# 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 develop a comprehensive online system for DriverPass, a company focused on providing driving test training and scheduling services.
* The client, DriverPass, wants the system to facilitate online class registration, appointment scheduling, and management of driving lessons, while also providing access to training materials and progress tracking.

### 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?*

* DriverPass wants the system to manage reservations for driving lessons, track user activity, and ensure compliance with DMV regulations. They aim to provide a flexible system that allows for the addition or removal of training packages in the future.
* The problem DriverPass seeks to address is the high failure rate of individuals taking driving tests at the DMV. By offering structured training and practice, they hope to improve the success rate of their customers.
* The system needs to include components for user management, appointment scheduling, package selection, data tracking, and compliance updates from the DMV.

### 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?*

* Upon completion, the system should allow users to:
  + Make, modify, and cancel reservations for driving lessons.
  + Access training materials and practice tests online.
  + Track user activity and generate reports on reservations and modifications.
* Measurable tasks include:
  + Implementing user authentication and role-based access.
  + Developing a user-friendly interface for scheduling and managing appointments.
  + Creating a reporting feature for tracking user activity and progress.

## 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 needs to run as a web-based application, preferably over the cloud to minimize technical issues.
* It should load within 2-3 seconds for optimal user experience and be updated regularly to reflect changes from the DMV and user feedback.

#### 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 compatible with major web browsers (Chrome, Firefox, Safari) and mobile devices.
* The back end will require a cloud-based database to store user data, appointment information, and training materials.

#### 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?*

* Users will be distinguished by unique usernames and passwords, with role-based access for different functionalities.
* Input should be case-sensitive for usernames and passwords.
* The system should notify the admin of any failed login attempts or unauthorized access attempts.

#### 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?*

* The system should allow the IT admin to add, remove, or modify user accounts through an administrative interface without needing to change the underlying code.
* It should be designed to adapt to platform updates with minimal disruption.
* The IT admin will need full access to manage user accounts and system settings.

#### 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?*

* Users will need a unique username and password to log in.
* The connection should be secured using HTTPS to encrypt data exchange.
* Accounts should be temporarily locked after multiple failed login attempts to prevent brute force attacks.
* Users should have the option to reset their password via a secure email link.

### 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 for driving lessons online.
* The system shall enable users to schedule, modify, and cancel appointments.
* The system shall provide progress tracking for online tests and lessons.
* The system shall allow the IT admin to manage user accounts and permissions.
* The system shall send notifications to users for appointment reminders and updates.

### 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 be user-friendly and accessible on both desktop and mobile devices.
* Different users include students, the IT officer, and the secretary.
* Students need to register, schedule lessons, and track progress; the IT officer needs to manage accounts; the secretary needs to handle appointments and customer inquiries.
* Users will interact with the interface through a web browser or mobile app.

### 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?*

* It is assumed that users have basic internet access and familiarity with online systems.
* The design assumes that the DMV will provide timely updates and that users will have the necessary devices to access the system.

### 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?*

* Limitations may include budget constraints affecting the scope of features and functionalities.
* Time constraints may limit the thoroughness of testing before deployment.
* The system may not be able to accommodate all future features in the initial release, requiring future updates.

### Gantt Chart

A screenshot of a computer screen

AI-generated content may be incorrect.