

Communication Box

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Abstract— An electronic system is being developed to allow anonymous file sharing with chatting capabilities using a Wi-Fi router and storage devices. The main purpose of the project is to give a cost-effective and portable system to the users. It can be used in conferences, team meetings, industrial projects and also for general communication and file sharing. The existing system provides the users with communication facilities which requires an internet connection for connecting to various users. There are many applications available today through which we can chat and share files. These existing systems commonly run on smartphones and android devices for its working. Users can send large amount of files but with limitation that only two users can connect at a given time during any transaction between them. These applications provide one-to-one communication. Keeping in mind the existing system drawbacks, Communication Box has been introduced. An electronic system is being developed that has potential of transferring large amount of files in a given environment with many users connected to it. These sharing of files and communication between the users will be anonymous. The main components of the project are Wi-Fi router and storage devices such as a pen drive and SD Card. The key principle in design is to give the users a portable, compatible and cost effective device. The system will create a local Wi-Fi network through a WiFi router which would be independent from the Internet. As soon as user connects to the Wi-Fi of the ComBox, the user will directly redirect to the landing page of the ComBox. After the redirection of landing page the user will have the access to all the files that are stored in the ComBox with the additional feature for the user to upload the files to the same. The user be anonymous to other users connected in the network in such a manner that name of the user will be unknown which can only be changed on the wish of user

Key words: Wi-Fi router, Portable, Pen drive

I. INTRODUCTION

Communication is the base of imparting and gaining knowledge and also to exchange information and ideas. In today's world, communication is taking place distinctly and also over-seas. It requires a medium to transfer the data which is achieved through the internet.

Basically, communication box is a networking system which connects users via Wi-Fi which creates a network, independent from the internet and allows the users to share files offline anonymously and also provides with chatting capabilities.

The purpose of this project is to provide users with a system that allows them to communicate and share resources anonymously without using the internet. The main aim of this project is to provide the users with a cost-effective and portable system

A. Main Objectives Include

- 1) Cost-Effective

- 2) Portable system
- 3) Easily accessible
- 4) Anonymous system

II. EXISTING SYSTEM

Every system requires an internet connection to connect to another system. Internet has become a need for device communication. Through it, we can communicate with anyone located at any part of the world. The number of internet subscribers is growing rapidly. The cost of internet packs and its installation is also increasing also has the authority to use the feature of chatting with other users in the network without the access of internet. All the functions used by the user will down, hence, restricting to complete our work or an important assignment on time.

The use of Wi-Fi routers has increased considerably. A wireless router is a device that performs the functions of a router and also includes the functions of a wireless access point. It is used to provide access to the Internet or a private network. The major reason is that since it is wireless, many devices can be connected simultaneously. The major drawback of using a Wi-Fi router is that it is not portable and hence, use of internet is limited only till a certain limited range. Also, the cost of Wi-Fi router, its installation and configuration included, involves high price.

Another example is of Dongle. A dongle is a small piece of hardware that attaches to a computer, TV, or other electronic device in order to enable additional functions such as copy protection, audio, video, games, data, or other services. These services are available only when the dongle is attached. It provides with an internet facility. Several data packs are available along with their corresponding rates. It is a portable device, again which is costly.

Many Android applications are available today which require Smart-phones for their access. Some of these applications provide the users with functions like chat, sharing of files etc. Examples of such applications are WhatsApp, Xender, ChatON etc. Out of these WhatsApp and Xender are commonly used. These applications operate on the principle of one-to-one communication. Also, they require an internet connection for their use.

Considering an example of Xender, it is a file sharing application which shares files across devices at a Wi-Fi speed provided that the device to be connected has Xender installed in it. It does not make use of Internet. Documents, music, movies etc. can be shared. This is possible only between two users i.e. only one user at a time can share resources to the other device. It does not support Many-To-One communication and it also does not provide the users with chatting capabilities.

A. Problems in Existing System

- High-Cost
- Non-Portable
- One-to-One Communication

- Requires an Internet connection
- Applications require Smart-phones for their access
- Downloading of applications is required for its access

simultaneously. People now need an alternative to the existing system. Also, due to a change in the weather conditions and server load, the internet service goes

III. PROPOSED SYSTEM

A. Problem Statement

To overcome the drawbacks of the existing system we have developed a communication box excluding the disadvantages of the existing system. A COMBOX is a portable electronic device, consisting of a Wi-Fi router and a device for storing information which creates a wireless network that allows the users who are connected to share files anonymously and locally. By definition, this device is disconnected from the Internet. The data exchanges are confined to the ComBox. Range of Wi-Fi will determine the speed of file sharing. Identity of the sender remains unknown so there is no need to remember any password. The figure below shows the landing page of the ComBox. Every functionality can be accessed using this landing page

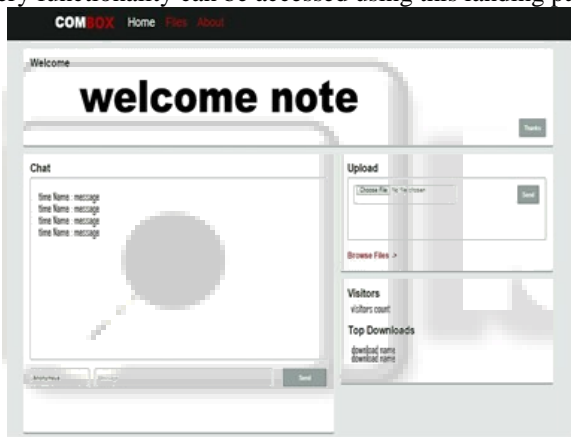


Fig. 1: Interface of ComBox

1) Home

Landing page of the ComBox shows all the aspects` that is chat box for users to chat, upload files and send and also counts the number of visitors on the page. It also consists of a section displaying Top Downloads.

2) Chat Box

The chat function enables the users to send the message that they need to and it will be directly delivered in the chat room where all the users connected in the network can view them and it also has the feature of reverting the message back. The chats between the users would be anonymous. The chat box provides the users with a function of changing the name of the user from anonymous to any different name. Messages delivered in the landing page of the Chat box would be visible on the landing page of every user connected in the network

3) Upload Files

The landing page consists of a section where the users

ComBox Upload



Fig. 2: Upload section for ComBox

Many random files can be browsed, selected at a time and uploaded. The files can be of any format. These files can consist of audio, video, text file, image etc. share files and chat simultaneously. All the data exchanged is stored on the pen drive.

4) Count of The Visitors

This section shows the number of users that have visited the ComBox. It helps us to know the traffic directing to the ComBox

5) Top Downloads

Top downloads is a section where it displays the downloads which have been downloaded by the users for maximum number of time. It gives the users knowledge about the top-trending files.

6) Files

All the files uploaded by the user will show in the file section. This section acts a repository for the server. From this section, users can download files of their choice. All types of file format is supported.

B. Architecture of Proposed System

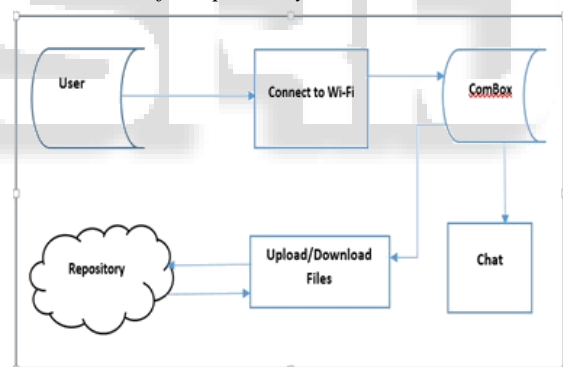


Fig. 3: Architecture of ComBox

ComBox has been introduced to share files and communicate anonymously without the need of an Internet connection. The communication box consists of a Wi-Fi router and storage devices such as a pen drive can upload files.

Fi available devices when turned on. Once it shows thatOn clicking it, it redirects you to the landing page of the communication box. The web browser has an area forsharing of files and anonymous chat room. The connected users can share files and chat simultaneously. All the data exchanged is stored on the pen drive.

Repository acts as a server between the users and the ComBox. The users can view and download files from the repository. The ComBox supports files of any format. The various files that can be uploaded or viewed are images, text file, audio, video etc. Multiple files can be selected and upload at a time.

The landing page provides a section of Chat. Here, the user's name is kept anonymous. The user can change it

according to his convenience. The messages shared can be seen on every user's landing page. Hence, it acts as a Chat Room.

This system is portable and is disconnected from the internet which allows seamless transfer of files in the vicinity and creates an internet free environment and allows completing our work in a stipulated amount of time and in a hassle free manner

IV. REQUIREMENT ANALYSIS

A. Hardware Requirements

1) Wi-Fi Router

A wireless router is a device that performs the function of a router and also the functions of a wireless access point. It is used to provide access to the Internet or a private computer network. It can function in a wired LAN, in a wireless-only LAN, or in a mixed wired/wireless network, depending on the manufacturer and model.

2) Pen Drive

A Pen Drive is also referred to as USB Flash Drive. It is a portable device which is used to transfer data to and from the computer quickly. Users can easily read and write the data on the Pen Drive by plugging it into the USB port on the computer.

B. Software Requirements

1) Openwrt

OpenWrt is a Linux distribution for your router. Like other Linux distributions, it offers a built-in package that allows you to install packages from a software repository. It can be used for anything that an embedded Linux system can be used for, including functioning as an SSH server and SD card. Router is used to connect all the devices. Any device can be used which has a Wi-Fi connection capability. Wi-Fi router is configured and interfaced with the device and all the configuration files are stored in the SD card.

The Wi-Fi router creates a local Wi-Fi network which it's connected, a 'Sign-in to network' message appears. is independent from the internet and shows up in the Wi-Fi available devices when turned on. Once it shows that On clicking it, it redirects you to the landing page of the communication box. The web browser has an area for sharing of files and anonymous chat room. The connected users can share files and chat simultaneously. All the data exchanged is stored on the pen drive.

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2) Html

HTML stands for Hyper Text Markup Language and is used for creating web pages. It is used to create interactive forms. HTML elements form the building blocks of all the websites

3) Bootstrap

Bootstrap is an open-source collection of tools for creating websites and web applications. It contains Html and CSS based design templates for forms, buttons, navigation and other interface components. It aims to ease the development of dynamic websites and web applications. Bootstrap is a front end framework that is an interface for the user.

4) Photoshop

Photoshop is a raster graphics editor. It was published by Adobe Systems. It can edit and compose raster images in multiple layers and several color models including RGB, CMYK, Lab color space etc. Photoshop's features can be expanded by Photoshop's plug-ins

5) PHP

PHP stands for Hypertext Preprocessor. It is a server side scripting language used for the development of the web and also for general purpose programming.

V. CONCLUSION

In this Project, we have implemented anonymous file sharing and transferring system. Our system comprises of main components such as wireless router, Pen-drive and drivers that will make a router act as a server so that can easily help us integrate all the components of the project. The system will help users upload as well as download file. The user will also have the platform to chat with other users that are connected in the network.

VI. FUTURE SCOPE

As the aim of our project is to develop an efficient file sharing and transferring and chat system, one can also implement a whole website based model and can use the communication box to host the website that will only be visible to people those are connected in a network.

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