**VIRTUAL WI-FI**

**Introduction:**

The need for sharing internet with other devices in a home group network or in corporate office has become essential. Internet can be shared in two ways: Share through LAN cables or by wireless routers.

**Existing system:**

To setup a wireless network in any environment, it requires resources such as wireless router and domain knowledge to setup such a system. In such a system, incorrect router settings will be tedious to correct and will take time to get it up and running

**Designed system:**

A new system which would not need a physical router and can share internet is designed. The new system is implemented through Internet Connection Sharing (ICS), i.e the use of a device with Internet access such as 3G cellular service, broadband via Ethernet, or other Internet gateway as an access point for other devices. It was implemented by Microsoft as a feature of its Windows Operating system through command line (command prompt).

**Objective and Aim:**

**Virtual Wi-Fi** provides network services to the client. It acts as a network administrator to its client to provide wireless network access, manage connected devices and control the network traffic.

A wireless network can be setup using already existing wireless network card to act as a router virtually. This system provides an easy to understand and use, GUI Windows application using which we can easily setup wireless network in any system with already existing wireless network card.

This application uses the available internet connection in the host computer (which could be LAN or any other source) and shares it among connected devices. The administrator can use it to monitor all the connected devices

Scope of the Application:

This type of system can be implemented in domestic households, small scale office, net centres etc.

**Functions provided:**

* **For Administrator:**
  + To Share internet with the devices in network.
  + To secure the network with WPA2 PSK encrypted security key.
  + To choose the type of internet connection to be shared.
  + To Identify connected devices by their MAC addresses.
  + To monitor number of devices connected.
  + Display number of devices connected to the network.
* **For User/Client**
  + - Secured access to internet.