Software Design Document

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1 Introduction

1.1 Purpose

The purpose of this document is to describe the implementation of the HLIN windows app. The HLIN windows app is designed to create and perform one to many file sharing even more secure than other sharing apps which prevail now.

1.2 Scope

This document describes the implementation details of the HLIN windows app. The HLIN app will consist of a four major security functions. GeoLock, Network Lock, Classical Password Lock, none lock – which gives the user a variety of options of security for their file while sharing.

1.3 Definitions, Acronyms, Abbreviations

1.3.1 Access key

Access key are unique string which will be generated by the app to represent the file you try to share

2 Design Overview

2.1 Description of Problem

Traditional methods of sharing using Bluetooth and hotspot will limit user to share the file with one user at time and even if you use any cloud to share your data you need a lot of signup progress, size limit, file type restrictions etc. But our HLIN will provide user a better way to share their files with many person at a time and even also with variety of security options

2.2 Technologies Used

The HLIN windows app will communicate with the cloud to upload or download the file from HLIN server. The target platform is Microsoft Windows 8 or above only to increase the level of security (Spoofing can be found easily in Microsoft windows as it is closed source) and development environment is Visual studio enterprise 2015 and the server storage in Azure cloud.

2.3 System Architecture

Figure 1 depicts the high-level system architecture. The system will be constructed from multiple distinct
components:

1. Lock Interface — This interface used to get the lock details which user prefers and the file to be shared.
2. Receive Interface — This interface is used to receive the file which the access key points to, when the required security details are correct.
3. Saved keys Interface — This interface is used for maintaining all the access keys of the files which the user had uploaded.
4. Feedback Interface—This interface is used to receive feedback from the user with picture which can be the screenshot of where the app malfunction.
5. Data Storage – Azure blob and Azure tables - Unstructured table

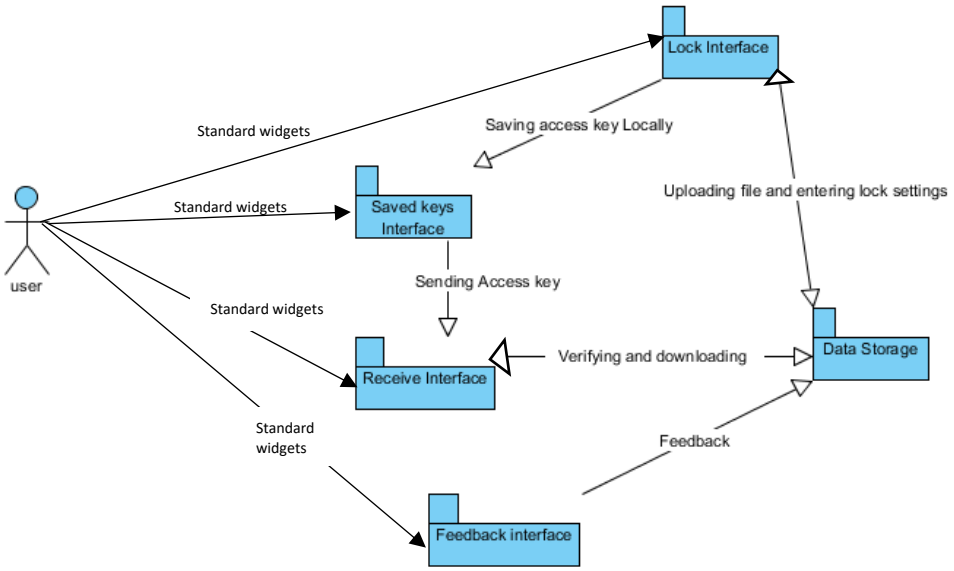

Figure 1: HLIN Windows app Architecture

2.4 System Operation

Figure 2 is the typical sequence of events that occur during a HLIN session.

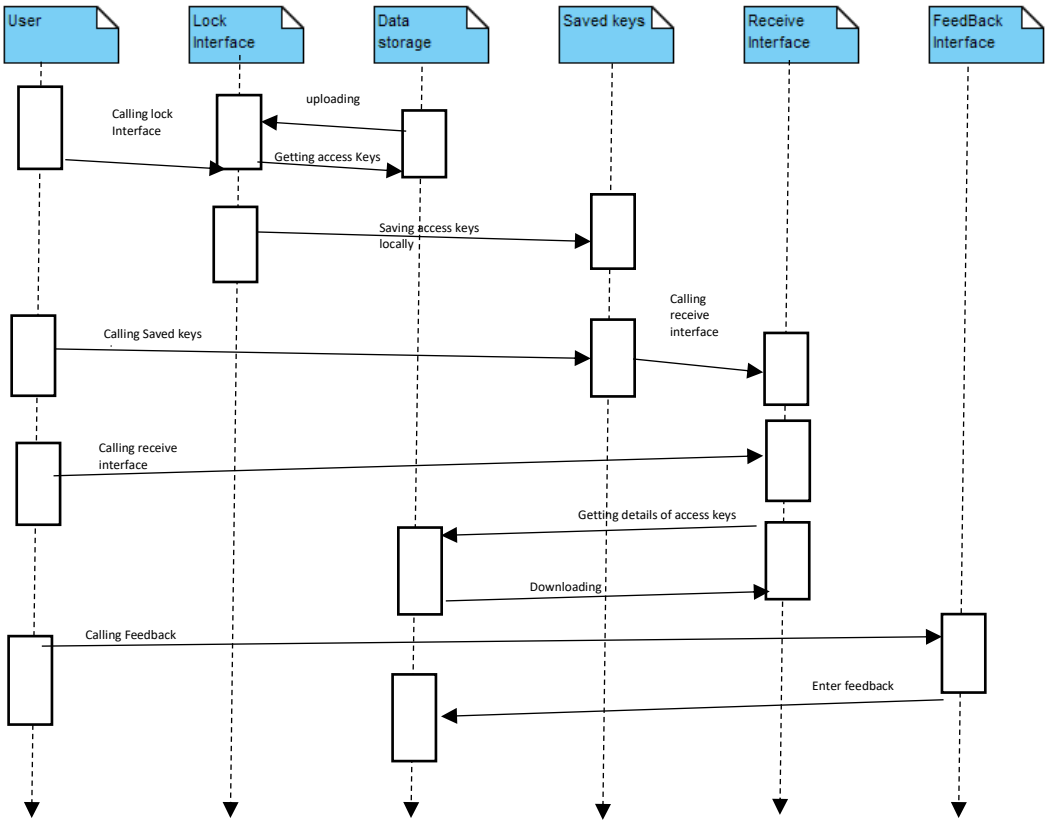

Figure 2: HLIN Windows app Sequence Diagram

3 Lock Interface

Lock interface consist of five different view under one UI which changes. Four views interchange among them when user selects a particular lock option (Radio button). Last view is used to display the access key generated for the file.

1. **Network Lock view**

   Takes current connected Wi-Fi as network restriction for the file

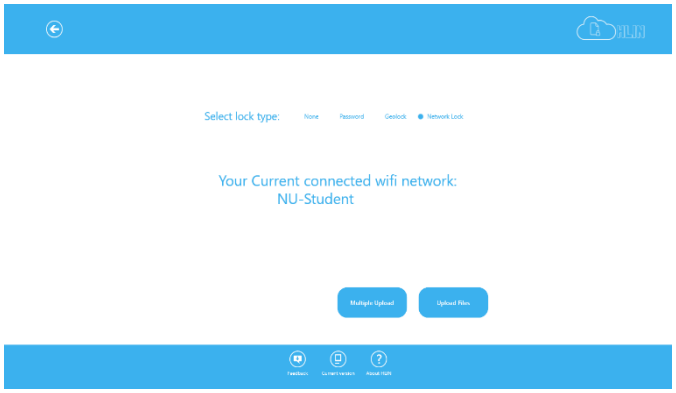

Figure 3: HLIN Windows – Network Lock view

2. **GeoLock view**

   Takes current location of the device if the user check the get current location check box or user can manually enter the latitude and longitude. User also can give the range for the location.

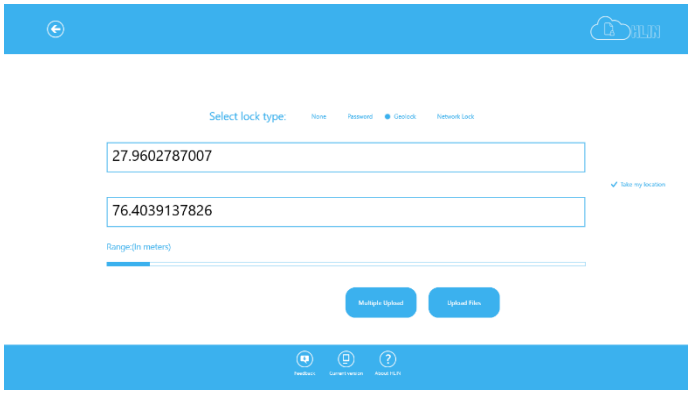

Figure 4: HLIN Windows – GeoLock view

3. **Classical password view**

It’s classical password method which takes a password from user

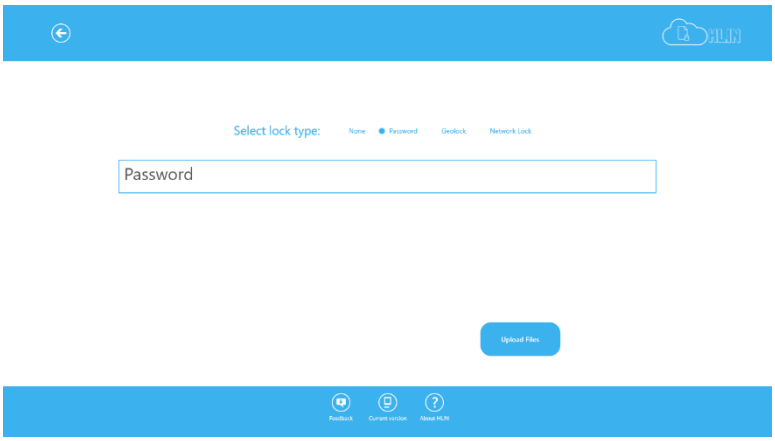

Figure 5: HLIN Windows – Classical password view

4. **None view**

It’s used when the user doesn’t need any type of security for the file

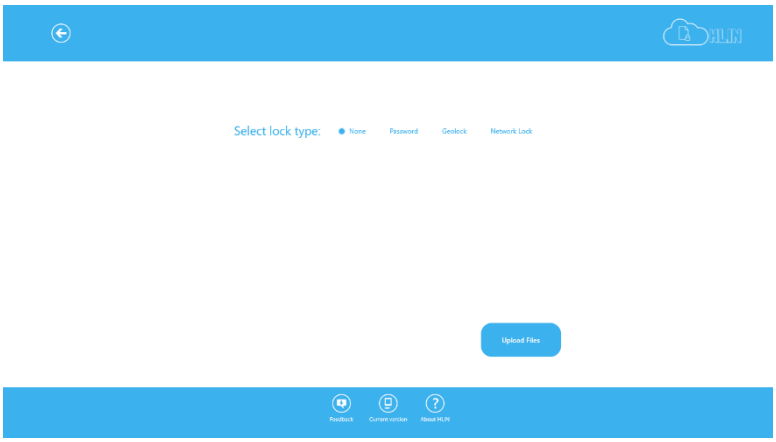

Figure 6: HLIN Windows – None view

5. **Access Key view**
   It is used to show the generated access key for the file which user uploaded.

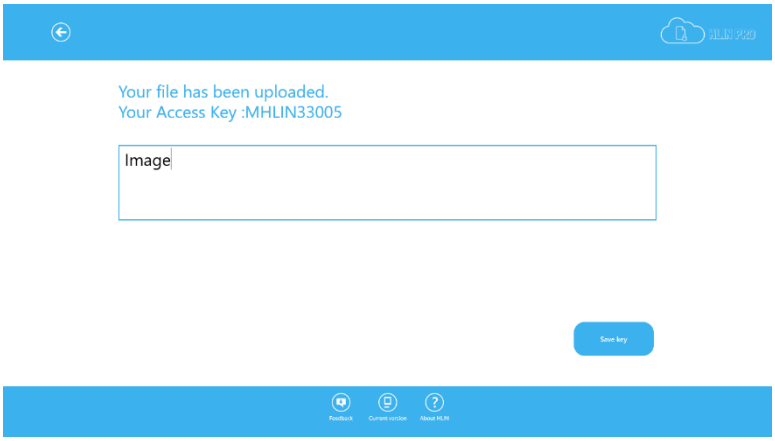

Figure 7: HLIN Windows – Access key view

Class diagram

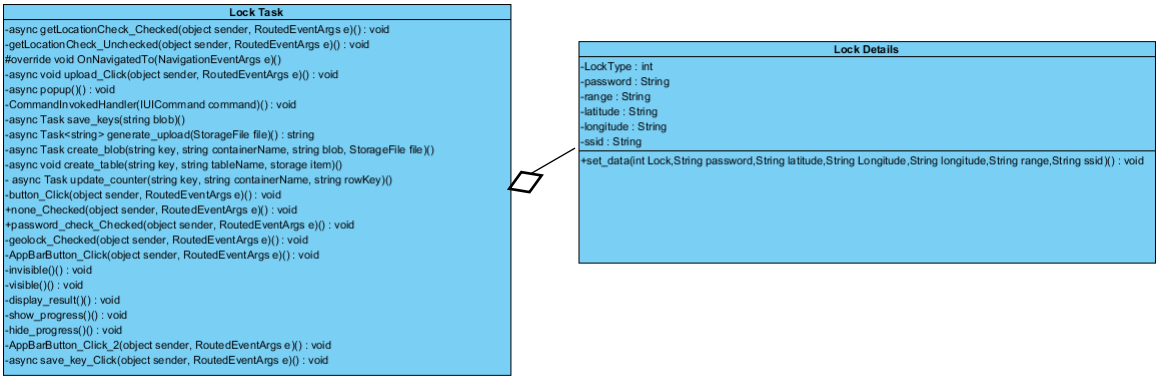

Figure 8: HLIN Windows app – Lock Interface Class diagram

4 Receive Interface

Receive interface consist of two UI different view under one UI which changes when user enters the access key (Normal receive view and another view for password as it requires password field to be entered while downloading if access key mentions a file which is password lock protected).

1. Normal view

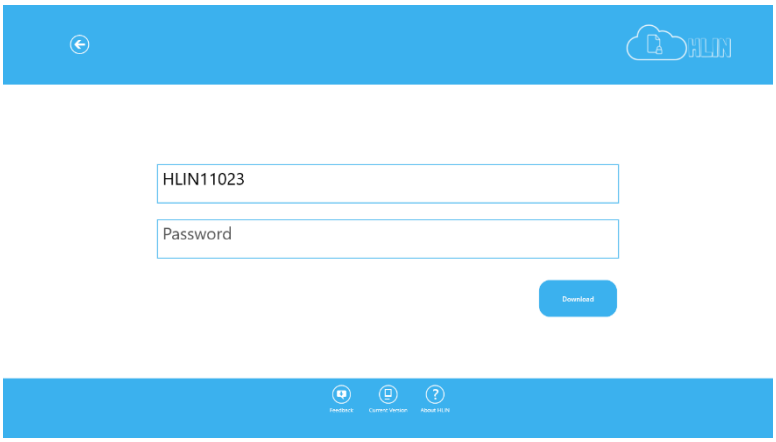

Figure 9: HLIN Windows app – Normal view

2. Password view

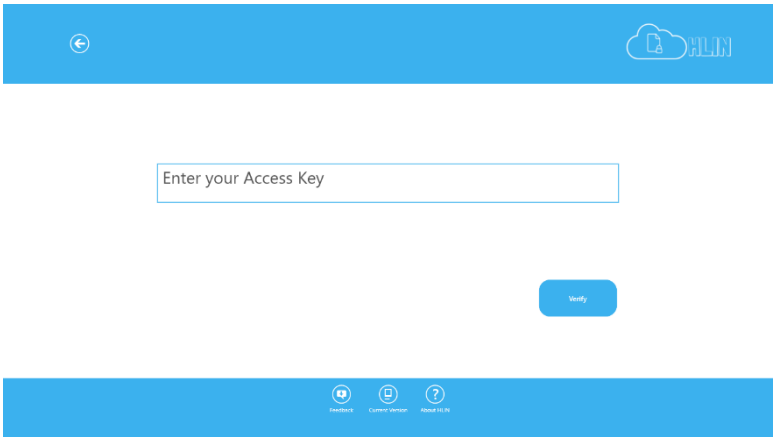

Figure 10: HLIN Windows app – Password view

Class diagram

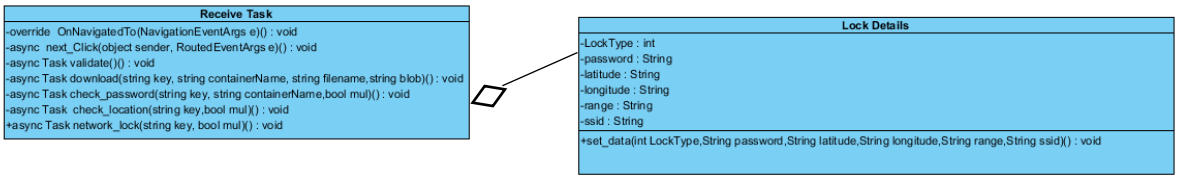

Figure 11: HLIN Windows app – Receive interface class diagram

5 Saved keys Interface

Saved keys interface consist of all the access key which points to the file which user uploaded. Access key are stored locally.

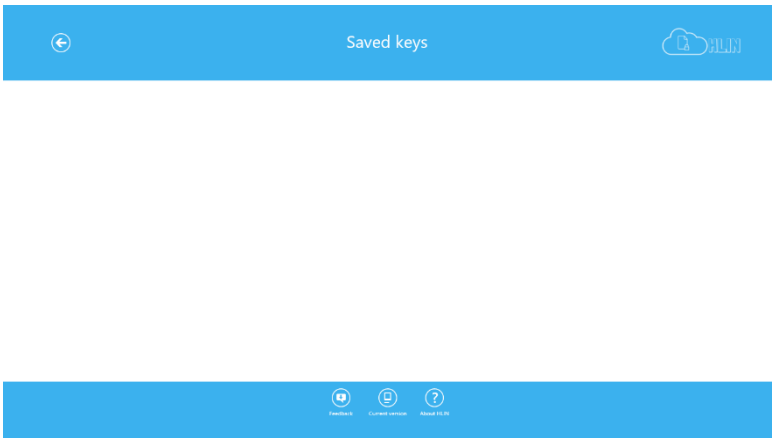

Figure 12: HLIN Windows app – Saved Keys view

Class diagram

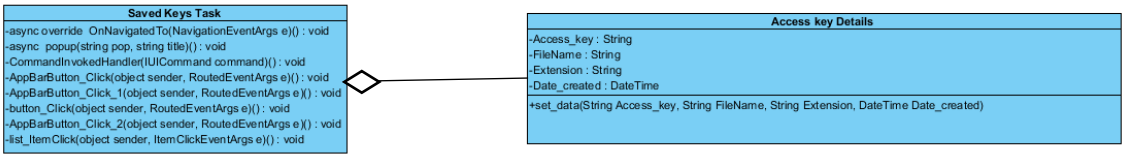

Figure 13: HLIN Windows app – Saved keys Interface class diagram

6 Feedback Interface

Feedback interface will allow user to report the error or bug or malfunction they face by taking a screenshot and reporting on this.

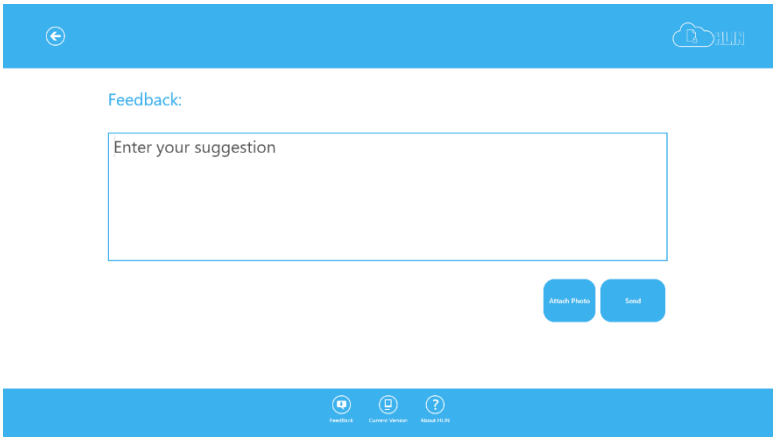

Figure 14: HLIN Windows app – Feedback view

Class diagram

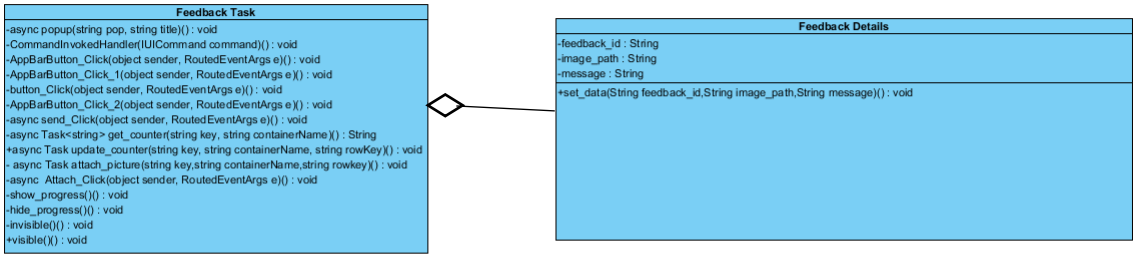

Figure 15: HLIN Windows app – Feedback interface Class diagram

7 Data Storage

All the files are stored on Microsoft cloud called AZURE by BLOB and the lock settings for the file is stored in unstructured table called Azure table (Table structure changes depending on the lock details given)

8 References

NONE