

**DOCUMENT MANAGEMENT**

**APPLICATION**

**Software Design Document**

– Ho Chi Minh, May 2022 –

**Table of Contents**

[I. Overview 3](#_Toc26442)

[1. Code Packages 3](#_Toc7265)

[2. Database Schema 4](#_Toc438)

[II. Code Designs 5](#_Toc13271)

[1. Authentication/Log in 5](#_Toc26441)

[a. Class Diagram 5](#_Toc24290)

[b. Class Specifications 5](#_Toc13301)

[c. Sequence Diagram(s) 5](#_Toc27667)

[d. Database queries 6](#_Toc7400)

[2. Authentication/Registration 6](#_Toc16717)

[a. Class Diagram 6](#_Toc10267)

[b. Class Specifications 6](#_Toc19884)

[c. Sequence Diagram(s) 6](#_Toc3389)

[d. Database Queries 6](#_Toc17202)

[3. Authentication/Forgot Password 6](#_Toc29449)

[a. Class Diagram 6](#_Toc8015)

[b. Class Specifications 6](#_Toc5199)

[c. Sequence Diagram(s) 6](#_Toc68)

[d. Database Queries 6](#_Toc29237)

[4. Authentication/Log out 7](#_Toc30438)

[a. Class Diagram 7](#_Toc9587)

[b. Class Specifications 7](#_Toc16220)

[c. Sequence Diagram(s) 7](#_Toc11938)

[d. Database Queries 7](#_Toc24765)

[5. System Handler/Send Email 7](#_Toc26070)

[a. Class Diagram 7](#_Toc29377)

[b. Class Specifications 7](#_Toc27664)

[c. Sequence Diagram(s) 7](#_Toc483)

[d. Database Queries 7](#_Toc21846)

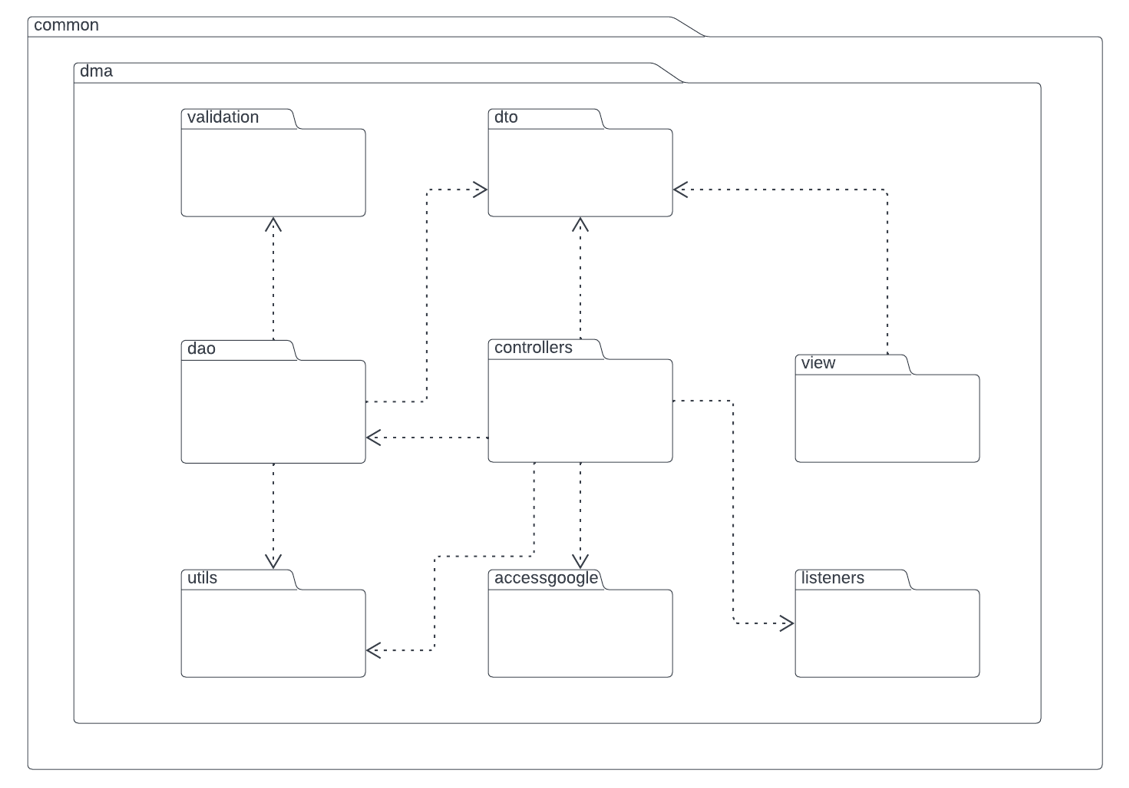
[III. Database Tables 7](#_Toc3494)

[1. <Table name 1> 7](#_Toc14448)

[2. <Table name 2…> 7](#_Toc14804)

# Overview

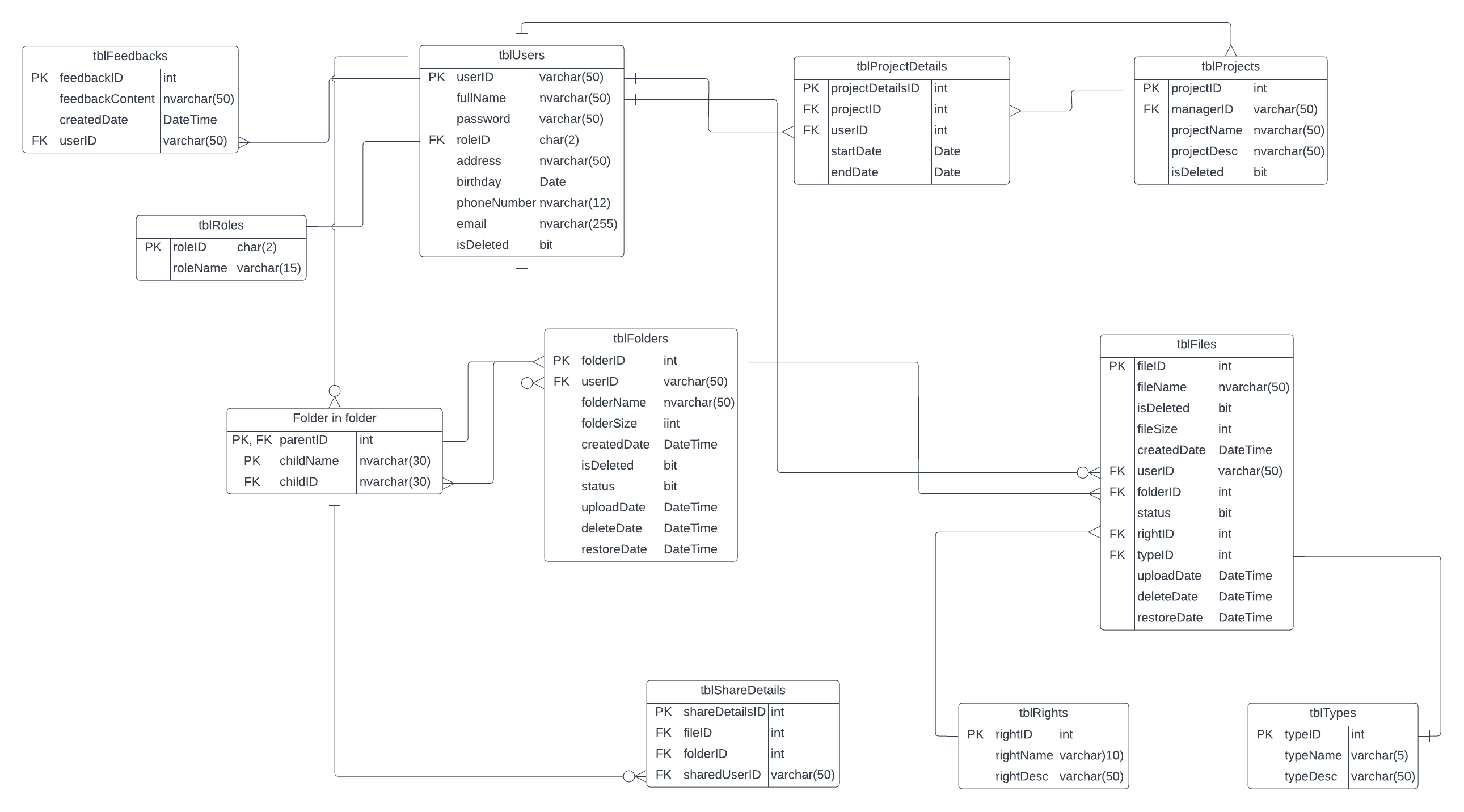
## Code Packages



**Package descriptions & package class naming conventions**

|  |  |  |
| --- | --- | --- |
| **No** | **Package** | **Description** |
| 01 | com | This package contains all the source folders  Naming convention: com |
| 02 | dma | This package contains folders of all classes and functions  Naming convention: com.dma |
| 03 | validation | This package contains static classes for validating data  Naming convention: com.dma.validation |
| 04 | dto | This package contains classes of all the data transfer objects  Naming convention: com.dma.dto |
| 05 | dao | This package contains classes all the data access objects  Naming convention: com.dma.dao |
| 06 | controllers | This package contains classes for controller in app  Naming convention: com.dma.controllers |
| 07 | view | This package contains jsp files for UI  Naming convention: com.dma.view |
| 08 | utils | This package contains static classes for common functions  Naming convention: com.dma.utils |
| 09 | accessgoogle | This package contains classes for accessing your Google account  Naming convention: com.dma.accessgoogle |
| 10 | listener | This package contains class for writing Log file  Naming convention: com.dma.listener |

## Database Schema



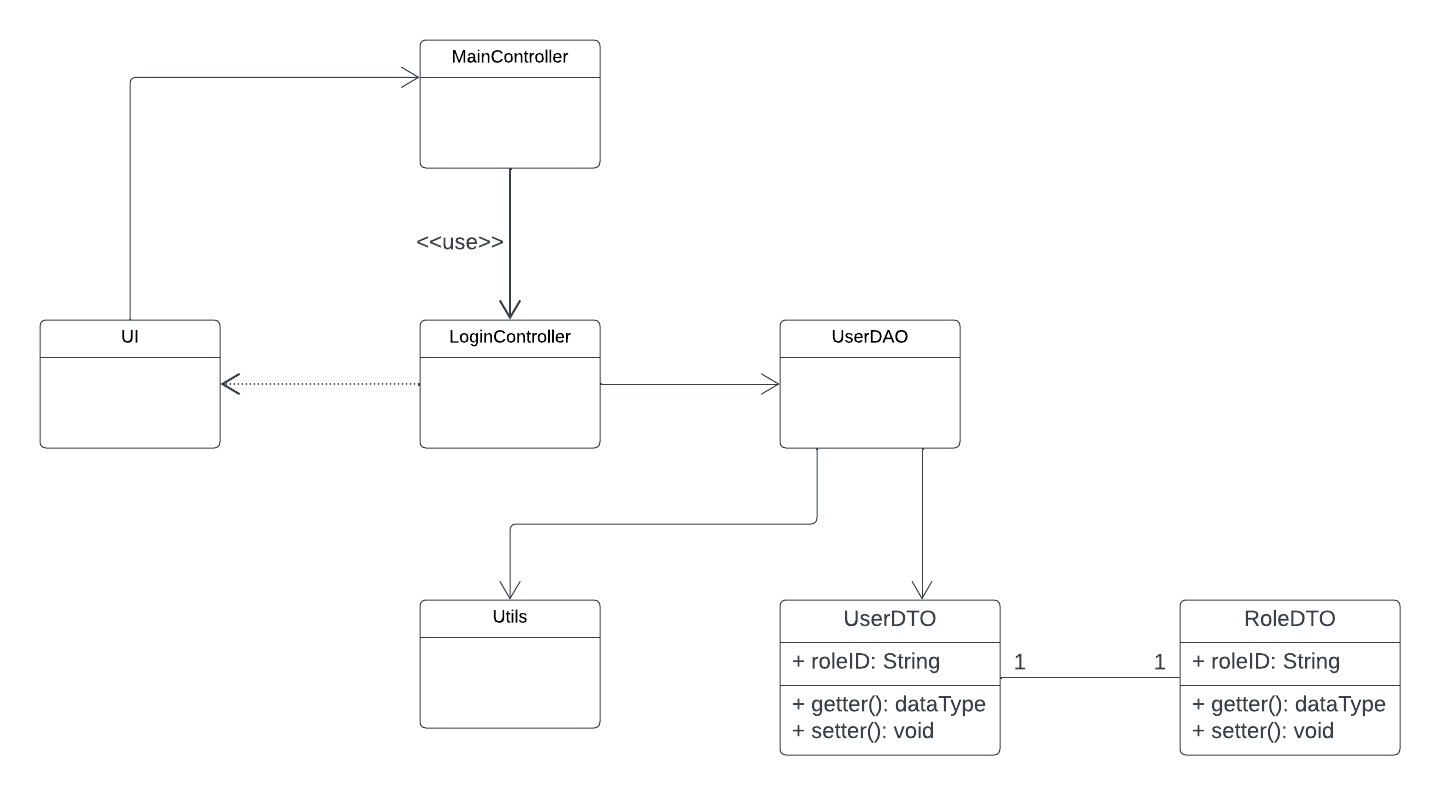
**Table descriptions & package class naming conventions are as below**

|  |  |  |
| --- | --- | --- |
| **No** | **Table** | **Description** |
| 01 | tblUsers | This table contains all users that have registered  Primary key: userID  Foreign key: roleID |
| 02 | tblProjects | This table contains all projects that have been created  Primary key: projectID  Foreign key: managerID |
| 03 | tblRoles | This table contains all roles which are assigned to users  Primary key: roleID |
| 04 | tblFeedbacks | This table contains all feedback messages which have been sent by users  Primary key: feedbackID  Foreign key: userID |
| 05 | tblProjectDetails | This table demonstrates the details of all the projects  Primary key: projectDetailsID  Foreign key: projectID, userID |
| 06 | tblFolders | This table contains all folders that have been stored or uploaded by users  Primary key: folderID  Foreign key: userID |
| 07 | TblFiles | This table contains all files that have been stored or uploaded by users  Primary key: fileID  Foreign key: userID, folderID, typeID, rightID |
| 08 | tblRights | This table contains all rights that a folder or file has  Primary key: rightID |
| 09 | tblTypes | This table contains all types of a file  Primary key: typeID |
| 10 | tblFolderDetails | This table demonstrate the details of all folders  Primary key: folderDetailsID  Foreign key: parentID, childID |
| 11 | tblShareDetails | This table demonstrates which folders or files are shared to others users  Primary key: shareDetailsID  Foreign key: fileID, folderID, userID |

# Code Designs

## Authentication/Log in

### Class Diagram



### Class Specifications

#### UserDAO Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | checkLogin() | Call database to check user id and password. If user id and password are existed, return an object userDTO. |

#### LoginController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Receive user id and password from UI. Call function checkLogin(). If user id, password are existed, and if role is user, redirect to Home Page. If user id, password are existed, and if role is admin, redirect to Admin Page. |

### Database queries

"SELECT userID, fullName, password, roleID"

+ ", address, birthday, phoneNumber, email, isDeleted"

+ " FROM tblUsers "

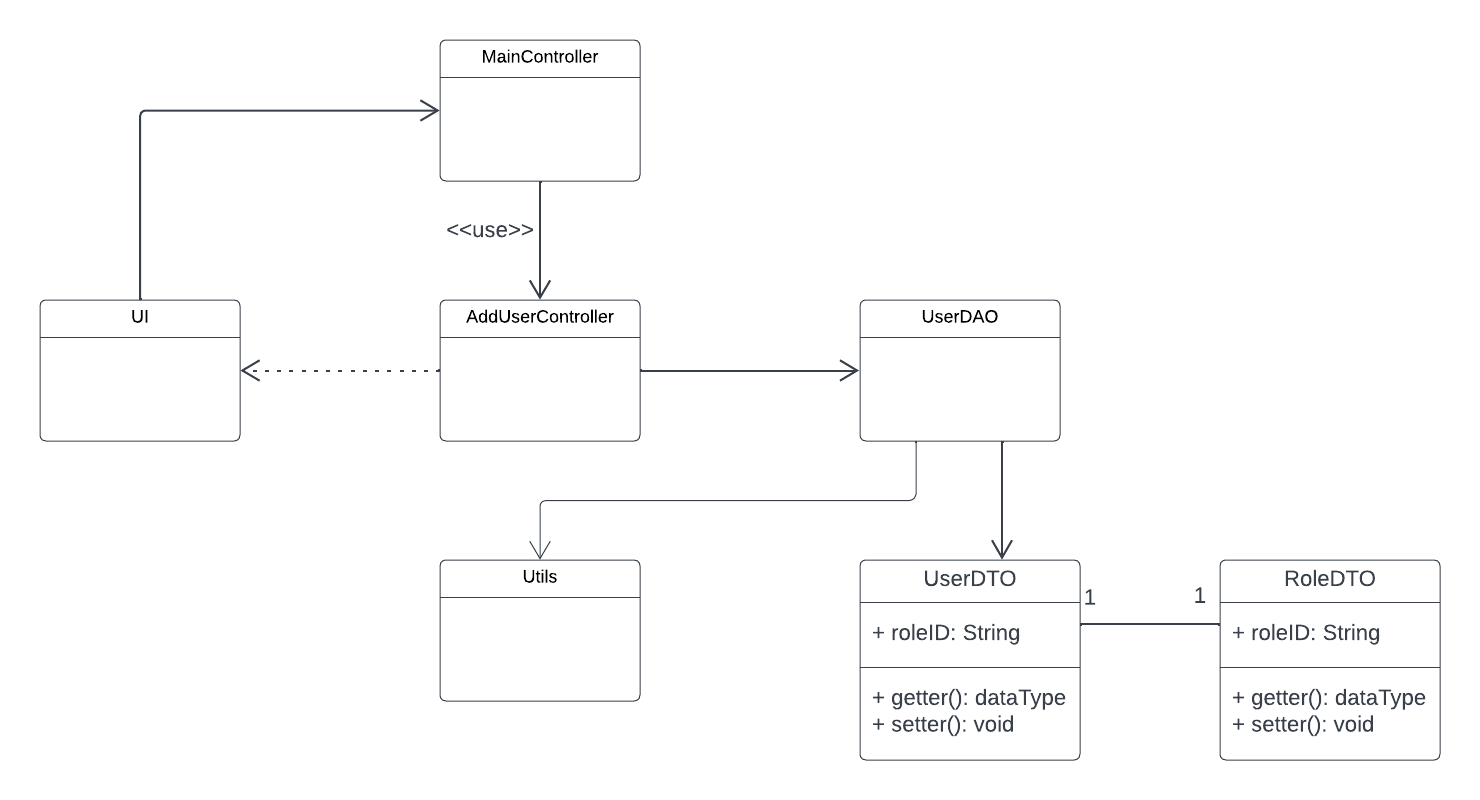
+ "WHERE userID = ? "

+ "AND password = ? "

+ "AND isDeleted = 0";

## Authentication/Registration

### Class Diagram

****

### Class Specifications

#### UserDAO Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | createUser() | Call database to insert a new account to database. |
| 02 | checkUserExisted() | Call database to check user id is existed or not. |
| 03 | isDeleted() | Call database to check account is deleted or not. |
| 04 | checkEmailExisted | Call database to check email is deleted or not. |

#### AddUserController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Receive data from UI.  Call function checkUserExisted() and isDeleted().Check validation of data and show error in UI.  Call function createUser(). If success, show notification and redirect to Login Page. If fail, show error, notification, and let user enter data again. |

#### Validation Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | isValidEmail () | Validation the input |
| 02 | isValidPhoneNumber () | Validation the input |
| 03 | isValidUserID () | Validation the input |
| 04 | isValidPassword() | Validation the input |

### Database Queries

"SELECT email FROM tblUsers "

+ "WHERE email=?";

"SELECT userID FROM tblUsers "

+ "WHERE userID=?";

"SELECT isDeleted FROM tblUsers "

+ "WHERE userID = ? "

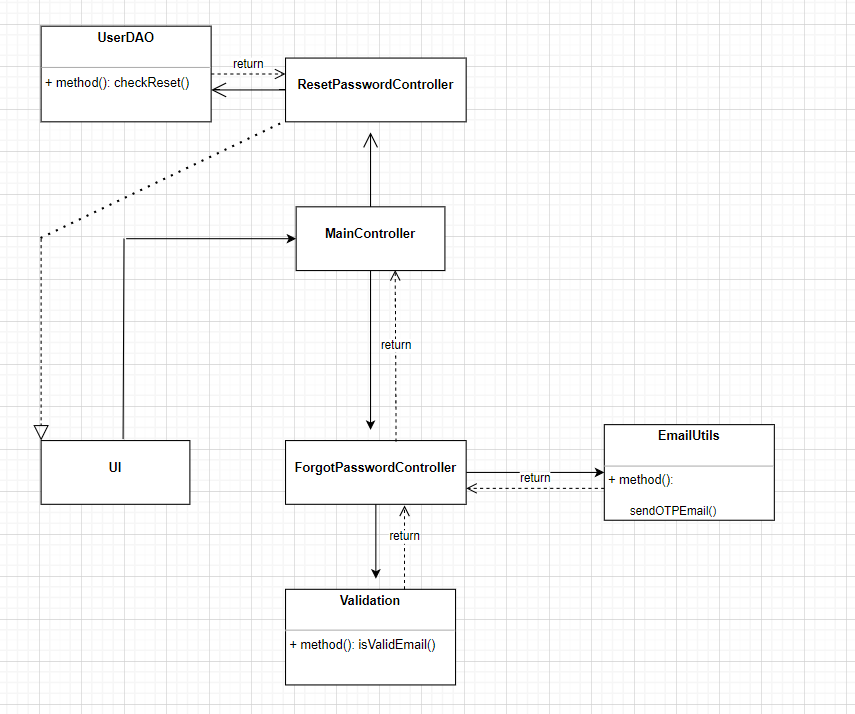
+ "OR email = ?";

"SELECT userID FROM tblUsers "

+ "WHERE userID=?";

## Authentication/Forgot Password

### Class Diagram:



### Class Specifications

#### Validation Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | isValidEmail() | Validation the input |

#### EmailUtils Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | sendOTPEmail() | Send OTP to email |

#### ForgotPasswordController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Receive data from UI.  Call function isValidEmail ().  Call function sendOTPEmail(). If success, redirect to Enter OTP Page. If fail, show error and let user input again. |

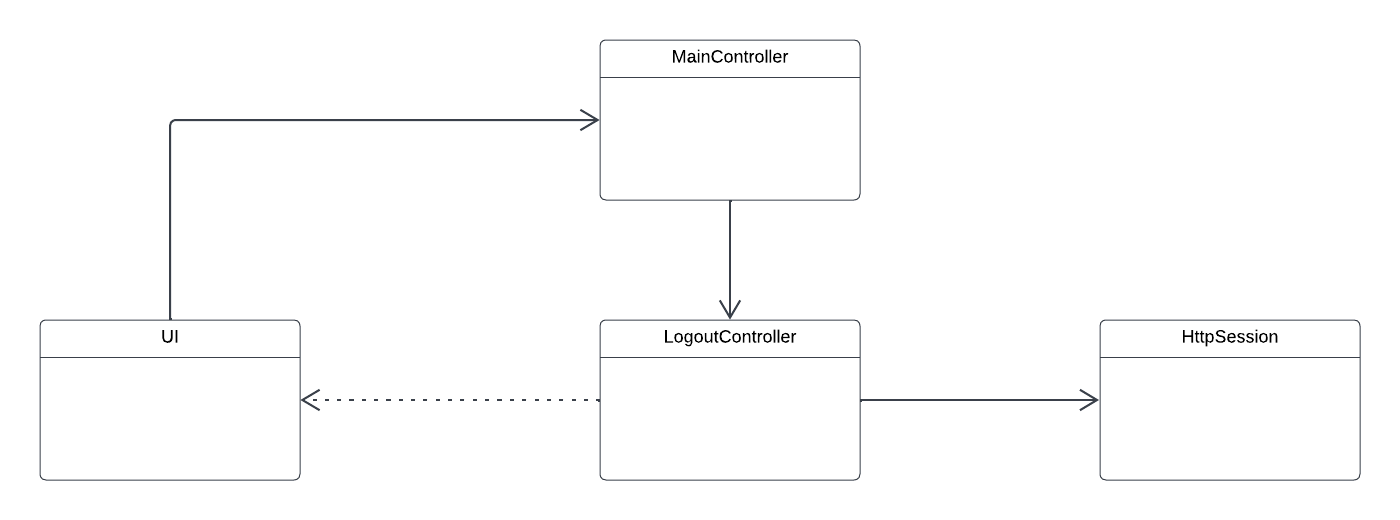
#### ValidateOTPController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Receive data from UI.  Compare OTP in input and OTP in mail. If success, redirect to Enter New Password Page. If fail, show error and let user input again. |

### Database Queries

## Authentication/Log out

### Class Diagram

****

### Class Specifications

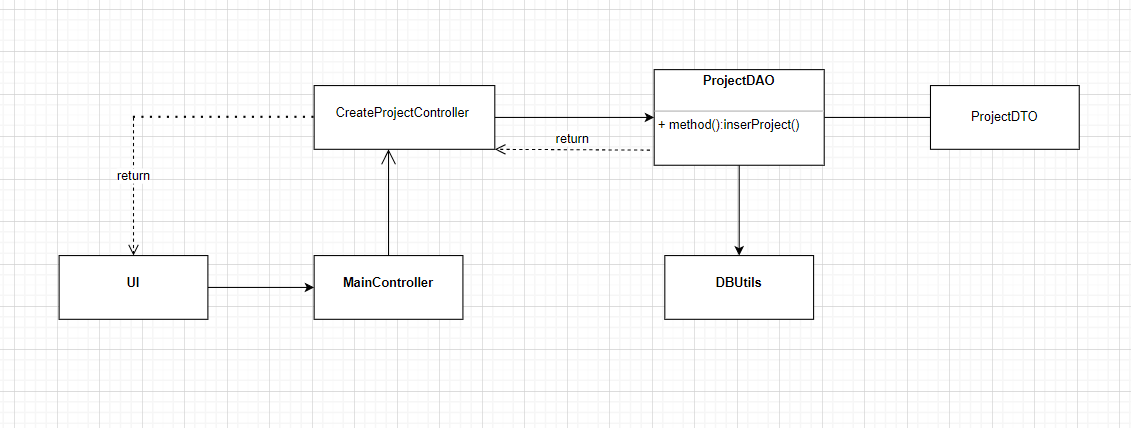
#### LogoutController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Invalidate session that contain user info. Redirect to Login Page |

### Database Queries

## Project Management/Create Project

### Class Diagram



### Class Specifications

#### CreateProjectController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Get data from request session. Call insertProject (). If success, show notification. If fail, show error. |

#### ProjectDAO Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | insertProject () | Call database to insert a new account. |

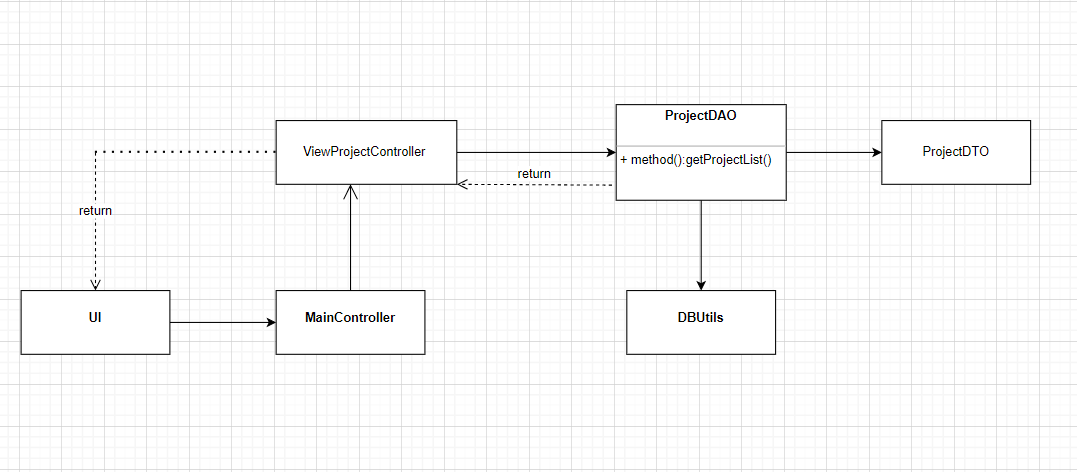
### Database Queries

"insert dbo.Projects(projectName,projectDesc,createdDate,isDeleted)\n"

+ "values(?,?,?,?)"

## Project Management/View Project List

### Class Diagram



### Class Specifications

#### ProjectDAO Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | getProjectList() | Users allow to see all the projects . All the information parameters will be sent to the “ViewProjectController” to handle. |

#### ViewProjectController Class

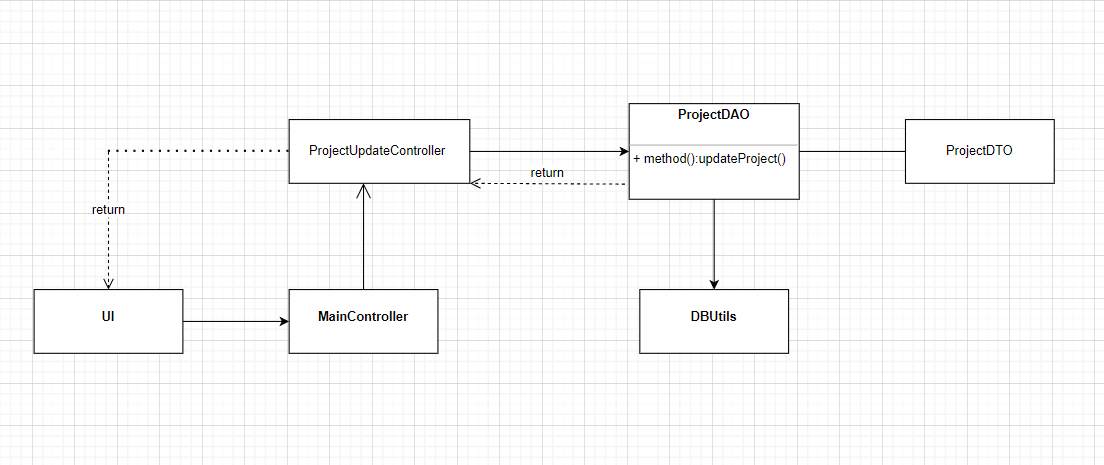
|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | doGet() | Dispatcher project list to show. |

### Database Queries

**"select project\_id,projectName,projectDesc,createdDate from Projects "**

## Project Management/Update Project

### Class Diagram



### Class Specifications

#### ProjectDAO Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | updateProject() | Call database top update selected project. |

#### ProjectUpdateController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() |  |

### Database Queries

"update tblProjects\n"

+ "set projectName=?,\n"

+ "projectDesc=?,\n"

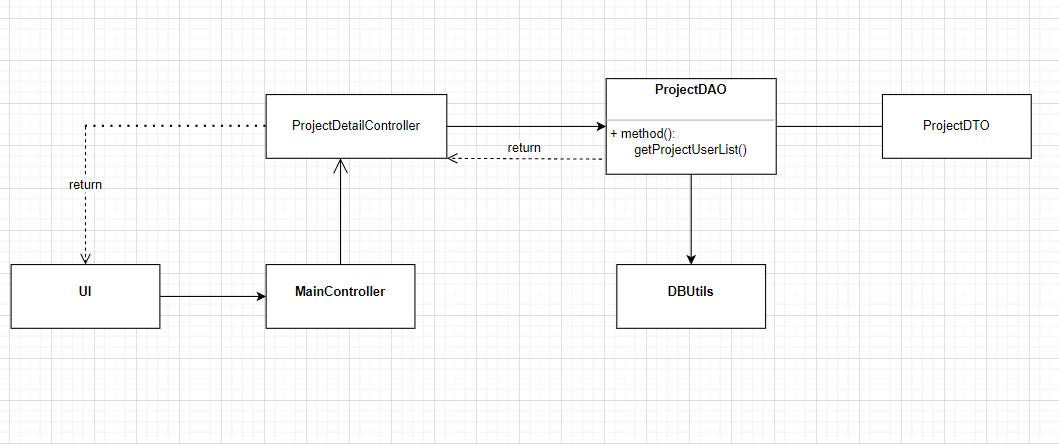
+ "startProjectDate=?,\n"

+ "endProjectDate=?\n"

+ "where project\_id=?"

## Project Management/ Project Detail

### Class Diagram



### Class Specifications

#### ProjectDAO Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | getProjectUserList () | Call database to get project details by user id. |

#### ProjectDetailController Class

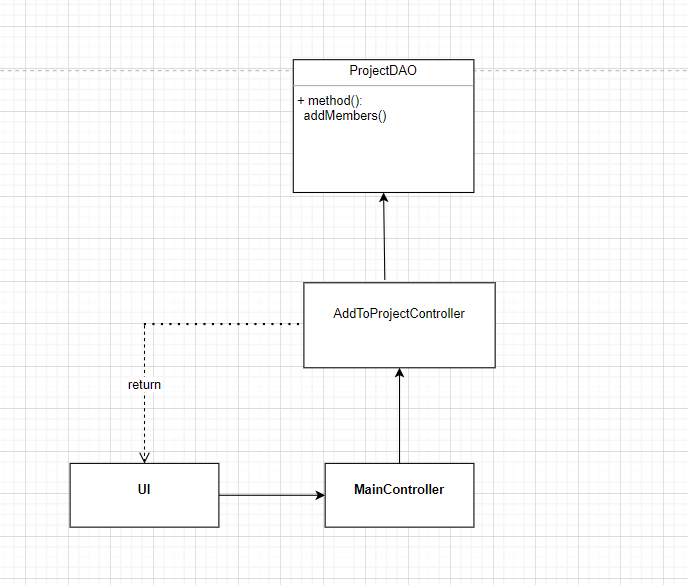
|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Get user id from request scope. Call function getProjectUserList (). Redirect to Project Details Page. |

### Database Queries

"select user\_id,startDate,endDate from tblMembership where project\_id=?"

## Project Management/ Add members to project

### Class Diagram



### Class Specifications

#### ProjectDAO Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | addMembers() | Add member to project. |

#### AddToProjectController Class

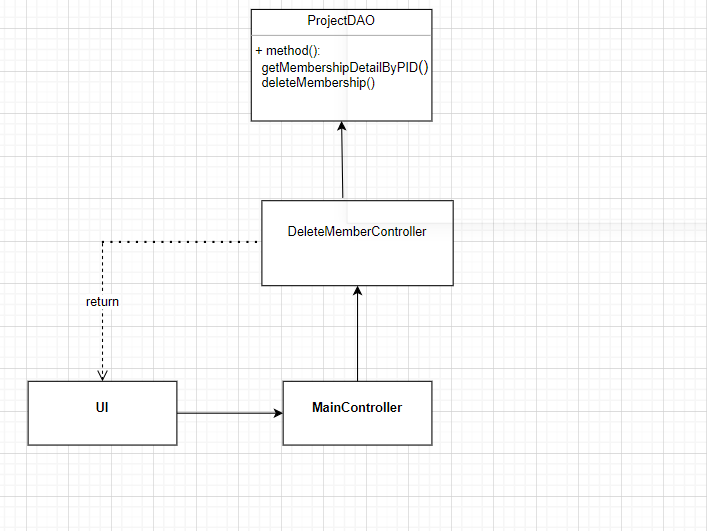
|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Call function addMembers(). Redirect to "searchUsers.jsp". |

### Database Queries

"SELECT \* FROM tblMembership WHERE user\_id = ? and project\_id=?;"

## Project Management / Disable members in project

### Class Diagram



### Class Specifications

#### ProjectDAO Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | getMembershipDetailByPID() | Get member detail by projectID. |
| 02 | deleteMembership() | Delete member. |

#### DeleteMemberController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Call function getMembershipDetailByPID() and deleteMembership(). Redirect to "projectDetail.jsp". |

### Database Queries

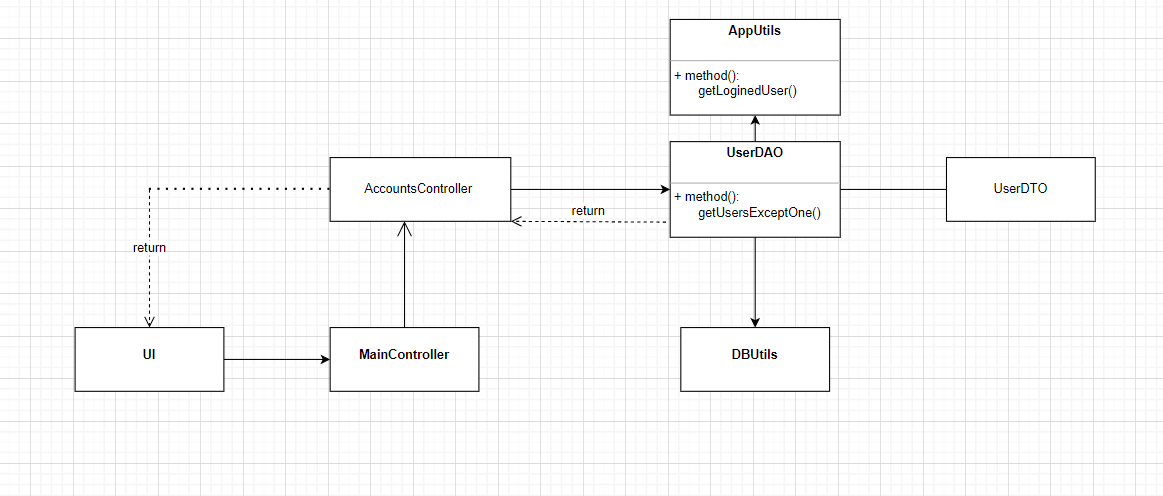
"update tblMembership\n"

+ "set endDate=?\n"

+ "where user\_id=?"

## Account Management / View account list

### Class Diagram



### Class Specifications

#### AccountsController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Call function getLoginedUser() to get current user in session scope. Then call getUsersExceptOne() to get all user except current user login. |

#### AppUtils Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | getLoginedUser() | Get current user login. |

#### UserDAO Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | getUsersExceptOne () | Call database to get all user except current user login. |

### Database Queries

"SELECT userID, fullName, password, roleID, address, birthday, "

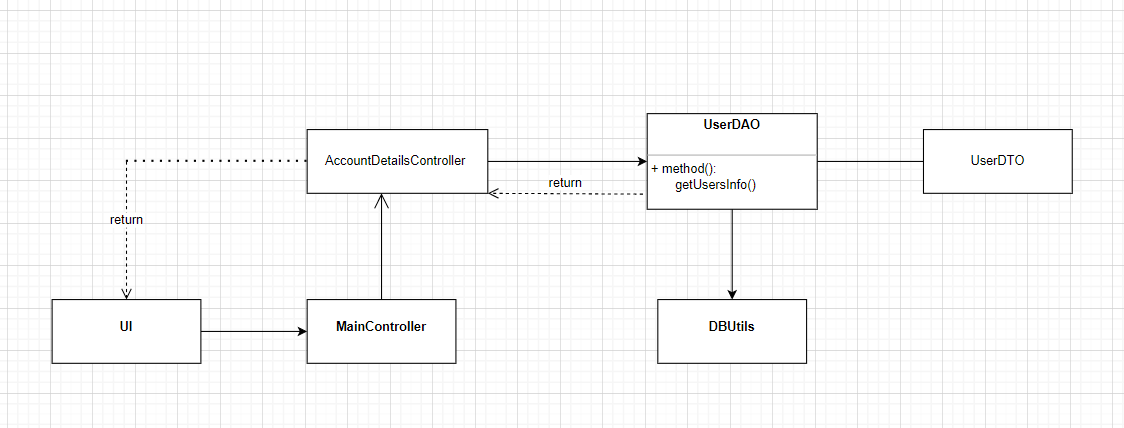
+ "phoneNumber, email, isDeleted "

+ "FROM tblUsers "

+ "WHERE userID <> ?";

## Account Management / View user profile

### Class Diagram



### Class Specifications

#### AccountDetailsController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Get user id from request scope. Call function getUserInfo()to get all information of user. Redirect to Edit Account Page. |

#### UserDAO Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | getUserInfo () | Call database to get all information of user by user id. |

### Database Queries

"SELECT fullName, password, roleID, address, birthday, "

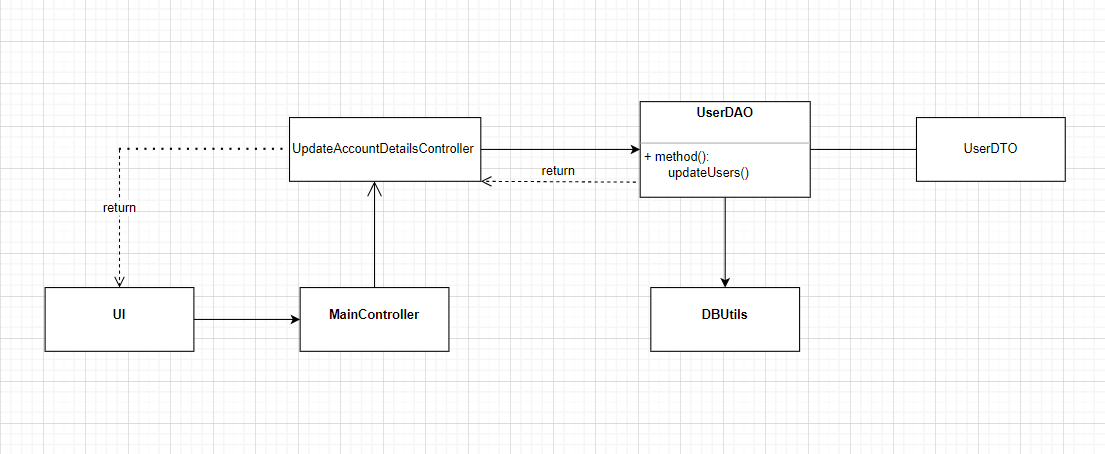
+ "phoneNumber, email, isDeleted "

+ "FROM tblUsers "

+ "WHERE userID=?";

## Account Management / Update account

### Class Diagram



### Class Specifications

#### UpdateAccountDetailsController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Get data from request scope and check validation. Call function  updateUser() to update all information of user. Show notification if success, show error and let user input again if fail. |

#### UserDAO Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | updateUser() | Call database to update all information of user. |

### Database Queries

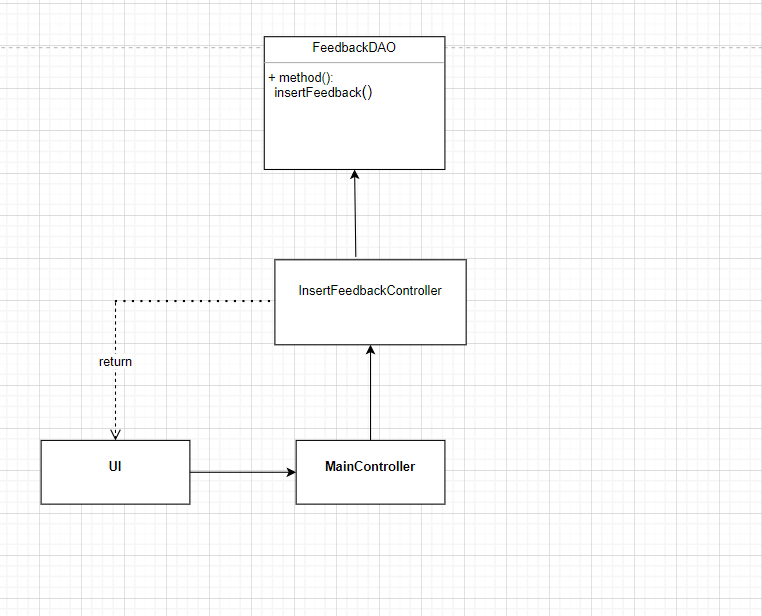
"UPDATE tblUsers SET fullName=?,roleID=?,password=?,address=?"

+ ",birthday=?,phoneNumber=?,email=? "

+ "WHERE userID=?";

## Account Management / Send feedback with role ‘user’

### Class Diagram



### Class Specifications

#### InsertFeedbackController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Call insertFeedback(). Redirect to “feedback.jsp”. |

#### FeedbackDAO Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | insertFeedback() | Add feedback of a file. |

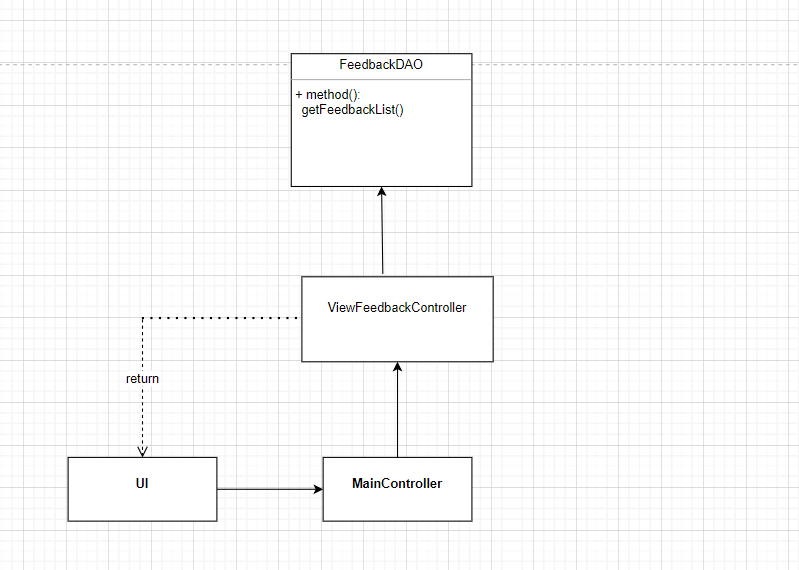
### Database Queries

"insert into dbo.tblFeedbacks(user\_id,subject,details,[option],created\_date)\n"

+ "values(?,?,?,?,?)"

## Account Management / View feedback list with role ‘admin’

### Class Diagram



### Class Specifications

#### ViewFeedbackController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Call getFeedbackList(). Redirect to “viewFeedback.jsp”. |

#### FeedbackDAO Class

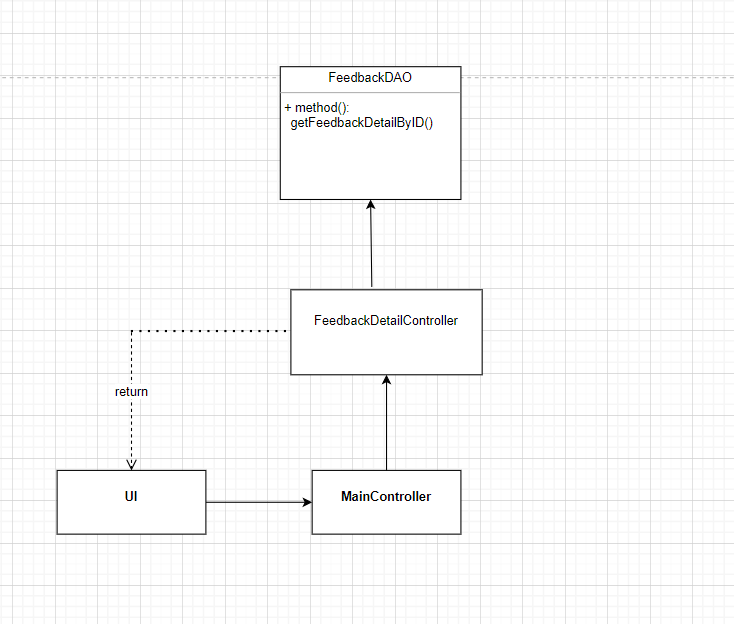
|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | getFeedbackList() | Get feedback lists. |

### Database Queries

"select feedback\_id,user\_id,subject,details,[option],created\_date from tblFeedbacks "

## Account Management / View feedback details with role ‘admin’

## Class Diagram



### Class Specifications

#### FeedbackDetailController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Call getFeedbackDetailByID(). Redirect to “feedbackDetail.jsp”. |

#### FeedbackDAO Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | getFeedbackDetailByID() | Get feedback details by feedbackID. |

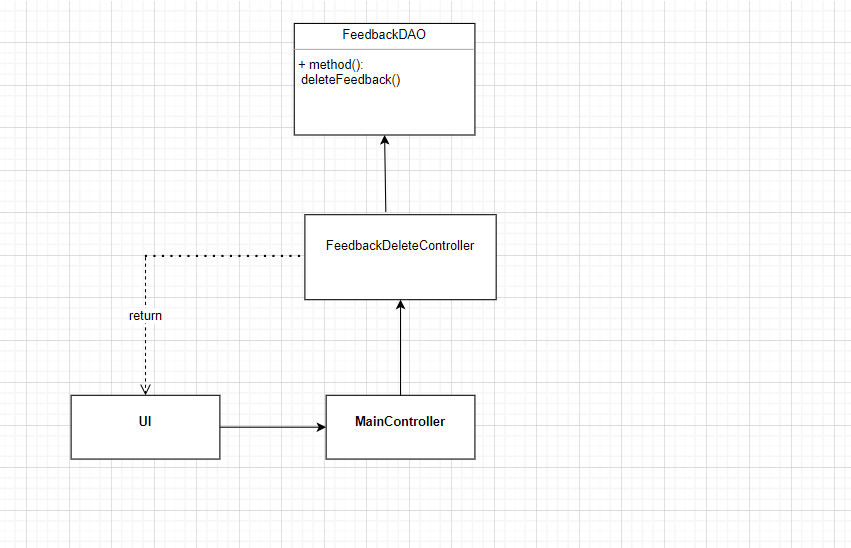
### Database Queries

"select \*from tblFeedbacks \n"

+ "where feedback\_id=?"

## Account Management / Delete feedback with role ‘admin’

### Class Diagram



### Class Specifications

#### FeedbackDeleteController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Call deleteFeedback(). Redirect to “viewFeedback.jsp”. |

#### FeedbackDAO Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | deleteFeedback() | Delete a feedback. |

### Database Queries

"delete from tblFeedbacks\n"

+ "where feedback\_id=?"

## Account Management / Disable account

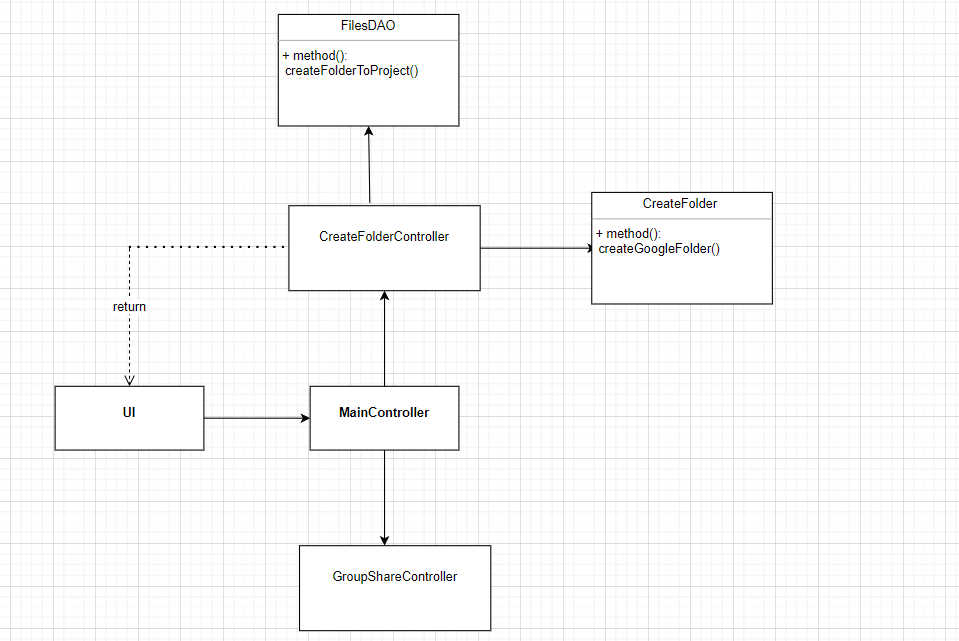
### Class Diagram

### Class Specifications

### Database Queries

## Folder Management / Create folder

### Class Diagram



### Class Specifications

#### CreateFolderController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Call function createFolderToProject(). Redirect to GroupShareController. |

#### FilesDAO Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | createFolderToProject() | Insert folder to project. |

#### CreateFolder Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | createGoogleFolder() | Insert a new folder. |

### Database Queries

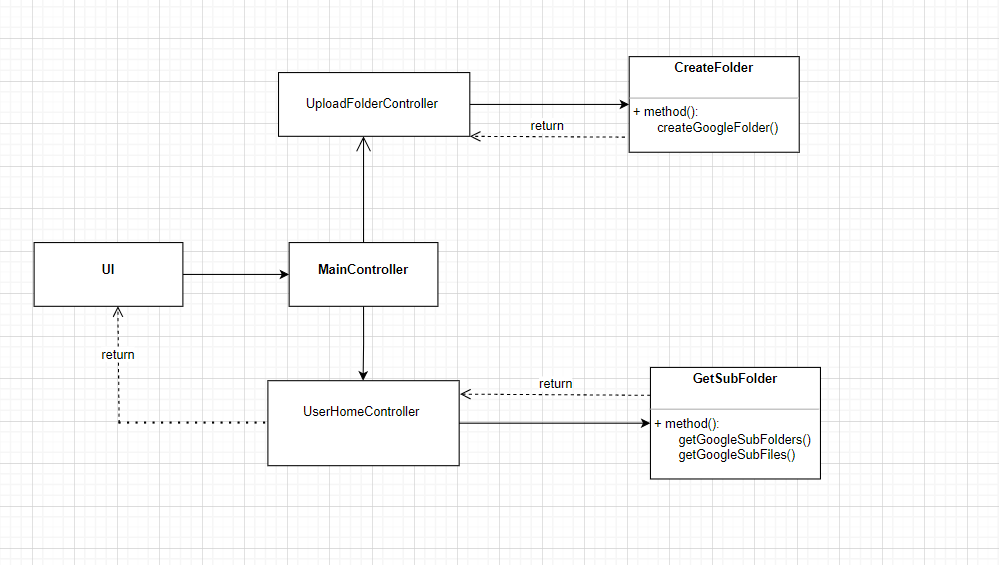
"INSERT INTO FolderInFolder(projectId, parentFolderId, childFolderId, childFolderName) "

+ "VALUES(?,?,?,?) "

+ "INSERT INTO Folders(folderId) VALUES (?)"

## Folder Management / Upload folder

### Class Diagram



### Class Specifications

#### UploadFolderController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Call createGoogleFolder(). Redirect to UserHomeController. |

#### GetSubFolders Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | getGoogleSubFolders() | Get sub folders. |
| 02 | getGoogleSubFiles  () | Get sub files. |

#### UserHomeController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Get data from request scope. Call function getGoogleSubFolders() and getGoogleSubFiles(). Redirect to index.jsp. |

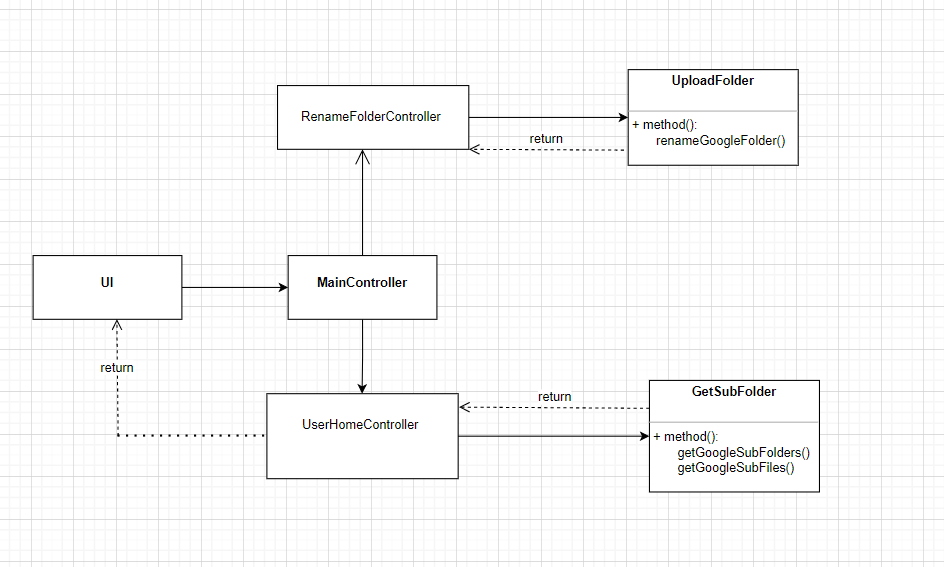
#### CreateFolder Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | createGoogleFolder() | Insert a new folder. |

### Database Queries

## Folder Management / Rename folder

### Class Diagram



### Class Specifications

#### RenameFolderController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Get data from request scope. Call function renameGoogleFile(). Redirect to UserHomeController. |

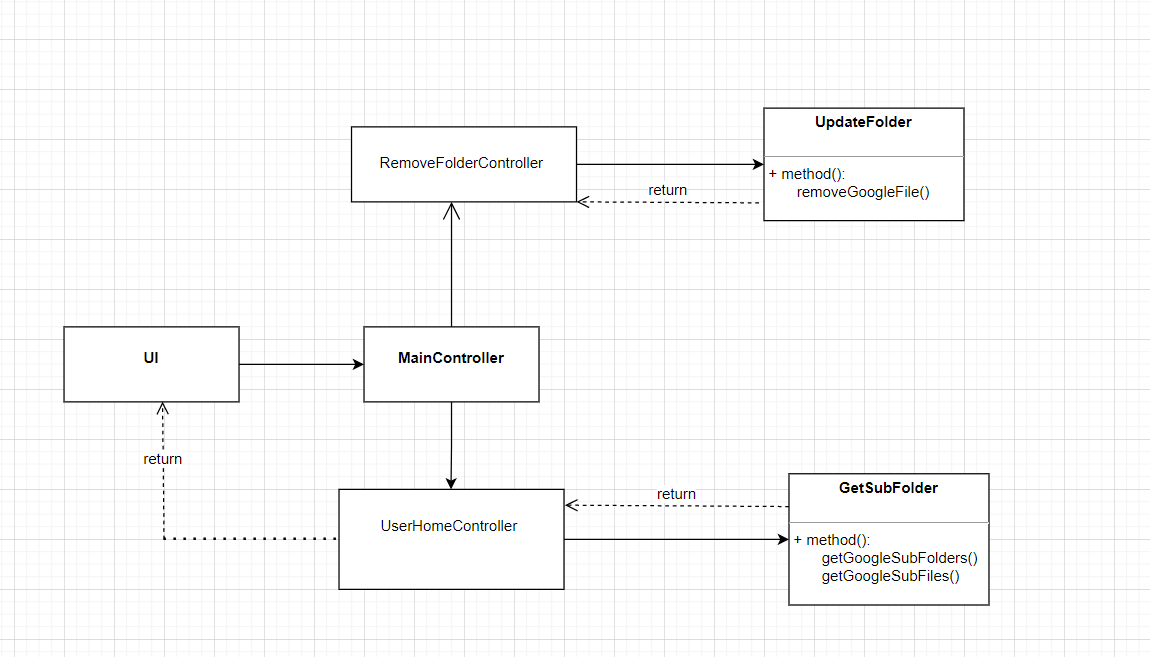
#### UploadFolder Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | renameGoogleFile () |  |

### Database Queries

## Folder Management / Remove folder

### Class Diagram



### Class Specifications

#### RemoveFolderController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Get data from request scope. Call function removeGoogleFile(). Redirect to UserHomeController. |

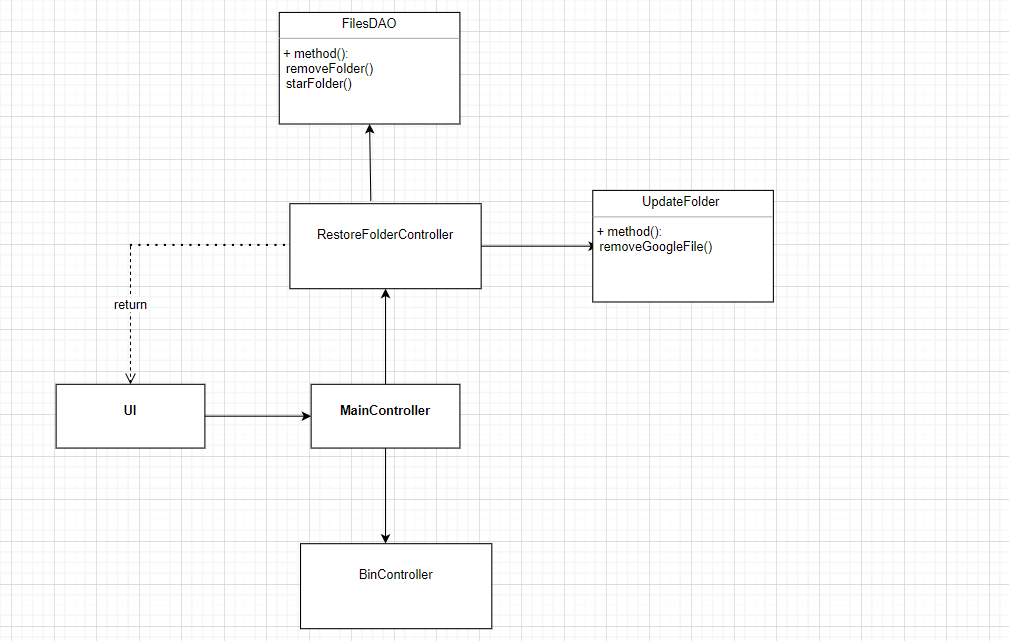
#### UpdateFolder Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | removeGoogleFile () |  |

### Database Queries

## Folder Management / Restore folder

### Class Diagram



### Class Specifications

#### RestoreFolderController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Get data from request scope. Call function removeGoogleFile(), removeFolder() and starFolder(). Redirect to BinController. |

#### UpdateFolder Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | removeGoogleFile() |  |

#### FilesDAO Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | removeFolder() |  |
| 02 | starFolder() |  |

### Database Queries

"UPDATE Folders SET trashed=? "

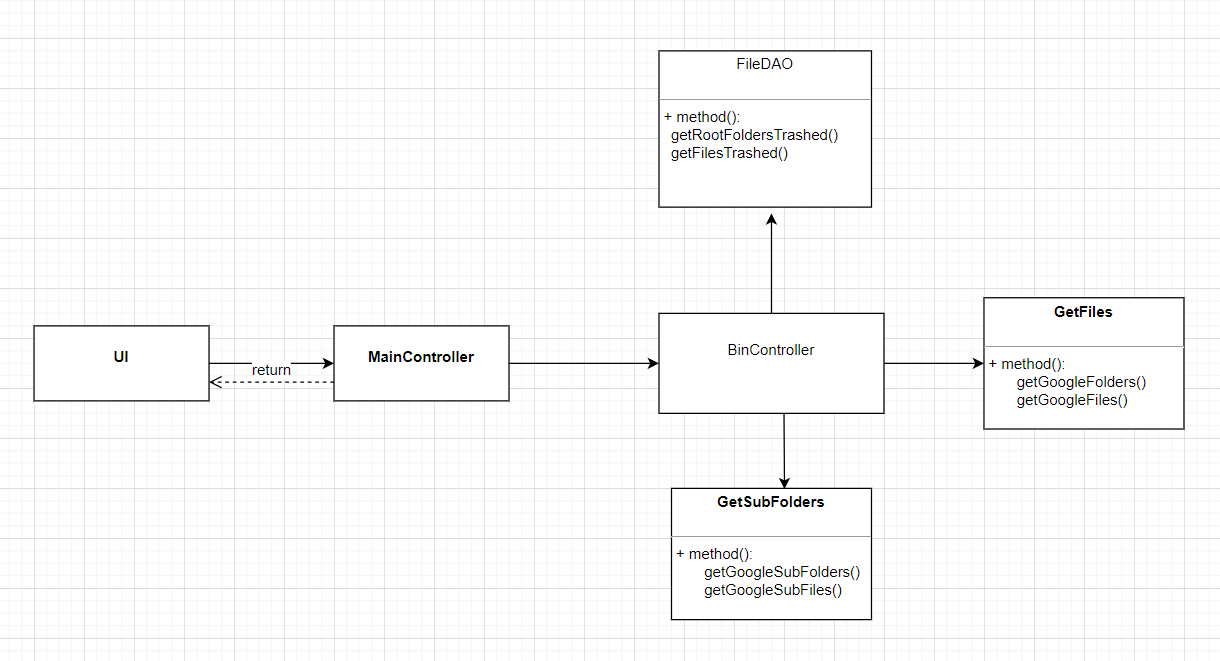
+ "WHERE folderId=?"

"UPDATE Folders SET starred=? "

+ "WHERE folderId=?"

## File Management / View delete history

### Class Diagram



### Class Specifications

#### FilesDAO Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | getRootFoldersTrashed() | Get trash folders. |
| 02 | getFilesTrashed() | Get trash files. |

#### GetFiles Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | getGoogleFolders() | Get all folders by folderID. |
| 02 | getGoogleFiles() | Get all files by fileID. |

#### GetSubFolders Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | getGoogleSubFolders() | Get sub folders. |
| 02 | getGoogleSubFiles() | Get sub files. |

#### BinController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Get files, folders in bin. |

### Database Queries

"SELECT childFolderId, childFolderName

FROM FolderInFolder

WHERE projectId=?

AND parentFolderId=? AND childFolderId IN (

SELECT folderId

FROM Folders

WHERE trashed=?

)";

"SELECT childFileId

FROM FileInFolder

WHERE projectId=?

AND childFileId IN (

SELECT fileId

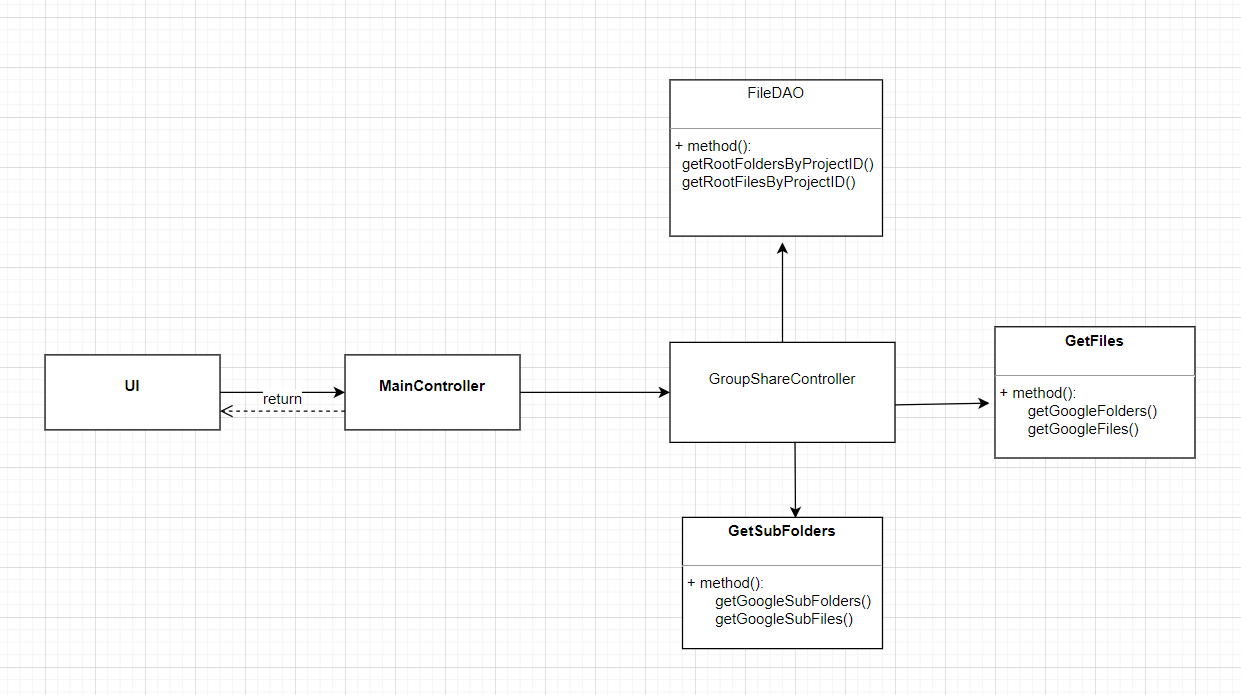
FROM Files

WHERE trashed=?

)";

## File Management / View files list

### Class Diagram



### Class Specifications

#### GroupShareController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Get files and folders in project. |

#### FileDAO Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | getRootFoldersByProjectID() | Get folders by projectID. |
| 02 | getRootFilesByProjectID() | Get files by projectID. |

#### GetFiles Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | getGoogleFolders() | Get all folders by folderID. |
| 02 | getGoogleFiles() | Get all files by fileID. |

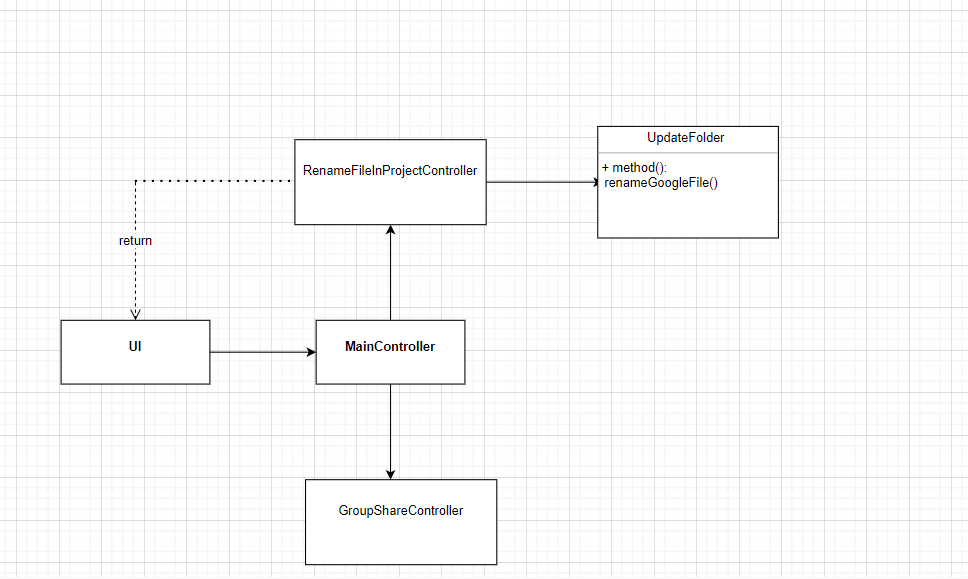
#### GetSubFolders Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | getGoogleSubFolders() | Get sub folders. |
| 02 | getGoogleSubFiles() | Get sub files. |

### Database Queries

## File Management / Rename file in project

### Class Diagram



### Class Specifications

#### RenameFileInProjectController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Call function renameGoogleFile(). Redirect to GroupShareController. |

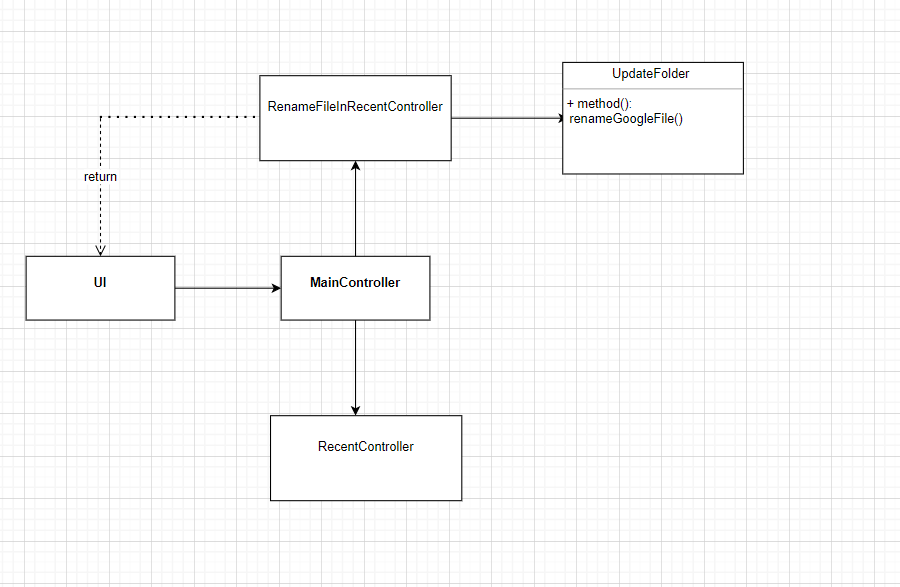
#### UpdateFolder Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | renameGoogleFile() | Rename file. |

### Database Queries

## File Management / Rename recent file

### Class Diagram



### Class Specifications

#### RenameFileInRecentController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Call function renameGoogleFile(). Redirect to RecentController. |

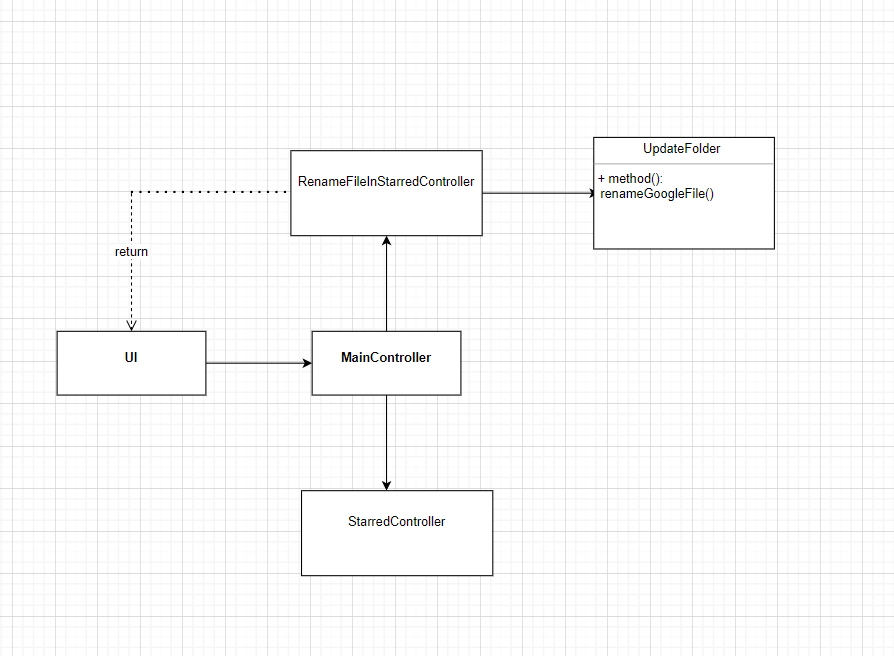
#### UpdateFolder Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | renameGoogleFile() | Rename file. |

### Database Queries

## File Management / Rename star file

### Class Diagram



### Class Specifications

#### RenameFileInStarredController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Call function renameGoogleFile(). Redirect to StarredController. |

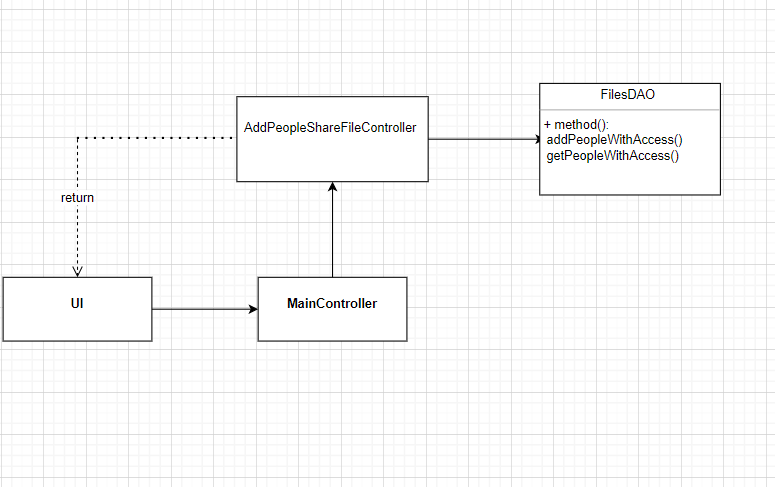
#### UpdateFolder Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | renameGoogleFile() | Rename file. |

### Database Queries

## File Management / Share file personal

### Class Diagram



### Class Specifications

#### AddPeopleShareFileController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Call function addPeopleWithAccess() and getPeopleWithAccess(). Redirect to”share.jsp”. |

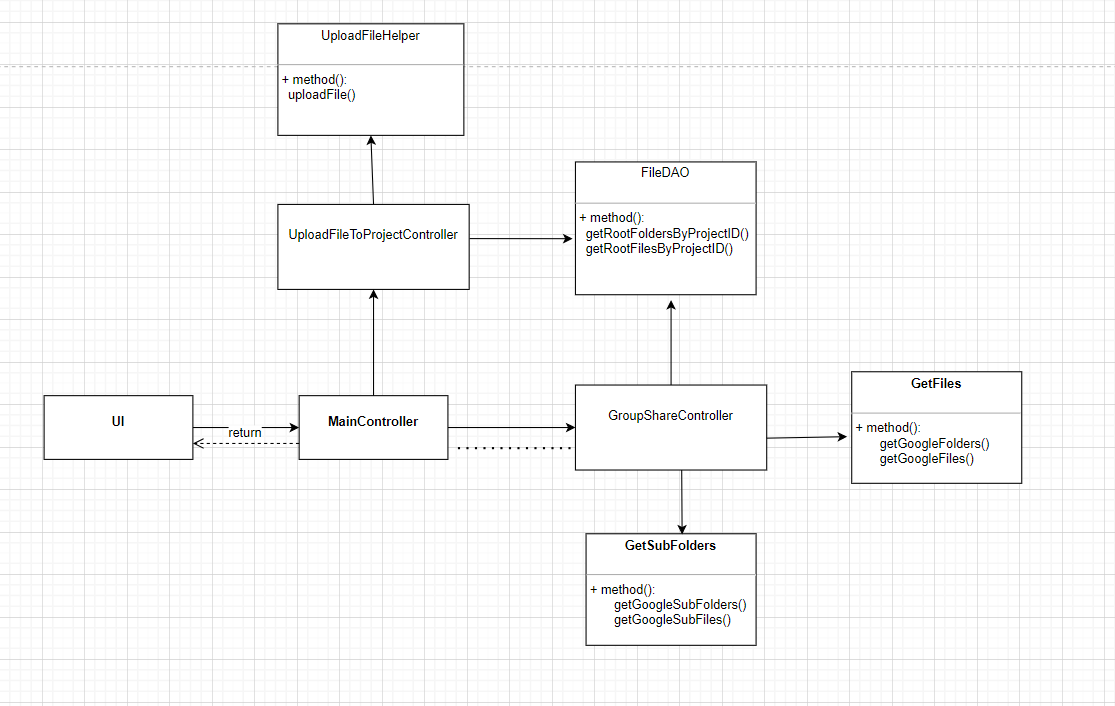
#### FilesDAO Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | addPeopleWithAccess() | Add people access to file. |
| 02 | getPeopleWithAccess() | Get people access to file. |

### Database Queries

## File Management / Upload file to project

### Class Diagram



### Class Specifications

#### UploadFileToProjectController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Upload files to project. |

#### GroupShareController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Get files and folders in project. |

#### FileDAO Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | addFileToProject() | Add files to project. |
| 02 | getRootFoldersByProjectID() | Get folders by projectID. |
| 03 | getRootFilesByProjectID() | Get files by projectID. |

#### UploadFileHelper Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | uploadFile() | Upload files |

#### GetFiles Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | getGoogleFolders() | Get all folders by folderID. |
| 02 | getGoogleFiles() | Get all files by fileID. |

#### GetSubFolders Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | getGoogleSubFolders() | Get sub folders. |
| 02 | getGoogleSubFiles() | Get sub files. |

### Database Queries

"INSERT INTO FileInFolder(projectId, parentFolderId, childFileId, childFileName) "

+ "VALUES(?,?,?,?) "

+ "INSERT INTO Files(fileId) VALUES (?)";

"SELECT childFolderId, childFolderName "

+ "FROM FolderInFolder "

+ "WHERE projectId=? AND parentFolderId=? "

+ "AND childFolderId IN ("

+ "SELECT folderId "

+ "FROM Folders "

+ "WHERE trashed=? OR trashed IS NULL"

+ ")";

"SELECT childFileId "

+ "FROM FileInFolder "

+ "WHERE projectId=? AND parentFolderId=? "

+ "AND childFileId IN ("

+ "SELECT fileId "

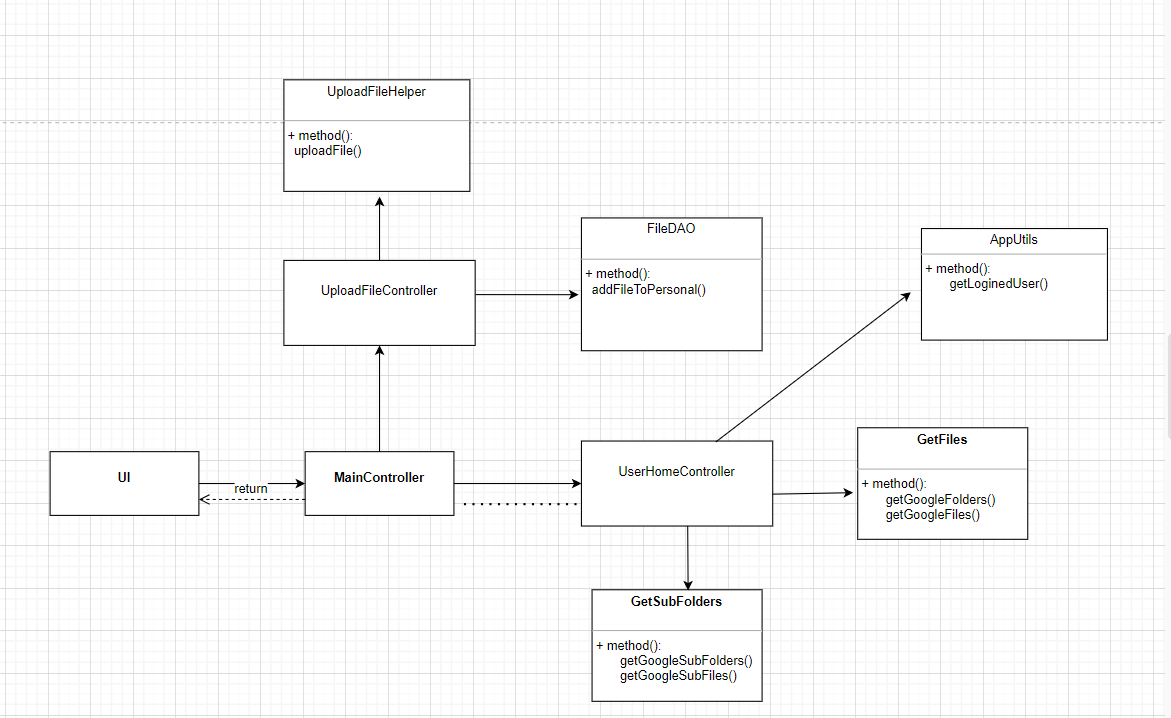
+ "FROM Files "

+ "WHERE trashed=? OR trashed IS NULL"

+ ")";

## File Management / Upload file to personal

### Class Diagram



### Class Specifications

#### UploadFileController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Upload files to personal. |

#### UserHomeController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Get files of user logined. |

#### FileDAO Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | addFileToPersonal() | Add files personal. |
| 02 | getRootFoldersByProjectID() | Get folders by projectID. |
| 03 | getRootFilesByProjectID() | Get files by projectID. |

#### UploadFileHelper Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | uploadFile() | Upload files personal. |

#### AppUtils Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | getLoginedUser() | Get logined user. |

#### GetFiles Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | getGoogleFolders() | Get all folders by folderID. |
| 02 | getGoogleFiles() | Get all files by fileID. |

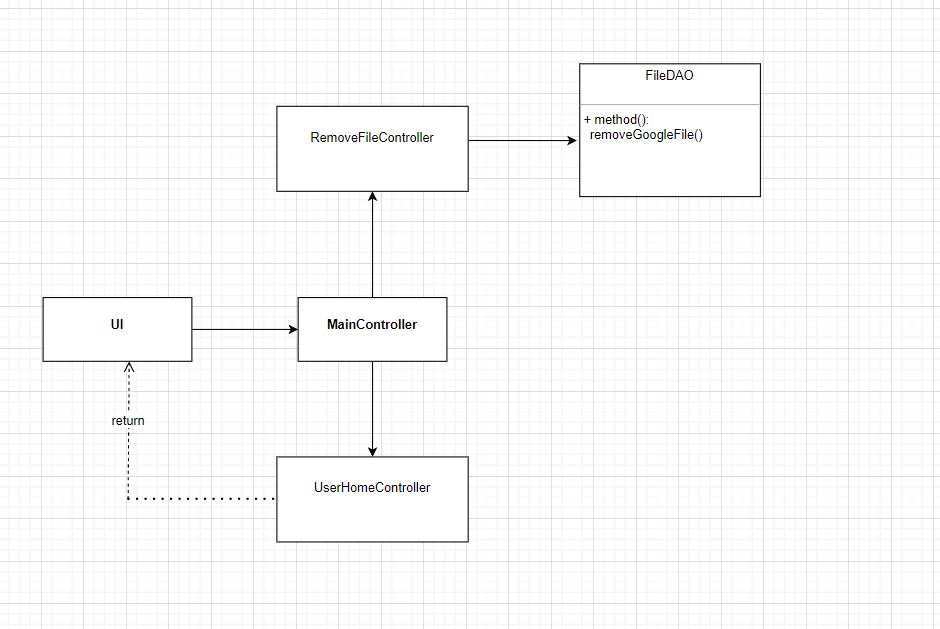
#### GetSubFolders Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | getGoogleSubFolders() | Get sub folders. |
| 02 | getGoogleSubFiles() | Get sub files. |

### Database Queries

## File Management / Remove file personal

### Class Diagram



### Class Specifications

#### RemoveFileController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Call removeGoogleFile(). Redirect to UserHomeController. |

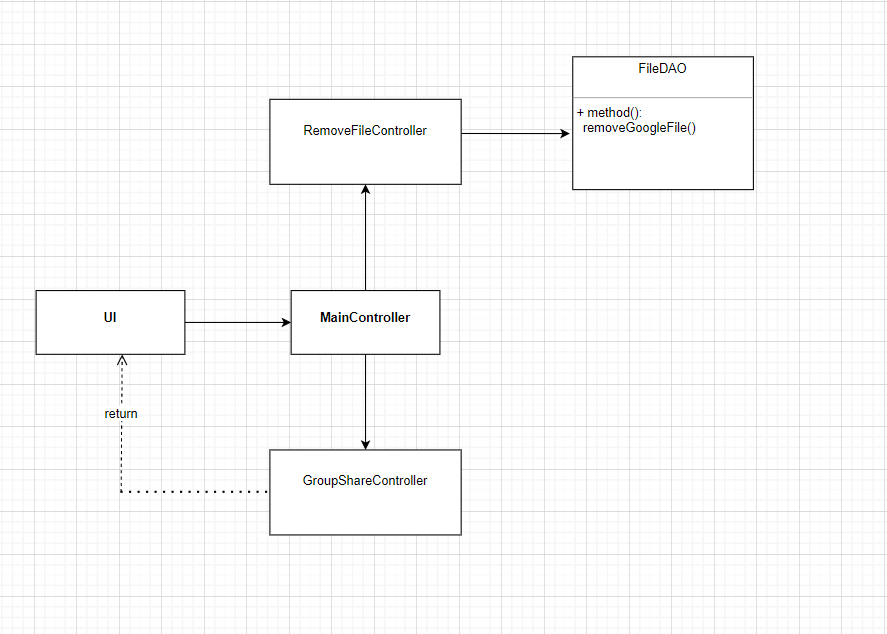
#### FileDAO Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | removeGoogleFile() | Remove files to bin. |

### Database Queries

## File Management / Remove file in project

### Class Diagram



### Class Specifications

#### RemoveFileInProjectController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Call removeGoogleFile(). Redirect to GroupShareController. |

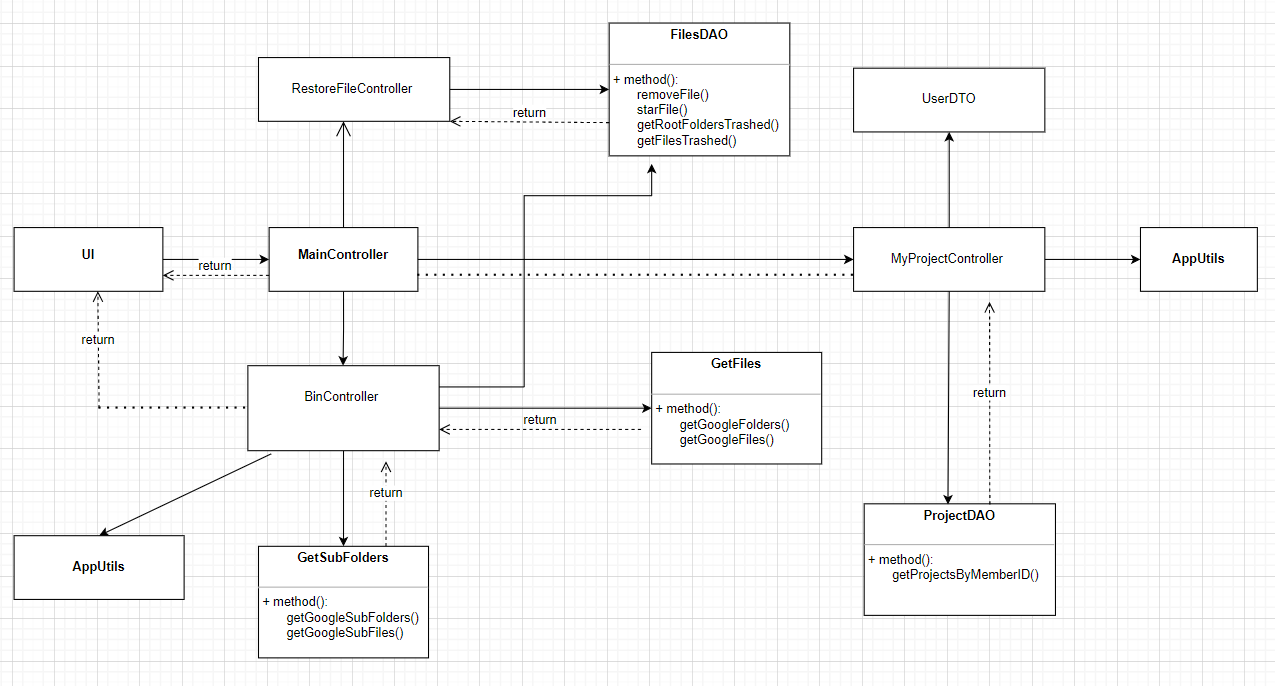
#### FileDAO Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | removeGoogleFile() | Remove files to bin. |

### Database Queries

## File Management / Restore file

### Class Diagram



### Class Specifications

#### RestoreFileController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Get data from request scope. Call function removeFile() and starFile(). Redirect to BinController. |

#### FilesDAO Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | removeFile() | Remove files to bin. |
| 02 | starFile() | Star files. |
| 03 | getRootFolders  Trashed() | Get folders by projectID. |
| 04 | getFilesTrashed() | Get files by projectID. |

#### UpdateFolder Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | removeGoogleFile() | Remove files using Google API. |

#### BinController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Get files, folders in bin. |

#### MyProjectsController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Get data from request scope. Call function removeFile() and starFile(). Redirect to BinController. |

#### GetFiles Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | getGoogleFiles() | Get all files by fileID. |

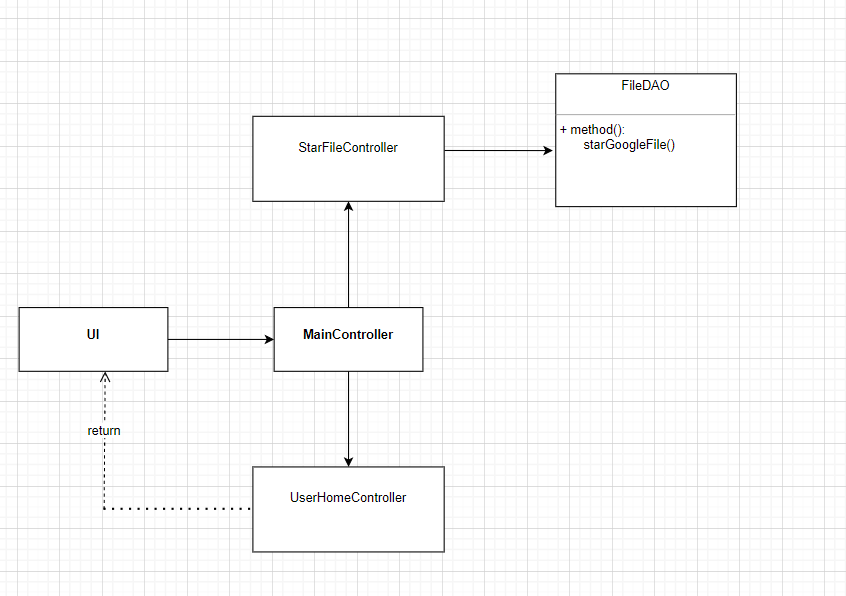
#### GetSubFolders Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | getGoogleSubFolders() | Get sub folders. |
| 02 | getGoogleSubFiles() | Get sub files. |

### Database Queries

## File Management / Add to starred personal

### Class Diagram



### Class Specifications

#### StarFileController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Call starGoogleFile(). Redirect to UserHomeController. |

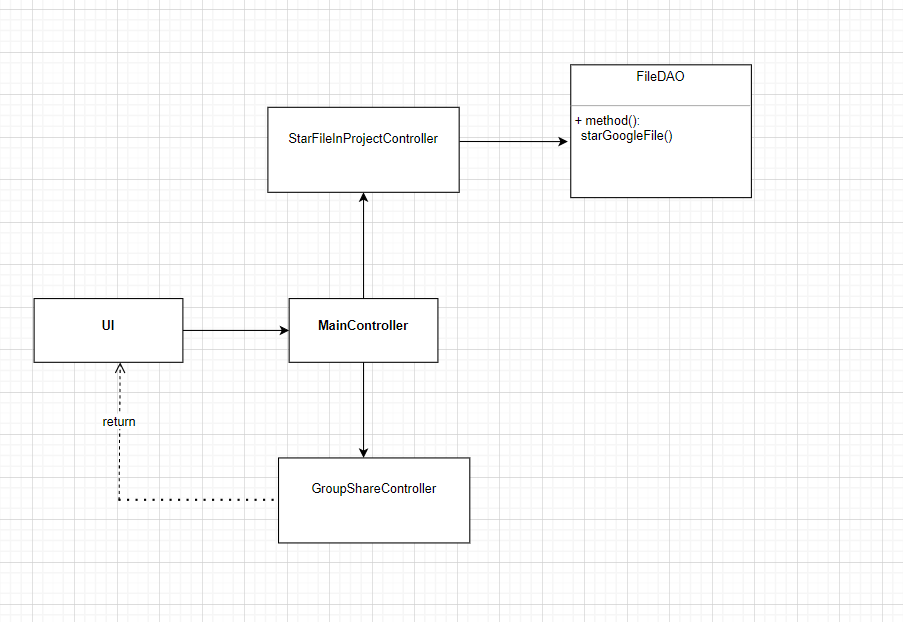
#### FileDAO Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | starGoogleFile() | Star file. |

### Database Queries

## File Management / Add to starred in project

### Class Diagram



### Class Specifications

#### StarFileInProjectController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Call starGoogleFile(). Redirect to GroupShareController. |

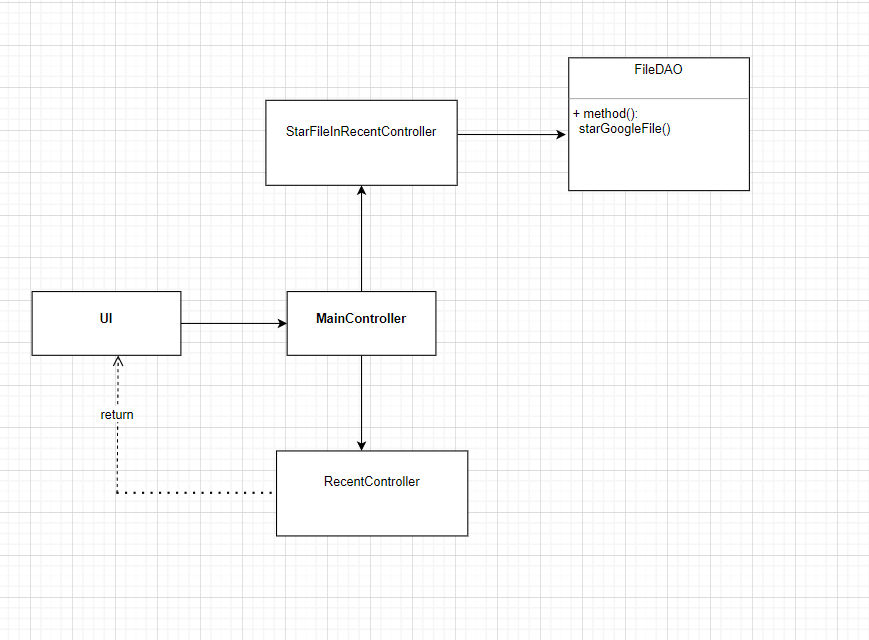
#### FileDAO Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | starGoogleFile() | Star file. |

### Database Queries

## File Management / Add to starred recent files

### Class Diagram



### Class Specifications

#### StarFileInRecentController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Call starGoogleFile(). Redirect to RecentController. |

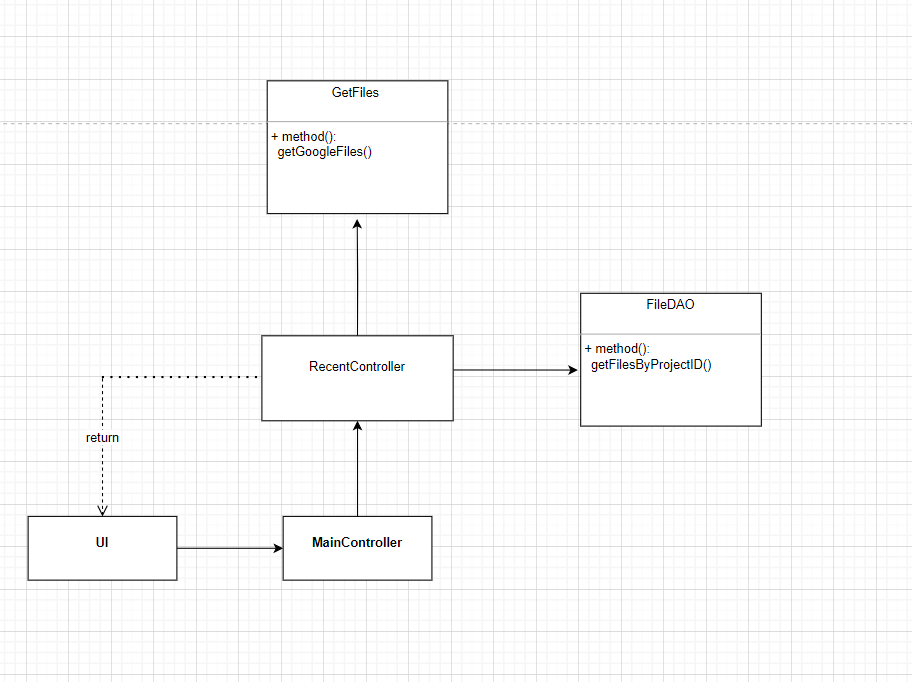
#### FileDAO Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | starGoogleFile() | Star file. |

### Database Queries

## File Management / View recent file

### Class Diagram



### Class Specifications

#### RecentController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Call getFilesByProjectID(). Redirect to “recent.jsp”. |

#### FileDAO Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | getFilesByProjectID() | Get files by projectID. |

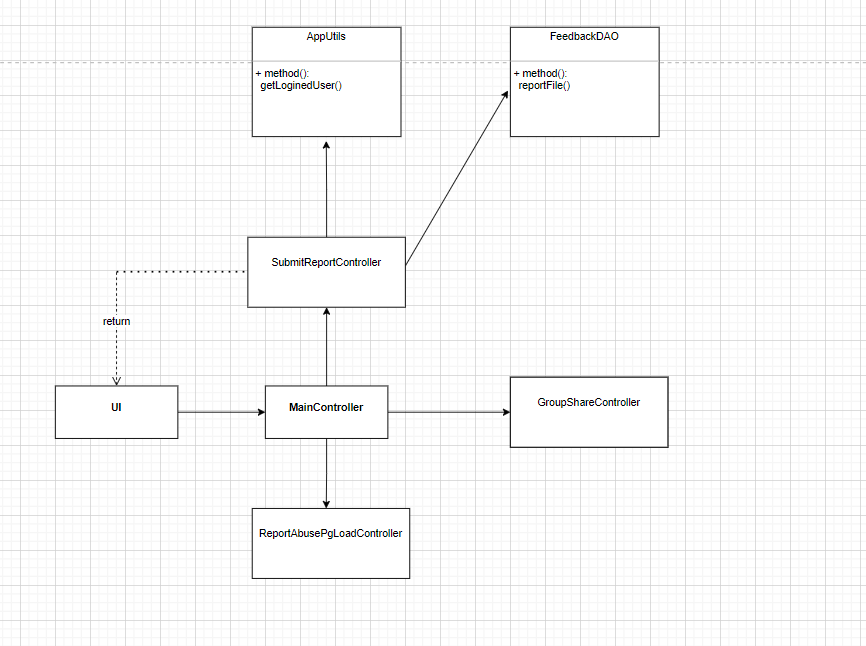
#### GetFiles Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | getGoogleFiles() | Get all files by fileID. |

### Database Queries

## File Management / Report file

### Class Diagram



### Class Specifications

#### ReportAbusePgLoadController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Get and set attributes. Redirect to “reportAbuse.jsp”. |

#### SubmitReportController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Call function reportFile(). Redirect to GroupShareController. |

#### AppUtils Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | getLoginedUser() | Get logined user. |

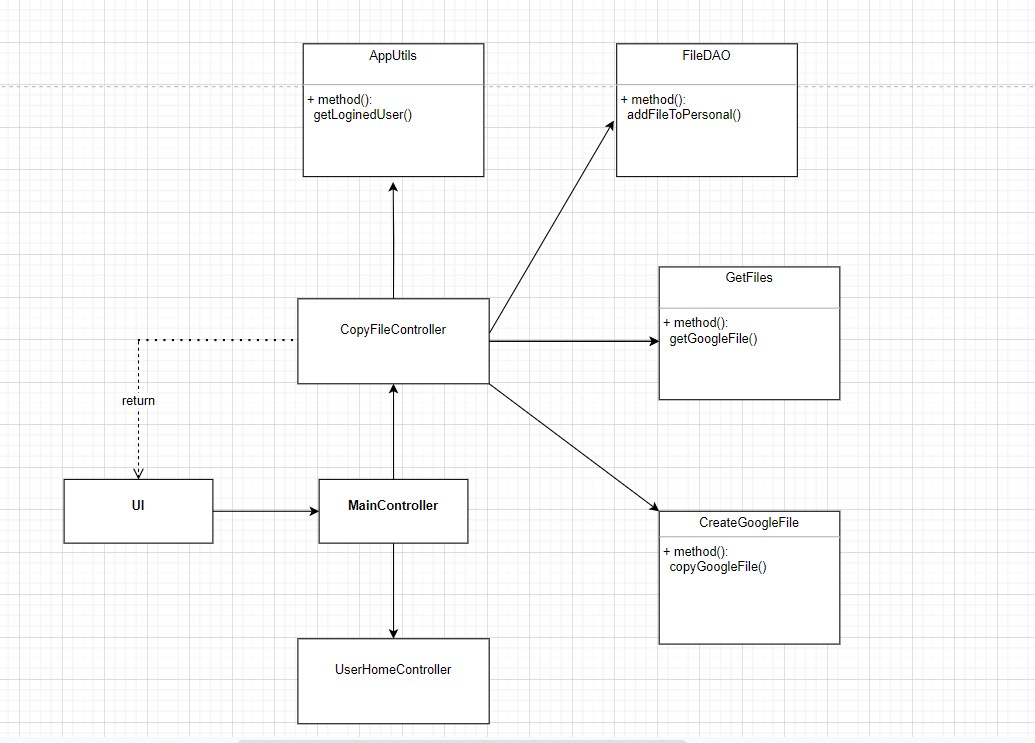
#### FeedbackDAO Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | reportFile() | Add feedback of a file. |

### Database Queries

## File Management / Copy file personal

### Class Diagram



### Class Specifications

#### CopyFileController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Call addFileToPersonal(). Redirect to UserHomeController. |

#### AppUtils Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | getLoginedUser() | Get logined user. |

#### FileDAO Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | addFileToPersonal() | Add files personal. |

#### GetFiles Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | getGoogleFile() | Get files. |

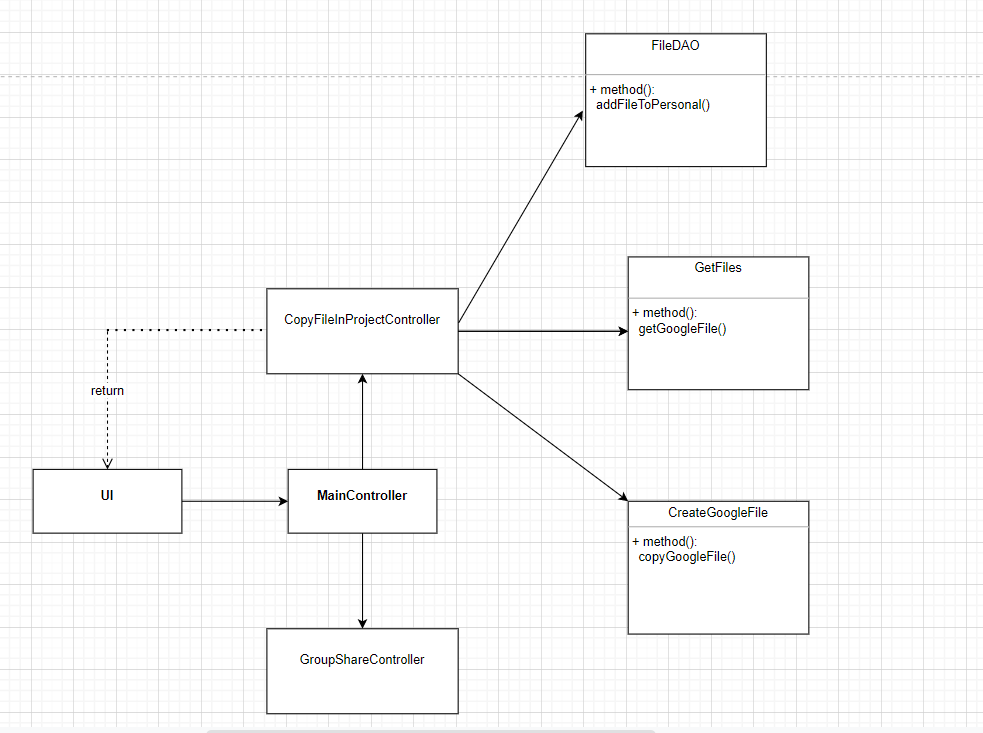
#### CreateGoogleFile Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | copyGoogleFile() | Copy file using API. |

### Database Queries

## File Management / Copy file in project

### Class Diagram



### Class Specifications

#### CopyFileInProjectController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Call addFileToProject(). Redirect to GroupShareController. |

#### FileDAO Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | addFileToProject() | Add files personal. |

#### GetFiles Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | getGoogleFile() | Get files. |

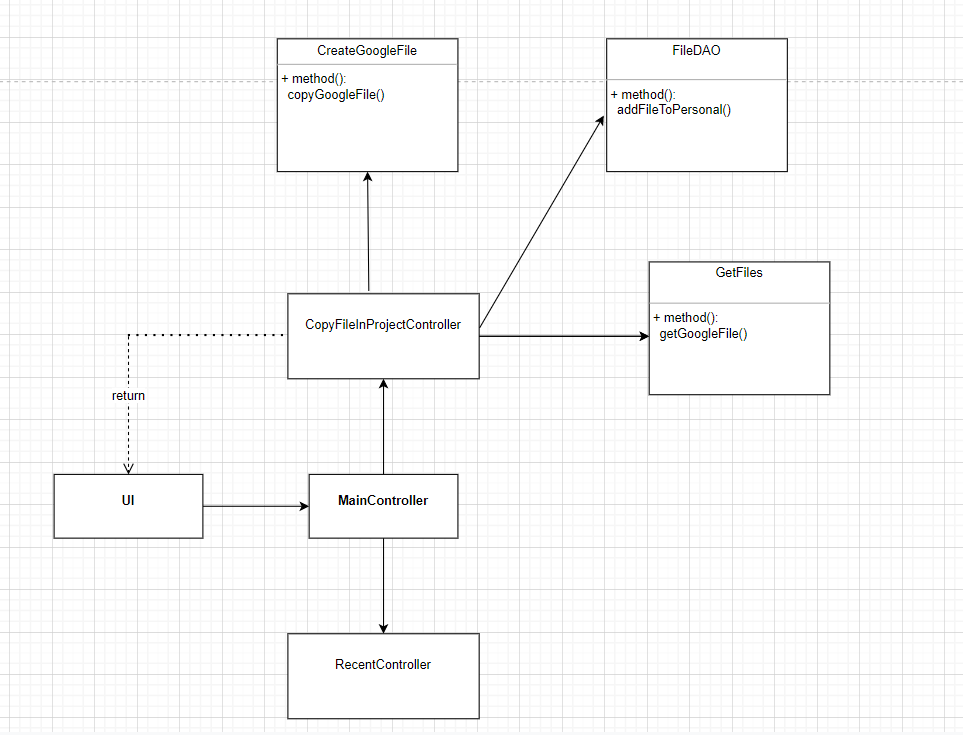
#### CreateGoogleFile Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | copyGoogleFile() | Copy file using API. |

### Database Queries

## File Management / Copy recent file

### Class Diagram



### Class Specifications

#### CopyFileInRecentController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Call addFileToProject(). Redirect to RecentController. |

#### FileDAO Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | addFileToProject() | Add files personal. |

#### GetFiles Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | getGoogleFile() | Get files. |

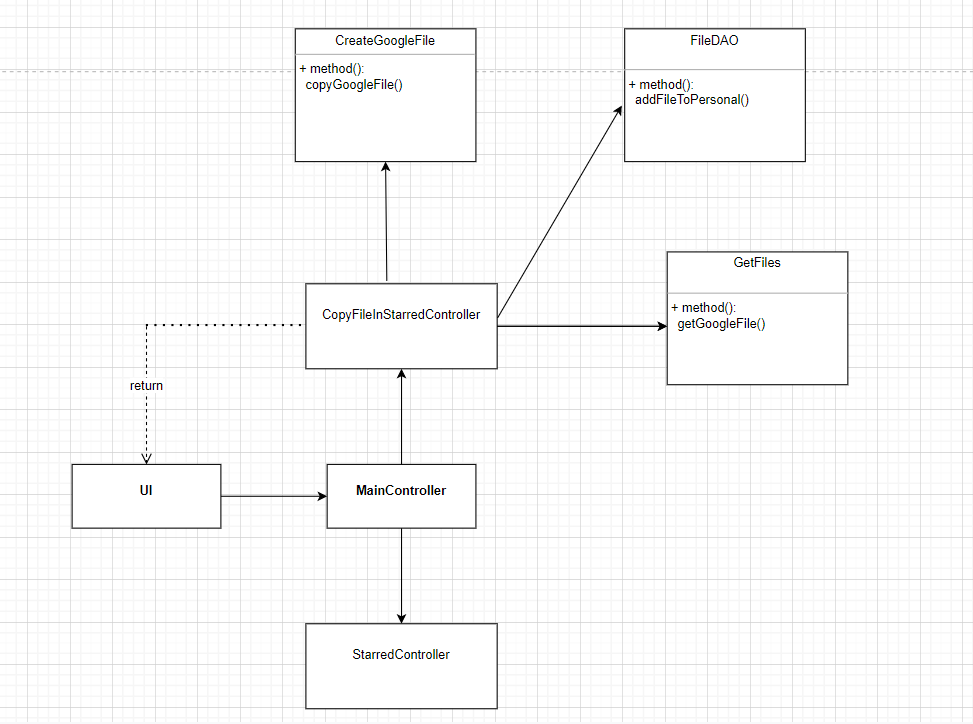
#### CreateGoogleFile Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | copyGoogleFile() | Copy file using API. |

### Database Queries

## File Management / Copy stared file

### Class Diagram



### Class Specifications

#### CopyFileInStarredController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Call addFileToStarred(). Redirect to StarredController. |

#### FileDAO Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | addFileToStarred() | Add files personal. |

#### GetFiles Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | getGoogleFile() | Get files. |

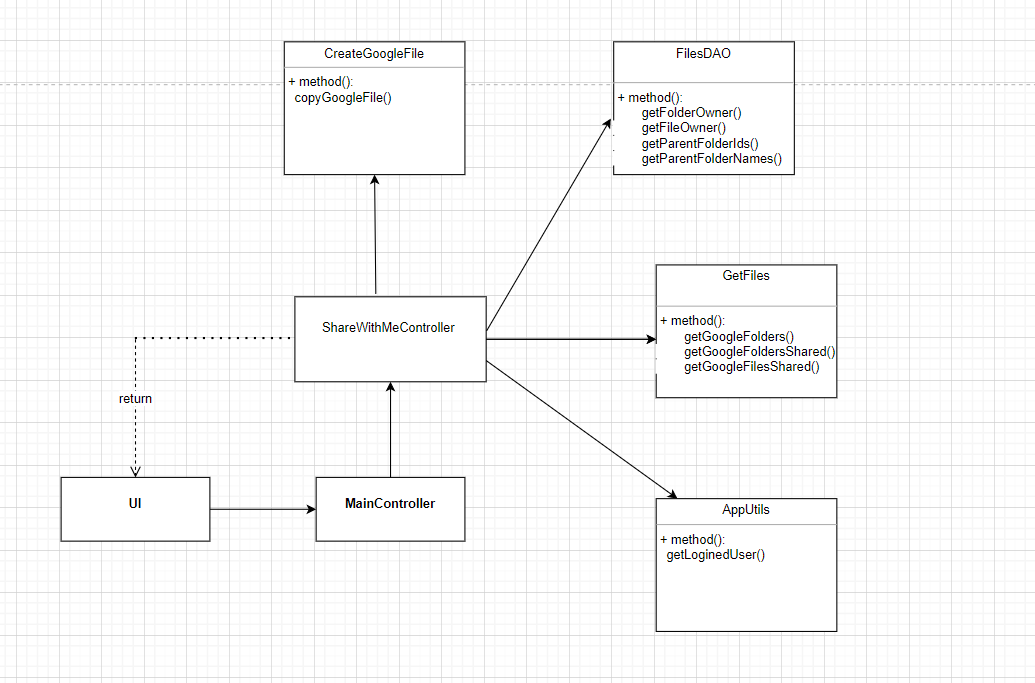
#### CreateGoogleFile Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | copyGoogleFile() | Copy file using API. |

### Database Queries

## File Management / Shared with me

### Class Diagram



### Class Specifications

#### ShareWithMeController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() |  |

#### AppUtils Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | getLoginedUser() | Get logined user. |

#### FilesDAO Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | getFolderOwner() | Get folderID and ownerID. |
| 02 | getFileOwner() | Get fileID and fileID. |
| 03 | getParentFolderIds() | Get folderID. |
| 04 | getParentFolderNames() | Get folderNames. |

#### GetFiles Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | getGoogleFoldersShared() | Get folders using API. |
| 02 | getGoogleFilesShared() | Get files using API. |
| 03 | getGoogleFolders() | Get all folders. |

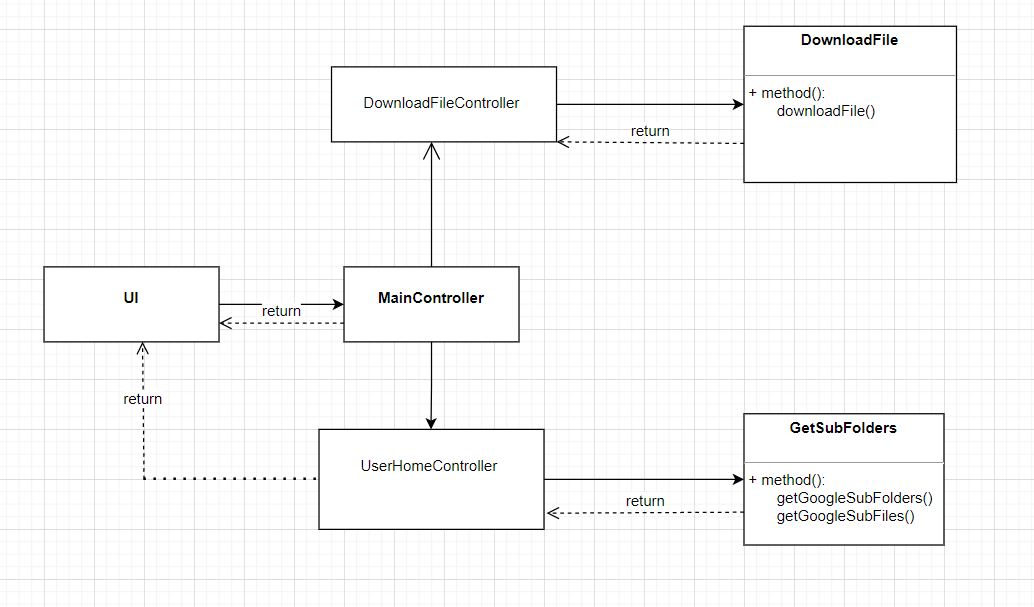
#### GetSubFolders Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | getGoogleSubFolders() | Get sub folders. |
| 02 | getGoogleSubFiles() | Get sub files. |

### Database Queries

## File Management / Download file

### Class Diagram



### Class Specifications

#### UserHomeController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Get data from request scope. Call function getGoogleSubFolders() and getGoogleSubFiles(). Redirect to index.jsp. |

#### DownloadFile Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | downloadFile() | Download files. |

#### DownloadFileController Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| 01 | processRequest() | Call function downloadFile(). |

### Database Queries

# Database Tables

## FileInFolder

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | projectId | int |  |  | x | x |  |
| 2 | parentFolderId | nvarchar(50) |  |  | x | x |  |
| 3 | childFileName | nvarchar(50) |  |  | x | x |  |
| 4 | childFileId | nvarchar(50) |  |  |  |  |  |

## File

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | fileId | nvarchar(50) |  |  |  |  |  |
| 2 | webViewLink | nvarchar(MAX) |  |  |  |  |  |
| 3 | modifiedTime | nvarchar(50) |  |  |  |  |  |
| 4 | size | int |  |  |  |  |  |

## FolderInFolder

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | projectId | int |  |  | x | x |  |
| 2 | parentFolderId | nvarchar(50) |  |  | x | x |  |
| 3 | childFileName | nvarchar(50) |  |  | x | x |  |
| 4 | childFileId | nvarchar(50) |  |  |  |  |  |

## tblMembership

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | membershipID | int |  |  | x | x |  |
| 2 | project\_id | int |  |  |  |  |  |
| 3 | user\_id | nvarchar(50) |  |  |  |  |  |
| 4 | startDate | date |  |  |  |  |  |
| 5 | endDate | date |  |  |  |  |  |

## tblProjects

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | project\_id | int |  |  | x | x |  |
| 2 | projectName | manager\_id |  |  |  |  |  |
| 3 | projectDesc | nvarchar(250) |  |  |  |  |  |
| 4 | manager\_id | manager\_id |  |  |  |  |  |
| 5 | createdDate | date |  |  |  |  |  |
| 6 | isDeleted | bit |  |  |  |  |  |

## tblRoles

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | roleID | nvarchar(2) |  |  | x |  |  |
| 2 | roleName | nvarchar(15) |  |  | x |  |  |

## tblUsers

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | userID | nvarchar(50) |  |  |  |  |  |
| 2 | fullName | nvarchar(50) |  |  |  |  |  |
| 3 | roleID | nvarchar(2) |  |  |  |  |  |
| 4 | password | nvarchar(15) |  |  |  |  |  |
| 5 | address | nvarchar(50) |  |  |  |  |  |
| 6 | birthday | date |  |  |  |  |  |
| 7 | phoneNumber | nvarchar(12) |  |  |  |  |  |
| 8 | email | nvarchar(50) |  |  |  |  |  |
| 9 | isDeleted | bit |  |  |  |  |  |