Generic Model For Intranet Based Data Sharing

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Abstract- *Mobile phones are absolutely the fastest-spreading and most widely adopted personal computing technology in history. In our systems, each node can act as a client and as a server at the same time and shares with others its own data. Our contribution consists in designing, implementing and testing a Bit Torrent like application adapted to wireless ad-hoc networks of Android Mobile Phones. The employment of this protocols and applications in the platform of the ensemble mobile environment is becoming a promising solution which permits a wide number of users to share their own contents (data, audio, video, etc.) and communicate with each other without using internet, costly and centralized network infrastructure. By using a central server, the peers will be able to get the information about the contents of other peers. This project deals about a generic communication system which reduced the extra load of making separate communication for every institutes, offices and hospitals. This proposed technology can be used in colleges, hospitals, many public places, malls or big buildings to enhance the security system and to make the system more flexible. The system was developed in such a way that admin is responsible for designing the structure. The application also provide automatic map generator and desktop sharing*

Keywords- Client Server computing, mobile ad hoc networks, wireless communication, Wi-Fi, multimedia communication.

I. INTRODUCTION

In the recent years, Peer-to-Peer (P2P) communications and its applications have become conventional architecture in the wired network environment. However, they have not been effectively adapted to the ensemble mobile environment which composed of various devices such as smart mobile devices, laptops, and devices with embedded software. In P2P systems, each node can act as a client and as a server at the same time and shares with others its own data [1][6] . Our contribution consists in designing, implementing and testing a Bit Torrent like application adapted to wireless ad-hoc networks of Android Mobile Phones [7]. They have become highly-capable multimedia devices, with embedded video cameras, and many users enjoy sharing the multimedia content that they capture. For example, as part of a home entertainment system, the user of a smart phone may wish to upload user-generated content such as newly-taken videos to another smart phone or tablet device, to a media player connected to a TV, or perhaps to a wireless picture frame. Several users may be interested in automatically receiving multimedia from one particular source [3] [4] [5].

This paper deals about a generic communication system which reduced the extra load of making separate communication for every institutes, offices and hospitals. This will help us in passing any message, data almost immediately without Internet within network. This proposed technology can be used in colleges, hospitals, many public places, malls or big buildings to enhance the security system and also make awareness of the emergency situations and avoid many dangers.

II. LITERATURE SURVEY

In the past few years, several different approaches to collaborative sharing of data using different devices have been proposed this section will explore some of the research approaches.

Mr.Bhoopesh kumawat Sudhendra Pal Singh Chandra Prakash Verma as in [5], the main objective of this paper is to introduce a methodology to provide instant Messaging Service over the intranet which is addressed to android based smartphone and tablet users connected over intranet via Wi-Fi.

Rushabh Balpande, Chetan Dusane, Khushboo Kashyap, Nandkumar Patil Prof. Sunita Patil as in [7] The proposes a system that can be used for communication between peoples located at different places using a chat application. The system is proposed for an organization in which the administrator can communicate with the project leader and programmer. The administrator which acts as server can keep track of the login time and log out time of the employee which act as a client. The proposed system uses node JS technology also known node and is a server-side JavaScript Environment node JS is based on single as well as multiple thread by thread execution. the proposed system uses compup2p uses peer to peer network for sharing of computing resource .the proposed system uses a collaborative Locality – aware overlay service (CLOSER), an architecture whose aims is to lessen the usages of expensive international links by

exploiting traffic locality . It also include the privacy module that may arouse the user interest and encourage them to switch to new architecture. The proposed method based on sending/receiving message in intranet through intranet server via Wi-Fi connection without the need of taking any service from mobile service provide and without the use of intranet connection.

III. PROBLEM STATEMENT

To develop a generic module which give authority to admin for designing the system structure of its own for providing client server content sharing on Wi-Fi network for Smart Phones. Client server model faces unique challenges in the mobile context - limitations on processing power, on-board device memory, wireless data bandwidth, available battery energy. To employ client server sharing among smart phones with the centralized server.

IV. SYSTEM ANALYSIS

System Analysis is a detailed study of the various operations performed by a system and their relationships within and outside of the system. Here the key question is "what all problems exist in the present system?" What must be done to solve the problem? Analysis begins when a user or manager begins a study of the program using existing system. During analysis, data collected on the various files, decision points and transactions handled by the present system. The commonly used tools in the system are Data Flow Diagram, interviews, etc. Training, experience and common sense are required for collection of relevant information needed to develop the system. The success of the system depends largely on how clearly the problem is defined, thoroughly investigated and properly carried out through the choice of solution. A good analysis model should provide not only the mechanism of problem understanding but also the frame work of the solution. Thus it should be studied thoroughly by collecting data about the system. Then the proposed system should be analyzed thoroughly in accordance with the needs.

In the current system, the administrator have to create the structure and assign the rights to each user. The rights can be of adding user, deleting user, etc.

The admin can customize them as he wants and can use wherever he wants to. It can be used in colleges, institutes and many other places. When an authorised user sends data from his system, it is received by receiver. This communication system project mainly focuses on transmission of any kind of data through an interface. Textual data can be sent as SMS through mobile free of cost.

V. TECHNOLOGY DETAILS

Wi-Fi Technology:

Wi-Fi technology is an alternative to wired technology, which is commonly used for connecting devices in wireless mode. Wi-Fi (Wireless Fidelity) is a generic term that refers to IEEE 802.11 communication standards for Wireless Local Area Networks. It uses radio technologies to transmit and receive data at high speed. It is popular technology that allows an electronic device to exchange data wirelessly (using radio waves) over a computer network, including high speed Internet connections. Wi-Fi provides its users with the liberty of connecting to the internet from any place within Wi-Fi area without the hassles of plugging in wires. Wi-Fi location where the users can connect to the wireless network is called a Wi-Fi hotspot. Through the Wi-Fi hotspot, the users can even enhance their home business, as accessing information through Wi-Fi is simple. Accessing a wireless network through hotspot in some cases is cost-free.

Client-Server Applications

The client-server model organizes network traffic by a client application and also by a device. Network clients send messages to a server to make requests of it. Servers respond to their clients by acting on each request and returning results. One server supports many clients, and multiple servers can be networked together in a *server pool* to handle increased processing loads as the number of clients grows. A client computer and a server computer are usually two separate units of hardware each customized for their designed purpose.

For example, a Web client works best with a large screen display, while a Web server does not need any display at all and can be located anywhere in the world. In some cases, however, a given device can function both as a client and a server for the same application. Additionally, a device that is a server for one application can simultaneously act as a client to other servers, for different applications.

Some of the most popular applications on the Internet follow the client-server model including email, FTP and Web services. Each of these clients features a user interface (either graphic or text-based) and a client application that allows the user to connect to servers. In the case of email and FTP, users enter a computer name (or sometimes an IP address) into the interface to set up connections to the server.

VI. SYSTEM ARCHITECTURE

Client Server Model The most common model for distributing a system is the client server model. The model is fairly simple to explain. Initially when a server is started up its first opens up a particular port through which client can access it. It then sits downs and waits until somebody attempts to connect it. This connection takes place using so called sockets.

- Admin
- User

Admin: is used for handling multiple connections sequentially. Clients have to queue up and they are handled one by one. If there are number of clients requesting at a same time, then a parallel connection is made. We can handle number of connections using the threads. Each time the connection is established, a new thread is created and connection is given to that thread. The server thread then continues accepting new connections. Because creating threads is an expensive process threads are usually kept in a pool. When a thread finished its job, it is kept alive until a new request has arrived it can handle.

User: For the client to connect it must know the server IP address or hostname or port name to connect to. Once connection is establish the client and server can exchange messages. Depending on the distributed system a client may connect to multiple servers. One server to access the database, one for file services, another for e-mail for example.

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The purpose of this phase is to plan a solution for problem specified by the requirements. System design aims to identify the modules that should be in the system, the specification of those modules and how they interact with each other to produce the result. The goal of the design process is to produce a model or representation of a system can be used later to build that system. The produced model is called design of the system.

Head of Communication

Admin is the person who controls, monitors and keeps the administration over the system. The main functions of the Admin are:

- To keep and track down the total number of users in the system.
- Can add, activate and deactivate any user.
- Update Password.
- Give appropriate permissions.

Users

The Users has to register and log in into the system before he/she carries out their functions.

Admin Module

- Admin Login
- Design Structure
- Add Users and give permissions
- Generate Map

User Module

- User Registration
- Login
- Check Notification
- Remote Desktop
- Update Details
- Log out the whole system.

Permissions

Admin will be able to set permissions for each user.

- Read Only Permission
- Read and Write Permission
- Login
- Check Notification sent by staff.
- Update Profile
- Update Password
- Log out the whole system.

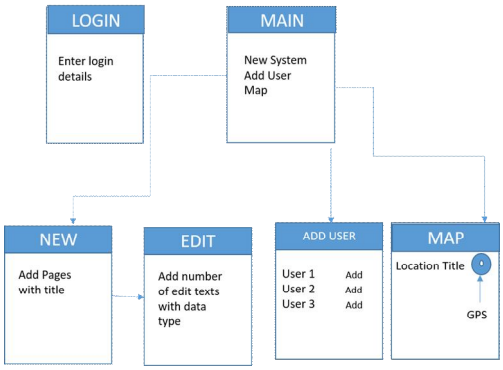

Figure 1. General Admin architecture diagram

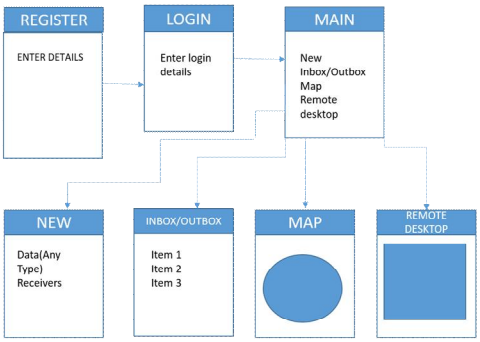

Figure 2. General User architecture diagram

VII. IMPLEMENTATIN

In this paper, we implement system that allows Smartphone users to send and receive data or the file over the server via Wi-Fi which requires neither any internet connectivity nor any service from the mobile service provider's .Smartphone users can communicate through the service which is developed and deployed on the server. This service allows users to communicate with each other via Wi - Fi network without using any internet connectivity. When a user wants to send a data or the file to another user, a request goes to the server and now it is the responsibility of the server to deliver the data or file to the receiving party successfully. Proposed architecture basically consists of client and server module which may include the following steps

- First of all server program runs on server machine.
- Then client program runs on mobile device and send a request to connect with server.
- Once the client is successfully connected, it will allow the user to communicate w other the active users to the client.
- Client can view the list of all users and can communicate with them we have merge the two algorithms which provides security for sharing the data or the files.

That algorithms are Advanced Encryption Standard and Message digests (MD5).The main purpose of using this algorithm is to provide security. For integrity of data, we have used Checksum MD-5 code while storing and accessing the file. Checksum MD-5 code is used to provide intrusion tolerance for data servers.

VIII. CONCLUSION AND FUTURE WORK

We have proposed a client server model that permits efficient data sharing between mobile smart phones over a low-cost transport and also internet connectivity not require. The employment of client server protocols and applications in the platform of the ensemble mobile environment is becoming a promising solution which permits a wide number of users to share their own contents (data, audio, video, etc.) with each other without using internet, costly and centralized network infrastructure Small segments are desirable when multiple clients are involved, as they allow for increased parallelism of downloads. The use of socket for content sharing is more optimal, as it only requires two sockets: one for downloading, and one for uploading, for each peer, regardless of the number of peers within the network area. Peer-to-peer sharing allows for efficient content distribution using low-cost links that do not impose a load on the mobile carrier infrastructure. It is expected that the proposed protocol will allow smart device users to communicate among each other in real time by using various P2P applications. From a utilization point of view, we plan to combine this work with other proximity-based services such as medical or social ones. This paper can be considered for future enhancements in order to provide and maintain quality of service for an application during transmission of data for the purpose of reliability and efficiency.

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