# 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 is DriverPass, a company represented by its owner, Liam, and IT officer, Ian.
* The purpose of this project is to develop a comprehensive training and scheduling system for the company. The system is intended to enhance the customer experience by offering online and in-person training options, managing appointments, tracking progress, and handling administrative tasks.

### 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 wants the system to manage, streamline, and ease the process of providing driver training services.
* The system is designed to enhance the efficiency and effectiveness of their operations by allowing for better scheduling, customer management, and progress tracking. The system needs several key components to meet its needs. These include:
* A scheduling module for managing driving lesson appointments and online test progress tracking to monitor customer performance.
* User management and authentication are necessary for secure access control, while driver notes and lesson management will help record lesson details and feedback.
* A customer information input form is required for securely collecting customer data, and compliance integration will ensure the system stays updated with DMV rules. Lastly, a contact page will facilitate communication between customers and DriverPass. Together these components will enhance efficiency, customer service, and compliance.

### 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 manage scheduling and appointments, track customer progress on online tests, and handle user management with secure, role-based access. It will collect and securely store customer information, maintain driver notes and lesson details, and ensure compliance with DMV updates by integrating real-time notifications. As a cloud-hosted, web-based solution, the system must be accessible from any device and designed to minimize technical maintenance.
* Measurable tasks for the system include developing appointment and progress tracking modules, implementing user management features, designing secure data storage, integrating DMV compliance updates, and conducting thorough testing to ensure all functionalities meet the client’s needs.

## Requirements

### Nonfunctional Requirements

*In this section, detail the different nonfunctional requirements for the DriverPass system. 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 application hosted on the cloud, ensuring accessibility from any internet-enabled device, such as desktops, laptops, tablets, and smartphones. It should be compatible with all major web browsers (e.g., Chrome, Firefox, Safari, Edge) and support various operating systems, including Windows, macOS, Linux, iOS, and Android. This will allow users—customers, staff, and administrators—to access the system from any location, providing flexibility and convenience.
* The system needs to be highly responsive. Resources such as data retrieval and updates, like loading customer information, scheduling appointments, or checking test progress are very important to access. This speed is crucial for maintaining user satisfaction, especially for tasks that require real-time interaction, like scheduling lessons or updating customer details.
* Regular updates are essential for maintaining the system’s security, functionality, and compliance with DMV regulations. Minor updates and security patches should be applied at least once a month to protect against vulnerabilities and enhance system stability. Major updates that introduce new features or significant improvements should be scheduled quarterly. The frequency of these updates ensures a well working product for the users.

#### 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 DriverPass system should be designed to work on any operating system, including Windows, macOS, Linux, iOS, and Android, while running smoothly on all major web browsers (like Chrome, Firefox, Safari, and Edge).
* To support the application, the back end will need a strong database system. The database will store all important information, like customer details, appointment schedules, test results, and user access levels.
* The system also requires server-side tools and frameworks to handle the behind-the-scenes work, like processing user actions, managing the database, and ensuring secure communication between users and the system.

#### 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 DriverPass system will distinguish between different users by assigning unique usernames and passwords for each account, along with specific roles. Those passwords will require a case-sensitive input for usernames and passwords to enhance the security level helping prevent unauthorized access to accounts.
* If there are any inconsistencies in data entries or system malfunctions that could affect the accuracy of scheduling, customer information, or test progress tracking, the system should generate an alert to the admin for immediate action.

#### 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 DriverPass system should be designed to allow user management (adding, removing, or modifying users) from the system interface.
* The IT admin will have access to the system to perform critical maintenance tasks. Such as, rights to manage user accounts and permissions, monitor system performance, apply updates, and address security concerns. This ensures that the IT admin has the tools to effectively manage and maintain the system.

#### 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 provide a valid username and a strong, case-sensitive password. To secure the connection and data exchange between the client and the server, the system should use HTTPS with SSL/TLS encryption.
* If the system detects a “brute force” hacking attempt, such as multiple failed login attempts within a short period, the account in question should be temporarily locked. The system should notify the admin of the suspicious activity and require the user to verify their identity before the account can be unlocked.
* For users who forget their passwords, the system will provide a secure password reset process. This process involves sending a password reset link to the user’s registered email address or using a security question and answer.

### 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 check that users enter the correct username and password when logging in. a timely manner.
* The system shall let customers schedule, change, and cancel driving lessons online.
* The system shall allow secretaries to manage driving lessons, including adding, changing, and canceling appointments over the phone or in person.
* The system shall show customers their progress on online tests, including the test name, time taken, score, and status (not started, in progress, failed, or passed).
* The system shall give different users different access levels, such as admin, IT officer, secretary, or customer, based on their role.
* The system shall allow the IT admin to reset passwords, block accounts, and manage user access easily.
* The system shall keep a record of all user actions, like scheduling or canceling lessons, and create reports for the admin to review.
* The system shall securely save customer details, like personal information, payment data, and lesson schedules, to protect privacy.
* The system shall connect to the DMV to get updates on rules and test materials and alert users when there are changes.
* The system shall provide a way for customers to reset their passwords securely if they forget them, using email verification or security questions.
* The system shall allow the admin or owner to disable or hide training packages that are not being offered anymore.
* The system shall ensure all data transferred between users and the server is secure and encrypted.
* The system shall have a contact page for customers to reach DriverPass and a way for DriverPass to communicate with customers.

### 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 DriverPass system's user interface needs to be simple and easy to use, with clear navigation and options to help all users quickly find what they need. Different users will interact with the interface in various ways from customers to secretaries and IT admins.
* Users will interact through a web browser via multiple devices. The interface will be designed to be responsive, meaning it will automatically adjust to fit different screen sizes and orientations, providing a smooth and consistent experience whether users are accessing the system from a large desktop monitor or a small mobile phone.
* This flexibility allows customers, secretaries, IT admins, and the owner to access and manage the system from any device with internet connectivity, ensuring convenience and ease of use in various settings.

### 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?*

* We assume that all users will have a good internet connection since the system is web-based and needs an internet connection to work properly. We also assume that users know how to use basic technology, like browsing the internet and using websites, since they'll need these skills to use the system. However, we believe customers will find the interface easy to use without much help or training.

### 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?*

* [There are some limitations to the DriverPass system design. One limitation is that the system's design might be limited by the technology we choose, which could make it harder to add new features or update the system in the future.
* We also have limitations with resources like time and budget. There might not be enough time to build and test every feature we want, so some features might need to be changed.
* Finally, there are limitations related to user training and support. We assume that all users will easily learn how to use the new system, but some people might need extra help or more time to get used to it.

### Gantt Chart

A screenshot of a computer

Description automatically generated