# 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 client, Liam, is the owner of a company called DriverPass. He would like to fill a void in the market by offering consumers the ability to take online practice exams for the DMV test. Liam also wants access to both online and offline data for analysis.
* TThe system should allow end users and employees to make reservations online and modify their dates and times. Additionally, it should enable end users to take online practice exams.
* The system should allow Ian, the IT officer, to manage the system, including performing tasks such as password resets for employees and end users.

### 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?*

* The problem is to address the high failure rate of individuals taking their driver's test at the DMV.
* The system requires a backend to securely store user information, including names, phone numbers, pickup locations, and credit card details.
* The program needs a Graphical User Interface (GUI) on the website to allow users to input information or make changes.
* A logging system should be implemented to track who made changes to reservations and when.

### 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 users to create accounts, take tests, and schedule driving dates and times.
* Users should be able to register online or by calling, where company operators can update their scheduling needs and personal information within their profile/account.
* Administrators should be able to track user statuses, driver assignments, DMV/trainer access, and cars used, as well as review logs for security and auditing purposes.

## 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.*

* For security, the system should be role-based access control with encrpytion features for PII data.
* The system should be scalable to accommodate an increase or decrease in users over time..
* The system should be available 24/7 with minimal downtime for updates and maintenance.
* The system must comply with DMV regulations and payment security standards, such as the Payment Card Industry Data Security Standard (PCI DSS).

#### 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?*

* Navigation within the system, including clicking on buttons, processing payments, and submitting forms, should occur quickly, ideally within three seconds.
* The system runs on Linux servers and should be able to sustain 400–600 concurrent users. Additionally, bandwidth should be increased to minimize latency.
* System downtime for maintenance and updates should be minimal, with only a few hours of inaccessibility.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 platform is a web-based application hosted in the cloud and accessed through standard web browsers such as Firefox, Edge, Chrome, and Safari. Therefore, the operating system platforms are less important as long as they are compatible with the latest browser support.
* The backend will require a database solution such as Oracle, SQL, Azure, or AWS. SQL is a cheaper option since it is open-source but requires more maintenance.

#### 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?*

* Users will create a case-sensitive password of their choosing for logins.
* There will be limits on login attempts, and accounts will be locked after multiple failed attempts.
* Logs will be sent to administrators whenever invalid login attempts occur or when users are locked out of their accounts. Users will also receive notifications about such activity.
* Administrators will be alerted if transactions fail or if users experience issues scheduling, navigating the application, taking a test, or making purchases.

#### 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?*

* Yes, system users can add, remove, and modify data related to purchases, profile information (such as PII), password changes, and contact details. These interactions do not require any code modifications.
* User systems, such as Windows and Apple devices, apply periodic updates that do not affect the system. However, the system itself will require occasional updates for compatibility and security improvements.
* The IT administrator needs access to user profiles to reset passwords, resolve profile issues, and review user logs.

**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 be required to create passwords with a minimum length, including uppercase and lowercase letters, as well as special characters.
* Users will not be able to reuse previous passwords after failed login attempts.
* Two-factor authentication (2FA) will be implemented, requiring users to verify logins through a phone text message or email.
* The application will enforce HTTPS secure connections to encrypt data between the system and the user’s device, ensuring the protection of sensitive PII.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.”*

* Functional requirements include allowing users to schedule driving lessons, modify schedules, and update or delete profile settings.
* Users should be able to download materials such as study documents and DMV compliance materials. Staff should be able to download reports and view scheduled lessons and tests.
* The system should support updating required documentation based on DMV policies and guidelines, including updates to tests and driving lessons as needed.
* Users should have access to a variety of resources, including feedback from instructors on driving lessons, contact information for instructors and students, and payment methods for lessons and 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.)?*

* After logging in, users will be presented with a dashboard where they can select their profile (to update and modify), view payments or charges, and check notifications, such as instructor feedback.
* Users will also have access to a calendar for scheduling lessons and an option to take a practice test.
* The administrator’s interface should include user management features, such as resetting passwords, viewing reports and logs, and managing security settings.
* After logging in, the system should display a dashboard that provides an overview of current lessons and schedules.

### 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 an internet connection and a computer that meets the minimal OS requirements to access the system.
* It is also assumed that personnel at DriverPass will have computers that meet the minimal OS requirements.DMV providing current updates for Driverpass is also an assumption.
* It is assumed that the DMV will provide current updates for DriverPass. Additionally, it is assumed that the DMV grants access to their API, enabling automated updates.
* It is assumed that users will provide accurate personal information, including valid payment details for the courses.
* It could also be assumed that in the near future that DriverPass be available on mobile phones to provide greater accessability.

### 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?*

* Internet connectivity is essential, as it is a web-based application. While course materials can be downloaded for offline studying, internet connectivity will primarily be required.
* There may be limitations based on the customers' locations, such as being out of the country or in certain states.
* There could be limitations in obtaining updated policies and guidelines from the DMV, which might pose an issue.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 diagram with different colored squares

AI-generated content may be incorrect.*