Christian Tijerina
Yihui Lin(Vincent Lin)
Chengxin Lyu
Professor Singh
COSC 4353: Assignment 1
February 6th, 2022

Assignment 1

Client

Private:

clientUsername: string
clientPassword: string
clientHistory: History[] // array of history class
clientLocation: string
profitMargin: double

Public:

changePassword()
calculateTotalCost()
getHistory()

ClientRegistration

Private:

validUsername() //checks if username is valid
validPassword() //checks if password is valid
isClient() //checks to see if client already exists

Public:

register() //calls validation functions and stores client if valid

AllClients

Private:

clientList: client[] //this is an array of client class

Public:

History

Private:

Date: string
Gallons: double
Rate: double

Public:

Question 1: To build this application for a partner of our company we first need to design a User Interface that the client can interact with. This UI will have a login button to allow an already existing customer to login. If a customer has not yet created an account there will be a sign-up button for them to make an account. An account consists of a unique username and password to allow the user into the system. Once they have created an account they will need to finish filling in the rest of their profiles missing information, which includes things like their location to help determine if they are in or out-of-state. This information (Username, Password, Location) will all be stored in the backend database so the user may come back and revisit their profile's information and continue to use the application for their needs. When a customer has finished with their profile, they can access an option that allows them to fill out a Fuel Quote Form, but can only calculate the rate and total cost once they have filled out all required information the pricing module needs like: Client Location, Client history, Gallons requested, and company profit margin (%). This required information used by the pricing module is sent to the backend and is calculated and the result is then returned to the frontend to be viewed by the customer. Also, the Fuel Quote is saved in the customer's profile in the backend for future access. This is accessed via an additional button that will allow the user to access their Fuel Quote History.

Question 2: To develop our software application we will be using the Test Driven Development methodology or TDD. We choose the TDD methodology because we feel most comfortable with using test cases to solve the problem at hand.

Question 3: UML included in the attached file.

Question 4: Fill out the table below

Group Member Name	What is your contribution?	Discussion Notes
Christian Tijerina	Question 1, 2, 3	Helped guide the discussion around the UML diagram
Chengxin Lyu	UML diagram	None at the moment
Yihui Lin	Functions modules	None at the moment