# 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 develop a system that supports DriverPass, a company focused on improving driver training. The system will enable customers to access online classes, practice tests, and on-the-road training, making it easier for them to pass their driving tests at the DMV. The client, Liam, aims to provide a seamless online platform that supports reservations, tracks driving lessons, and offers secure access to customer and training data. Additionally, the system should support various user roles with different access rights, allowing efficient management of the business operations.

### 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 has identified a significant problem: many individuals fail their driving tests at the DMV due to insufficient training resources. The company aims to address this by offering comprehensive driver education, which includes online classes, practice tests, and in-person training. The system they require needs to provide a way for customers to book driving lessons, track their progress, and access materials both online and offline. The system must also handle employee roles with varying access levels, ensure data security, and comply with DMV updates for rules and policies. Key components of this system include reservation management, user access control, progress tracking, and integration with DMV updates.

### 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 be capable of the following measurable tasks:

1. **Online and Offline Access**: Allow employees to access data from any device, with the ability to download and work offline while ensuring data integrity.
2. **Reservation System**: Enable customers to make, cancel, or modify driving lesson appointments online. The system should track lesson details including the assigned driver, vehicle, and time.
3. **User Access Control**: Implement different access levels for employees, ensuring administrative users can manage accounts, reset passwords, and block users as needed.
4. **Tracking Changes**: Provide detailed activity tracking to identify who made, canceled, or modified any reservations.
5. **Package Flexibility**: Support the ability to offer different driving lesson packages (6, 8, or 12 hours), with the flexibility to disable or modify them as required.
6. **DMV Integration**: Allow the system to receive automatic updates from the DMV about rules, policies, and test content to ensure compliance with the latest standards.
7. **Secure Customer Information**: Collect and store customer details, including personal and payment information, securely, with support for automatic password resets for users.
8. **System Scalability**: The system should be cloud-based for minimal maintenance and should scale easily as DriverPass grows, supporting both internal and external users.

## 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 be web-based and accessible for both desktop and mobile devices
* The system must load all standard user pages within 3 seconds under normal operating conditions
* Updates should be preformed on a regular maintenance schedule, ideally once a month or immediately in response to a policy change or security patch

#### 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 must run in modern web browsers across all major platforms.
* It should be cloud hosted to ensure high availability and accessibility from any location
* The backend should include a relational database to store information
* The system should also interface with Microsoft excel for downloading reports

#### 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?*

* Each user will be identified by a unique user ID and role-based credentials
* Input fields such as names and addresses should not be case sensitive, but passwords and usernames must be.
* The system should notify the admin if unusual behavior is detected such as repeated failed login attempts or conflicting data entries.
* All user actions (reservation, cancellations, edits) should be timestamped and logged with user IDs for accountability.

#### 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 admins to add, remove, or modify users through an admin panel without having to alter code
* More advanced changes may need developer input.
* The system should be designed with modular architecture to support future platform updates and functionality additions.
* The admin should have full access to reset accounts, block users, adjust training packages ,and manage roles

#### 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?*

* All users must log in using a secure username and password.
* The system should support encrypted HTTPS connections to protect data in transit between client and server.
* Accounts should be locked after a number of failed login attempts to prevent brute force attacks and the admin should be notified.
* A self-service password reset function must be available for users who forget their credentials with email verification to authenticate the request.

### 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, modify, and cancel driving lesson reservations.
* The system shall allow users to reset their passwords automatically if forgotten.
* The system shall track and log all user actions such as making, modifying, or cancelling reservations.
* The system shall allow IT personnel to block or reset user accounts.
* The system shall allow admins to download reports for offline use.
* The system shall store student and payment information, including pickup/drop-off location.
* The system shall provide online access to practice exams and track exam progress and scores
* The system shall support different packages for training and allow disabling of packages as needed.
* The system shall link students to specific drivers, cars, and appointment times.

### 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.)?*

* **Customers**: Will use the interface to register, schedule or cancel lessons, take practice exams, track progress, and reset passwords.
* **Secretaries**: Will use the system to create appointments manually via phone or walk-ins, enter customer details, and view schedules.
* **IT Staff**: Will need full access to user accounts for management, including resetting or blocking access.
* **Administrators** (e.g., Liam): Will need access to download reports, monitor activity logs, enable/disable packages, and oversee schedules.
* **Drivers**: May need access to lesson schedules and the ability to enter notes after sessions.
* Each user will interact with a role specific dashboard tailored to the needs of their role.

### 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 access to reliable internet connection to use the online system.
* It is assumed that customers have basic digital literacy to navigate a web browser and preform simple tasks such as booking appointments or taking practice tests.
* It is assumed that DriverPass staff have access to devices capable of running web apps.

### 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 initial version of the system won’t include a module for adding/removing packages it can only enable or disable them.
* The system may not support offline data modification to avoid data redundancy and version conflicts.
* Time constraints may limit the ability to implement advanced DMV integration features in the first release.
* Budget limitations may restrict the number of custom reports or analytic features included.
* System scalability may be limited based on the hosting plan selected for the cloud infrastructure.
* Support for mobile devices may vary slightly across platforms depending on the devices browser compatibility.

### 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.*

