Final Project Background

The problem that I am investigating is to identify if the files have been uploaded or synced to cloud storage solutions, such as Drop box, OneDrive, and Google Drive, etc. As technology grows so fast, more and more people, even companies, have moved from hard drive storage to cloud storage. The main reason is to have a better and more convince way to do work on a daily basic. One can work on the same files and not having a carry around a large, heavy hard drive is ideal. Also, the users do not have to worry about hard drive failure, losing the drive, or drive maintenance anymore.

However, cloud storage solutions are not as reliable as many people they are. There are a lot of risks and inconveniences when using cloud storage. One of them is losing files without even the user knows about it. It almost happened to anyone who uses cloud storage – some files just randomly disappeared.

There are a good couple reasons for losing files in the cloud:

1. Files are not being uploaded properly as the network connection is slow.
2. Hard drive is synchronized to the cloud drive and if something is deleted on the hard drive, the files in the cloud is also being deleted.
3. The user has an older version of a file and wants to upload the new one from the hard drive – the cloud somehow overwrites the new one with the older version as they have the same name.
4. Moving the files in the cloud storage can cause issues and sometimes the files can end up in the “trash”. If user did not know about this and clean up the “trash”, the files will be gone forever and cannot be recovered.

There are more reasons why files are disappearing or being deleted in the cloud and there are ways to avoid file loss in the cloud but the users are not going to like them. It is because the users already used or paid the services that the cloud storage solution promised, so why do they have to worry about files being lost?

One of the ways to avoid losing data is to check the files that one has in the cloud daily, which is inefficient. The other way is to monitor the Sync Icon that the cloud storage solution has, most of the cloud storage has a UI and a progress icon to let the users know if the files are being uploaded. However, what if the file is being corrupted during the upload with a slow network connection? Then the user has no idea if the file is corrupted unless they check the files manually. Therefore, there is no efficient way to tell if the files are being successful uploaded or synced to the cloud storage solution.

The significance of this problem is more than just people not knowing if the files are successful uploaded or synced to the cloud storage. In the field of cybersecurity and forensics, if there is an efficient way to tell if a specific file is being uploaded or can be found in a cloud storage, then we can stop a lot of inappropriate and sensitive files, videos and pictures spreading over the Internet. If we have an efficient way to check if one specific is being uploaded to cloud storages, we can stop the sensitive files from sharing to other users and make the Internet a better place.

Reference:

5 ways to reduce data loss in the cloud

<http://www.govtech.com/security/5-Ways-to-Reduce-Data-Loss-in-the-Cloud.html>

This is why Microsoft OneDrive Sucks

<https://davescomputertips.com/this-is-why-microsoft-onedrive-sucks/>

3 Big reasons that Dropbox sucks (And 5 better Dropbox alternatives)

<http://www.aboutcloudstorage.com/dropbox-alternatives/>

Google Drive Sucks

<http://googledrivesucks.com/>

What are the chances of losing information in cloud storage?

<https://blog.marconet.com/blog/what-are-the-chances-of-losing-information-in-cloud-storage>