User Management Low Level Design - SafeRide

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Date Issued:
December 13th, 2021
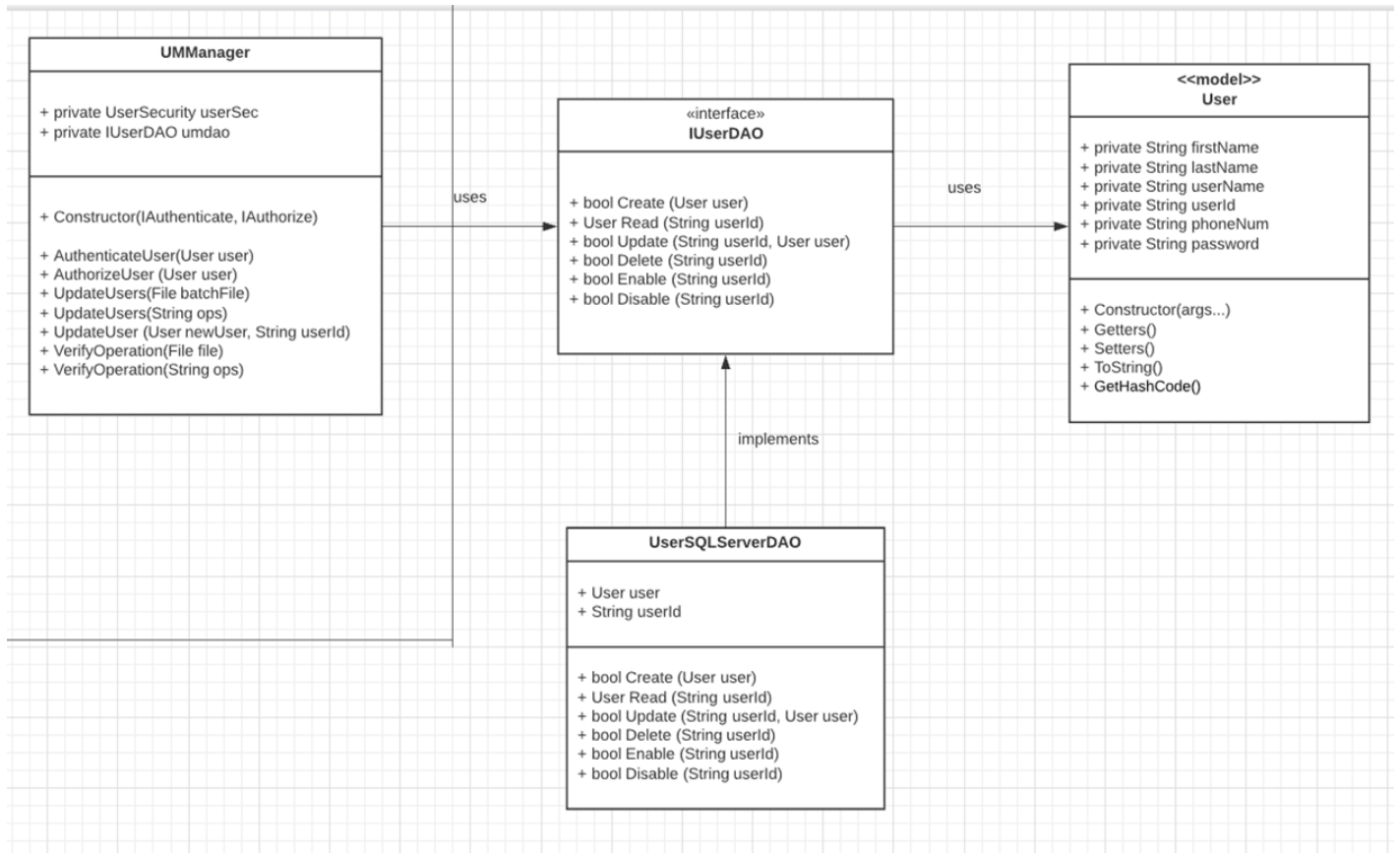
User Management Overview

Purpose
User management represents logic that deals with requirements that deal with user management. We have a um manager that represents code that deals with user security and operations that can be used at a higher level such as UpdateUser and UpdateUsers. It uses IUserDAO which is an interface that can be implemented by data store technologies that is used for User CRUD operations + enable and disable. The User model represents a real user which can be mapped to database objects and fields.

Dependencies
- Must have a database set up with a valid connection string and tables for "Users" exists
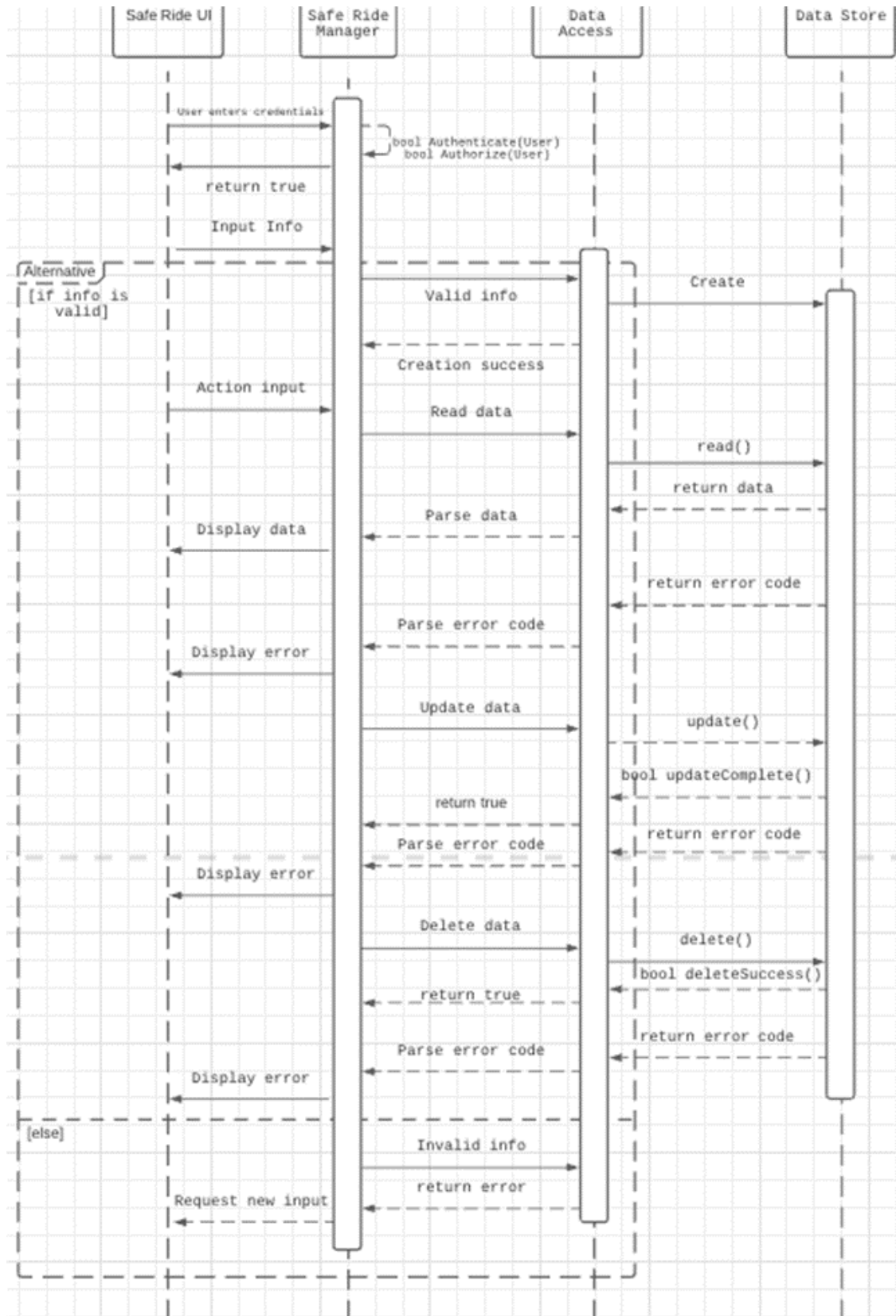   - SQL Server 2019 Express will be used for this application

User Management - UML

UML diagram represents relationship and high level methods and fields that could be within the class itself.

UMManager

+ private UserSecurity userSec
+ private IUserDAO umdao

+ Constructor(IAuthenticate, IAuthorize)

+ AuthenticateUser(User user)
+ AuthorizeUser (User user)
+ UpdateUsers(File batchFile)
+ UpdateUsers(String ops)
+ UpdateUser (User newUser, String userId)
+ VerifyOperation(File file)
+ VerifyOperation(String ops)

uses →

«interface»
IUserDAO

+ bool Create (User user)
+ User Read (String userId)
+ bool Update (String userId, User user)
+ bool Delete (String userId)
+ bool Enable (String userId)
+ bool Disable (String userId)

uses →

<<model>>
User

+ private String firstName
+ private String lastName
+ private String userName
+ private String userId
+ private String phoneNum
+ private String password

+ Constructor(args...)
+ Getters()
+ Setters()
+ ToString()
+ GetHashCode()

implements ↑

UserSQLServerDAO

+ User user
+ String userId

+ bool Create (User user)
+ User Read (String userId)
+ bool Update (String userId, User user)
+ bool Delete (String userId)
+ bool Enable (String userId)
+ bool Disable (String userId)

User Management - Sequence Diagram

Sequence diagram represents roughly the logic implemented to do CRUD operations to the database, as well as important operations such as authorization and authentication.

User Management - CRC Cards

CRC Cards represents the classes used in the User management process which is the model, dao interface and dao implementation. Manager not included.

User	
First name	
Last name	
ID	
Phone number	
request input	

Data Access Object Interface	
getAllUsers()	User
getUser()	
updateUser()	
deleteUser()	

Data Access Object Implementation	
List of Users	Data Access Object Interface
getUser()	
updateUser()	
deleteUser()	