Report

Project Overview:

The project implementation allows authorized clients to access their emails and folders on dropbox.
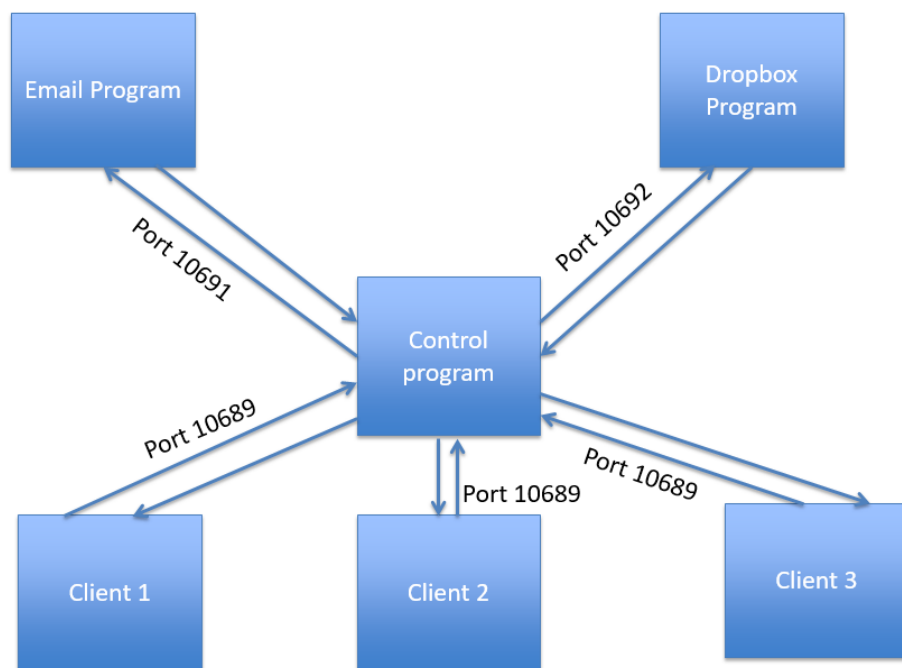
The control program checks for authenticity of the users and functions as an interface between the clients and the email and dropbox programs.

The user management program maintains a database of authorized users and performs authentication checks on users.

The email program maintains the mailbox of the user including Inbox and Compose functionalities.

The dropbox program maintains the user's files and folders including functionalities create directory, list and transfer functionalities.

Clients can use these functionalities by following the prompts from control program and using commands in specified format.

User guide for the project:

1. This project requires a 5 or more terminals to achieve the desired functionality. The five terminals include Control program(port 10689), User management program(port 10690), Email program(port 10691), Dropbox program(port 10692) and atleast one client.
2. All the commands must be entered as prompted on the client terminal i.e begin with upper case letter followed by lower case letters.
3. The implementation considers only the following users and credentials as authorized:

User number	Username	Password
1	deepak	deepak
2	deepika	deepika
3	pooja	pooja

4. Client can exit the program at any point of time by entering a "Quit" on the client terminal.
5. Any unexpected command will be treated as invalid input by the programs.
6. The commands for email program are:
   - Inbox
   - Compose
   - Open <number>
   - Delete <number>
7. The commands for dropbox program are:
   - List
   - Make directory <dirname>
   - Delete <dirname> <filename>
   - Transfer <filename>
8. The user will be notified if any of the servers are unavailable at any point of time.
9. A "Quit" entered as username or password is considered as invalid input.
10. If the user enters username or password more than 10 characters in length, the programs allows upto 5 attempts to enter valid username or password. If maximum number of re-attempts is reached, the program closes the client connection.
11. All special characters entered by the user are considered as invalid throughout the program.

Project limitations:

1. The set up using only IPv4 addresses.
2. The username and password can be upto 10 characters in length.
3. The program does not allow new users to register.
4. The program does not allow direct navigation between email and dropbox programs.
5. Maximum length of message in email is limited to 2000 character, subject is 100 characters.

Contributions:

1. Pooja Burly Prakash : control program, creating database in user management and control program functionality in user management.
2. Fnu Deepak Ramadass: Email Program and verify_users in user management and unit tests.
3. Deepika Rajarajan: Dropbox program and verification of users in user management.