# 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?*

* To develop a comprehensive system for DriverPass that enables prospective drivers to prepare for their driving tests through online classes and practical, on-the-road training.
* The client, DriverPass, aims to reduce the high failure rate of driving tests by offering a structured training program accessible both online and in-person.

### 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 seeks a system that facilitates online and physical training sessions for driving test candidates
* The problem identified is the lack of adequate preparation tools for students, resulting in a high failure rate at the DMV driving tests.
* Required system components include user management, lesson scheduling, online courses, practice tests, and reporting functionalities.

### 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 system should enable seamless scheduling of driving lessons, access to online educational content, and efficient management of user data and roles.
* Measurable tasks include the ability to book lessons online, complete online courses, take practice tests, and generate reports on user activities and lesson outcomes.

## 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 be web-based to ensure accessibility from anywhere, require minimal loading times, and should be updated regularly to reflect any changes in driving laws or educational content.

#### 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?*

* It should run on multiple platforms, including Windows and macOS, and be accessible through various browsers. The backend requires a robust database for storing user data and course content.

#### 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?*

* User roles (admin, instructor, student) must be clearly defined to ensure proper access rights. The system should notify administrators of critical issues promptly.

#### 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?*

* Admins should be able to modify user roles without direct code changes. The system must be adaptable to future updates in technology and user needs, with IT admin having the necessary access to make broad changes.

#### 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?*

* Secure login mechanisms, data encryption for client-server communication, and measures against brute force attacks are necessary. There should be a secure, user-friendly password reset process.

### 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 schedule, cancel, and modify driving lesson appointments online.
* The system shall provide online classes and practice tests for driving theory preparation.
* The system shall track and report on user activities, lesson bookings, and test outcomes.
* The system shall manage different user roles and permissions within the platform.
* The system shall enable administrators to update driving lesson packages and educational content.

### 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 intuitive and accessible on desktop and mobile devices.
* Different users, including students, instructors, and administrators, should have interfaces tailored to their needs.
* Students should be able to book lessons, access educational content, and view their progress. Instructors need access to their schedules and student progress reports. Administrators should manage user roles, content, and system settings.
* Interaction with the interface should be possible through both web browsers and mobile applications.

### 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?*

* Users have access to the internet and possess a basic level of technical proficiency to interact with online platforms.
* The educational content provided will be sufficient to prepare students for their driving tests without external resources.

### 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?*

* System development is constrained by a fixed timeline and budget, potentially limiting the depth of features in the initial release.
* Customization and scalability might require further development post-launch, depending on user feedback and technological advancements.

### 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.*

