

# ACCESSit!: A Uniform Interface For Accessing Personal Data On Multiple Cloud

<sup>1</sup>Unmesh Deodhar, <sup>2</sup>Gaurav Chaudhari, <sup>3</sup>Gaurav Deshpande,  
<sup>4</sup>Atul Agarwal & <sup>5</sup>Dr. J. R. Prasad

<sup>1,2,3,4</sup>Department Of Computer Engineering, Savitribai Phule Pune University, Pune

<sup>5</sup>Professor, Dept. of Computer, Sinhgad College of Engineering, Pune  
Maharashtra, India

---

**Abstract:** *Today's world is world of cloud. Every 5th person is using cloud either on their phone or personal computer in the form of Cloud as a service, Cloud as a storage or Cloud as an infrastructure. Most of them use Cloud as a storage entity because most of the players in Cloud Business provides much amount of Cloud storage free, but still for most of the users this free space provided is not enough. They try to compensate this by using multiple cloud platforms. Most of times accessing multiple clouds becomes time exhausting as there are not much options available that will allow the user to access multiple cloud accounts at the same time. Thus, there is need to have single interface which will give access to multiple clouds. Although, we have websites which provide this facility But, Application for such websites is not available. Additionally, there are some applications for windows but, either they are not platform independent or they do not have facility to access multiple clouds. Our application lets user to access multiple clouds as well as it will be platform independent.*

**Keywords:** *Cloud as a storage, access, multiple accounts, single interface, platform independent.*

---

## 1. Introduction

By 2020 we will live in the world of cloud .every data bit you want in your day to day life will be saved on cloud. You will just have to have an application to access your data on cloud. There are various applications available to access your cloud data on your personal computer but they are not that much developed. Some applications provide you the facility to use multiple accounts but they don't support various platform. Some will support for various environments but they don't give facility to share a file between two users. There is much need of developing such efficient application that will provide all these facilities in single application. Our

idea is to develop such application and provide a uniform interface to access personal data on multiple clouds. Our application ACCESSit will be the software which will provide such uniform interface

### User 1(Common User)

Common user can access major 4 cloud platforms from the application we are proposing that are Google Drive, OneDrive, Dropbox, AmazonS3. User will be able to do different operations such as download, upload a file, search all the clouds in one go, share a file or folder. User can also link his/her multiple accounts of same cloud platform to our application.

### User 2 (administrator)

Administrator will administer the whole system. Admin can verify the user, admin can delete the user, and admin can verify the OTP also which will be used while deleting the file as well as sharing the file. Admin will do every background process that is required for the user to perform his operation.

## 2. Literature Survey

### 2.1 Dropbox

There is downloadable desktop application also known as the desktop client which runs on Windows, Mac, or Linux operating systems and gives you access to your Dropbox directly through a folder on your hard drive. In addition to using dropbox.com to access and share your files, we recommend that you download and install the Dropbox desktop app to get the most out of Dropbox. Using Dropbox on your computer is just like using any other folder on your hard drive, except the files you drag into your Dropbox folder automatically sync online and to any other computers or mobile devices linked to your

account. The app runs in the background and automatically keeps your files in sync and backed up online. It's like having the same folder on all of your computers and mobile devices at the same time.

Using the desktop app means you won't have to manually upload or download files in your Dropbox folder. The app automatically watches your Dropbox folder and keeps your files in sync for you. Any time you save a change to a file and are connected to the internet, that change will sync everywhere you have Dropbox installed. The desktop app even works when you're offline. The next time you're online, Dropbox will sync changes just where it left off. Now though Dropbox have a very good desktop application, but it doesn't give support for multiple accounts for the same user and besides that it only supports Dropbox. If you have to access another cloud you can't access it through this desktop application.

## 2.2 OneDrive

Microsoft has published OneDrive applications for iOS, Android, Windows Phone, Windows8, Xbox One and Xbox360 that allows users to view, browse and organize files stored on their respective OneDrive cloud platform. In addition, Microsoft also published desktop applications for OS X (Lion and later) and Microsoft Windows (Vista and later) that allows users to sync their whole OneDrive storage with their personal computers for accessing the data offline, as well as between multiple different computers. The OneDrive desktop client of Windows allows users to "access" the contents from their PCs with the help of the web browser, provided the user permitted this option; Users of OSX can fetch from a Computer, but not reverse. The Windows Phone 8, iOS and Android versions allows camera photos to be uploaded automatically to OneDrive. Upon the re-naming as OneDrive, the Xbox One app has some added new features like achievements.

In addition to the these apps, OneDrive is already integrated into Windows 8.1 and later, Microsoft Office 2010 and later as well as the Office and Photos hub in Windows Phone permitting users to access videos, photos and documents stored on their respective OneDrive account. OneDrive in Windows 8.1 can also sync user settings and files, through either File Explorer or the included OneDrive app. In addition with the ability to use reparse points, such changes allow user to access files directly from OneDrive as if he is accessing them locally. The OneDrive app includes a local file manager. User's Windows account have to be linked with a Microsoft

account to use OneDrive on Windows 8.1 the as it doesn't on Windows 8. The previous version of OneDrive desktop application doesn't work on 8.1. The "Fetch" feature doesn't work on Windows 8.1. When we reviewed the OneDrive application, we felt that there are some important features missing like sharing a file between 2 users or these application don't give support for Linux based operating systems. so the whole bunch of Linux users are missing the OneDrive application

## 2.3 InSync

This is another third party application we are going to review. InSync provides very good desktop application that can be used over Windows, Mac OS, and Linux based OSs also. InSync also provides features like multiple accounts for a single user, desktop notification, command line support .the most problematic thing of InSync is that it only provides support for google drive and no other drive. Now in today's world, we have to have multiple cloud accounts and hence in that competition InSync can't be a stronger competitor pool who are having accounts on multiple cloud platforms. When an application doesn't support multiple cloud platforms, it loose very large customer base

## 2.4 MUTCLOUD

MULTCLOUD helps you to transfer your files across different cloud platforms and manage them centrally. It has provided the support for multiple clouds. You will be able to handle number of different accounts on one cloud platform. If you have registered three accounts in Google Drive, it will help you to manage all the files of all 3 accounts at the same time.

\item It can share files from one cloud to another for better file transmission between multiple cloud drives so you will not need to download it. For ex. through MultCloud, you can directly copy paste the files in DropBox and paste to Google Drive, and this operation will be done automatically.

\item MultCloud uses the new technology, making the file transfer so reliable that computer needn't start, though power off takes place. MultCloud can also perform the sharing from a one cloud platform to another. You need to Copy-Paste, MULTCLOUD servers will do remaining for you.

If you need some files to backup periodically, for example, move a data on the first day of every week. MULTCLOUD also supports transfer function according to the schedule you want. It permits you to set the daily, weekly or monthly in the specific time for data transfer. It also supports to send a

notification in the form of email to you as completion notification and notify you about the result.

MULTCLOUD can help you manage your files in multiple cloud platforms and perform operations such as download, upload, copy, delete, move, cut, paste, new folder, rename etc. File Sharing will share the files with other users File Search will search for files and folders across cloud platforms; File Preview allow you to view online some documents such as PDF, DOC, XLS, etc. Normally speaking, each cloud platform will provide free a small storage space at the beginning. Thus, a MULTCLOUD will merge all the free space of this cloud platforms together. For example, if user have registered 3 Google Drive accounts and each has offered 4GB free space, user will be able to use the free 12GB space easily with the help of MultCloud. MultCloud provides powerful functions but also ensures the security for data management through various ways. The problem with MultCloud is that it don't have a desktop application that we can use. MultCloud has a website for doing this all but as we know web application is always preferable over a website.

### 3. System Architecture Overview

We will develop simple and powerful GUI which will connect to respective API and then file will be uploaded or downloaded from/to respective server. Now when we are saying we are going to design a powerful GUI means it will be very simple to use, it will have ability to deal with all possible keyboard shortcuts. After the GUI we have to integrate the GUI with the background cloud data and that will be done through the help of API. Now we are going to use REST and Java APIs for this purpose.

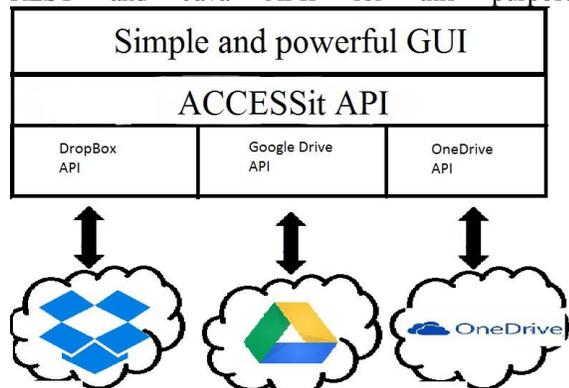


Fig 1 ACCESSit Architecture

To implement ACCESSit API we are using abstract base class which has all methods as abstract. Now for implementation of particular cloud the respective

cloud's class will become the derived or the subclass of the abstract base class and as a rule it will implement all the abstract methods of base class. This technique facilitates to call the respective cloud's methods using base class reference. We are also using custom exceptions to handle the error responses gracefully. To implement front end, we are using JavaFX technology because, JavaFX enables developer to implement powerful features such as undecorated window. Furthermore, our GUI will be easy for user to learn. We are storing user's information in client side as well as server side. Server will have dedicated database to store all the necessary information

### 4. Methodology :

We have adopted the iterative model for software development

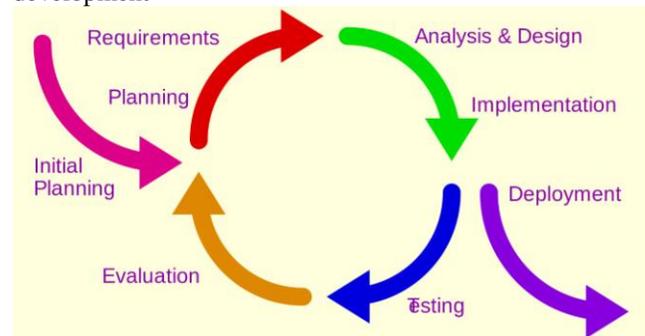


Fig. 2. Iterative Model

In this project we are using iterative software development model. Iterative process starts with a simple implementation of a subset of the software requirements and iteratively enhances the evolving versions until the full system is implemented. At each iteration, design modifications are made and new functional capabilities are added. The basic idea behind this method is to develop a system through repeated cycles (iterative) and in smaller portions at a time (incremental).

Implementing iterative software development model in our project will go in this way:

- We will target first a single cloud platform and we will analyze the single platform.
- After analyzing we will move towards the coding for basic functionalities we want to provide for that drive.
- We will then test the project according to the test cases.
- After solving all the errors we will move toward the next cloud platform repeating the same process again.

## 5. RESULTS AND DISCUSSIONS

### 5.1 Main GUI Snapshots

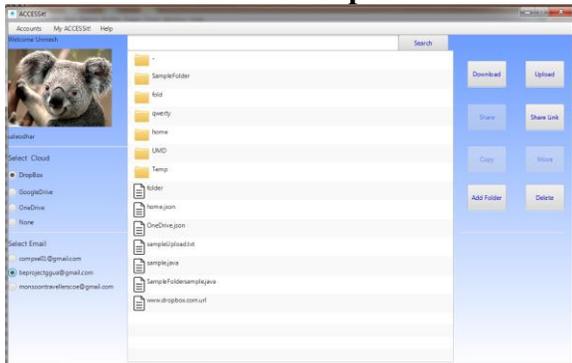


Fig 3. Home Window



Fig 4. Log In Window

## 6. Conclusion and Future Scope

The ACCESSit is a software application designed for the purpose of enhancing the user's experience of accessing the cloud services. The system thus aims at providing the Windows operating system users with a cheaper, additional hardware free and very simple to use desktop application. The ACCESSit will be of great advantage to users looking for an application to access multiple cloud accounts in a single go. It will help reduce the accessing time that of multiple clouds which a normal user do through browser and thereby saving the time of user drastically. The system will not only reduce time required to access his/her personal cloud but will also act as an innovative application for sharing files between different clouds

## 7. Acknowledgement

We would like to thank our Guide Dr. J. R. Prasad madam for the support and guidance he gave us on every step of the project execution. We would also like to thank the project review committee members Prof. J. B. Kulkarni mam and Prof. Mhatre sir who gave us their valuable comments. We would also like

to express our gratitude to HOD Prof. P. R. Futane sir who helped us to accomplish this work.

## 8. Reference

[1] <https://www.dropbox.com/developers>

[2] <https://developers.google.com/drive/>

[3] <https://www.multcloud.com/about>

[4] <http://cxf.apache.org/docs/jax-rs-client-api.html>

[5] <http://www.vogella.com/tutorials/REST/article.html>

[6] <https://jersey.java.net/documentation/latest/client.html>

[7] <http://www.mkyong.com/webservices/jax-rs/restfull-java-client-with-java-net-url/>