# 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?*

* Client: DriverPass
* Purpose: To create an online and on-the-road training system to help students pass their DMV driving tests.
* System should allow online practice exams, lesson scheduling, and on-the-road training coordination.
* Accessible from any computer or mobile device with internet connection.

### 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?*

* Current problem: High DMV test failure rates due to students relying solely on past test materials.
* DriverPass wants an integrated online system for training and testing.
* Needs to support multiple user roles: owner, IT officer, secretary, students.
* Must handle lesson scheduling, driver assignments, package management, and customer account management.

### 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?*

* Allow customers to register, schedule, modify, and cancel lessons online or by phone.
* Support three package types with flexible future updates.
* Track and report all activity (reservations, modifications, cancellations) for accountability.
* Provide an online platform for practice tests and DMV-related content.
* Maintain compliance with DMV rule changes via update notifications.

## 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?*

* Must operate as a web-based cloud application.
* Accessible 24/7 from desktops, laptops, and mobile devices.
* Load pages and process requests in under 3 seconds.
* DMV update integration should refresh content within 24 hours of release.

#### 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?*

* Runs in modern browsers (Chrome, Firefox, Safari, Edge).
* Cloud-based hosting; no on-premises server maintenance by DriverPass.
* Backend database required to store users, schedules, packages, and test results.

#### 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?*

* Different user roles with specific access rights (Owner, IT Officer, Secretary, Student).
* All inputs validated (ex. names not case-sensitive but credit card info must be exact).
* Admin notified of any failed login attempts or unusual activity.

#### 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?*

* Ability to add, remove, or disable packages without system downtime.
* Easily apply platform security patches and feature updates.
* IT admin has full system access for account resets and blocking users.

#### 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?*

* Login required for all users.
* Encrypted data exchange between client and server (HTTPS).
* Accounts locked after multiple failed login attempts.
* Password reset available via secure, automated system.

### 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 allow users to register and create an account.
* The system shall allow customers to schedule, cancel, or modify lessons.
* The system shall store and display lesson details, including driver and vehicle assigned.
* The system shall track all account and reservation activity with timestamps and user IDs.
* The system shall integrate DMV updates into training content.
* The system shall allow online practice tests with scoring and status tracking.
* The system shall allow admins to manage user accounts and permissions.

### 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.)?*

* User types: Owner, IT Officer, Secretary, Student.
* Students: View and take tests, view lesson schedules, make/cancel bookings, view driver notes.
* Secretary: Manage appointments, update student info.
* IT Officer: System maintenance, account resets, block users.
* Owner: Access reports, view schedules, manage packages.
* Accessible via modern web browser on desktop, tablet, or smartphone.

### 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?*

* All users have internet access for online functions.
* Customers have basic computer literacy.
* Credit card payments are processed through a secure third-party service.

### 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?*

* Offline access limited to viewing exported data; no updates allowed offline.
* Package customization beyond enabling/disabling requires developer assistance.
* Dependent on DMV’s willingness to provide timely updates.

### 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.*

