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Research paper

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Concept of adding USB 3G Dongle to the electronic devices for operating from remote place.

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ABSTRACT

This paper represent how the USB 3G Dongle can be add into the inbuilt circuit of electronic devices like Router, By providing USB connection inside the router it becomes mobile router . Mobile Router support both the wired and wireless connection, In the Router/IP sharing mode it connects the circuits in WAN via PPPoE, Automatic IP or static IP. By inserting 3G USB Dongle with internet connection into this router, Internet connection can be given to the different clients by strong signal of WIFI. It will detect the internet connection and run its application even on 3G Mobile. By inserting on IP key into a computer, the browser will able for the authentication & authorization. Web based application develop for controlling and displaying different equipments attached on Mobile Router. Different operations can be performed and rights will be given to different clients with this software. USB 3G Dongle can be inserted directly into the electronic devices, to operate its control & features from the remote place using internet connection from the mobile/PC. It creates too many options in one modem. Step is

easy enough for a novice user while still being tweakable enough for enthusiastic. Router connects with the too many clients with PC at a time, so connection too with WIFI, We can send internet connection to all the clients, as in main router. USB 3G Dongle attached, By using the concept of clients/server we can access the application from the server to all clients. Electronic device is attached with these server, other clients can access its features and control its functions. They can send information in terms of signals & executes its device. From remote place internet user can access the server and also it connect the clients of router and can performed operation from the remote place. Printer USB dongle can also be put in the USB of Router. After plugging in the USB printer into wireless router and running the network printer setup problems. Each user can enjoy easy scanning and easy printing without a PC or server turned on. Different users can use the printer simultaneously.

KEYWORDS:- Mobile Router, USB Dongle, Wireless Router, USB Application.

I. INTRODUCTION

WiFi networks can either be "open", such that anyone can use them, or "closed", in which case a password is needed. An area blanketed in wireless access is often called a *wireless hotspot*. Wi-Fi, is a wireless networking technology used across the globe. Wi-Fi refers to any system that uses the 802.11 standard, which was developed by the Institute of Electrical and Electronics Engineers (IEEE) and released in 1997. The term *Wi-Fi*, which is alternatively spelled WiFi, was pushed by the

Wi-Fi Alliance, a trade group that pioneered commercialization of the technology. The Universal Serial Bus (USB) port is a small connector that allows a data cable to be attached so that, for example, pictures can be passed from a digital camera to a computer. On desktops, laptops, printers and other hardware, the USB port also allows for expanded functionality. Many hardware devices smaller than a pack of gum are made with one end designed to slip into the USB port. These devices are called USB dongles and can add

features to the computer or machine that were not built in by the manufacturer. A storage or memory USB dongle, also called a memory stick, provides a convenient means to pass files between computers or devices. The memory stick contains a rewritable solid-state memory chip that does not require power to retain its contents. Another type of USB dongle can add WiFi functionality to a computer to provide wireless Internet connectivity. Most desktop computers can accommodate internal WiFi cards, but laptops and notebooks rely on external gadgets to increase features. The USB WiFi dongle comes in many models with the most basic model working with operating system software to locate nearby wireless networks in order to share access, commonly within the home or office.

Different types USB Dongle

• Usb Dongle Key

Computers on a WLAN access the network through a hardware device called a router, which communicates with the wireless adapters in the network computers to exchange data within the network. The types of wireless networks that a wireless USB dongle will connect to should be compatible with the networking signal put out by the desired WLAN. And even compact disks for exchanging files and archiving data. Another type of USB dongle can add WiFi functionality to a computer to provide wireless.

• Usb Dongle Adapter

This type of adapter can be well suited for desktop computers since the device is larger and not as easily portable as smaller types. A wireless USB network adapter can include internal firmware such as a firewall, and may also come with a disc that includes drivers for the device and supplementary software. They can also often be purchased separately from router manufacturers, and someone looking for an adapter should make sure he or she finds one that is compatible with the wireless router he or she already owns. The USB router adapter simply connects to the computer through a USB port, and then will find wireless networks in the area and allow the user to connect to one.

• Usb Dongle Driver

Computers on a WLAN access the network through a hardware device called a router, which communicates with the wireless adapters in the network computers to exchange data within the network. The types of wireless networks that a wireless USB dongle will connect to should be compatible with the networking signal put out by the desired WLAN. And even compact disks for exchanging files and archiving data. Another type of USB dongle can add WiFi functionality to a computer to provide wireless.

• Usb Dongle Software

Computers on a WLAN access the network through a hardware device called a router, which communicates with the wireless adapters in the network computers to exchange data within the network. The types of wireless networks that a wireless USB dongle will connect to should be compatible with the networking signal put out by the desired WLAN. If computer viruses or other threats such as spyware are found on the external device, the software will prevent the malware from being introduced on the system and possibly infecting the hard drive. Depending on the configuration of the USB antivirus software, the program may automatically contain suspected threats and allow the user to review them prior to removing them permanently.

• Wireless Usb Dongle

While most modern laptops have built-in wireless devices, these external devices can be useful as backup or for older computers. Other types of wireless USB network adapter devices are similar in size to a small router and serve as a receiver for a wireless signal. Computers on a WLAN access the network through a hardware device called a router, which communicates with the wireless adapters in the network computers to exchange data within the network. The types of wireless networks that a wireless USB dongle will connect to should be compatible with the networking signal put out by the desired WLAN.

II. OBJECTIVES

- I. To control the electronic devices function from the remote place.
- II. To capture the confidential images & video files of the remote place.

- III. To send the data signal from the remote place to executes the functions and triggers the object by setting equipments.
- IV. By adding USB dongle to router, it becomes mobile router, so the range of signal will be stronger. So different operations can be easily done to stop or execute continuously electronic devices.
- V. Developing online web application for identifying & controlling the router application which connects the USB dongle.

III. DESIGN & EXPLANATION

By developing on web based application for the router to identifying the different part and to control its function in the browser. By providing the IP of the administrator, it shows the different part and the number of clients connected to it. The figure shows the router is connected with different clients using wireless technology with WIFI and how the dongle is connected to the router, so interconnection can be easily transmit to the different clients also, as the main connection of USB dongle with ISP joins to the router. As wifi connection is already in the router, it send signals to the electronic devices, now internet connection is also there & web application is developed, you can sends commands which is connecting with the internet. Electronic device is now directly connected with the wifi using mobile router, by developing web applications all the functions can be controlled and operated which one connected as clients with this WIFI mobile router. From the remote applications we can connect to the router mobile and then can connect all the clients & do operations. Here electronic devices can also be connected with the WIFI router, as they get more signal strength. So a person from remote place also connected with the electronic devices and do operations on it.

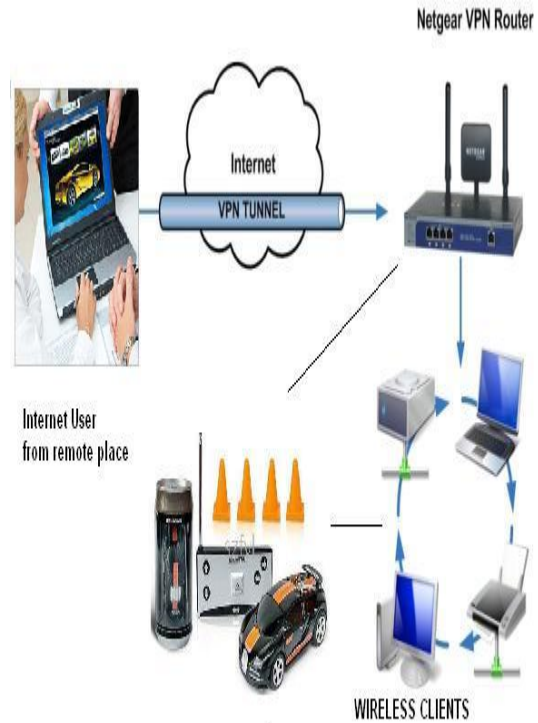
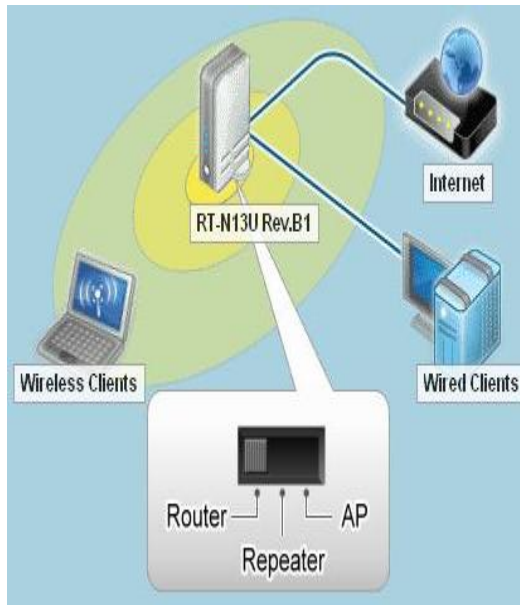


Fig represents how the Internet user can control the features of the motor car with the help of Wireless Mobile Router

Internet user connects with the mobile router, with the help of USB3G Dongle and connects to the different clients of Router using WIFI connects. Here the clients can access the data from server & the internet user can also access the clients and server from the remote place with the authorization and authentication of the administrator of the router. A electro motor car toy is connected with the WIFI with any of the clients can also be accessed by the internet user from the remote place. Router can be connected with the wired Lan and also with the WIFI to the

server.



Fig[[]] Router connects with the Internet, Wireless clients and Wired clients.



Fig[[]] Router connects with the USB Dongle, Client & World by Internet.

IV. RESULT

By using the mobile Router, Internet user can access the server & its clients with the authorization & authentication permission. From

the remote place internet user can access the electronic device & client directly with the help of mobile Router which is connected with the USB3G Dongle internet connection with the valid SIM card with the ISP.

V. SOLUTION

The online Web Application is developed for the router, to controls its input devices and WIFI clients, to give authorization & authentication. The application run on the web server and its executes the USB dongle internet connection. The complete GUI based application shows the image, how many clients connects & whether USB 3G range operates or not. Different setting of USB 3G Dongle can be control. Complete information of the clients connected with WIFI can be obtained. From remote place clients can also be accessed via mobile router. Electronic device connected with the client can also be accessed. Server also be connected with the router, so client can run application and the data will be stored into the centralized database server. Different server/client application can be run with the mobile router connection with high strength signals. Printer can be also accessed with the clients by inserting USB into the router.

VI. CONCLUSION

The new mobile wireless router distinguish itself with the " auto switching" function. It not only enables multiple users to use multifunction printer wirelessly without a PC or server turned on 24 hrs a day. User can enjoy easy scanning & easy printing. In a Wi-Fi network, computers with WiFi network cards connect wirelessly to a wireless router. The router is connected to the Internet by means of a modem, typically a cable or DSL modem. Any user within 200 feet or so (about 61 meters) of the access point can then connect to the Internet, though for good transfer rates, distances of 100 feet (30.5 meters) or less are more common. Retailers also sell wireless signal boosters that extend the range of a wireless network. Using USB 3G dongle into router, router becomes mobile router and its capacity & strength is increases. Different commercial & non commercial application can be run. Electronic devices & weapons can be tested from the remote place, even though it connect with the clients of the router.

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