**CS 255 Business Requirements Document**

**System Components and Design**

**Purpose**

*What is the purpose of this project? Who is the client and what do they want their system to be able to do?*

* The purpose of this project is to create an application named DriverPass. Liam, the owner of the company, wants to create an application that allows users to practice for their local area’s DMV’s written driver’s exam. They should be able to take online exams and practice tests as well as schedule appointments for lessons, tests and other appointments.

**System Background**

*What does DriverPass want the system to do? What is the problem they want to fix? What are the different components needed for this system?*

* They want their system to be able to access data from anywhere. This means online and offline. They also want to make sure that you must be online to modify or update any data. Liam also noted that he wants full access control with passwords for the staff accounts and he wants control over all of them. He also wants tracking. This means he wants to be able to allow users to make a reservation for their lessons online with their account. This also entails that the driver they are scheduled to go out with is also in this reservation data. They also want to stay connected with the DMV so that they are always updated with new rules, laws, and guidelines for the customer.

**Objectives and Goals**

*What should this system be able to do when it is completed? What measurable tasks need to be included in the system design to achieve this?*

* The measurable tasks they want are the ability to print off tracking data for appointments as well as logging data for activity on the application. It should also be able to let customers schedule driving lessons and see their driver that has been assigned to them online with their account. It should also allow the customer to pick the different driving packages available. The system also needs to be able to allow the users to access all their data whether online or offline. But they should only be allowed to update or modify their data when they are online.

**Requirements**

**Nonfunctional Requirements**

*In this section, you will detail the different nonfunctional requirements for the DriverPass system. You will need to think about the different things that the system needs to function properly.*

**Performance Requirements**

*What environments (web-based, application, etc.) does this system need to run in? How fast should the system run? How often should the system be updated?*

* The application needs to be able to run on all devices. It needs to be able to run in a computers web browser as well as on Android, iOS and other systems.
* The system should be capable of handling many different users simultaneously.
* The system should be updated daily and have immediate updates to any rules and regulations for the DMV that are changed, modified or updated.

**Platform Constraints**

*What platforms (Windows, Unix, etc.) should the system run on? Does the back end require any tools, such as a database, to support this application?*

* The system should be able to run on Android, iOS, Windows. While UNIX is not as necessary as not as many people use that particular operating system.
* The backend will require the use of databases to hold customer information such as personal info as well as account info.
* There should also be a database that holds the accounts hashed passwords. I am recommending to compartmentalizing this data in the event of breaches.
* There will be a database that holds all schedule details for all accounts.

**Accuracy and Precision**

*How will you distinguish between different users?* *Is the input case-sensitive? When should the system inform the admin of a problem?*

* We will have accounts that will all require to have unique alphanumeric names as well as hashed passwords. The input will be case sensitive when it comes to logging into the system.
* The system will inform the admin when there is a problem regarding system uptime, network connectivity, as well as any software errors or strange behavior on the system that is a suspected intrusion.

**Adaptability**

*Can you make changes to the user (add/remove/modify) without changing code? How will the system adapt to platform updates? What type of access does the IT admin need?*

* You will be able to make changes to the user accounts without modifying any source code.
* Since the database will hold all user account details, we will have functions that will interface with the database and pass that information on. This way no source code will be changed whenever a user’s account information is changed.
* The system will adapt to platform updates by updating itself first and then send the new builds to the associated systems for each environment such as Android or Windows.
* The IT admin needs to have full access to the system.

**Security**

*What is required for the user to log in? How can you secure the connection or the data exchange between the client and the server? What should happen to the account if there is a “brute force” hacking attempt? What happens if the user forgets their password?*

* To log in it is required that a user provides a unique username and password.
* In order to secure the connection between the client and server we will utilize SSL and make sure that all incoming and outgoing data is encrypted.
* If there is a “brute force” hacking attempt on an account and it is detected, the account should be placed in a secure offline status. That way the users account information is preserved, no one can log in or use the account further, and any forensic information is then preserved to pass on to security professionals. The user should then be notified of the intrusion and the temporary lockdown of their account by a qualified representative of the Company who runs the system.
* If the user forgets their password, they should be presented with two options. To receive a secure code via text message to the cell phone number registered on the account. Receive a secure code via email that they registered with the account. As harsh as this condition is it will help alleviate intrusion attempts. After verifying via one of the two options the user should then be given the option to create a new password. The system will then require them to login in with the new password.

**Functional Requirements**

*Using the information from the scenario, think about the different functions the system needs to provide. Each of your bullets should start with “The system shall . . .” For example, one functional requirement might be, “The system shall validate user credentials when logging in.”*

* The system shall be able to run on desktop and laptop computers as well on Android and Apple iPhones as well as tablets.
* The system shall validate user credentials when logging in.
* The system shall have a database to store and maintain user account information.
* The system shall have a database that stores the hashed passwords for accounts.
* The system shall have a database that stores schedule details for each account.
* The system shall allow a user to change their password via two options of receiving a code via text message or email.
* The system shall run on Windows, iOS, Mac, and Android devices.

**User Interface**

*What are the needs of the interface? Who are the different users for this interface? What will each user need to be able to do through the interface? How will the user interact with the interface (mobile, browser, etc.)?*

* The interface needs to present the users upcoming appointments clearly.
* The interface needs to present the user with the ability to make, change and cancel appointments.
* The different users for this interface are standard users.
* The user will interact with the interface via mobile device and desktop browser.

**Assumptions**

*What things were not specifically addressed in your design above? What assumptions are you making in your design about the users or the technology they have?*

* I am assuming that most, if not all users will have access to at least one of the devices that was stated earlier. (ex. Android or iOS based smart phone, desktop or laptop computer running Windows or Mac OS as well as tablets.)
* I did not specifically address how the security aspect of the system will function.
* I did not specifically address what database we will be using for this project. (ex. SQL)
* I did not specifically address how the functions for the databases would function.

**Limitations**

*Any system you build will naturally have limitations. What limitations do you see in your system design? What limitations do you have as far as resources, time, budget, or technology?*

* We know we have a limited budget to get this project complete.
* We know we are on a strict time schedule.
* Our technology is limited to what the average person will generally have access to.

**Gantt Chart**

*Please include a screenshot of the GANTT chart that you created with Lucidchart. Be sure to check that it meets the plan described by the characters in the interview.*

Timeline

Description automatically generated