ISSN (Online) 2394-6849

International Journal of Engineering Research in Electronics and Communication Engineering (IJERECE)
Vol 4, Issue 3, March 2017

IOT Based Digital Notice Board

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Abstract: **-- This paper aims to present a technology based online notice board using Internet of Things (IOT). Down the years Display boards constituted one of the major role in mass communication medium. In order to reduce paper work, time and man power, the proposed model introduces an online digital notice board using IOT.IOT Connects things to the internet .So,we can access the Notice board from anywhere across the world through internet.The notice board is interfaced with the Ethernet module to provide internet access to the board. The Ethernet module which is installed at the digital notice board receives the message from designated user and gets presented on the notice board. From our proposed model the authorized admin enables to post the message from any corner and this message can be portrayed on the Led Display. The proposed model funds with multiple applications like help desks in transporting stations like railway, airways and bus stations which offers travellers to have up to date/updated info. It has a better impact in jammed regions as in supermarket to provide a hike and decremental cost prices. This directs the people/students in completely unfamiliar areas. Lesser to the infinity each remote areas of the world can be portrayed on the screen with the updated news and it can be possible only by the IOT.**

Index Terms **— Digital Notice Board , Internet of things ,Arduino Microcontroller, Ethernet Module**

I. INTRODUCTION

The Internet of Things (IOT) concerns to the environment where network connectivity and computing capability elaborates to objects, everyday items are not usually considered as computers. These items are then proficient to generate, exchange and consume data with minimal human involvement. [1] The Internet of Things (IOT) is an arousing topic which contends the entire globe. The technology comprises a wide spectrum of networked products, systems which take advantage in computing power, electronics empowerment, and network interconnections to offer new capabilities. For users, new IOT products like Internet-enabled appliances, home automation components, and energy management devices are improvising a vision of the "smart cities", offering profitable privacy and energy efficiency . [2]Other personal IOT devices like health monitoring devices and network enabled medical devices are enhancing the way healthcare services are reported. This technology intends to be beneficial for people with disabilities and the elderly, enabling improved levels of independence and quality of life at a reasonable cost. So, now the query to a common man is "What will be the basement that supports such an environment?" The counter reply is "Internet has to be a utility now". IOT will not be considered as unique system, but it is critical, integrated infrastructure on which many applications and services can be mobilized. IOT, a budding technology when extended is noteworthy to numerous improvising electronic instruments where Digital notice board is one among them.

Notice Board is authorized as an important information element in any institution or public utility like transportation areas such as bus, railway stations etc. In this improvised technology depending on daily routine sticky notes seems to be an odd situation. An individual is employed to take care of this notice display where the scenario is replaced by the concept that deals with advanced wireless notice board. The project is built on the basis of Ethernet module which is functioning part of the system . At any instant we can include or detain or alter the text according to our requirement through IOT using Ethernet module.

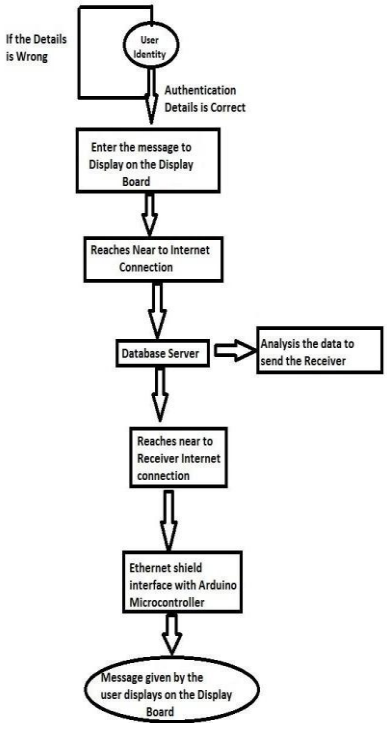

Fig 1.Block Diagram of proposed model

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A gadget is used for sending a notice from authorized user. At receiving end Wi-Fi is connected to Ethernet module interfaced with Arduino microcontroller. When an authorized user sends a notice from his end, it is received by the designated identity.

II. HARDWARE DESCRIPTION

Hardware is a physical outlook of any field which is interlinked to computerization in Information Technology. It is comprised of various elements which results in a suitable output. In this paper the few hardware elements which are embedded are as follows:

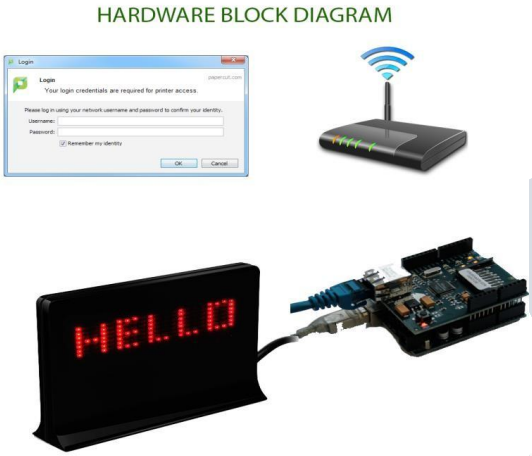

Fig 2.Hardware Description of the Proposed Model

A. Arduino:

Microcontroller is referred as the chief functioning element which holds a mechanism of every element with a few interlinks between them. There are many microcontrollers in existence out of which we are preferring "arduino" microcontroller in our innovation. The main reason to opt arduino as our microcontroller is because of its simple characteristics as it enables the beginner to grasp the content quickly. It is possible to interact with the basic programming as it contains many inbuilt functions with an own compiler and a quick accessibility between the components is possible, it is eco-friendly and also cost-friendly. Referring to the merits of arduino, we chose to operate our module with this particular microcontroller.

B. Ethernet Module:

It is a module which consists of Internet protocol and Media Access Control Address. It has an ability to interface especially with arduino microcontroller. The module has an external storage capacity to store the commanded program. It establishes a connection with the web so as to receive message by the authenticated identity, where the text is further forwarded to microcontroller in order to be exhibited on the display board.

C. Digital Notice Board:

The Digital Notice Board consists of some special registers to store the messages given by the user and it displays sequentially. The Arduino + Ethernet module controls the display system in the digital notice board through online.

III. SOFTWARE DESCRIPTION

A. Hosting:

Hosting maintains clients websites on its systems and provides related service. The services may include leasing of hard disk space, stability of hardware and software, securing with a backup, unique content provision with high speed web access. In our proposed module it helps us to provide the authentication details which gets stored in database that can be accessed from any corner of world.In this point of view, hosting has key role in the IOT based digital notice Board.

Need of Scripts to develop the module: PHP:

Personal home page is an HTML-embedded, server-side scripting language designed for web development. It generally works on a web server.

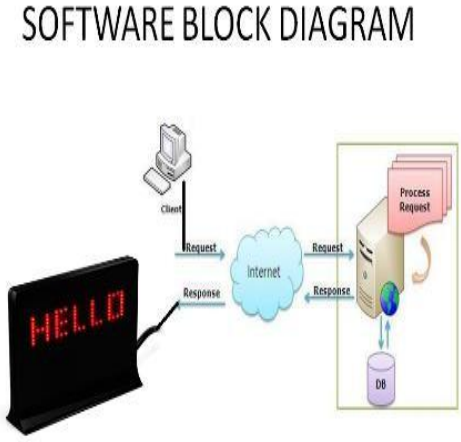

Fig 3.Software Description of proposed model

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JSON (Java Script Object Notation):
JSON is a data structure format .The data is considered as objects with properties .This formalism is close enough to XML and java script.

My SQL:
My SQL is a relational database management system. (RDBMS). It is distributed under a dual GPL and proprietary license. It is one of the database management softwares mostly used in the world.

URL:
Uniform resource locator is the basic network identification to specify addresses on the web. Arduino Programming to interface with Ethernet: Arduino has some inbuilt function which enables the user to script the programming. SPI.h and Ethernet.h are inbuilt functions to interface with Arduino microcontroller. Arduino has several versions such as ATmega ,UNO and Mega .Every version has capability to interface with ethernet.

IV. MECHANISM

The Ethernet Module comes preceding by the factor to automatically obtain an Internet Protocol address from the Dynamic Host Configuration Protocol (DHCP) server on the Ethernet network or other compatible device. Therefore, since a DHCP server sets the initial IP address, to connect to the Ethernet Module one must discover the IP address the DHCP server has assigned the device. It is possible to configure the module to a static IP address, but doing so can create an IP address conflict during commissioning, so this is not a typical default. Once a connection is established with the Ethernet Module via the web browser interface a static IP address may be assigned. In order to quickly locate the assigned IP address of the interface every Ethernet Module has a Media Access Control Address (MAC) that is provided by manufacturer. The MAC address is in a format 0050C2 - 4A5xxx where xxx can be any combination of numbers 0-9 or letters A-F. After knowing the IP address of a particular Ethernet module, it is to be browsed by commanding to the uniform resource link (URL) .If everything is correct, you should get a window asking you for User Name and Password. After connecting to the Ethernet Module, the data transfers from the Arduino to the Digital notice board through Ethernet module. The Digital notice board mainly consists of row column scanning method. Initially the program code gets debugged in the Arduino microcontroller. All ASCII values, numerical values and special characters given in the binary form are displayed on the Digital Notice board after conversion with the help of microcontrollers.

V. CONCLUSION

This paper gives a clear description of both hardware and software of IOT Based Digital Notice Board. Retrieving the advantages of Internet of Things (IOT),it is one of the useful technologized commodity. Digital Notice board is a systematic alignment of portraying desired information that directs through a proper channel, helps the user to reach their destinations that may be in any area .Designing of notice board may be a simple task but compiling it with a high-level language will charge a bit brilliance. With the help of Arduino Board a developed web application is provided with a well secured system. In this paper we proposed a model which monitors the crowdie area. When compared to the past, where paper notices were crucial, we endowed this digital notice board due to vexation of paper work. I surely expect that this kind of Display board rules the forward decades and keeps a good sound in technology.

VI. ACKNOWLEDGEMENT

I would like to express my deep and sincere gratitude to my research supervisor, Mr. M. Siva Rama Krishna M.Tech, Asst. Professor, RGUKT R.K.Valley, for giving me the opportunity to implement this project in Real time and providing invaluable guidance throughout this research. His dynamism, vision, sincerity and motivation have deeply inspired me. He has taught me the methodology to carry out the research and to present the research works as clearly as possible. And, I like to thank the IFERP and organizers of this conference .

REFERENCES

[1] Anupamakaushik,"IOT-Anoverview". IJARCCE-International journal of Advanced Research in computer and communication engineering "vol.5, issue 3,march 2016".

[2] Andrea Zanella, Loren Zovanselista, senior member, IEEE, and Michelezorzi fellow, IEEE "Internet of things for smart cities". IEEE internet of things Journal .Vol-1,no:1,February 2014

[3] Foram Kamdan,Anubbhav Malhotra and Pritish Mahadik Display Message on notice board using GSM .Issn 2231-1297, volume 3,November7(213).PP.827832 Research India publications.

[4] Jadhav vinod,nagwanshi tejas;"Digital Notice Board using raspberry pi" IJCAT-International journal of computing and technology ,volume 3,Issue 2, February 2016".

[5] N.Jagan Mohan Reddy and G.venkatesh wireless Electronics display board using GSM Technology, International Journal of Electrical, electronics and data communication, ISSN:2320-2084.