Made by: Kaykhosrow Hasany 0998409, Davinci Lisapaly 0991018

How the application functions (User manual in next section)

The idea is that the application is split into different categories which gives the sense of an application in real world (Domain Driven Design). The divisions in the categories are based on the requirements from the assignment.

Category "Domains" interacts with "Services" and feeds it with necessary functions. Domain itself receives some additional checks and assistance from Enum, Encryption and Records in order to be equipped with powerful functions to be provided to Services. It also serves "View" with permissions.

Category Services interacts with "Repositories" and feeds it with entries from various users of the application. The entries are validated by interacting with "Domain" before being send to the Repository. It interacts with "View" as well. All, what View is allowed to display, are governed by Services.

As mentioned, category "Repository" interacts with "Services", and then sends queries to the "Database". It receives assistance from Encryptions and Records to make sure that queries are encrypted and are delivered by valid users.

Category "Views" is served by Services, Repository and Enum. It then provides information to the User interface to eventually be displayed on the console.

Startup defines configurations and dependencies for Services and Repositories. in Startup Services and Repositories are added when is needed.

Main initializes Startup, View, Services and Database. From that point the application starts to function.

Furthermore, all requirement that are related to a specific user such as Advisor or Sysadmin are defined in Services under the name of the user. For instance, Service/AdvisorService.py shows functionalities concerning Advisor, and the same applies to all Services. From here, all inputs by user are send to Repository which then queries and connects to the database.

In addition, all functions in View/MainView.py come from Services and Permission which then will go through the User interface and therefore are displayed on the console. In Enum folder, permissions are initially defined according to the level of permissions that are composed in the requirements which are then inherited by domains in Domain folder. The permissions and which user has the permission are defined in the database. For example, Domain/SysAdmin.py has some specific permissions that are more than advisors and less than Super admin. The permissions are based per domain functionality. With one higher level access permission defined with one number and lower level permission further defined after the first digit of number.
Example: If the user has the higher access permission ManageAdvisor = 4, he automatically also has the permission UpdateAdvisor = 401.

When certain actions are done, the action will check if the user has the permission.

There are some additional files in some folders which are designed as a sort of helper to assist another functionality. Moreover, there is a folder named Helper which contains Encryption.py, and this helps all encryptions occur in different levels throughout the application.

User Manual

1- Run the application with python CDMS.py in CDMS-SourceFiles

2- Menu: Choose 1 for log in, choose 0 for log out.
3- Logging in with username = 'superadmin' and password= Admin!23, which are hardcoded, gives a new menu with 16 enumerated functionalities.
4- By selecting any of the numbers in the list, it will further assist you, in a very easy way, what you need to do in order to accomplish it by showing you a message or providing a list if needed.
5- If you are logged in as Advisor, Update password for advisor will update your own password. If you are logged in as Sys Admin, Update admin password will update your own password and update advisor password will request for an username and the password belonging to that user will be reset and returned. When you are logged in as super amin, update advisor password and update system admin password will request for an username and will reset the password belonging to that username.
6- In case of any wrong input, it shows you a message to let you know that you made a mistake. Then you should start it over by selecting the same number from the menu list.
7- The same applies to other users such as system administrators and advisors. The only difference is that for Sys admin there are 13 numbers in the list and for advisors only 5 according to the requirements of the assignment.