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COSC 4353 Software Design

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Group 14 - Assignment 1

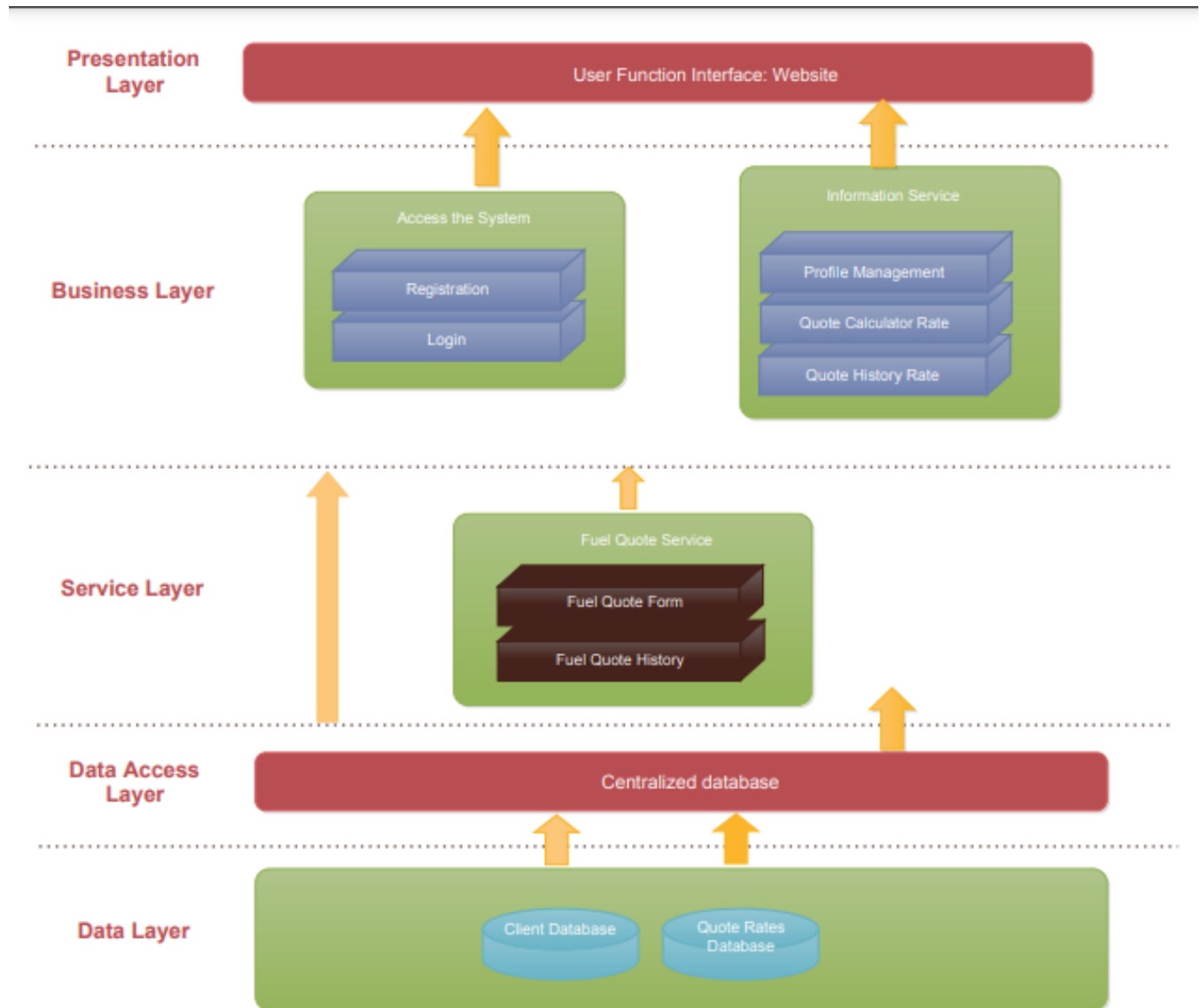1. Discuss your initial thoughts in detail on how you will design this application? (2 points)

When accessing the application we would make the client register (if it's their first time purchasing)/login (returning customer) with the required information. Once the customer registers/login, we will keep their information stored in our database (SQL). This will allow the customer to process faster checkouts since they would not need to fill in additional information such as location (in-state or out-of-state), name, and address. When the customer is requesting a certain amount of gallons the database will have the client's location (from client register/login), client history, and company profit margin. This allows the company to know if the client meets a certain threshold to the amount of gallons ordered that meets the company's profit margin to process the order.

When it comes to the UI (HTML, CSS, JavaScript) we would make an application that correlates with the company's colors and apply pictures that have significance to the company.

2. Discuss what development methodology you will use and why? (2 points)

Among the software developments, we discussed and chose to apply the Agile model to this project. Firstly, since we only have 3 people and a certain amount of time to design and build this application, we thought it would be appropriate to follow a lightweight model like the Agile. Secondly, this is a realistic approach to software development and functionality can be developed rapidly and demonstrated. Therefore we can get more flexibility when developing the application and adapt easily to customers' requirements if there's any change. Finally, we believe that communication between the developers and the customers is the key to building a great application. With Agile, we will be able to interact with the customers more and minimize the documentation while communicating.

3. Provide high-level design/architecture of the solution that you are proposing? (6 points)

Presentation Layer	User Function Interface: Website

Business Layer

Access the System
- Registration
- Login

Information Service
- Profile Management
- Quote Calculator Rate
- Quote History Rate

Service Layer

Fuel Quote Service
- Fuel Quote Form
- Fuel Quote History

Data Access Layer	Centralized database

Data Layer
- Client Database
- Quote Rates Database

Group Member Name	What is your contribution?	Discussion Notes
1. Evgenii Litvinov	Question 3	For question 3, we discussed in the meeting with a group the main points of our level design(which are Business Layer, Service Layer, Data Access Layer, and Data Layer. By the end of our discussion, I created a UML diagram of our architecture.
2. Jose Bermudez	Question 1	When designing the application we would ask the user to make an account to store accurate/precise information corresponding to their location, gallons requested, and client history.
3. Thanh Ly	Question 2	We did discuss choosing which software development that we want to apply to our project. After all, we decided to choose Agile. I wrote the reasons for that in the answer for question 2.