Wireless Web Notice Board

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Abstract:
In many schools and colleges normal notice board is used on which all the notices are pasted manually. But it requires man power to paste all the notices in the notice board and also there is a possibility of tearing notices so that others cannot see the information. After that an electronic notice board was introduced in which message can displayed in the electronic display. The message is sent through the help of Bluetooth. But these devices are of limited communication range. Later GSM notice boards are introduced which are unable to communicate a message more than a particular limit. Then this invention of notice board using Raspberry pi is made to overcome all the issues that are faced by the previous methods. In this paper we propose web notice board to display the information sent by the Android application dependent on Raspberry pi card. Notice board has been audited in the first organize. In the second stage an application has been made subject to the android framework. The unique outlines have been displayed. A Wi-Fi is utilizing for data transmission. At whatever point we can incorporate or clear or alter the substance as showed by our essential. At transmitter endorsed PC is used for sending an observes. At receiving end Wi-Fi is related with raspberry pi. Right when an endorsed customer sends a see from his system, it is gotten by beneficiary. Remote is a notable development that empowers an electronic corporation to exchange data remotely over a PC sort out, checking quick remote affiliations. The data is gotten from approved customer.
Keywords: *Web server, Android system, Raspberry pi card, Wi-Fi, Electronic components.*

Introduction:

Now a days of connectedness, people are ending up being familiar with straight forwardness access to information. Despite whether its through the web or TV, people should be taught and completely educated with respects to the latest events happening the world over. Wired mastermind relationship for instance, Ethernet has various restrictions depending upon the need and sort of affiliation, Directly a days kinfolk like remote relationship since they can help out people successfully and it requires less time. The essential objective of this endeavour is to develop a remote notification load up that show info sent from the customer and to design a fundamental, easy to present, simple to utilize system, which can get and show find with a particular goal in mind in regards to a particular time which will push the customer to ease screen observation load up every day he uses the structure. GSM and Wi-Fi are the remote development used. The main objective of the project is to design a Web Notice Board to display the information sent by the Android application dependent on Raspberry pi card. A Wi-Fi is utilized for data transmission.

Internet of Things (IOT):

Internet of Things (IOT) is a plan of interdependent handling devices, mechanical and automated machines, animals, items or people that are outfitted with uncommon identifiers what's more, the capability of moving data over a framework without encouraging human-to-human or human-to-PC participation.

LITERATURE SURVEY:

Now a days GSM innovation is utilized for showing information. GSM module is situated at timely

notification load up is used to get information from the affirmed customer and appeared. In this type of work simply text is moved. It became inefficient when we need to move other than texts. By showing the possibility of Bluetooth innovation correspondences become snappier and successful. Bluetooth can be used to send information with the help of android application. This work for the most part centered around link substitution and information can send up to the pace of 1Mb for every second. Bluetooth has constrained range(nearly 70m to 100m). in request to grow the extent of correspondence zigbee based notification sheets are starting at now used in various, colleges, railway stations, Air terminals and so forth. In this case Raspberry pi which go about as a gatherer and it associated with neighbourhood Wi-Fi systems. The block diagram of this process is shown below.
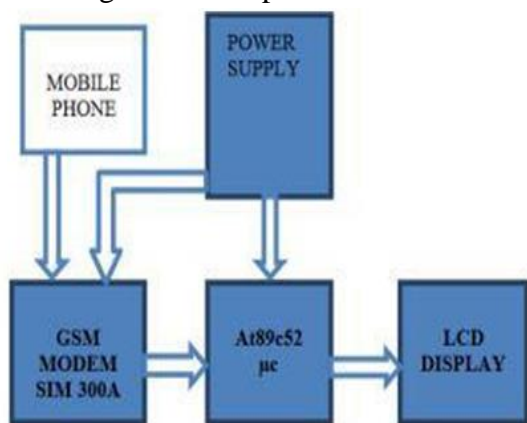

Fig.1: System Process

EVOLUTION OF IOT:
As indicated by Gartner report, by 2020 associated gadgets over all advancements will reach to 20.6 billion.

Table.1: Evolution of IOT

Comparison Table:
The comparison of previous technologies with this project is tabulated clearly in the below table**.**

Study	Technologies used	Drawbacks
Manual Notice Board	Human source	More man power required
Bluetooth based Notice Board	Bluetooth	Limited communication range
SMS (GSM) based Notice board	GSM Modem	Limited no. of characters can be displayed
Wireless Web Notice Board	Raspberry pi 3	-

Table.2: Comparison with previous studies

PROPOSED SYSTEM:
The essential goal of the structure is to build up a remote notification board that grandstands sees as picture, pdf, content. Raspberry pi is used as a processor which is equipped with a portable projector /LCD appear. Messages can be shown and

adequately set or changed form wherever on the planet. What's increasingly versatile application is considered to change over voice into content. Now the voice is experience the voice redoing system and changed over into text. Message can be sent to cloud by the structure. By then it goes to the notification display which is related with web by Wi-fi. It is appeared on the screen after the processing. Message can be sent to all the display board or a particular one. The block diagram for a proposed methodology is given below.
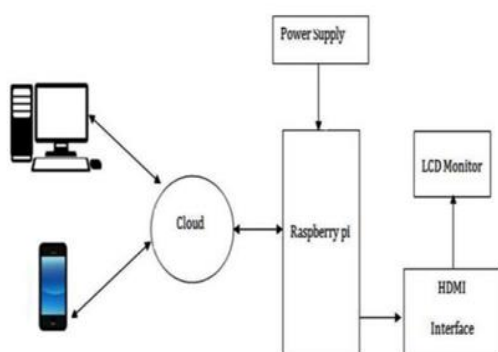

Fig.2: Proposed methodology

HARDWARE SPECIFICATIONS:

The hardware specifications are Raspberry pi3, Wi-fi USB adapter, Crystal display, Bread board, Power cable, Jumper wires, 10K pot.

Raspberry pi3 module:

Fig.3:Raspberry pi

The pi3 backings reote web out of the case, with worked in Wi-Fi and bluetooth. The most recent board can likewise boot straight forwardly from a USB connected hard drive or pen drive, just as supporting booting from a system appended document system, using PXE, which is helpful for remotely refreshing a pi and for sharing a working framework picture between numerous machines.

LCD Liquid Crystal Display: LCD display is an electronic showcase module which has a wide scope of utilizations.
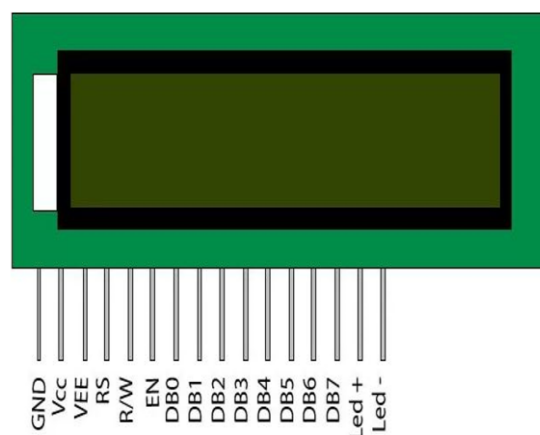

Fig.4:LCD Display

A 16 x2 LCD show is essential module and is usually utilized in several circuits and many gadgets. It can be favoured over seven segments and other multi segment LEDs. 16 characters of two lines can be shown in a 16X2 LCD display. Every character can shown in 5x7 pixel frame work. Command and Data are the two registers of LCD.

The direction register directs the LCD to do a predefined task like instating it, emptying the screen, controlling the cursor and so on. Information can be safeguarded by the and displayed on LCD by the help of information register.

JUMPER WIRE:

A jumper wire is an electrical wire, or gathering of them in a link, with a connector or pin at each end which is ordinarily used to interconnect the segments of a breadboard or other model or test circuit, inside or with other gear or parts, without soldering. Individual bounce wires are fitted by embeddings their "end connectors" into the spaces gave in a breadboard, the header connector of a circuit board or, a bit of test hardware.
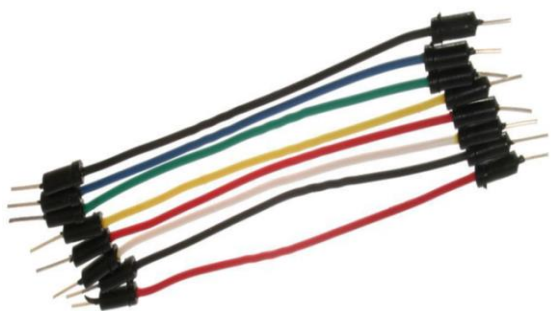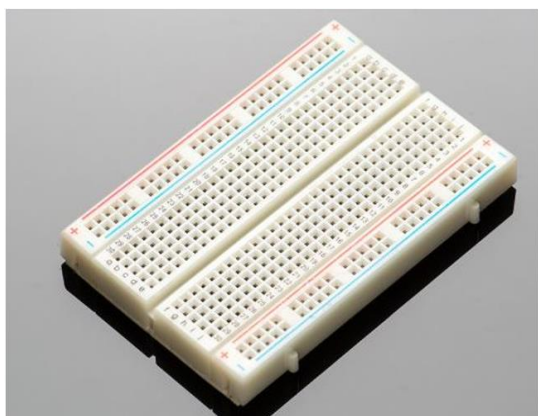
Fig.5: Jumper wires

BREADBOARD:

Fig.6: Breadboard

The mini breadboard is an extraordinary method to model your little ventures! With 170 tie focuses there's simply enough space to assemble and test basic circuits. They are likewise incredible for breaking out DIP bundle ICs to jumper wires! On the off chance that you come up short on room, no stresses, these smaller than normal breadboards can be snapped together to frame bigger stretches of board. It has a strip and stick cement backing just as two mounting gaps for M2 screws so you can stay it down.

10k Potentiometer:

Fig.7: 10k Potentiometer

A potentiometer is a three terminal resistor with a sliding or turning contact that structures an adjustable voltage divider. If just two terminals are utilized, one end and the wiper, it goes about as a variable resistor or rheostat.

The estimating instrument called a potentiometer is basically a voltage divider used for measuring electric potential.

POWER CABLE:

A data cable is a media that permits baseband transmissions (binary 1,0s) from a transmitter to a collector.

Networking media are Token Ring Cables(Cat4), Optical fiber Cable, Ethernet Cables, Serial Cable.

. Fig.8: Power Cable

IMPLEMENTATION:

MODULES:

Authentication Module: Activity of confirming the character of an Authorized client to process Information.

Enables the client to get to the application in the wake of entering his login and secret phrase.

Remotely send Text/Notice enables the remote client to send message on Digital Notice Board.

Server Module

Transmitting section:

Transmitting segment comprises of an application which has inbuilt Wi-Fi module for remote information move to LCD Display.

Receivingsection:

Getting Section comprises of Wi-Fi module and raspberry pi which brings the message and help in showing on LCD.

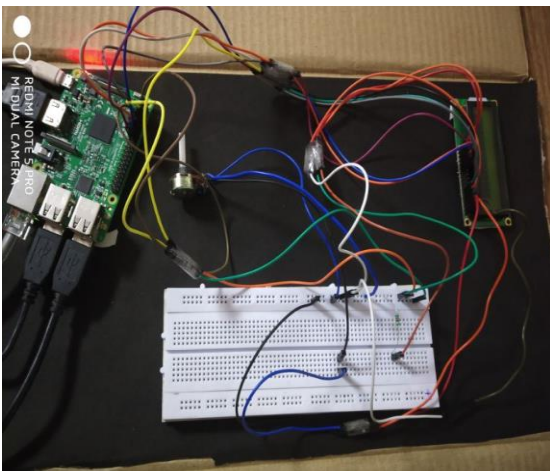The figure of the Hardware implementation of Wireless Web Notice Board is shown below.

Fig.9: Hardware Implementation

Information Handling:

Any product framework requires some measure of data during its activity determination of fitting information structures can assist us with producing the code so objects of the framework can all the more likely work with the accessible data diminished multifaceted nature.

In this framework, in the event that any field which is required is empty, at that point it would a brief an admonition message.

Programming Style:

Programming style manages demonstration of decides that a software engineer must follow so the qualities of coding, for example, Traceability, Understandability, Modifiability, and Extensibility can be fulfilled. In this present framework, we adhered to the coding rules for naming the factors and strategies.

Verification and Validation:

Confirmation is the way toward checking the item fabricated is correct. Approval is the way toward checking whether the correct item is fabricated. During the Development of the framework, Coding for the article has been altogether confirmed from various viewpoints with respect to their plan, in the manner in which they are coordinated and so on. The different methods that have been followed for approval talked about in testing the present framework.

Approvals applied to the whole framework at two levels:

1.Form level validation and

2.Field level validation.

Form level validation:

Approvals of the considerable number of information sources given to the framework at different focuses in the structures are approved while exploring to the following structure. Framework raises fitting custom and pre-characterized special cases to caution the client about the mistakes happened or liable to happen.

Field level validation:

Approvals at the degree of individual controls are likewise applied any place vital. Framework springs up proper exchanges any place fundamental. In this task, approvals are performed on every individual control. In the event that any of content field isn't filled or any off-base, click happens then framework will produce fitting special cases.

Configuring the laptop or a system to the Raspberry pi and Raspberry pi to LCD display through the circuit connections are the major parameters of this project. These configurations are done by using the softwares like Raspberrian OS, Putty software and VNC Viewer. Fluctuations or sudden increase in power supply may affect the project. Power supply should be limited as required by the Raspberry pi and LCD Display.

RESULT:

The figure shown below is the web form where the message which is to be displayed should enter.

Fig.10: Web form to enter message

The figure shown below is the LCD display which is used to display the message sent by the admin.

Fig.11: Message displayed on notice board

CONCLUSION

Directly the world is showing interest towards robotization, new strategies can be used to change the previously used structure. Remote action gives snappy transfer of data over long range correspondence by which time and resources can be saved. Data can be sent from remote territory. Customer confirmation is given. As of now the notification board using GSM was used in that there was the purpose of repression of messages any way in our system sight and sound data can be taken care of on SD card. Content information and sight and sound information can be seen at whatever point we have to see.

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