# CS 255 Business Requirements Document

Complete this template by replacing the bracketed text with the relevant information.

This template lays out all the different sections that you need to complete for Project One. Each section has guiding questions to prompt your thinking. These questions are meant to guide your initial responses to each area. You are encouraged to go beyond these questions using what you have learned in your readings. You will need to continually reference the interview transcript as you work to make sure that you are addressing your client’s needs. There is no required length for the final document. Instead, the goal is to complete each section based on your client’s needs.

**Tip:** You should respond in a bulleted list for each section. This will make your thoughts easier to reference when you move into the design phase for Project Two. One starter bullet has been provided for you in each section, but you will need to add more.

## 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?*

* **Project Aim:** Design and implement a comprehensive system for DriverPass, a company poised to fill a market void in driving test preparation. DriverPass aims to offer a multifaceted training approach, including online classes, practice tests, and on-the-road training, all managed through a seamless, user-friendly system.

### 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?*

* **Market Gap and DriverPass Solution:** The system seeks to address the high failure rate in driving tests by providing accessible, thorough training and practice resources. DriverPass envisions a solution that combines online learning with practical, in-vehicle instruction, allowing users to schedule sessions, track progress, and access educational content seamlessly.
* **Client's Vision:** Enable customers to easily schedule driving lessons, access educational content, and manage their learning process through an online platform that supports various user roles and access levels, ensuring data security and integrity.

### 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?*

* **System Functionality:**
  + Facilitate online and offline access to educational content and practice exams.
  + Enable reservation scheduling for on-the-road training sessions, customizable by day and time.
  + Support multiple user roles (e.g., administrator, IT officer, secretary, customers) with appropriate access and capabilities.
  + Implement data tracking and reporting for user activities, such as reservations made, modified, or canceled.
  + Offer the ability to manage and update training packages and educational content in response to DMV updates or policy changes.
* **Measurable Tasks:**
  + Develop a responsive web interface that allows for user registration, appointment scheduling, and access to educational materials.
  + Create a backend system to manage user roles, permissions, and data security.
  + Integrate a system for tracking changes to reservations and user activity.
  + Ensure the system can be updated to reflect changes in driving regulations and training requirements.

## 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 web-based, accessible across different browsers (Chrome, Firefox, Safari) with minimal load times.
* System updates, especially those related to security patches or critical functionality, should be implemented monthly or as needed.

#### 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 platform-independent, accessible via Windows, macOS, and Linux operating systems.
* Utilizes MySQL for database management, ensuring compatibility across different platforms.

#### 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?*

* The system will use unique user identifiers (usernames or email addresses) to distinguish between users.
* Inputs for critical fields (e.g., usernames, passwords) are not case-sensitive.
* The system automatically notifies administrators of potential issues or errors in real-time.

#### 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?*

* System administrators can add, remove, or modify user accounts without direct code modification.
* The architecture is designed to easily accommodate platform updates or changes.
* IT administrators have full system access for maintenance and updates.

#### 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 must authenticate via email and password. Two-factor authentication is recommended for enhanced security.
* Data exchange between client and server is secured through SSL encryption.
* After five unsuccessful login attempts, the account is temporarily locked, requiring administrative intervention.
* A "forgot password" feature allows users to reset their passwords via email verification.

### 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 user credentials upon logging in.
* The system shall allow users to schedule, modify, and cancel appointments for driving lessons.
* The system shall provide different access levels for administrators, instructors, and students.
* The system shall track and report on user activity, including lesson reservations and test scores.
* The system shall enable administrators to update and manage educational content and driving lesson packages.

### 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 responsive, suitable for desktop and mobile browsers.
* Different users include administrators, instructors, students, and guests. Each user group needs specific functionalities accessible through the interface.
  + Administrators: Full system access, including user management and content updates.
  + Instructors: Access to their schedules, student progress, and lesson planning tools.
  + Students: Ability to schedule lessons, access educational content, and view progress reports.
  + Guests: Limited access to explore the platform, with prompts to register for full features.
* Interaction with the interface will primarily be through web browsers on mobile and desktop devices, designed to be accessible and user-friendly.

### 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 a stable internet connection for the online components of the system.
* Users possess basic digital literacy to navigate the web interface.
* DMV regulations and content updates will be provided in a compatible format for easy integration.

### 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?*

* The system's initial version may not include AI-driven personalized learning paths due to technical complexity and resource constraints.
* Customization options for end-users will be limited in the initial release, focusing on core functionalities.

### 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.*

