



Web Controlled Smart Notice Board

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ABSTRACT

The Internet of Things (IoT) is a network of physical "things" or objects with embedded technology that allows them to communicate with one another and sense their internal states as well as the external environment. The desire for automation ushered in a series of technological revolutions. A primary factor in any public place, such as bus stations, railway stations, colleges, malls, and so on, is a notice board. Putting out a lot of notices every day can be difficult. This notice display will require the attention of a separate person. This project is about a wireless advanced notice board. In an IoT-based Web Controlled Notice Board, the Internet is used to wirelessly send messages from the browser to the liquid crystal display. A local web server is created, which is a global server accessible via the internet. The Raspberry Pi uses an LCD to display the message and a flask to receive it over the network. Raspberry displays any wireless messages received from the Web browser on the liquid crystal display.

INTRODUCTION

In our lives, the Notice Board is a vital information collection device. In our everyday lives we see boards in different areas, such as schools, train stations, shopping centres, bus stations, workplaces, etc. And we may assume that Notice Boards are used to leave public records, such as publicity activities, public events, etc. To place an individual to stick notices on notice board is inefficient. It triggers both the lack of time and the utilization of the workforce. The primary source of information exchange in traditional analogue style boards is paper. We know that there are infinite quantities of details. Those infinite numbers of detail are then included in an enormous volume of paper. With the introduction of the wireless communication board, the issues posed by wooden or traditional style notice boards are addressed. It can provide you with a much simpler and more convenient way of passing notes all around the world. We choose the internet as a media to transfer information because of the popularity of the internet. The Internet of things (IoT) is a network of

electronically embedded physical equipment, cars, home appliances and other goods. IOT allows us to establish connections and share the data between these objects. For security purposes, we include authentication like username and password. So the information may only be sent from the respective authority. The Heart of our system is raspberry pi. The Raspberry Pi is attached to an LCD panel. Our main goal is to display messages sent by the user from anywhere in the world. By using a display panel, more focus can be paid to the notification board than traditional notification boards. The sender will deliver messages anywhere in the world because of the use of the internet. The successful exchange of information is not restricted.

OBJECTIVE

The prime objective is to display messages sent by the user from anywhere in the world. A cloud device linked to the display unit can continually listen to the user's notifications, process and display them on LCD display. Any time the user sends new information, the message shown should be changed. The data to be viewed on the computer must only be changed by authenticated individuals.

LITERATURE SURVEY

- **Message displayed on LCD Screen using GSM:**
GSM was used to display on LCD screens in the early days. This is used to collect and view input from the registered user with the GSM module installed at the digital notice board.
Drawbacks:
Only text messages are transmitted in this work. When transferring anything other than text messages, it becomes inefficient.
- **Message displayed on LCD Screen using Bluetooth:**
The launch of the Bluetooth technology concept accelerated and strengthened connectivity. A program for Bluetooth to transmit messages is used here. This work focuses primarily on cable

substitution and sends data at the rate of up to 1 Mb per second.

Drawbacks:

The range is restricted to Bluetooth (approximately 70m to 100 m).

- **Smart Notice Board based on ZigBee Technology:**

Notice boards based on ZigBee Technology have been introduced which have focused on addressing needs such as low-cost, low-power wireless technologies.

Drawbacks:

The data rate was only about 250 Kb per sec and range was limited(10 to 100 m).

- **Wi-Fi based Smart Notice Board:**

Digital notifications based on Wi-Fi are also being used in many areas such as schools, hospitals, train stations and airports. Here Raspberry pi serves as a receiver linking to nearby wireless Internet connections.

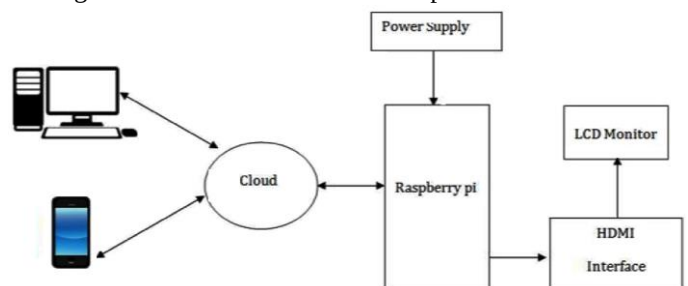
Drawbacks:

If a person wants to send details to raspberry pi, the person should have Wi-Fi access first. The recipient and sender must therefore be within the same Wi-Fi network. Wi-Fi is around 100 meters as far as possible. Due to this range, the sharing of information must take place within the limits.

METHODOLOGY

Its principal motive is to display messages on to the noticeboard. Those messages are sent by the user from anywhere in the world through the internet. Raspberry Pi is connected to the Noticeboard which continuously listens to incoming messages coming from the user. The device is composed of two sections called sender and recipient, which appear in Figure 1. Sender is liable in the wireless network for transmitting useful information. The user must input the corresponding web address for entry to the automated notification board. We have protection authentications including username and password to avoid unwanted access to the web address. The user cannot enter the digital notice board if the user enters invalid credentials. When the right user password and username is entered, the website address is opened for the transmission of information. Users can access this web address using a smartphone or personal computer. We used bootstrapping to make website more user friendly. Sender can enter the web address directly by using this program. These texts are sent to the cloud. In the most simplistic language, cloud means that data and programs are stored and retrieved via the Internet instead of the hard drive of our computer. The cloud is just an internet metaphor. Raspberry Pi is linked to the internet via Wi-Fi in the recipient section. The

Raspberry pi is budget friendly device which was almost all functionalities like a normal computer does. It is a small computer that allows people to learn programming. It is capable of doing everything you would expect from a desktop computer to create tablets, word processing, searching and playback on the Internet. The Raspberry pi is powered by 5V supply. It gathers data from the cloud after switching on Raspberry pi. The site address for data collection from the cloud is already suggested by the processor software. It will appear on the display after receiving messages. The Raspberry pi uses I2C interface to interact with the LCD panel. We also have the ability to erase the existing message. If you want to delete any message, you can easily delete it by clicking on the link on the website. The message can be removed by clicking the check boxes from this web page. Either, we can erase or add text messages. It is immediately removed on the display after the deletion of messages from the cloud within a brief pause.

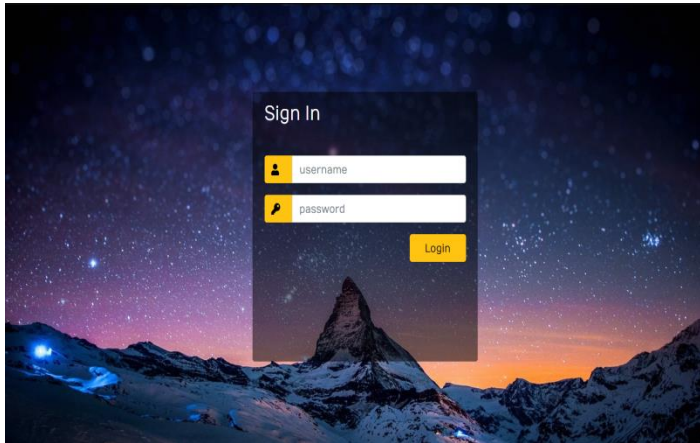


Figure(i):Abstract view of our project.

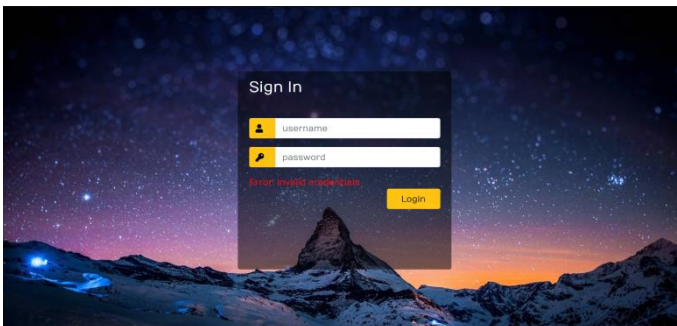
ALGORITHM

1. Start
2. Enter the corresponding web address
3. Log in to the web address in order to display messages on to the notice board i.e., enter username and password.
4. If the credentials entered are right then go to step 5 otherwise go to step3.
5. Enter the message into the textbox that you want to display on the notice board or Click "Edit Message" button to edit the already existing message.
6. Validate the message entered by the user.
7. If the message is valid step 8 or else step 5.
8. Store the message.
9. Display the stored message on to the LCD panel.
10. If the user wants to send an additional message or edit the existing messages go back to step 5 else click "Logout".
11. Go back to step 3 and run step 9 in the background.
12. End.

RESULTS



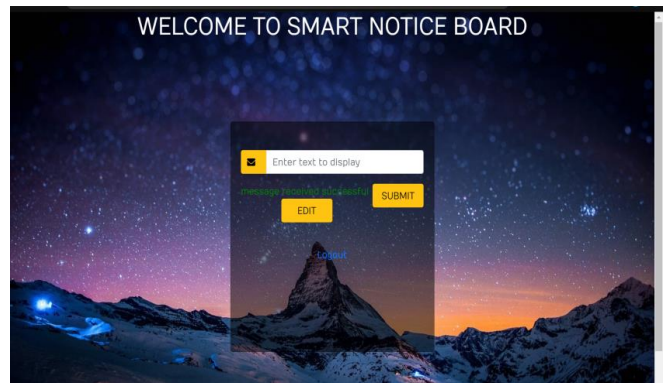
Figure(ii): Login Page for Authentication purpose.



Figure(iii): Giving an error message when user enters invalid credentials.



Figure(iv): If user is valid then redirecting to a page where the user can send messages to notice board.



Figure(v) : Giving an acknowledgement to the user if a Message was successfully received at recipient side.



Figure(vi): Existing messages in the notice board can be deleted by checking the messages and clicking on delete message button.

CONCLUSION

Now our society is going towards digitalization and we have to employ new strategies if we want to make any improvements to the traditionally used system. Fast transmission via long distance data transmission is provided by wireless technology. This saves time, cable costs and device size. Data can be transmitted from all around the world. The authentication scheme is provided for the addition of protection via username and password sort. The notification board was used previously for Wi-Fi. There is the coverage area constraint, but the internet is used as a media for contact within our system. So the coverage area is not a concern. You can deliver messages as quickly as possible.

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