# 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?*

* Based on the DriverPass interview, I am designing a secure, cloud-based system to enhance DriverPass's ability to provide high-quality driver training services. This system will address current challenges by offering flexible scheduling, online practice tests, and access to training materials, improving the overall customer experience. It will enable customers to register, book driving lessons, and access training content, while also providing role-based access for the owner, IT staff, secretaries, and customers. Additionally, the system will track and log activities such as reservations, cancellations, and modifications for accountability, and it will be designed to adapt to changes in lesson packages or DMV requirements, ensuring flexibility and scalability.

### 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 a system that improves the driver training experience by providing online registration, scheduling, and access to practice tests and learning materials. The system aims to address inefficiencies in managing lessons, tracking activities, and keeping up-to-date with DMV changes. Key components include a flexible reservation system, an online learning platform, user management with role-based access, and tools for generating reports. The system must also integrate with DMV updates and run securely on a cloud-based platform to ensure reliability and accessibility from anywhere.

### 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 DriverPass system will allow customers to register, schedule driving lessons, and access online classes and practice tests through a user-friendly web platform or by contacting the office. It will include role-based access, giving the owner oversight of the system, IT staff the ability to manage accounts and updates, and secretaries tools to handle appointments efficiently.
* The system will also track all changes, such as reservations, cancellations, and modifications, and ensure that customers are linked to specific drivers and vehicles for their lessons. Additionally, it will generate activity reports, stay updated with DMV requirements, and provide flexibility for managing lesson packages as the business grows.

## 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?*

* Based on the DriverPass interview, the system needs to run in a cloud-based, web environment to ensure it is accessible from any device, including computers and mobile devices. It should perform efficiently, with key functions like scheduling and accessing data completing within two seconds. Updates to the system should be applied regularly, ideally on a monthly basis, or as needed to stay aligned with changes in DMV regulations and requirements.

#### 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?*

* Based on the DriverPass interview, the system should run on a cloud-based platform to ensure accessibility from various devices, including Windows, MacOS, and mobile platforms like iOS and Android. The back end will require a secure database, such as MySQL, to manage customer information, reservations, and other critical data efficiently. The use of cloud hosting is essential to handle backups and encryption, minimizing technical issues for the business.

#### 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 will distinguish between users by assigning unique login credentials to each user, ensuring secure and individualized access based on roles such as owner, IT staff, secretary, and customer.
* Passwords will be case-sensitive to enhance security and prevent unauthorized access. The system will inform the admin immediately if there are multiple failed login attempts, suspicious activities, or any issues that could compromise the integrity of the system. This ensures quick response to potential problems and keeps the system secure and efficient.

#### 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?*

* When designing the system for DriverPass, I will ensure that IT administrators can easily add, remove, or modify user accounts without requiring any code changes, making updates quick and efficient.
* I will design the system to adapt seamlessly to platform updates without causing downtime or requiring significant modifications. IT administrators will have full access to manage user permissions, monitor activity, and ensure smooth system operations, while maintaining the flexibility to handle any necessary operational changes.

#### 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?*

* Based on the DriverPass interview, I will design a secure login system that requires users to enter unique credentials, such as a username and a strong, case-sensitive password. To protect data during transmission, I will implement encrypted connections using HTTPS, ensuring that all interactions between the client and server are secure. In the event of a brute force hacking attempt, the system will temporarily lock the account after five failed login attempts and notify the administrator of the suspicious activity. For users who forget their passwords, the system will provide a secure password recovery process, allowing them to reset their password through email verification or other secure 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.”*

* Based on the DriverPass interview, I designed a system that ensures functionality tailored to the client’s needs. The system shall allow customers to register, book, modify, and cancel driving lessons online. It shall validate user credentials during login to provide secure access and offer role-based permissions for the owner, IT staff, secretaries, and customers. The system shall log and track all activities, such as reservations and modifications, for accountability and reporting purposes. Additionally, it shall allow the owner to generate downloadable performance reports and adapt to changes in lesson packages or DMV requirements. To ensure usability, the system shall enable customers to access online classes, practice tests, and progress updates seamlessly on a secure cloud-based platform.

### 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.)?*

* On the DriverPass interview, I will design a user-friendly interface that caters to different users, including the owner, IT staff, secretaries, and customers. The interface will be accessible via both mobile devices and web browsers to ensure flexibility and ease of use. Customers will use the interface to register, schedule lessons, access practice tests, and view progress reports.
* Secretaries will manage reservations, cancellations, and customer inquiries through a streamlined dashboard. IT staff will have access to system management tools for user accounts, permissions, and maintenance tasks. The owner will utilize the interface for generating reports, tracking business activities, and overseeing operations. Each user will have a role-specific experience, making the interface intuitive and efficient for all tasks.

### 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?*

* In designing the DriverPass system, I assumed that users, including customers and employees, would have reliable internet access to use the cloud-based platform effectively. Additionally, I assumed that customers are familiar with basic online interactions such as registration and scheduling, while employees have the necessary technical skills to manage their tasks within the system.
* Specific details about mobile device compatibility and screen resolution were not explicitly addressed, but the design aims to ensure responsiveness across common devices. Finally, I assumed that the DMV would provide timely updates via APIs or other methods to keep training materials and practice tests current.

### 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?*

* In designing the DriverPass system, there are several limitations to consider. The system's functionality will depend heavily on the reliability of the cloud hosting provider, which may occasionally impact performance or availability. Additionally, the initial budget and timeline constraints may limit the inclusion of advanced features like AI-driven recommendations or complex analytics.
* The system's updates will also rely on the DMV providing timely changes, which could delay certain features. Lastly, the development team has a fixed timeframe to deliver the system, which means prioritizing core functionality over potential future enhancements.

### Gantt Chart

A graph with blue rectangles

Description automatically generated