information is transferred to the net server Receiver section contains power offer, Raspberry pi, lcd show display and wireless fidelity affiliation. at the start data inserted in a very subject confine any gmail account that information can send to revered gmail that is about in several python code. That sent email can shows in several Raspberry pi display .i.e..alphanumeric display. And it'll mechanically refresh once another mail is send to several Raspberry pi id. it'll makes less time to show data any public places.

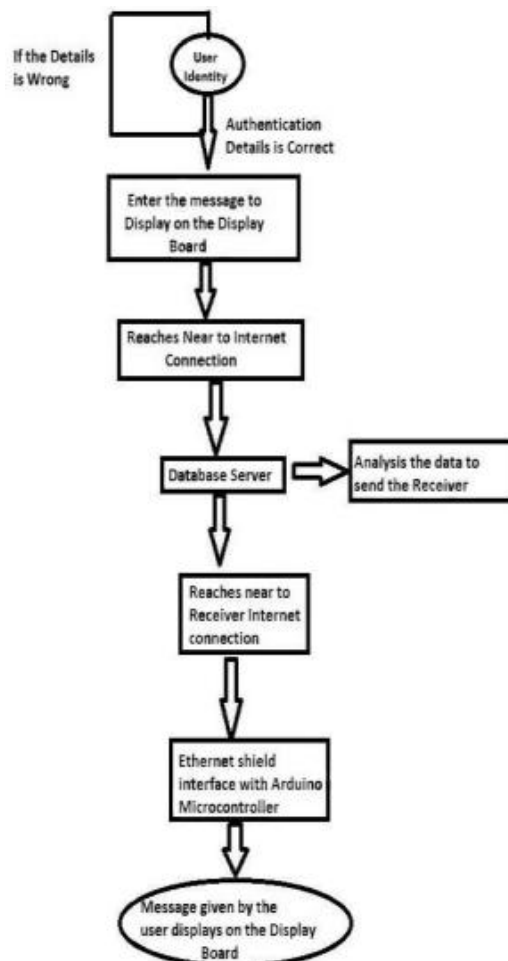


FIG.1.PROPOSED METHOD

METHODOLOGY AND IMPLEMENTATION

The main operate of the proposed system is to develop a Digital bulletin board that show message sent from the user through net and to style an easy, user friendly system, which might receive and show notice in an exceedingly explicit manner with relevance date and time which is able to facilitate the user to simply keep the track of bulletin board daily and every time he uses the system. System comprises 2 section known as as sender and receiver, that shown within the figure1. Sender is liable for causing valuable info through the wireless network. so as to access Digital notice board the sender should enter into the corresponding net address. For preventing unauthorized access net address we offer security authentications like username and parole. Wi-Fi is superior financially savvy wireless fidelity USB module that interface the raspberry-pi stripped effort computer to Wi-Fi neighborhood. Wi-Fi utilizes the foremost recent 802.11n remote innovation and might bolster info rates up to 150Mb/s, Compared with the additional seasoned 54Mb/s 11g things. It to boot profits by a better remote local area network transfer speed, creating info transmission additional productive. The Raspberry Pi features a HDMI port that you'll be able to connect squarely to a screen or TV with a HDMI link. this can be the foremost easy arrangement; some trendy monitors and TVs have HDMI ports, and a few do not, nevertheless there are completely different decisions. This project utilizes a controlled 5V, 500MA power provide, 7805 3 terminal voltage controllers is used for voltage regulation. Bridge sort full wave rectifier is used to rectify the ac output of secondary of 230/12V step down electrical device. we tend to utilize screen as show. digital display is used in an exceedingly project to ascertain the output of application. digital display will like wise be used as an area of a task to envision the yield of varied modules interfaced with the raspberry pi module. local area network assumes an important half in an exceedingly task to ascertain a yield. For traditional utilize, you will need to attach the Raspberry Pi to a visible show a screen or a TV.

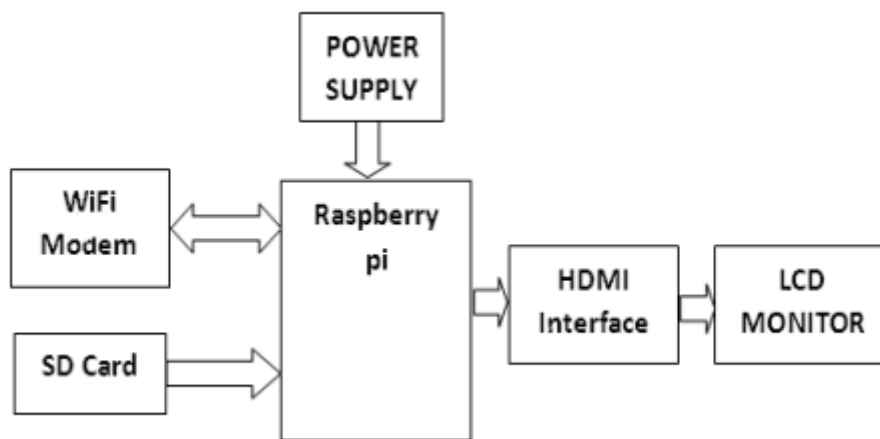


FIG.2.BLOCK DIAGRAM

CONCLUSION

The IOT based mostly digital notice board project within the used network. The resource of any time anywhere use of notice in blessings in messages in information transmission rate higher messages quality. The friendly community environmental. Username secret in security in project. the information backup, human resource, time saved, cables. The exploitation multimedia system chip information keep in Coyote State card. Communication in messages and used WI-FI and Bluetooth. The text message and multimedia system is best quality.

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