Cloud Disk a Cloud Storage System

Khan Madiha[1] Jadhav Vidya[2] Uparwat Minal[3] Gandhi Hardik[4] Vidya Kawtikwar[5]
[1,2,3,4,5]Department of Information Technology
[1,2,3,4,5]Padmabhushan Vasantdada Patil Pratishthan's College of Engineering – PVPPCOE, Mumbai, India

Abstract— The use of portable devices for storing and sharing of data is not safe enough. The loss of portable devices may introduce us loss of important data. Somehow, these devices became old as cloud systems came into existence. To avoid loss of valuable data as a result of device failure or theft, we propose this system, called as the Cloud Disk, which will help us to store, access, share and edit our data from mobile locations.

Key words: Cloud Computing, Cloud storage, Cloud disk Architecture

I. INTRODUCTION

Advances in networking technology and an increase in the need for computing resources have prompted many organizations to outsource their storage and computing needs. This new economic and computing model is commonly referred to as cloud computing and includes various types of services such as: infrastructure as a service (IaaS), where a customer makes use of a service provider's computing, storage or networking infrastructure; platform as a service (PaaS), where a customer leverages the provider's resources to run custom applications; and finally software as a service (SaaS), where customers use software that is run on the provider's infrastructure [2].

Cloud infrastructures can be roughly categorized as either private or public. In a private cloud, the infrastructure is managed and owned by the customer and located on-premise (i.e., in the customer's region of control). In particular, this means that access to customer data is under its control and is only granted to parties it trusts. In a public cloud the infrastructure is owned and managed by a cloud service provider and is located off-premise (i.e., in the cloud service provider's region of control). This means that customer data is outside its control and could potentially be granted to untrusted parties [2].

II. CLOUD COMPUTING

Cloud computing is the use of computing resources (hardware and software) that are delivered as a service over a network .It has the potential to change the IT industry. It enables cloud customers to remotely store their data into the cloud so as to enjoy the on-demand high quality application and services from a shared pool of configurable computing resources [3].

In recent years, the cloud computing and cloud storage became very popular because it provides facility to store and organize the information, and make this information available to other users remotely. It saves a lot of resources like memory system overhead, etc [3].

Cloud computing or the cloud, as shown in fig. 1, is a colloquial expression used to describe a variety of different types of computing concepts that involve a large number of computers connected through a real-time communication network 9typically internet). Cloud computing is a synonym for distributed computing over a network and means the ability to run a program on many connected computers at the same time [4].

Fig. 1: Cloud System [4]

Cloud computing is considered as IT revolution. It frees companies or users from large IT capital investments, and enables them to plug into extremely powerful computing resources over the network [7].

III. CLOUD STORAGE

Cloud Storage, as a subservice of infrastructure as a service (IaaS) in cloud computing, is a model of networked online storage where data is stored in virtualized pools of storage .The data storage process can be time-consuming and costly [5]. This includes maintaining data servers, storage disks, firewalls, backup copies and disaster-recovery provisions. My Cloud Storage reduces these burdens, allowing you to store, retrieve, share, and analyze your data, day after day, without worrying about maintenance, scaling up or down or hardware and firmware you upgrade [6]. Cloud storage is shown in fig. 2.

Fig. 2: Cloud Storage System

IV. PROPOSED SYSTEM

The proposed system, Cloud Disk, is a cloud storage system that enables its users to store and access their data from different locations through different devices over an internet connection. The users can access the system from any location and any device by providing proper user id and password credentials.

The system not only allows users to store and access their data but also share them with other users of the system. It supports storing of all popular file formats. Users

can store and share a variety of files such as documents, excel sheets, pdf, images, video, audio files, etc.

Unlike others existing systems based on cloud storage, Cloud Disk provides an additional feature of online editing of files to its users. The users can easily edit a variety of files online. This reduces the overhead of downloading and uploading the files again and again for editing. Also the audio and video files can be played online without the need to download them.

Users can also edit images with help of image editing tools provided by the system.

Beside these features, the system also provides users with various other facilities such as online messaging/ chatting, use of third party applications, platform to develop your own apps and many more.

Using the online chatting features, users can exchange messages over a private or personal chat room. The chatting app has a user friendly interface with smilies or emoticons to enhance user interactivity.

The main aim of the proposed system is to reduce the work of user and to provide a secured service. All of the user's data will be stored on centralized locations with some Graphical User Interface (GUI). So data can be easily accessed from any location.

A. System Architecture:

The Cloud Disk supports a simple yet efficient 3-tier web architecture comprising of a client, a web server and a database server.

The clients are the user's devices using which he/she can access the system as and when required provided that these devices have internet connectivity.

The web server is a mediator between client and the database. The web server is the location where our system is hosted. It will process user's request and forward it to the database server to retrieve the resources and/or services required by the client. The web server is also responsible for implementing user identification and verification, before providing login to the system, with the help to user id and password provided by the user.

Database server is a location where all the user data will be stored. It does not handle processing of data; instead it is responsible for storing, retrieving and updating files required by the user. It also stores the user authentication credentials in an encrypted form.

The following figure illustrates the architecture of Cloud Disk.

Fig. 3: Cloud Disk System Architecture

B. System Requirements:

The requirements to run our systems are very basic. All it requires is a Computer System in LAN (with internet connectivity) and a Web Browser.

The system does not require any kind of advanced hardware and software configurations.

V. EXISTING SYSTEM

This section highlights the literature survey on existing cloud storage systems in reference to the performance and approach to the proposed system. The biggest example of cloud storage is Google Drive, which we all use and are quite familiar with it. Some other examples include SkyDrive from Microsoft, Dropbox, iCloud from Apple and many more.

The following table shows a list of some popular cloud storage providers and their features.

Service provider	**Service name**	**Free storage**	**Availability**
Dropbox	Dropbox	2GB + Extendable upto 18GB through referrals	Everywhere
Apple	iCloud	5GB	Everywhere
Amazon	Cloud Drive	5GB	Everywhere except its Cloudplayer
Microsoft's Windows Live Service	SkyDrive	7GB	Everywhere
Google	Google Drive	5GB	Everywhere but Music Beta in US only

Table 1: Popular Cloud Storage Services [1]

Service provider	**Platform**	**Supported file type and size**	**Other features**
Dropbox	Windows, Mac, iOS, Linux	Any digital file (unlimited)	File versioning, auto-sync, sharing, trash folder, built-in audio player
Apple	iOS, Mac	Any digital file (unlimited)	Exclusive to iOS
Amazon	Windows, Mac, Linux	Any digital file (unlimited)	Cloud player music streaming in US only
Microsoft's Windows Live Service	Windows, Mac, iOS	Any digital file (2GB max size)	Web apps suit, MS Office support
Google	Windows, Mac, iOS, Linux	Any digital file (10GB max size)	1GB for Google Docs, 1Gb of picasa, 7GB for Gmail,

			trash folder, offline access option

Table 2: Popular Cloud Storage Services (Contd.)

VI. RESULTS

The following figures illustrate the GUI of the system.

Fig. 4: Main Page of Cloud Disk (Login page)

Fig. 5: Main Page of Cloud Disk (Login page)

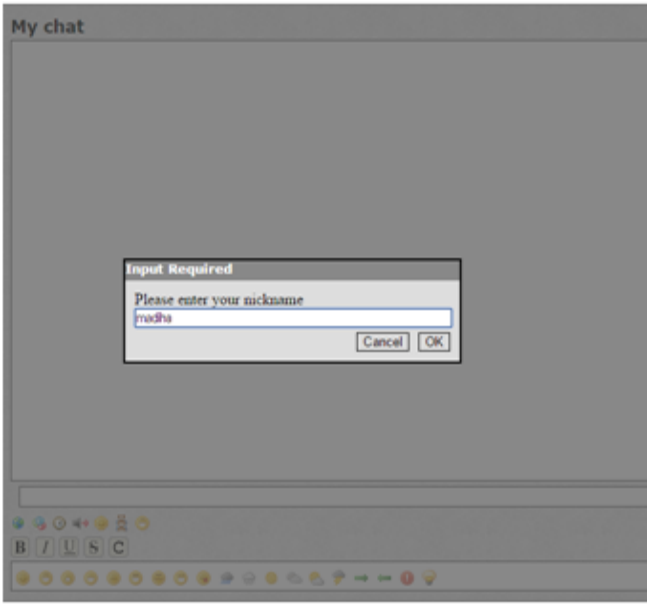

Fig. 6: Chat Login Page of Cloud Disk

Fig. 7: Chat Room Page of Cloud Disk

VII. CONCLUSION

A. *Summary:*

Today in computer system word 'data' is an important factor. The Cloud Disk is a system that helps us to share data. This system can help us to access data from mobile location. The whole data is stored on centralized location with some Graphical User Interface. So data can be easily access from any location. It provides more features than normal drive system. We can directly play videos online; can be listen music files online. Here we can edit word and excel files online and also share them too. People having account on the system can share their data with each other.

B. *Future Scope:*

Much advancement can be done in the Cloud Disk system in future. We can include features such as video editing to edit video online, automatic backup of user's files, etc.

We can also advance the system to allow sharing of files with users who are not registered i.e. who do not have an email account on our system.

Also, we can extend the storage facility available to the user and the file formats that can be stored and edited. We can also provide an editing option for pdf files.

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