

# COP290

## Assignment 2 : MyDropbox

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### 1 Introduction

In this assignment we are asked to create an online file storage application, MyDropbox, which should support file-sharing and file history.

### 2 Technologies Used

Language : C++  
UI : QT Creator  
Network : Sockets, SSL  
Database : SQLite

### 3 Structure

The application is divided into four main parts : Main(main.cpp), GUI(window.cpp, ), Network(client.cpp, server.cpp), Database(data.cpp) with some common files. Main function first creates UI and

### 4 Database

### 5 User Interface

For user interface we are using QT Creator. The application starts with a login window. User enters his username and password and is directed to his home page where he can see all his files and folders. User can perform following tasks on any file/folder:

- Upload
- Download
- Copy/Move

- Share with other users
- Delete
- View file history
- View file access permissions

## 6 File Storage Method

A file is stored in blocks of S bytes. Each block has a number associated with it. Additionally, a list is maintained each node of which contains:

- Pointer to a block
- Hash values of that block

To generate complete file, traverse the list and append the data blocks till the end of the list.

## 7 Version Control System (VCS)

To maintain different versions of a file we use following procedure:

I. Check for file in database

Case 1: File with that name is not already present : the file is uploaded and a new entry with that filename is added to the database.

Case 2: File with that name is already present : For each

## 8 Networking

Socket programming will be used for establishing connection between two machines. Transmission Control Protocol(TCP) is by default used in the communication.

### 8.1 File Transfer

All the file transfer is done through sockets with Secure Sockets Layer.