



A Novel Approach For Data Transmission By Using Wireless Memory Storage Along With BioMatric Scan.

Bansari Oza (M.E. Student), Dr. K.R.Bhatt (Professor)

Department of Electronics and Communication
Sardar Vallabhbhai Patel Institute of Technology, Vasad, India.

Abstract — In past few years Electronics play vital role in our day to day life. It is essential thing to make this world more interactive, today's most used and flexible memory storages are MMC card, USB, Hard Drive and so on. but we must necessarily plug in this memory devices within the computer devices. By plugging continuously there are many chances to having virus in both the devices, So, to overcome this problem, the main Aim of this Utility Model is to design a Wireless Memory Card, which can use by Multiple User at a same time. This can make the data usage of Memory storage device more sophisticated. Video Streaming Feature is also there in the device. So, by using this model we can solve the existing problem like Usability, Multiple Streaming & Broadcasting, and Flexibility.

Keywords — USB,OTG,Wireless Memory Storage.

I. INTRODUCTION

In the past years, we were used the wired technologies for the communication. These technologies have the greatest drawbacks of using cable and it is impossible to use for long distance and not a reliable one also. To overcome these drawbacks, we have been moved to the wireless one. By using the wireless communication technologies, we make our communication as reliable one and cable free one. Wireless technologies are applied in various wide applications throughout the world for communicating over the world, wireless communications communicate via satellite. In the closed environments or limited range applications like school, colleges, offices, factories, and industries, we communicate or transfer the data with the help of wireless sensor networks such as RF modem, Bluetooth, WI-FI and Zigbee etc.

[1] The primary advantages of wireless sensor networks are, - Reliable one - Authenticated one - No use of cable - Lesser cost than wired one.

Now a Days world is needed communication very fast as well as in very secure format. For that we are having different types of wired as well as wireless communication techniques like, OTG (On the Go), LAN, MAN, Zigbee, Bluetooth, WLAN, Ethernet Cable. In addition, we are having different File Sharing Application like Share IT, Xender etc. For Memory Storage, we are having MMC Card, USB, Hard Disk, Flash Drive etc.

But the main Drawback of these techniques is that at a time this feature doesn't support many users. This Research Paper is aimed at implementation of Video Streaming and file Sharing Feature among Multiple User at a same time on Raspberry PI 3.

The key contribution of this paper is the proposition of a standalone communication platform architecture using Wi-Fi Technology. Here we present the result of performance evaluation of Generating Access Point & Media Server. The rest of the paper is organized as follows. Section II represents a brief overview of Literature Survey which gives the motivation behind the present work. Section III introduces the proposed System Architecture and Implementation of flow chart. Section IV introduces our system requirement tools and Section V describes Obtained Results whereas Section VI finally gives Conclusion & Future Work.

II. LITERATURE SURVEY

A. Wireless USB Flash Drive By Using Bluetooth :

Here They Design a Wireless USB flash drive & can be used without connecting the dongle. This makes the data transfer using USB more sophisticated. It also provides speed up to 1 Mbps. A Bluetooth module is attached to the USB flash drive is V2.0 RS232. At PC side they use IEEE 802.15.4 – Compliant Atmel TxRx. It has a keypad with a number from 0 to 9. Unless the correct combination of the code is pressed, the USB flash drive is inaccessible. Draw Back of this model is that they provide Communication via Bluetooth but the range of Bluetooth is not up to the mark if want to communicate with many users [3].

B. Wi-Fi P2P Communication :

Wi-Fi Peer to Peer (P2P) (WIFI Direct), is a recent industry standard that allows user devices to communicate with each other without requiring a Wi-Fi access point or Internet connectivity. Offering promising solutions for secure and high-throughput device to device communication over moderately high range, towards an all-connected wireless ecosystem. Secure Digital (SD) memory cards with built-in processing unit and Wireless LAN chipset can serve as a small standalone terminal. This Technology is much upgraded but they mention about the WLAN Memory Card along with wireless LAN 802.11 g which having less coverage area and speed than 802.11 n. Also, the other product must support Wi-Fi Direct too. [4]

C. Wireless Ad-hoc Network for Post-Disaster Recovery :

This is also one useful concept that in hazardous situation when internet is not easily available this concept is very useful. Here they use Linux Live USB nodes, which can be any available laptop to boot the guest OS using USB flash drive with a variety of customized software packages demanded in post disaster situations. Using an additional Wi-Fi USB adapter, Linux Live USB nodes help to easily form wireless ad-hoc network and serve user devices through Wi-Fi hotspot. They examine different scenarios of wireless adhoc networks. In this paper, they use Ad hoc Network, which also knows as IBSS network. IBSS network doesn't support WPA Authentication. Further here they use Wi-Fi USB adaptor. [5]

III. PROPOSED SYSTEM ARCHITECTURE

A. BLOCK-DIAGRAM :

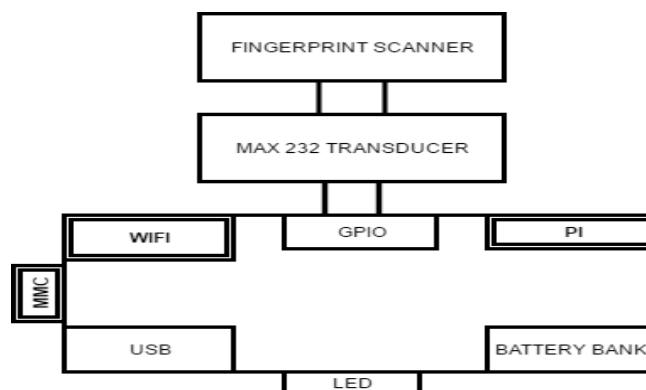


FIG. 1 Block-Diagram of Model

We use Fingerprint Scanner - TTL (GT-511C3) which having MAX 232 Chip & UART Module. In the hardware side Raspberry PI 3 Model b is use. Main advantage of the usage of this particular OS is that it having in built WIFI

Module so no need to externally mount it. PI having inbuilt USB Port, MMC Card port and power supply port. LED is for indication of the process

B. FLOW-CHART :

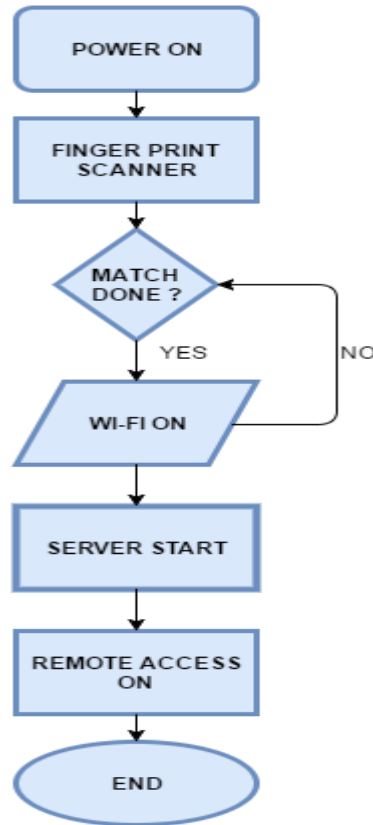


FIG.2 Flow Chart

When valid figure print will get by scanner only then and only then OS will be start and WIFI access points generate. After generating WIFI access point SSID will broadcast to all devices. Now the ones who want to communicate must select that WIFI and should give password. After authenticating and obtaining IP address that particular device is all set to communicate with that memory storage.

IV. UTILITY MODEL IMPLEMENATION

In this Utility Model Hardware Part consist: Fingerprint Scanner - GT-511C3 and Raspberry PI 3 Model while Software consists Raspbian OS Samba Media Server & Kodi App.

Raspberry Pi 3 is the third generation Raspberry Pi.

Compared to the Raspberry Pi 2 it has:

- I) A 1.2GHz 64-bit quad-core ARMv8 CPU
- II) 802.11n Wireless LAN
- III) Bluetooth 4.1
- IV) Bluetooth Low Energy (BLE).[6]

GT-511C3 is High-Speed, High-Accuracy Fingerprint Identification using the : Smack Finger 3.0 Algorithm, Download Fingerprint Images from the Device Read and Write Fingerprint Templates and Databases Simple UART protocol (Default 9600 baud) also Capable of 1:1 Verification and 1:N Identification.[7]

Raspbian is the debian based Foundation's official supported operating system. A free operating system optimized for the Raspberry Pi hardware.[8]

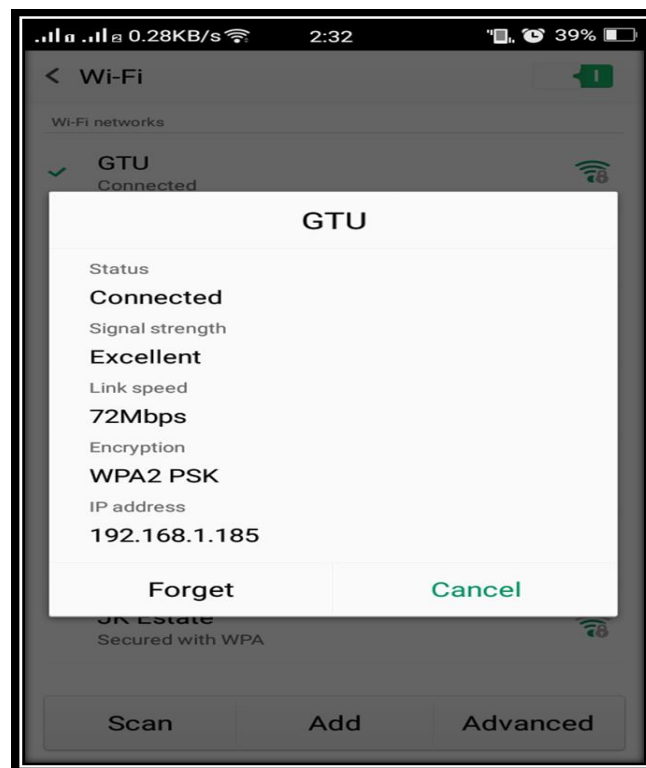
Samba is an Open Source/Free Software suite that provides seamless file and print services to SMB/CIFS clients. [9]

Samba is freely available, unlike other SMB/CIFS implementations, and allows for interoperability between Linux/Unix servers and Windows-based clients. Samba uses the TCP/IP protocol that is installed on the host server. It gives network administrators flexibility and freedom in terms of setup, configuration, and choice of systems and equipment.

Kodi or any other Network support application can be used to show data in mobile devices. [2]

V. RESULTS

A: WIFI ACCESS POINT



To obtain this result need this set up:

- [1] Hostapd - This is the package that allows you to use the built in WiFi as an access Point.
- [2] Dnsmasq - This is a combined DHCP and DNS server.

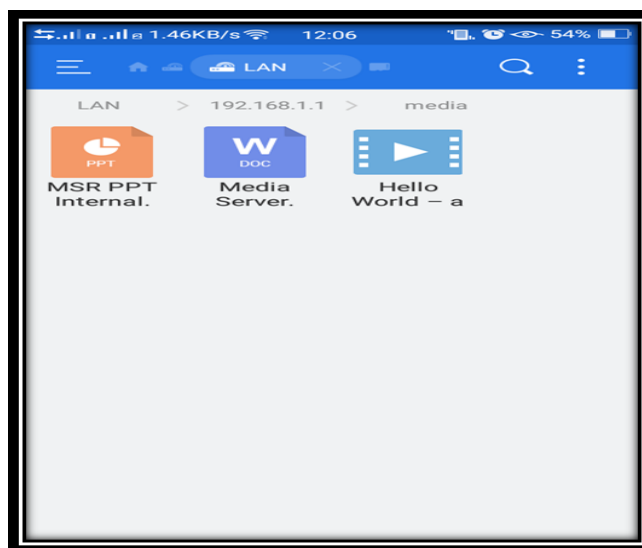
B: SAMBA MEDIA STREAMING



To obtain this result need this set up:

- [1] Ntfs – New Technology File System
- [2] Vsftpd – Very Secure File Transfer Protocol

C: FILE SHARING



VI. CONCLUSIONS & FUTURE WORK

Here we conclude that this utility Model will help you in very broad manner. Memory Utilization is one of the best result of this project. Again by this model video streaming feature is done with at a time more than 12 users. In addition to this any kind of file like PDF, Word, Audio, Power Point Presentation etc. can be share with in the users. In Future here Biometric authentication is reaming by which we can increase the security.

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