REPLICATION OF MOBILE INFORMATION ON CLOUD

[1]Sharad Raosaheb Jadhav, [2]Manoj A Gadekar,

[1]Assistant Professor, [2]Assistant Professor

[1,2]Department of Computer Science & Engineering, MGM's Jawaharlal Nehru Engineering College, Aurangabad, India

Abstract: Cloud computing is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources that can be rapidly provisioned and released with minimal management effort or service provider interaction. As mobile information may loss in case of failure so it needs to store somewhere, and also carrying a external hard drive is not convenient every time to users hence we need to design an android app to replicate the data in the form of images, files, and videos present on the mobile device on own cloud and synchronize it on cloud with encryption security.

IndexTerms - **Mobile cloud storage, cloud computing, own cloud, android app, replication, and encryption.**

I. INTRODUCTION

Replication is the process of creating and managing duplicate versions of a database. It not only copies a data but also synchronizes a set of replicas so that changes made to one replica are reflected in other database. Mobile cloud storage is a form of cloud storage that is accessible on mobile devices such as laptops, tablets, and Smartphone. Mobile cloud storage providers offer services that allow the user to create and organize files, folders, music, and photos, similar to other cloud computing modals. The case for mobile cloud computing can be argued by considering the unique advantages of empowered mobile computing, and a wide range of potential mobile cloud applications have been recognized in the literature. These applications fall into different areas such as image processing, natural language processing, sharing GPS, sharing Internet access, sensor data applications, querying, crowd computing and multimedia search. However, applications that involve distributed computation do have certain common characteristics, such as having data with easily detectable segment boundaries, and the time to recombine partial results into a complete result must also be small. An example is string matching/manipulation such as grep and word frequency counters. The ownCloud server stores user files in standard file system formats and can use most enterprise file systems. Services are used by both individuals and companies. Most cloud file storage providers offer limited free use and charge for additional storage once the free limit is exceeded. These costs are usually charged as a monthly subscription rate and have different rates depending on the amount of storage desired.
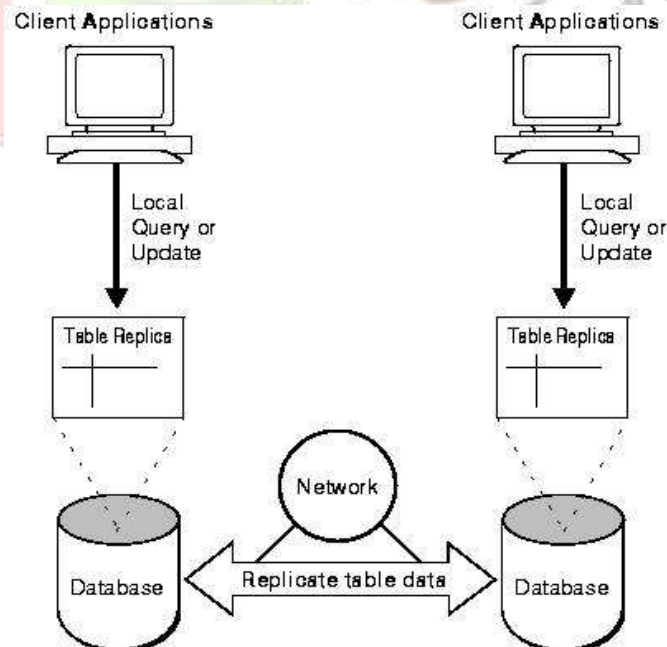
II. EXISTING SYSTEM

Fig. 1 Replication of Database

III. PROPOSED SYSTEM ARCHITECTURE

Cloud computing is known to be a promising solution for mobile computing due to many reasons (e.g., mobility, communication, and portability. In the following, we describe how the cloud can be used to overcome obstacles in mobile computing, thereby pointing out advantages of MCC. Mobile devices also have to face a number of problems related to security and privacy. To overcome this problem threat detection services are now performed at clouds but this also has to face a lot of challenges. Some security issues are like device security, privacy of mobile user and securing data on cloud etc. There are so many security threats like viruses, hacking, the data of owner is stored on the cloud server, once the

Data is stored the owner does not have that data on his own device. Thus, there is risk related to data security and confidentiality of the data. It is not accepted by the owner that his data/file is disclosed to someone who is not an Authorized person. Before discussing why data security is needed there is a need to discuss the security threats to the data stored on the cloud. There are following security risk related to data stored on the cloud server. These attacks affect the data stored on the cloud. For owner the integrity of the data is very important. If any unauthorized person performs changes in data of other person then it can harm the integrity of the data. Any person after finding confidential information of other person can harm that Person. So, data confidentiality is also a concern of data owner. Authentication of user is also important to verify who the originator of the file is.
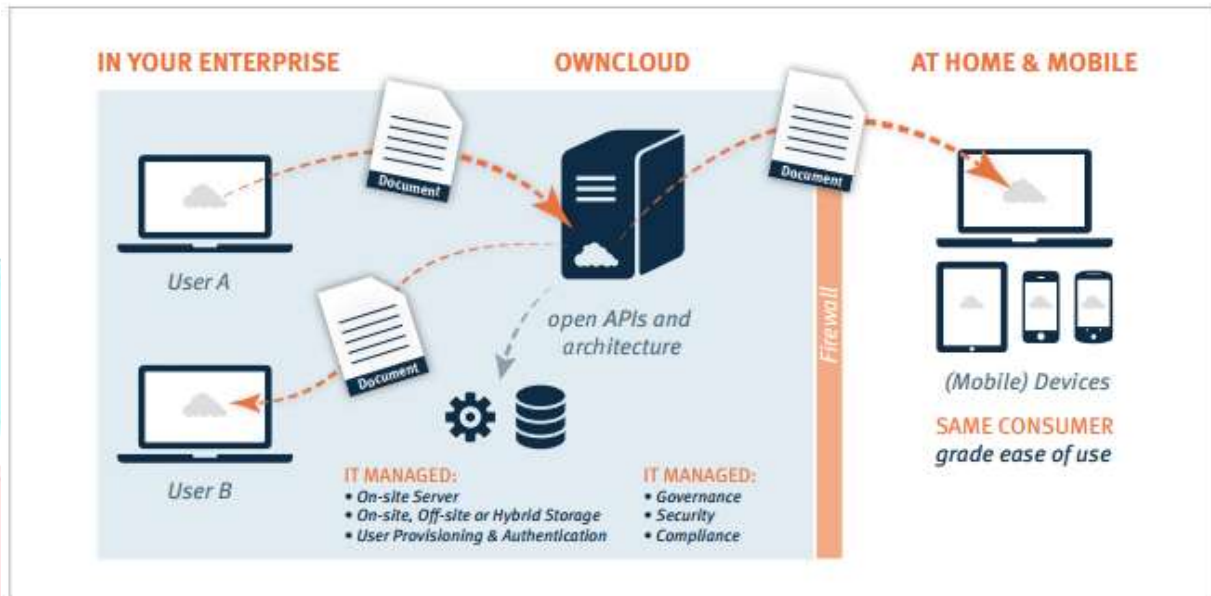

Fig. 2 Proposed System Architecture

Mobility has become a very popular word and rapidly in-creasing part in today's computing area. An incredible growth has appeared in the development of mobile devices such as, smartphone, PDA, GPS Navigation and laptops with a variety of mobile computing, networking and security technologies.

In addition, with the development of wireless technology like WiMAX, Ad Hoc Network and WIFI, users may be Suring the Internet much easier but not limited by the cables as before.

Thus, those mobile devices have been accepted by more and more people as their rest choice of working and entertainment in their daily lives. In the era of PC, many users found that the PCs they bought2 years ago cannot keep pace with the development of software nowadays; they need a higher speed CPU, a larger capacity hard disk, and a higher performance Operation System (OS).That is the magic of 'Moore's Law' which urges user upgrading their PCs constantly, but never ever overtaken the development of techniques. Thus, a term called 'Cloud Computing' burst upon our lives. Cloud Computing has become a popular phrase since 2007.is described as a form of human-computer interaction by which a computer is expected to be transported during normal usage. Mobile computing is based on a collection of three major concepts: hardware, software and communication. The concepts of hardware can be considered as mobile devices, such as smartphone and laptop, or their mobile components.

IV. IMPLEMENTATION

Setting up Server Side:

Own cloud is free and open source software that operates as a very simple way to set up your own syncing, Dropbox-like cloud storage system on your own server or web site. It's robust enough that it has replaced Dropbox for me in all except a few choice cases. In order for desktop machines to synchronize files with their Own Cloud server, desktop clients are available for PCs running Windows, OS X, FreeBSD or Linux. Mobile clients exist for iOS and Android devices. Files and other data (such as images, audio,

video, documents etc.) can also be accessed using a web browser without any additional software. Any updates to files are pushed between all computers or mobile devices connected to a user's account. Here are steps to setting up own Cloud server on Ubuntu

1. We will first download the release key associated with the own Cloud software:

Cd/tmpwgethttp://download.opensuse.org/repositories/isv:ownCloud:community/xUbuntu_14.04/Release.key

sudo apt-key add - < Release.key

2. Then we can add the own Cloud 7 repository as follows:

Sudosh -c "echo 'deb

http://download.opensuse.org/repositories/isv:/ownCloud:/community/xUbuntu_14.04//'>> /etc/apt/sources.list.d/owncloud.list"

3. Finally, update the package database and install own Cloud:

Sudo apt-get update

sudo apt-get install own cloud

Own Cloud 7 configuration on Ubuntu 14.04

1. Further we need to install Maria dB (MySQL) to get the configurations as follows:
   - sudo apt-get install Maria dB-server
   - It will ask for password input, just enter your desired password there.
   - We will be configuring our own Cloud server to take advantage of the more robust MySQL database instead of the SQLite default implementation. To do so, we must configure MySQL first as:
   - sudo mysql -u root -p
   - Put the mariadb password which you selected before, & create a database for o
   - OwnCloud in Mariadb prompt:
   - CREATE DATABASE owncloud
2. Assign privileges to a new MySQL user to handle database operations for ownCloud:
   - GRANT ALL ON owncloud.* to 'owncloud'@'localhost' IDENTIFIED BY 'database_password';
   - Exit
   - Now, if you go to your IP address or domain name followed by "/owncloud" in your browser, you will see a page that looks like this:
3. Click on Storage & database
4. Now select MySQL/Maria DB and create an admin account as in my case I have chosen own Cloud as my admin account and a desired password for that user:
   In the lower tab below the MySQL/Maria DB give the entry of the username=owncloud password=database password database name=owncloud.
5. Then press Finish setup.

V. IMPLEMENTATION DETAILS SCREEN SHOT
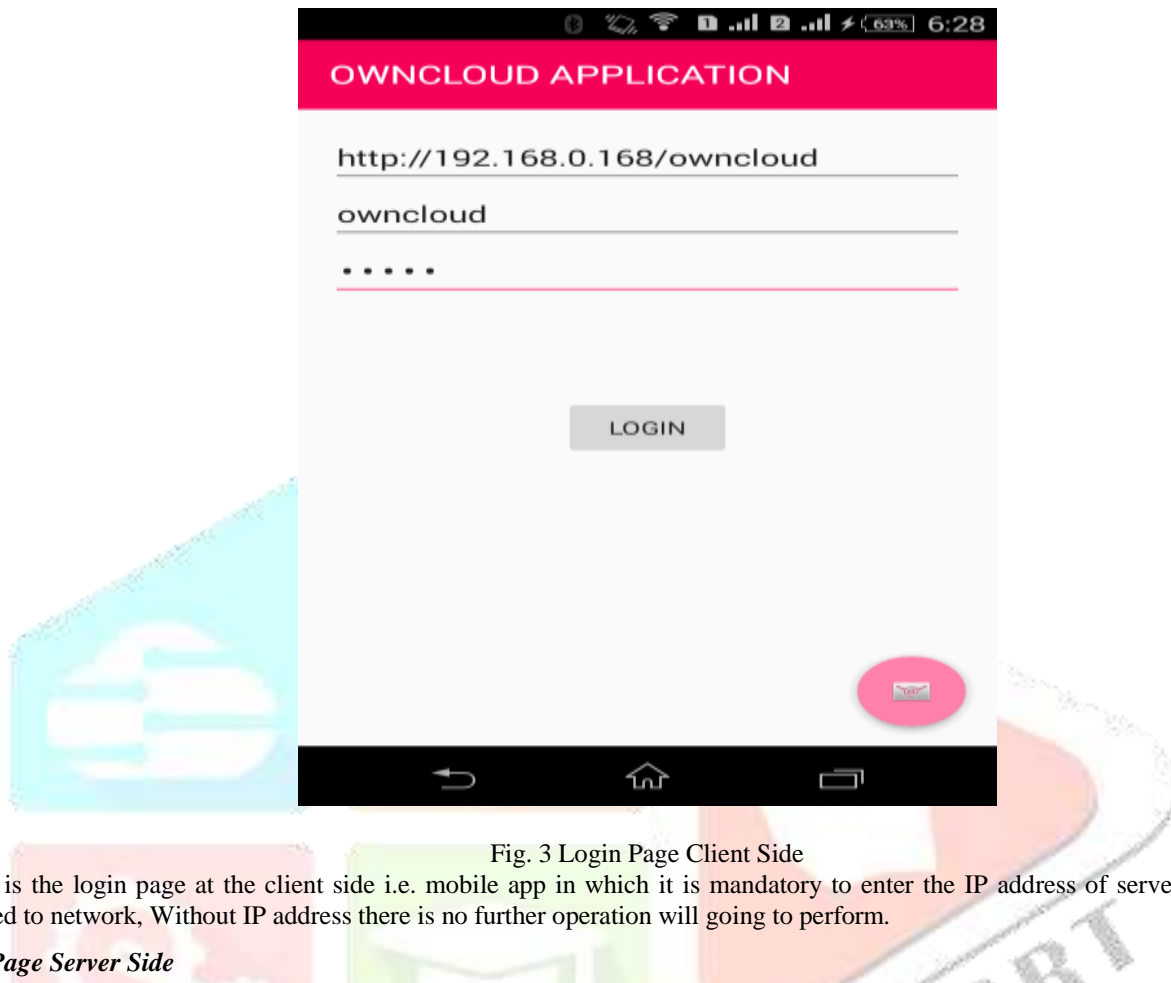
Login Page Client Side

Fig. 3 Login Page Client Side

This is the login page at the client side i.e. mobile app in which it is mandatory to enter the IP address of server which is to be connected to network, Without IP address there is no further operation will going to perform.
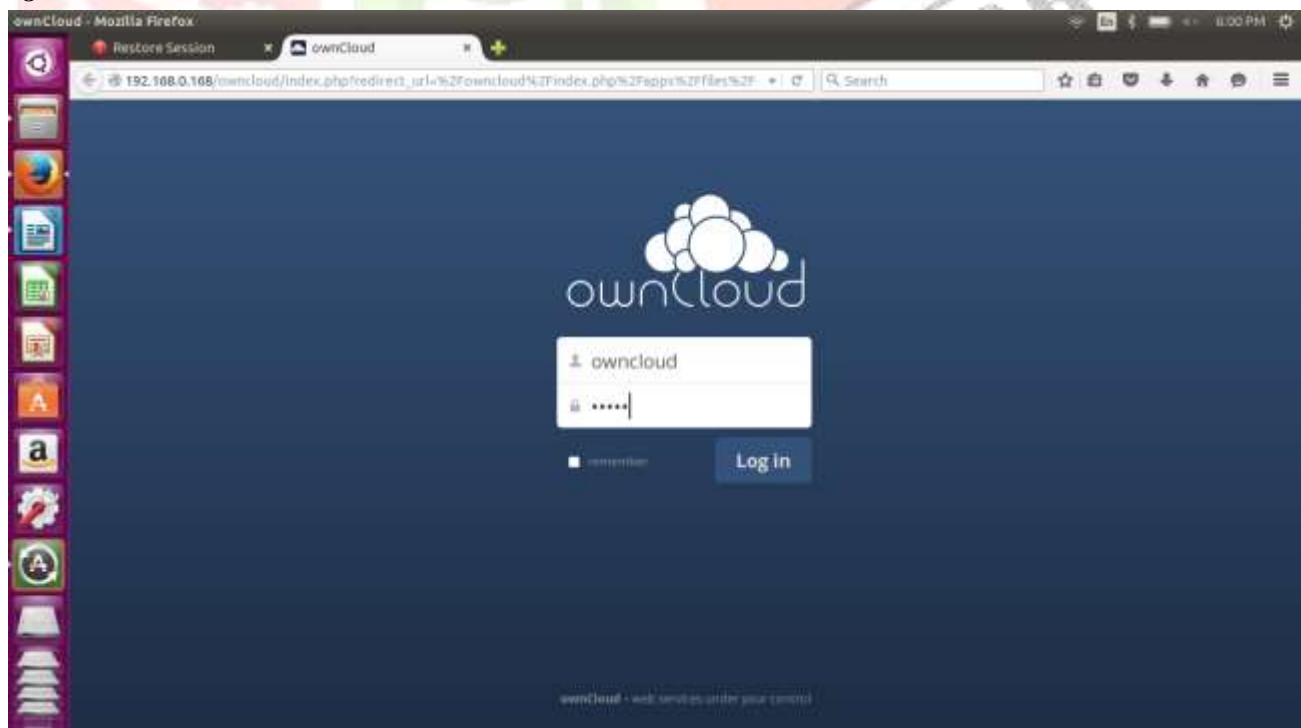
Login Page Server Side

Fig. 4 Login Page Server Side

This is the login page at server side in which user is created by admin and password should be provided to each individual user, therefore security level will automatically increases as all the control of cloud is dedicated only to admin of that particular cloud.

Home Page Client Side

homepage at client side in which all the operation are shown in fragment like Create folder, Remove folder, File creation, Upload and Download.

Home Page Server Side

After successful login on server the sever switch to next page named as home page consist of all user data that are previously uploaded on server.

Folder Creation operation at client side

In this page user needs to enter the name of folder that will created on server, here we are giving name of the folder as project details in textbox and after clicking on ok button the folder will created at server site with that specified name. Duplicate name will not allowed over here it will automatically generate error for duplicate name.

Folder Creation operation at server side

According to above screenshot number 5.1.4 the folder name "Project Details" will be created on server side.

Folder Remove operation at client side

If we want to remove the folder that we are previously created then it is possible to delete that folder, here we are enter the name of folder as "Project Detail" and after clicking on ok button the folder will automatically remove from server side.

Folder Remove operation at server side

The folder named as "Project Detail" will successfully remove for server side

File Upload operation at server side

By clicking on the ok button the activity switch to the gallery in which we need to select image that going to be uploaded over the server.

File Upload operation at server side

The file abc.jpg will be successfully uploaded from mobile application and will appear on server side home page.

VI. FUTURE SCOPE

In the future Scope of replication of the information over own Cloud there is possibility of storing copy or replica of contact with all its detail like mail id etc. alphabetically on cloud. One more future scope added with this is that authentication using mac address of particular user mobile will be provided in order to improve the security level of mobile data over cloud.

VII. CONCLUSION

Own Cloud is free and open source software that operates as a very simple way to set up your own syncing, Dropbox-like cloud storage system on your own server or web site. It's robust enough that it has replaced Dropbox for me in all except a few choice cases. Resync is a one-way syncing protocol. This means that if you have two servers and delete a file on one side, it will pop up again if you use resync. To ensure old files get removed but new files added, and updated files overwritten, you need a N-to-N sync solution. Own Cloud uses sync for syncing, which also deals with conflicts in a smart way. Cloud computing is an everlasting computing environment where data are delivered on-demand to authenticated devices in a secured manner and users utilize a shared and elastic Infrastructure. Seamlessly into existing infrastructure, management and security tools; Extend functionality easily through a comprehensive set of APIs, AND STILL provide the polished, professional user experiences employees have come to value from consumer-grade services, running on all popular desktop and mobile devices. But don't take our word for it, point your browser to www.ownCloud.com and take own Cloud for a test drive today. Own cloud setup is cost efficient method and easy to implement and maintain.

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