# 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?*

* DriverPass aims to provide comprehensive training tools to help students prepare for their driving tests by offering online practice exams, on-the-road training, and in-person DMV preparation lessons.

### 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 identified a market gap where 65% of students fail their driving tests due to inadequate preparation. The new system will bridge this gap by offering customizable packages, online and offline access, and secure functionality for customers, IT, and 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?*

* Provide students with better resources to prepare for their driving tests.
* Offer flexibility in making reservations for lessons and managing accounts.
* Track and log all activities for accountability.
* Ensure data security and role-based access control.

## 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 must operate seamlessly in a web-based environment and support real-time data updates.
* It must handle at least 1,000 simultaneous users, ensuring a response time of under 2 seconds per action.
* Updates to the system, such as feature enhancements or bug fixes, should be deployed quarterly, with critical patches applied 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 accessible on commonly used platforms, including Windows, macOS, iOS, and Android, via modern web browsers such as Chrome, Firefox, Safari, and Edge.
* The backend will require a robust database management system (e.g., MySQL or PostgreSQL) to store user data, reservations, and system logs securely.
* Cloud-based hosting solutions (e.g., AWS or Azure) will be used for scalability and reliability.

#### 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 must differentiate users through unique identifiers such as email addresses and usernames.
* All input fields should be case-sensitive where necessary, such as passwords, to enhance security.
* Administrators should be notified immediately of any system errors, such as failed reservation attempts or data discrepancies, through automated alerts.

#### 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 IT administrators to add, remove, or modify user accounts and roles without requiring changes to the underlying code.
* It must adapt to platform updates and changes, such as new browser versions or mobile operating systems, ensuring continued compatibility.
* IT admins must have comprehensive control, including access to user logs, data backups, and system configuration tools.

#### 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 log in using a combination of a username and a strong password. Multi-factor authentication (MFA) should be implemented for additional security.
* All data exchanges between the client and the server must be encrypted using TLS/SSL protocols.
* In the event of a brute-force hacking attempt, the affected account will be locked after five failed login attempts, requiring manual unlocking by an admin.
* Password recovery options should include secure email-based reset links with time-limited validity.

### 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 during login to prevent unauthorized access.
* The system shall allow users to create, modify, and cancel reservations online.
* The system shall track and log all user activity, including reservations, cancellations, and modifications, for accountability.
* The system shall allow IT administrators to reset passwords and manage user roles and permissions.
* The system shall integrate with external payment services, such as Square or Shopify, to process transactions securely.
* The system shall enable customers to access training progress and practice test scores through their accounts.

### 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.)?*

* **Customers**: The interface should allow customers to register, log in, view training packages, book lessons, and track their progress. It must be mobile-friendly and accessible via web browsers.
* **Administrators (IT and Management)**: The interface must provide tools for managing user accounts, modifying packages, viewing logs, and generating activity reports.
* **Secretaries**: A simplified interface should enable secretaries to input reservations made via phone or in-office visits efficiently.
* The interface should be intuitive, with clear navigation, responsive design, and accessibility features for all users.

### 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?*

* Customers will have access to a stable internet connection and a compatible device for accessing the system.
* The system will rely on cloud infrastructure for hosting and database management, ensuring uptime and scalability.
* User data, such as contact and payment information, will be accurately entered by customers or staff.

### 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?*

* **Technical**: Offline updates or modifications are not supported due to the risk of data redundancy.
* **Resource Constraints**: Budget limitations may restrict the integration of advanced features like real-time analytics in the initial release.
* **Time Constraints**: The development timeline must adhere to the milestones in the Gantt chart, which may limit scope expansion during the initial build.

### 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 calendar with different colored boxes

Description automatically generated with medium confidence