# 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 goal of this project is to design a system for DriverPass that will prepare customers for driving tests, by offering both online practice tests and on road training. DriverPass needs a system that lets users access these services, make appointments, and be able to manage and work with data seamlessly.

### 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 to help people who are struggling to pass their driving tests at DMV. They want to create a comprehensive solution that provides customers with improved training and preparation options. The system will have online practice tests, as well as training package options with driving sessions. It will allow customers to sign up, schedule lessons, and stay updated with DMV regulations. Additionally, the system will need to be secure, maintainable, and cloud-based so DriverPass can focus on their business without worrying about potential technical issues.

### 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?*

* User registration and management: Customers will be able to create accounts, book driving lessons, and select from different training packages.
* Access to practice exams: Customers will be able to take practice tests online and view their progress, which includes their scores and status updates.
* Flexible scheduling: The system will allow customers to book, modify, or cancel their driving lesson online or by phone.
* Role-based access: Employees will have different levels of access, so the tech officer can manage accounts, and secretary can assist with scheduling appointments.
* Tracking and reporting: The system will be able to track changes made by end users and generate reports that will show who made or modified appointments.
* DMV Compliance: The system will be able to connect with the DMV to receive updates and notify DriverPass when any new rules are implemented. It will also provide updates on any new test content.
* Cloud-based operation: The system will run on a secure cloud platform to minimize technical maintenance and let DriverPass focus on customer training.

## 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 will be web-based and hosted on a secure cloud platform.
* It will provide fast responses to user actions with latency of less than 2 seconds under typical usage.
* It will support concurrent users, including administrators, secretaries, and customers, without performance degradation.

#### 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 will be compatible with Windows, MacOS, and mobile operating systems.
* It will utilize a SQL database to manage user data, lesson schedules, and reports.
* The system will support standard web browsers like Chrome, Firefox, and Edge. It will also support mobile web browsers.

#### 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 differentiate users by unique usernames and secure passwords.
* Input validation will ensure all required fields are correctly formatted. (e.g., credit cards, addresses, phone numbers)
* Administrators will be notified immediately if system errors or anomalies occur.

#### 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?*

* Administrators will be able to enable or disable training packages without the need for code changes.
* The system will allow seamless integration of DMV updates for compliance.
* IT administrators will have full access to add or remove user accounts as needed.

#### 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 login with username and password, which will meet complexity requirements.
* All data exchanges between client and server will be encrypted using SSL/TLS protocols.
* After five failed login attempts the system will lock the user account and notify administers.
* Password recovery will be handled through a secure email reset process.

### 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 will validate user credentials during login
* The system will allow customers to create, update, and delete their account.
* The system will enable users to book, modify, and cancel driving lessons online or though phone, and in person methods.
* The system will assign trainers, cars, and time slots for each scheduled appointment.
* The system will provide online practice exams, track scores, and display progress reports.
* The system will send automated notifications to administrators about updates from the DMV.
* The system will generate activity reports for administrators, detailing user action such as booking, canceling, or modifying lessons.
* The system will provide password recovery functionality through secure email reset.

### 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 will support three types of users: customers, administrators, and secretaries.
* Customer needs:
  + Register for an account and login.
  + Schedule, modify, or cancel driving lessons.
  + Access online practice exams and track progress.
* Administrator needs:
  + Manger user accounts (add, remove, and reset passwords).
  + Access and review system activity logs.
  + Generate reports and download them for offline user.
* Secretary needs:
  + Assist customers in scheduling appointments.
  + View and update schedules for trainers and cars.
* Interaction modes:
  + The system will be accessible through both web browsers and mobile devices.
  + The design will prioritize ease of use, featuring intuitive navigation and responsive layouts.

### 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?*

* All users have access to stable internet connections for web-based operations.
* Customers have basic technological literacy to navigate the system for scheduling and exams.
* The DMV will provide timely updates on what has changed in test rules and content.
* Administrators have basic understanding of data reports and security protocols.
* Secretaries will have training on using the system to assist customers.

### 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 cannot allow offline modifications to data; to prevent redundancy and conflicts.
* Customization of training packages requires developer input and cannot be managed directly by a non-technical user.
* The system relies on timely updates from the DMV for compliance. This could delay some features if updates are not received promptly.
* Budget and time constraints may limit the implementation of advanced features.
* System scalability might be limited by the initial cloud platforms resource constraints, requiring future upgrades for higher user loads.

### 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.*

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