# 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 comprehensive system for DriverPass, a company that provides online driver training services, including practice tests and in-person driving lessons.
* DriverPass wants the system to enable online and offline access to training materials, manage customer reservations for driving lessons, and track customer progress.
* The client also requires flexibility for different user roles such as admin, secretary, customer, driver and the ability to handle secure payment information and manage customer records.

### 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 aims to solve the problem of high failure rates in DMV driving tests by providing structured, flexible online and in-person training programs.
* The system will need to handle reservations for driving lessons, customer account management, reporting and integration with the DMV for up to date regulations and rules.
* Key system components will include
  + Reservation system or scheduling lessons and tracking drivers and cars
  + Customer account management for storing and updating personal and payment information.
  + Online training platform with access to practice tests and instructional content
  + Role-based access for different users(admin, IT officer, secretary, customer, driver)
  + Security measures for data protection, including password resets and secure login.

### 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 provide seamless access to customer records, training materials, and reservation management from both web and mobile platforms.
* It must track and report on customer activity, including lesson schedules and progress in practice tests.
* The system should allow for role-based access, ensuring the right permissions are granted to users.
* Key measurable task:
  + Reservation management: Ability to schedule, cancel, or modify lessons.
  + Account management: Secure registration, login, password recovery processes
  + Reporting: Activity logs for tracking reservations, modifications, and cancellations
  + DMV updates: Notifications when there are changes to DMV rules, regulations, or practice tests.

## 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 web-based to allow users to access it across various devices and platforms. The system should operate with minimal latency, ensuring that user actions such as exam submissions, feedback retrieval and progress tracking are completed within 2 seconds. It should handle up to 1,000 simultaneous users without performance degradation. The system should be updated regularly (every 3-6 months) to ensure it remains secure, up-to-date with changes in driving test requirements, and supports 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 run on a web-based platform compatible with all major browsers. It must be also be responsive to ensure a seamless experience across desktops, tablets, and mobile devices. The back end will require a relational database such as MySQL to store user data, exam results, training session logs, and other necessary information. Additionally, the system will need cloud hosting for scalability, with secure and reliable server infrastructure.

#### 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 shall accurately distinguish between different users by using a secure authentication process. User inputs, such as exam answers, should be processed correctly regardless of case. Any anomalies, such as invalid exam submissions or failed login attempts, should trigger notifications to the admin immediately. Results from practice exams should be scored with high precision, providing feedback on individual responses and overall performance.

#### 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 for easy addition, removal, or modification of user accounts without requiring changes to the underlying code. For example, new should be able to be added dynamically through the admin interface. The system must be adaptable to platform updates, ensuring that it works with new browser versions or operating system. IT administrators should have sufficient privileges to manage user accounts, update system configurations, and perform system maintenance tasks without modifying code.

#### 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?*

* To log in, users must enter a valid email and password. The system must ensure secure data transmission using HTTPS, with encrypted communication between the client and server. In the event of a brute force hacking attempt, the system shall lock the user account after giving failed login attempts for 30 minutes. If a user forgets their password, the system should send a secure password reset link to their registered email address. All sensitive data, including personal information and exam results, must be stored securely using industry-standard encryption methods.

### 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 create an account by providing a valid email, password, and basic profile information
* The system shall validate user credentials when logging in.
* The system shall allow students to take practice exams, simulating real-world driving tests.
* The system shall provide immediate feedback on exam performance, including correct and incorrect answers.
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* The system shall allow users to track their progress over time, displaying results of previous exams and improvements.
* The system shall integrate with on the road training data, allowing instructors to log sessions that affect the students’ progress.
* The system shall send notifications to students about upcoming exams, expiring licenses, or training schedule updates.
* The system shall allow admins to manage user accounts, view system logs, and perform maintenance.

### 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 intuitive to ensure ease of use for both students and instructors. The design must be responsive and adaptable to desktop and mobile browsers.
* The interface should allow students to register, log in, take practice exams, view feedback, track progress, and schedule driving lessons
* The interface should allow instructors to add on the road training sessions, track student progress and provide feedback.
* Admins need to manage user accounts, monitor system health, and generate reports on student performance.
* The system will be accessed through web browsers on both mobile devices and desktops. The interface should offer touch-friendly interactions for mobile users and mouse/keyboard interactions for desktop 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?*

* It is assumed that users will have reliable access to the internet and compatible devise.
* Students will voluntarily input their performance data from on the road training, and the system will support integration with third-party systems for driving schools.
* The system will initially be focused on specific local driving laws and test requirements, with future expansions possible based on market demand.
* Users will be familiar with basic internet navigation and will require minimal training 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 will initially only cover the written portion of the driving exam. The on the road training integration will be a secondary feature that will be implemented in later phases.
* There may be some limitations based on the budget for hosting infrastructure, potentially impacting the ability to support a large user base at launch.
* The system’s success depends on the cooperation of local driving schools and instructors for integrating on the road training data,

### 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 computer screen shot of a driver pass

AI-generated content may be incorrect.