

Personal Secured File System (NYP ID: 0346)

Technology

A secured personal file system that can be used as a replacement for thumb drive

Type of IP and status

Patent. PCT filed (PCT/SG2011/000295)

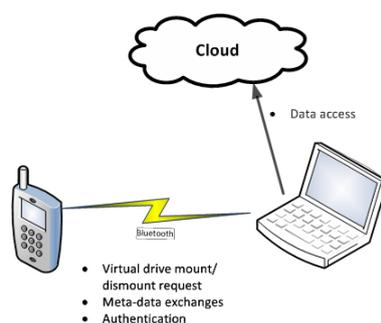
Overview

Personal data are usually stored in personal storage devices such as portable hard disk drive, flash memory cards or thumb drives. Such solutions are inadequate in security and usability. It is easy and common for the portable storage device to be misplaced or stolen. As a result, data stored on such devices is exposed to anyone who is in possession of such device. Although encrypting data on such devices can help to prevent unauthorized user from reading the data, it does not address the issue of data loss.

Our system comprises of an android-based mobile application and PC-based application. The system allows a user to automatically or manually mount a virtual drive on a PC when the user's mobile device is near the PC. The virtual drive will be dismounted when a mobile device moves away from the PC. This proximity-based access provides an additional level of security to prevent others from accessing the user's files when the user is away from the PC.

The virtual drive provides access to the user's files stored in the cloud. Any file written to the virtual drive is secured by slicing the file into multiple slices and dispersed to multiple storages in the cloud. The user's mobile device holds the meta-information to enable reassembly of the file.

To compromise a file, the attacker is also required to be in physical possession of the physical mobile device. The mobile app also allows file access without a PC.



Potential Applications

Individual or enterprise user who needs secured and convenient access to their files in the cloud

Advantages

- Minimize the probability of data loss by providing convenient access to files stored in the cloud
- Data owner has complete control over his or her data in the cloud using a smart phone