International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395 -0056
Volume: 04 Issue: 04 | Apr -2017 www.irjet.net p-ISSN: 2395-0072

Wirless Protected data Transmission among portable storage devices throgh WI-Fi Network

Prof. D. D Mondal [1], Akshay H. Jungade [2], Amit H. Gilda[3] , Shubham P. Khedekar [4]

Department of Electronics and Telecommunication Engineering,

Sinhgad Institue of Technology and Science, Narhe, Pune-41.

Abstract - *The world of wireless telecommunications is speedily evolving. Technologies below analysis and development promise to deliver additional services to additional users in less time. A Protected knowledge transmission has become a good challenge particularly in education system. The question paper transmission throughout examinations wants a fast, extremely protected with correct system. During this project, a secure and quick approach of direct finish to finish knowledge transmission is projected. This technique acquires the info from device and transmits the info firmly to a different device through wireless network. The microcontroller primarily based secure knowledge gear communicates through WI-FI electronic equipment. By mistreatment the wireless communication technologies, we tend to build our communication as reliable one and cable free one. During this project, we tend to gift distributed authentication design for users providing instant network access while not manual interactions. It supports terminal quality across access points, at a similar time protective the operator's infrastructure from external attacks. User knowledge sent over a wireless link is protected by the IPsec psychic phenomenon protocol. This technique helps for question paper transmission simply before the commencement of examination, wherever the licensed person at Head workplace or University will send on to the tutorial establishment itself. Alongside this, cryptography of information is assured throughout transmission to safeguard access of information from another user. Also, Acknowledgement of receiving of information at documented moveable device is supplied with the system.*

***Key Words*: USB Module, Cloud, Wi-Fi Module etc.**

I. INTRODUCTION

An advanced communication technology has enabled completely different forms of information work system. An information work system is one that acquires data at one finish and transmits the information to the opposite finish. Such devices square measure usually moveable or wearable, light-weight, battery power-driven, and capable of storing or telemetric information. During this work, associate degree innovative system is planned as an answer for information acquisition and information transmission worldwide during a secured means. Wireless Technology i.e. WI-FI is utilized during this system for secured information transmission. This technique finds its application all told the fields, particularly in Education management. Information to be sent is keep in moveable USB (Universal Serial Bus) device and is connected to a system. The microcontroller within the system reads the information and sends it to the server through WI-FI. Currently the server sends the information to the receiver finish. Here the server stores the information which enhances the protection. It directly forwards the information to the receiver through WI-FI. Thus, Question Paper from the Examination board is directly transmitted to the Principal or Head of the tutorial establishment with high security. In addition, the system is interfaced with the digital display (Liquid Crystal Display) that displays the operating condition of the system. Users will send the information worldwide while not revealing the information anyplace. This may be utilized in intensive application on distributed remote synchronous information transmission fields.

II. LITERATURE SURVEY

At present state of affairs, there area unit several wireless technologies within the world – everyone has advantages, nobody is ideal. The question that you simply ought to answer is "which technology is that the best one for my application?" Hopefully this helped you higher perceive the popular wireless technologies for WI-FI and their strengths and weaknesses. Extra issues that transcend the scope of this technology area unit price, easy integration and security. We tend to see nice improvement on total answer price and easy integration coming back in several new product, that every one use wireless property. Price and integration efforts ought to be more thought of within the context of specific applications. Security aspects of WI-FI applications embody the supported capabilities of every of

the protocols, yet as extra hardware and computer code issues.

III. METHODOLOGY IMPLEMENTED

Wi-Fi technology, supported the IEEE 802.11 normal, was developed as a wireless replacement for the favored wired IEEE 802.3 local area network normal. As such, it absolutely was created from day one for web property. Though Wi-Fi technology primarily defines the link layer of an area network, that once individuals say they're victimization Wi-Fi they implicitly mean that they're additionally employing a TCP/IP for web property. Wi-Fi APs area unit deployed these days in most homes, yet as in the majority offices, schools, airports, occasional outlets and retail stores. The massive success of Wi-Fi is essentially attributable to the exceptional ability programs go past the Wi-Fi Alliance and to the increasing demand within the marketplace for straightforward and cost-efficient web access. Wi-Fi is integrated already into all new laptops, tablets, good phones and TVs. Taking advantage of the prevailing large deployed infrastructure in homes and enterprise, Wi-Fi's natural next step is to attach the new age of things to the web. Wi-Fi networks have a network topology, with the AP being the web entrance Most Wi-Fi networks operate within the belief a pair of.4-GHz band. Wi-Fi can even operate within the 5-GHz band wherever additional channels exist and better information rates area unit out there. However, since the vary of 5-GHz radios within buildings is shorter compared to a pair of.4 GHz, five gigacycle per second is principally utilized in enterprise applications along side multiple APs to confirm sensible Wi-Fi coverage To summarize, Wi-Fi is that the most omnipresent wireless web property technology these days. Its high power and complexness has been a serious barrier for IoT developers, however new semiconducting material devices and modules scale back several of the barriers and modify Wi-Fi integration into rising IoT applications and battery-operated devices.

Proposed Block Diagram:

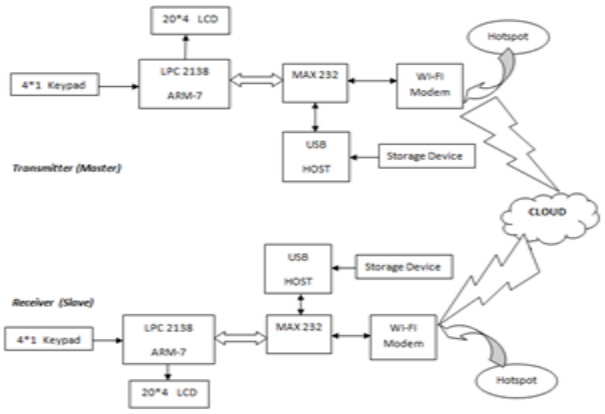

Fig. Proposed System

Block Diagram Description

The basic block diagram of the Wireless protected data transmission among portable storage device through WI-FI network is shown in the above figure. Mainly this block diagram consist of the following essential blocks.

1) ARM 7 LPC 2138
2) MAX 232
3) USB Host
4) LCD Display
5) WIFI Modem
6) Power Supply
7) Keypad

IV. FLOWCHART

The Microcontroller at the transmission finish reads the information that is hold on within the 1st device and sends to the server through WI-FI module. The server starts to speak with another WI-FI module and sends the information to the second USB device at the receiver finish. Therefore knowledge between 2 USB storage devices gift at totally different areas is transmitted wirelessly. Show device used here is liquid crystal display of 16X2 characters per line for displaying the operating conditions of the system. It consists of programming a microcontroller and optimizing the circuit as embedded system. The Flowchart of the program is as follow:

Transmitter Section:

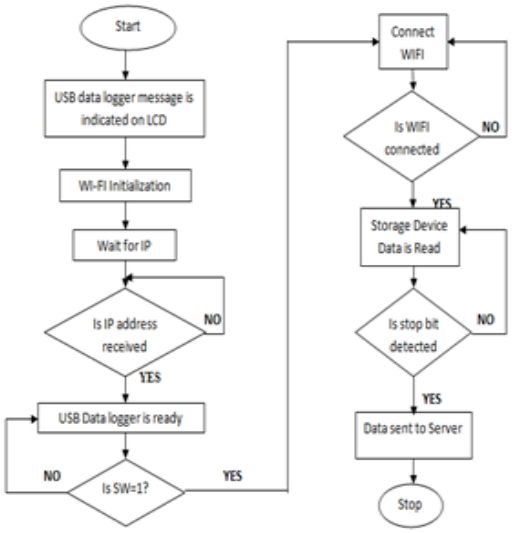

Fig. Flowchart for Transmitter section

Receiver Section:

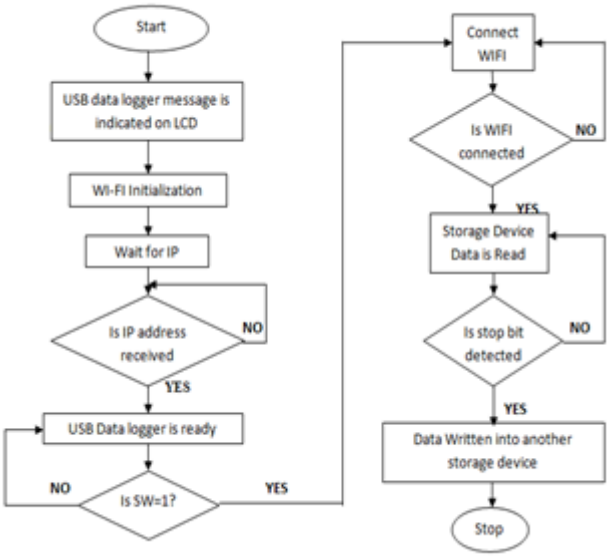

Fig. Flowchart for Receiver Section

CONCLUSION AND FUTURE SCOPE

In this paper, example for the aim of remote information acquisition and transmission exploitation serial communication techniques is mentioned. The rule for this work is intended for the transmission of Text or doc files solely. Necessary changes will be created within the rule and may be enforced for transmission and reception of transmission files. Since here ARM processor is employed, the rule is less complicated. The ARM processor consumes terribly less power (3.3volts) compared to Microcontroller. exploitation this example, a conveyable device will be developed which can have the scale of a USB device and may be carried by the user. Device format exploitation information processing (internet protocol) address makes it safer. Exploitation this technique, one will transmit information for long distance associated simplifying the programmability to create the ARM design an choice for even advanced applications.
The Hardware system contain PCB(Printed PCB) on that all IC's with reference to all element need .For example ARM seven LPC 2138, MAX232, LAN module, keypad. conjointly we have a tendency to square measure planning the 2 unit of this technique. One can act as a master and another as slave .The LAN module are the medium of transmission of knowledge through cloud. The tag name of hold on information in cloud are provided to each unit throughout programming. conjointly the system are supplied cryptography and acknowledgment of knowledge standing and also the result are show on alphanumeric display and also the transmitted data can get saved to the receiver finish.

REFERENCE

[1] Anuj Kumar, I. P. Singh, and S. K. Sud "Design and Development of Multi-Channel Data Logger for Built Environment ", Proceedings of International Multi-Conference of Engineers and Computer scientists 2010 Vol II ,IMECS 2010 ,Hong Kong,PP:993-998.
[2] O'Brien K, Salyers D.C, Striegel A.D, Poellabauer C "Power and performance characteristics of USB flash drives, World of Wireless, Mobile and Multimedia Networks"11th IEEEInternational Symposium.June-2008 and also published in International Journal of Advanced Computer Science and Applications.
[3] Sifeng Zhang, Keli Zhang, Ping Cao, Yanfang Wang. "Design and Realization of Remote Synchronous Data Transmission System Based on Distributed Architecture of Serial Concurrent Bus". IEEE proceedings of the 9th International Conference on Electronic Measurement & Instruments. Beijing, China, Aug.2009, Volume 3 PP: 358-362.
[4] Remple, T. B. , Qualcomm, San Diego, CA, USA , June 2003 "USB on-the-go interface for portable devices", Consumer Electronics, IEEE International Conference, ICCE. 2003.
[5] ShyamSadasivan, " An Introduction to the ARM CORTEX – M3 Processor", October 2006.