Class Models

FH Mobile Application

Version 1.0

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Table 1.1 Client Application – Class Description

Name	Client_Application
Base Class	
Purpose	The Purpose of the Client Application is it
	helps the user login into the application.
States	Empty, full, or neither.
	Inactive or Active
Constructors	Default
Operators Mutators	login()
	resetPassword()
	refreshBalancesFromServer()
	updateProfile()
	register()
	getHelp()
Accessors	
Fields	User_information

Table 2.1 - Client_Application::login - Method Description

Prototype	Client_Application::login(User_Information)
Purpose	Helps the user login into the client application
Receives	The Login receives a string from the user.
Returns	The Login returns True if the login Id is true or False if the login Id is false.
Remarks	If Login ID matches it logins to the system.

 ${\bf Table~2.2-Client_Application:: reset Password-Method~Description}$

Prototype	Client_Application::resetPassword(user:User_Information)
Purpose	The purpose of the reset password is if the user forgets the password, he can reset it.
Receives	The reset password receives the string from the user, in this the userid is the string.
Returns	True if the userid matches False if the userid doesn't match.
Remarks	Helps to reset the password

Table 2.3 - Client_Application::register- Method Description

Prototype	Client_Application::register(user:User_Information)
Purpose	The purpose of Register is for a new user to register into the FH mobile App.
Receives	The Register receives the user name, password which is a string
Returns	void
Remarks	Helps to register for a new user.

 $\label{lem:constraint} \begin{tabular}{ll} Table~2.4-Client_Application::refreshBalancesFromServer-Method\\ Description \end{tabular}$

Prototype	Client_Application::refreshBalancesFromServer()
Purpose	The purpose of the Refresh balance is it updates the balance for the user
Receives	The Refresh Balance receives Integers from the Server.
Returns	It returns Balance as Integers.
Remarks	The Refresh Balance helps to check the balance for the user.

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 $\textbf{Table 2.5}-\textbf{Client_Application::getHelp-Method Description}$

Prototype	Client_Application::getHelp()
Purpose	The Purpose of the Get Help is it brings up the instructions on how to use the application.
Receives	void
Returns	text
Remarks	Brings up the instructions and how to use the app.

Table 2.6 - Client_Application::updateProfile- Method Description

Prototype	Cilent_Application::updateProfile
	(User_Information)
Purpose	If the User wants to change his information, he can click the update User information.
Receives	The Update user information receives the input as string
Returns	True if the update is successful False if the update is successful.
Remarks	Helps to modify an already created User Information.

Table 3.1 - Server_Application- Class Description

Name	Server
Dana Clara(aa)	
Base Class(es)	
Purpose	The server is used to connect to the database and store, delete or update information for the user, workouts, and bank in the application.
States	Change/Update, Validate, Create, Delete Active or Inactive
Constructors	Default: makes server ready for data information and processing
Operators Mutators	validateWorkout(user:user_Information, workout:Workout, activity) updateBalance(balance:Integer) createOrUpdateUser(user:User_Information) deleteUser(user:User_Information) checkForMissedActivities() changePassword(User_Session, :string) requestUsersInformation() addWorkout(user:User_Information)
Accessors	connectToDatabase(location: String,db:Credentials) connectClient(Credentials) getWorkoutsForUser(user:User_Information) getBalanceForUser(user:User_Information) getUsersCanValidate(user:User_Information)
Fields	User_Session

Table 4.1 - Server_Application::connectClient- Method Description

Prototype	Bool:Server_Application:connectClient(client:Credentials)
Purpose	To connect the client to a user session in the server
Receives	The clients credentials to authenticate the server
Returns	TRUE if the credentials were valid FALSE if the credentials were invalid
Remarks	The operation may fail if the user forgot to log out last time.

Table 4.2 - Server_Application::connectToDatabase- Method Description

Prototype	Bool:Server_Application:connectToDatabase(location:String,db:Credentials)
Purpose	To connect the user to the database to access the user's saved information
Receives	The database location and database name as a string object The database credentials from the server
Returns	TRUE if the user and server connect to the correct database with the correct credentials FALSE if the user and server do not connect correctly or if the the credentials are invalid
Remarks	The operation may fail if the database cannot be found or the connection is interrupted at anytime with the current connection

Table 4.3 - Server_Application::validateWorkout- Method Description

Prototype	Bool:Server_Application:validateWorkout(user:User_Information, workout:Workout, workout:Activity)
Purpose	To connect the user to the database to access the user's workout history and information
Receives	The server receives the user's information along with the workout and the activity associated with that workout.
Returns	TRUE if the facilitator was able to validate the workout correctly FALSE if the facilitator was unable to find the saved workout or if there are no workouts to validate
Remarks	The operation might fail if the user forgot to save the work out or if the workout does not have any activities associated with it.

Table 4.4 - Server_Application::getWorkoutsForUser- Method Description

Prototype	WORKOUTS:Server_Application:getWorkoutsForUser(us er:userInformation)
Purpose	This will connect the server to the databse to receive the user's list of workouts from the database.
Receives	The server receives the user's information to find the list of workouts.
Returns	WORKOUTS if the the list of workouts for the user is found in the database NULL if the user does not have any current workouts
Remarks	This operation might fail if the user is not working out for a few weeks or if it the first time and there are no workouts created.

Table 4.5 - Server_Application::getBalanceForUser- Method Description

Prototype	Int:Server_Application:getBalanceForUser(user:User_Information)
Purpose	This will connect the server to the bank database to access the user's current balance.
Receives	The server receives the user's information to find the user in the bank database
Returns	INTEGER if the user's balance was found in the bank database NULL if the user currently does not have any funds available.
Remarks	This operation might fail if the user has not set up bank information with a starting balance.

Table 4.6 - Server_Application::updateBalance- Method Description

Prototype	Bool:Server_Application:updateBalance(balance:Integer)
Purpose	This will connect to the server and will update the users balance off of the current balance that was received
Receives	The server receives the current balance for the user connected
Returns	TRUE if the balance was updated successfully FALSE if the balance was not updated successfully
Remarks	This operation might fail if the user does not have a balance or the user does not have a penalty/reward amount set in the system

Table 4.7 - Server_Application::createOrUpdateUser- Method Description

Prototype	Bool:Server_Application:createOrUpdateUser(user:User _Information)
Purpose	This will allow the user to update or create an account on the server for the application.
Receives	The server recieves the current user's information if they are updating. And it will receive new user information if a user is creating an account
Returns	TRUE if the user was created correctly or the information was updated correctly FALSE if the user did not supply a required field when creating an account or the user does not update information with the correct information designated for that field
Remarks	This operation might not work if a user tries to create a user account with the same name that is already on the server.

 $Table~4.8-Server_Application:: delete User-~Method~Description$

Prototype	Bool:Server_Application:deleteUser(user:User_Information)
Purpose	This will allow the user to remove their account and information from the server
Receives	The user's information that is store on the server
Returns	TRUE if the user was deleted successfully FALSE If the user was not deleted successfully.
Remarks	The operation will fail if the user tries to delete a user that does not exist on the server.

 $Table~4.9-Server_Application:: check For Missed Activities-~Method~\\ Description$

Prototype	Bool:Server_Application:checkForMissedActivities()
Purpose	This will allow the user to check to see if they missed activities while performing their workout.
Receives	The server will receive the users information to check for missed activities.
Returns	TRUE if the user has missed any activities FALSE if the user has completed all of their activities for the workout
Remarks	The operation will fail if the user does not have any activities listed under a workout

Table 4.10 - Server_Application::changePassword- Method Description

Prototype	Bool:Server_Application:changePassword(user:User_Information; string)
Purpose	This will allow the user to change the current password saved and used on the server
Receives	The server will receive the user's session information and a sting containing the new password
Returns	TRUE if the password was changed successfully FALSE if the user could not update the password successfully(length was not correct or did not pass password specifications)
Remarks	The operation might fail if the user log outs before the success or fail statement is sent back to the user.

Table 4.11 - Server_Application::requestUsersInformation- Method Description

Prototype	UserInformation:Server_Application:requestUsersInform ation()
Purpose	This will allow the server to return all users information
Receives	All of the users that are currently on the server
Returns	TRUE if the information was passed correctly FALSE if the user does not exist or the information was not passed correctly
Remarks	The operation might fail if there are no users on the server.

 $Table\ 4.12\ -\ Server_Application :: add Workout-\ Method\ Description$

Prototype	Bool: UserInformation: Server_Application: addWorkout(us er: User_Information)
Purpose	This allows the user to add a workout to their account
Receives	The user's information
Returns	TRUE if the workout was added FALSE if the workout could not be added
Remarks	The operation might fail if the user tries to add a workout with an existing workout name

Table 4.13 - Server_Application::getUsersCanValidate- Method Description

Prototype	Bool: UserInformation: Server_Application: getUsersCanV alidateWorkout(user: User_Information)
Purpose	Allows the user to set the users that can validate their workout.
Receives	The user's information
Returns	List of users that can validate workout
Remarks	This operation might fail if there are now users listed to validate a workout

Table 5.1-User_Information-Class Description

Name	User_Information
Base Class(es)	
Purpose	A User Information object contains all the user information that can be listed, kept, used by other modules or discarded.
States	Empty, full, or neither
	Inactive or Active
Constructors	Default: contains user information
Operators	setWorkout(workouts:Workouts)
Mutators	updateProfile(dob:String,height:Integer,weight:Integer)
	setPassword(newPassword: String)
	addBalance(balanceToAdd:Integer)
	addWorkout(newWorkout:Workout)
	setWorkouts(workouts:workout)
	validateWorkout(User_information,Workout, Activity)
Accessors	getBalance():Integer
	getUserBMI():Integer
	getValidatableWorkout():Bool
Fields	userID:String
	userDOB:integer
	userHeight: Integer
	userWeight: Integer
	password:String
	workouts:Integer
	usersCanValidate: List

Table 6.1 - User_Information::getBalance- Method Description

Prototype	Integer:User_Information::getBalance ()
Purpose	Returns the balance of the current user
Receives	Will user information in the database to retrieve recurring user balance.
Returns	INTEGER – Returns the balance of the current user requested by the accessor's functions.
Remarks	The operation may fail if there's not balance available for the current user.

Table 6.2 - User_Information::updateProfile- Method Description

Prototype	Bool User_Information::updateProfile (dob:String,height:Integer,weight:Integer)
Purpose	Update the user information fields for a user
Receives	dob- contains the date of birth of the user height- the height of the current user weight- contains the weight of the current user
Returns	TRUE if the operation succeeded FALSE if the data update information contains invalid values
Remarks	The operation may fail if the DOB, height or weight are invalid values for the profile.

Table 6.3 - User_Information::setPassword- Method Description

Prototype	Bool User_Information::setPassword(newPassword)
Purpose	Add a new password for the current user
Receives	password-the password for the current user security settings
Returns	TRUE if the operation succeeded
Remarks	The operation may fail if the password is not valid (the password must follow security the minnimum ssecurity requirements).

Table 6.4 - User_Information::addBalance- Method Description

Prototype	Integer User_Information::addBalance(balanceToAdd:Integer)
Purpose	Update the balance for the current user.
Receives	balanceToAdd- Contains the balance amount to be assigned for the current user.
Returns	Integer- user balance if the operation succeeded
Remarks	The operation may fail if the balance is not valid a valid amount (the balance must follow system policy).

Table 6.4 - User_Information::addWorkout- Method Description

Prototype	Bool User_Information::addWorkout(newWorkout: Workout)
Purpose	Creates and adds the Workout routine for the current user.
Receives	newWorkout- Contains the workout profile for the user.
Returns	TRUE if the operation succeeded FALSE if the workout routine is not valid
Remarks	The operation may fail if the workout routine is not a (the routine must follow system policy).

Table 6.5 - User_Information::getWorkout- Method Description

Prototype	Bool User_Information::setWorkout(workouts:Integer)
Purpose	Assigns the workout routine for the current user.
Receives	workout- Contains a list of all the workouts balance to be assigned to the current user.
Returns	TRUE if the operation succeeded
	FALSE if the amount or workout values are not valid
Remarks	The operation may fail if the workout information doesn't contains a valid numerical values (the workout must contain valid data).

Table 6.6 - User_Information::getUserBMI- Method Description

Prototype	double User_Information::getUserBMI()
Purpose	Returns the calculation of the Body/Mass Index of the current user.
Receives	Will utilize user information from the database to calculate the current BMI index.
Returns	DOUBLE if the operation succeeded NULL if the user information values required for the calculation are not available.
Remarks	The operation may fail if the database doesn't have a valid numerical values for the calculation.

Table 6.7 - User_Information::validateWorkout- Method Description

Prototype	Bool: User_Information::validateWorkout(User_information, Workout, Activity)
Purpose	Validates the current user Workout routine base on the user workout profile and validator input
Receives	User Workout – Contains the user activity profile Software routine will verify if the user completed the Workout or not.
Returns	TRUE if the operation succeeded FALSE if the user information values required for the validation are not completed.
Remarks	Validates the workouts/activities of the user

Table 6.8 - User_Information::getValidatableWorkouts- Method Description

Prototype	Workout User_Information::getValidatableWorkouts(User_information)
Purpose	Retrieves the list of workout routines that can be validated by the current user.
Receives	Workout Routine List
Returns	List of Workout routines that can be validated by the current user.
Remarks	Contains a list of workout objects of that can be validated

Table 6.9 - User_Information::createWorkout- Method Description

Prototype	User_Information::createWorkout(User_information, Workout: Integer,Activitiy: Integer)
Purpose	Creates the workout profile for the current user
Receives	User_Information:Workout – the user activities/workout profile input
Returns	TRUE if the operation succeeded FALSE if the workout profile information values required for the validation are not completed or invalid.
Remarks	Creates the workout profile which will be store in the data base.

Table 7.1 - User_Session-Class Description

Name	User_Session
Base Class(es)	
Purpose	Helps to receive the User Session
States	Empty or full.
Constructors	Default: empty session values
	New: Contains the new session
Operators Mutators	user
Accessors	getUser()
	getSessionID()
Fields	sessionID

Table 8.1 - User_Session::getSessionID- Method Description

Prototype	User_Session::getSessionID()
Purpose	Gets the Session ID
Receives	void
Returns	Integer
Remarks	Gets the User Session ID

Table 8.2 - User_Session::getUser- Method Description

Prototype	User_Session::getUser()
Purpose	Gets the User ID from Client Application
Receives	void
Returns	User_Information
Remarks	Gets the User ID from Client Application

Table 9.1 - Credentials - Class Description

Name	Credentials
Base Class(es)	
Purpose	Helps client login to the server
States	Empty or full.
Constructors	Default: empty values
	New: contains user information
Operators Mutators	None
	JI IDO
Accessors	getUserID()
	getPassword()
Fields	userID
	password

Table 10.1 - Credentials::getUserID- Method Description

Prototype	Credentials::getUserID()
Purpose	The Credentials gets the User ID from the User.
Receives	Void
Returns	The Credentials returns the User Id as a String.
Remarks	Gets the User ID from User

Table 10.2 - Credentials::getPassword- Method Description

Prototype	Credentials::getPassword()
Purpose	The Credentials gets the password from the User.
Receives	Void
Returns	The Credentials returns the password as a String
Remarks	Gets the User Password from the User.

Table 11.1 - Workout - Class Description

Workout
Helps to receive workout information
Empty or full.
Default: empty workout
New: contains workout information
None
getStartDate()
getNumberOfWeeks
getActivities()
startDate
numberofWeeks
activities

Table 12.1 - Workout::getStartDate- Method Description

Prototype	Workout::getStartDate()
Purpose	Gets the Start date for the workout
Receives	Void
Returns	Integer
Remarks	Gives back the workout week

Table 12.2 - Workout::getNumberOfWeeks- Method Description

Prototype	Workout::getNumberOfWeeks()
Purpose	Gets the number of weeks for workout
Receives	None
Returns	Integer
Remarks	Gets the number of weeks the workout is going to be made.

Table 12.3 - Workout::getActivities- Method Description

Prototype	Workout::getActivities()
Purpose	Gets the type of Workout Activities
Receives	Void
Returns	Activities
Remarks	Gives the type of Activities the user wants to follow.

Table 13.1 - <<Interface>> Activity - Class Description

Name	Activity
Base Class	
Purpose	Helps to receive workout activities
States	Empty or full.
Constructors	Default: empty workout value.
	New contains workout values.
Operators Mutators	
Accessors	getQuantity()
	getName()
	getDescription()
	getNumberPerWeek()
Fields	void

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Table 14.1 - Activity::getQuantity- Method Description

Prototype	Activity::getQuantity()
Purpose	To get the User Workout quantities from the user
Receives	The User Session receives the workout quantities from the Workout base class.
Returns	INT if there is a quantity False if there is no quantity
Remarks	Gets the Workout quantity

Table 14.2 - Activity::getName- Method Description

Workout::getName()
To Get the Workout names from the Workout
The Workout name is received as a String from the workout base class
The Workout name as String
Gets the workout Name

Table 14.3 - Activity::getDescription- Method Description

Prototype	Workout::getDescription()
Purpose	Gets the Description of the Workout
Receives	Void
Returns	String
Remarks	Gets the Workout Description.

Table 14.4 - Activity::getNumberPerWeek- Method Description

Workout::getNumberPerWeek()	
Gets the number of week	
Void	
Integer	
Gets the number of Weeks for workouts.	
	Gets the number of week Void Integer