# 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?*

* This project’s purpose is to allow greater access of online and in person diving lessons to the client’s market. The client is DriverPass and they want a web interface to have online tests and to make appointments for in person road training, it also needs to have online accessibility from the employees and track changes that are made offline but reflect only one set of data online.

### 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?*

* The problem is that too many kids fail the driving tests at the DMV.
* The Frontend is needed have interface for the clients and administrators, the clients should be able to access and make reservations online and take the online practice tests and view the results, and the administrators should be able to enter customer information and make reservations for when they call in.
* The Database is needed to contain customer information, the schedules of the drivers and appointments, and past test results.

### 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?*

* Multiple Packages with the ability to disable.
* Multiple User Levels based on roles and permissions.
* Track edits to the data based on user.
* Reservation system for appointments where user or employee can make them.
* Connect to the DMV for rule updates.
* Online tests and lessons for the users.
* Web Interface to interact with the systems.

## 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 system should be updated as needed or monthly for maintenance and we should limit downtime to 2 hours or less.
* The website should be a modern responsive web app with load time limited to less than 4 seconds.
* The system should be web based.

#### 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 backend needs a database to store system logs and user information such as credentials and test information.
* The front end needs to run on the most popular web browsers such as Chrome, Edge, Safari, and opera.
* The UI needs to be adaptable to the web browser formats used on mobile devices.

#### 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?*

* Reports of critical errors should be sent out immediately.
* Cookies will be used to distinguish between users due to being web based.
* Only passwords and usernames are case sensitive.

#### 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?*

* We can change the user changes in the backend without changing the code.
* The IT admin needs access to the web server and database.
* The app needs to be kept up to date with any changes with web browsers to ensure compatibility.

#### 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?*

* Username and password are required for account login.
* Additional layer of 2FA from SMS.
* Utilize SSL encryption for data transfer.
* Account login 5 max attempts will lock the account.
* When the forgotten password link is clicked, or account is locked it sends a temporary password email to user’s email.

### 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 validate the user credentials when logging in.
* The system shall lock the account after 5 failed login attempts.
* The system shall track appointments and available time slots.
* The system shall track DMV changes and alert the admins.
* The system shall schedule appointments after client and admin inputs.
* The system shall update client information after client and admin inputs.
* The system shall send a temporary password email when the forgotten password link is clicked, or account is locked.
* The system shall send an SMS for the 2FA function if it’s enabled.

### 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.)?*

* That app UI is web based and be accessed through mobile and PC browsers.
* The UI adapts to mobile and PC environments.
* The clients will be able to access profile information, order history, purchase class packages, reserve sessions, take online and view tests.
* Admins need to schedule appointments for clients and access the master schedule and clients order history.

### 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 assume that we can connect to an API or something for the DMV changes.
* I assume that most customers would have access to a device with a web browser.
* I assume that most customers would know how to use email for account sign up and notifications.

### 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?*

* Time Limit of 15 Weeks
* Reacting to any change from the DMVs
* Reacting to any change from the browsers

### 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.*

*A diagram with different colored squares

Description automatically generated with medium confidence*