Data Synchronization Using Cloud Storage

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Abstract: *Cloud computing usually consists of front-end user devices and back-end cloud servers [6]. This gives users to access a large volume of storage on cloud. In this project, the user can upload file from mobile or PC to the cloud storage. These files will be automatically synchronized to the user's devices when they are connected to internet [2]. So, user files can be viewed from anywhere by any device. In the existing system, we need to download files manually. This paradigm provides the user to synchronize data automatically between devices. We are implementing this paradigm for windows platform.*

Keywords-Cloud, SkyDrive, Synchronize, Photos, Documents, Upload to SkyDrive.

I.   INTRODUCTION

Cloud Computing is evolving as a technology for sharing information [6]. Cloud Computing provides users to access resources through Internet from anywhere without worrying about any maintenance or management of actual resources. Besides, resources in cloud are very dynamic. This service allows the users to wirelessly back-up their data from devices to SkyDrive and retrieve them, instead of doing manually using Zune software [1].

This paper is specifically for windows platform. This is similar to iCloud application available in IOS. SkyDrive is cloud storage provided by Microsoft. It provides user to access all his/her file in SkyDrive and also allow to create or edit and upload the files to the SkyDrive [3].This paper develops a Windows Mobile application and Windows Desktop application, so that whenever the user modify or update a file, it will be automatically synchronized to other devices as shown in figure 1.

In this paper, the user is provided with an interface to create .txt files and edit .txt, .ppt, .pptx, .doc, .docx, etc. User can update these file along with photos. The User is also provided with an interface of capturing and uploading photo dynamically to his SkyDrive account.

Figure 1 Data syncing using cloud storage

I.   LITERATURE SURVEY

A. iCloud for IOS:

iCloud is an application available in IOS platform. This service allows user to store information or data and allows the user to download from multiple devices [4]. For iCloud, Apple Inc. Provides only 5 GB free storage, whereas SkyDrive provides 7 GB freestorage [4].

B. Evernote:

Evernote is an application for all operating system like Windows, IOS, etc. This application allows user to create, edit, update and delete notes only. [5] It doesn't support other document file types like .ppt, .pptx, .doc, .docx, etc. It does not provide an interface to upload photos [5]. In Evernote application we cannot upload photo dynamically from camera.

II. SYSTEM ARCHITECTURE

The Figure 2 will give a brief explanation on how the user interacts with the application. The user should first login to SkyDrive account. Once the authentication is valid the user is provided with an interface of viewing all his/her profile data. User can also create a new file or update an existing file. This paradigm is implemented in both Windows mobile and Windows Desktop application so that whenever the user modifies the data, the change is updated in other devices. The User is provided with an interface of creating new .txt files which is not present in windows phone7 operating system [3]. Whatever the user creates or updates will be synchronized automatically to other devices also.

Figure 2 System Architecture
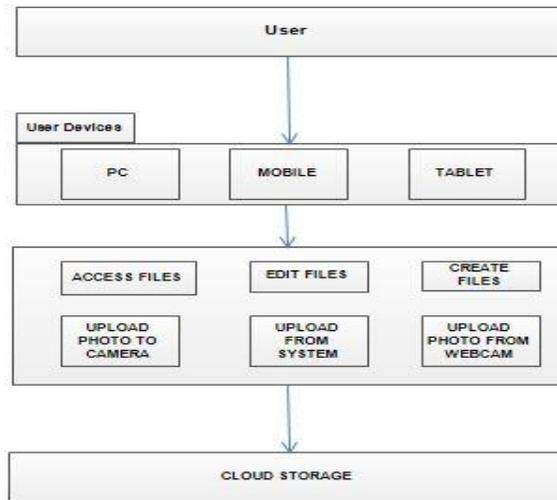
This Architecture contains user, user devices, interface to edit or create and cloud storage. User is the person who uses the interface. User devices are the platform in which user can access data [9]. User interface is developed to give the user to access or modify data. This interface provides the user to create a new file, upload a file, take a picture, upload a picture present in the system and even upload picture taken directly from camera or webcam. This interface is implemented in all the windows platforms so that whenever the file is modified or changed then it will be synchronized to other devices. These files are stored in a cloud database so that the user can access data from anywhere. Sky drive used as the cloud storage to store the files. The user should get authentication to SkyDrive before using the interface. Then the user is provided to edit or modify data.
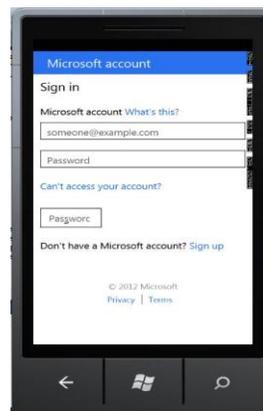
III. IMPLEMENTATION

A. *Mobile Application*

1)*Authentication*

The user should login to SkyDrive with his/her valid credentials. This application will check whether the user is valid or not and proceed with authentication. Figure 3 shows the sign in interface.

Figure 3: Sign in

2)Photo Upload From Camera

This interface provides the user to upload photo directly from camera app in Windows phone and webcam in Windows Desktop. So this reduces the memory space of the user and gives access to the user from anywhere.

3)Create Notes And Upload

This interface provides the user to create new notes and upload it to the SkyDrive. This will also provide an interface to edit the existing notes also. User can also edit PPT, DOC as a shown in Figure 4

Figure 4 Documents Upload View

B. *Desktop Application:*

1) *Photo Hub:*

This is a desktop interface provided to the user for his/her laptop, pc and tablet. This will show all the photos present in user SkyDrive in thumbnail view and provide the feature to upload the photo from the system and webcam as shown in Figure 5.
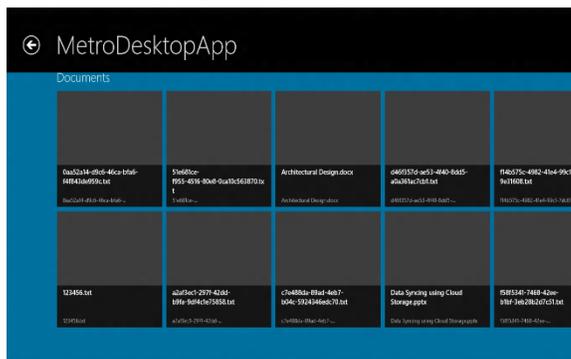
Figure 5 Metro photo view

2) *Document Hub:*

This interface will show all the document (.ppt, .pptx, .doc, .docx, .txt,etc.). The user can edit the data or create a new file and upload it to SkyDrive as shown in figure 6.

Figure 6 Metro Document View

IV. RESULTS AND DISCUSSION

The authentication to user is being performed by getting the user credentials, it's being failed because Microsoft does but not give a direct access to SkyDrive. Even to connect the application to the SkyDrive, the developer requires a client id provided by Microsoft. Without the client id the app cannot retrieve user data from SkyDrive [7].

V. CONCLUSION AND FUTURE WORK

The user is allowed to access his/her SkyDrive account. Once the authentication is valid, then user is allowed to modify or change his data. Whenever the data is modified, the respective device will be synced automatically

Presently, video and other application cannot be accessed through this application, so in future these features will updates. Finally this paper outcome will be a cloud OS.

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