# CS 255 Business Requirements Document Template

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?*

The purpose of this project is to design and build a comprehensive system for DriverPass, a company focused on providing driving test training for customers. The client, DriverPass, wants to offer online classes, practice tests, and on-the-road driving lessons. Their goal is to help customers improve their chances of driving exams at local DMVs. The system should facilitate online reservations or appointments, user progress tracking and secure role-based access for employees and customers.

### 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 is aiming to create a system that addresses the current gap in driver training services by offering more flexible and accessible platform for students to prepare for their driving tests. The key problem they wish to address is solve the lack of adequate training options, particularly those that combine online learning with in-person lessons. To achieve this, DriverPass requires a system with several components:

* Online platform for classes and practice tests
* Reservation system for scheduling driving lessons
* Customer account management including booking and modifying appointments
* Role-based access control for IT employees and secretaries
* Integration with DMV updates to ensure compliance with latest rules and tests
* Tracking and reporting of user activity to maintain a clear record of changes and actions

### 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?*

* Enable customers to book and modify driving lessons online
* Provide access to various training packages, include online classes and in-person lessons
* Track students’ progress, showing test scores, lesson times and drivers notes
* Allow for secure handling of customer data, including personal and payment information
* Ensure role-based access when employees have appropriate permissions
* Receive notifications from DMVs regarding updates on driving tests and policies
* Generate reports for management to review user activity, including reservations and modifications

## 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 DriverPass system must be a **web-based** system accessible from any internet-enabled device, including computers and mobile devices. The system should load pages and perform actions within **2-3 seconds** for optimal user experience. Updates to the system should occur **weekly** to address security vulnerabilities, bugs, or to add new features.

#### 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 able to run on Windows, macOS, and Linux platforms. It should be accessible via any modern web browser (such as Chrome, Firefox, Safari, and Edge). The back end will require a cloud-based relational database like MySQL or PostgreSQL to store customer data, reservations, and other system information.

#### 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 authentication will involve unique usernames and passwords. The system should not be case-sensitive for login information, except for the password field. The system will track user actions (e.g., booking, modifying, or canceling reservations) with timestamps. If a failure occurs, the admin should be notified immediately of any data conflicts, duplicate entries, or system errors.

#### 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 user management (add/remove/modify) without changing the code through a configurable admin interface. It must also handle automatic adaptations to platform updates. The IT admin needs full access to user accounts, system configurations, and the ability to reset passwords or revoke access when needed.

#### 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 to log in with a username and password. The connection between the client and server must be secured using SSL/TLS encryption. In the case of repeated failed login attempts (indicative of a brute-force attack), the account will be locked for 15 minutes after 5 failed attempts. Users should be able to reset their passwords via an automated system that sends a password reset link to their registered 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 user credentials when logging in.
* The system shall allow customers to book, modify, and cancel driving lesson reservations.
* The system shall track and store customer driving sessions and package details.
* The system shall enable admins to view, modify, and deactivate user accounts.
* The system shall generate reports that show user activity, reservations, and cancellations.
* The system shall display customer progress through tests, including scores and completion status.
* The system shall allow the secretary to schedule reservations on behalf of customers.
* The system shall maintain a list of available cars and trainers and their schedules.
* The system shall integrate with the DMV to receive updated rules, policies, and practice tests.

### 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 across multiple platforms. There will be three main types of users: customers, secretaries, and IT administrators. Customers should be able to book, modify, and cancel driving lessons through a browser-based or mobile-friendly interface. Secretaries will need the ability to schedule lessons on behalf of customers, manage accounts, and check availability of cars and trainers. IT administrators should have access to user account management and system settings, allowing them to reset passwords, manage access, and perform system maintenance. The interface will need to be intuitive and responsive, ensuring it works smoothly on both desktop and mobile devices.

### 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 will have access to a stable internet connection and modern web browsers such as Chrome, Firefox, or Safari. Additionally, we assume that users will have basic digital literacy, such as the ability to book appointments and reset passwords via email. Another assumption is that DMV data will be provided in a format that allows easy integration into the system for up-to-date test and policy information. Finally, we assume that the client, DriverPass, has the necessary resources to maintain the hardware for the driving lessons (such as cars and driving instructors) outside of the digital 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?*

The system design may face limitations in terms of resources and time constraints. A major limitation could be the integration with DMV systems, as real-time updates may require significant development and coordination with third parties. Another limitation is the budget, which could restrict the extent of security features or scalability of the system at launch. Additionally, time constraints may limit the ability to thoroughly test every feature, especially with a focus on maintaining optimal performance across different platforms and devices. Finally, the system may initially struggle with scaling if the number of users increases significantly after launch, requiring additional updates to support a larger user base.

### 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 screenshot of a calendar

Description automatically generated*