# 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 develop a system for DriverPass, a company aiming to improve driver training for students preparing for their DMV driving tests.
* The client, DriverPass, wants a system that allows students to access online classes, practice tests, and schedule on-the-road training sessions.
* The system must support multiple users, including customers (students), the company owner (Liam), the IT officer (Ian), and a secretary, with features for scheduling, tracking, and managing user data securely.

### 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 gap in the market where many students fail their DMV driving tests due to inadequate preparation. They aim to address this by offering online practice exams, in-person lessons, and on-the-road training.

 The problem they want to fix is the lack of comprehensive driver training tools, with over 65% of students failing their tests due to reliance on outdated methods.

 The system needs components such as:

* An online platform for classes and practice tests.
* A scheduling system for driving lessons with specific drivers and cars.
* A user management system to handle different roles (customers, IT admin, secretary, owner).
* A reporting system to track user activity and reservations.
* Integration with the DMV for updates on rules and policies.

### 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 allow customers to register, schedule, modify, and cancel driving lessons online or through the secretary.
* It must provide access to online classes and practice tests, tracking progress (e.g., test name, time taken, score, and status: not taken, in progress, failed, or passed).
* The system should enable the owner to track all user activities (e.g., who made, modified, or canceled a reservation) and generate activity reports.
* It must ensure secure data handling, including user authentication, password resets, and protection against unauthorized access.
* The system should notify DriverPass of DMV updates to keep training materials current.
* It must be accessible online via web browsers and mobile devices, with offline data access for the owner (e.g., downloadable reports in Excel).

## 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 run as a web-based application, accessible via browsers on computers and mobile devices.
* It should respond to user actions (e.g., scheduling a lesson or taking a test) within 2–3 seconds to ensure a smooth user experience.
* The system should be updated whenever the DMV provides new rules, policies, or sample questions, with notifications sent to the admin in real time.

#### 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 run on common platforms such as Windows, macOS, and mobile operating systems (iOS, Android) through web browsers.
* The back end requires a database to store user data, lesson schedules, test progress, and activity logs.
* The system should be hosted on the cloud to minimize DriverPass’s need to manage backups and security.

#### 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 distinguish between users by their unique credentials (e.g., username and password).
* Input fields (e.g., usernames, passwords) should be case-sensitive to ensure accurate user identification.
* The system should notify the admin immediately if issues arise, such as multiple failed login attempts or a scheduling conflict (e.g., double-booking a car or driver).

#### 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 (Ian) to add, remove, or modify user accounts without changing the code.
* It must adapt to platform updates (e.g., browser or mobile OS updates) with minimal downtime, ideally through cloud-based hosting.
* The IT admin needs full access to all accounts for maintenance tasks like password resets or blocking access for terminated employees.

#### 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 with a username and password; the system should support automatic password resets via email if a user forgets their password.
* Data exchange between the client and server must be secured using encryption (e.g., HTTPS).
* In case of a brute-force hacking attempt, the system should lock the account after 5 failed login attempts and notify the IT admin.
* If a user forgets their password, they should receive a secure link to reset it, valid for a limited time (e.g., 15 minutes).

### 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 register with their personal information (first name, last name, address, phone number, state, credit card details, pickup/drop-off location).
* The system shall enable customers to schedule, modify, or cancel driving lessons online, specifying the day, time, driver, and car.
* The system shall provide online classes and practice tests, displaying progress (test name, time taken, score, status).
* The system shall allow the owner to track all user activities (e.g., reservations, modifications, cancellations) and generate activity reports.
* The system shall notify DriverPass of DMV updates on rules, policies, or sample questions.
* The system shall allow the IT admin to manage user accounts (e.g., reset passwords, block access).
* The system shall enable the owner to disable specific training packages without developer intervention.

### 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 must be web-based, accessible via browsers on computers and mobile devices.
* Different users include customers , the owner , the IT officer , and the secretary, each with tailored access:
* Customers need to register, schedule lessons, take online tests, and view progress.
* The owner needs to view activity reports and manage packages.
* The IT officer needs full admin access to manage accounts and system settings.
* The secretary needs to schedule lessons on behalf of customers.
* The interface should include:
* A registration form for customer information.
* A scheduling page for lessons (showing available drivers, cars, and times).
* A test progress page (showing test name, time taken, score, status).
* A driver notes section (showing lesson times and comments).
* A contact page for customer support.

### 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 access to a stable internet connection for online features.
* The system assumes that the DMV provides a standardized API or notification system for updates on rules and policies.
* It is assumed that customers are familiar with using web-based applications for scheduling and taking tests.
* The system assumes that DriverPass will provide the necessary hardware (e.g., computers, mobile devices) for their staff to use 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?*

* The system may face limitations in customizing training packages without developer intervention, as adding or removing modules requires technical expertise.
* Time and budget constraints may limit the ability to implement advanced features (e.g., AI-based test recommendations) in the initial release.
* The system’s reliance on cloud hosting may introduce risks if the cloud provider experiences downtime or security breaches.
* The project timeline (January 22 to May 10) may not allow for extensive user testing or iterations if the client requests significant changes after the approval phase.

### 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 project

Description automatically generated*