# 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 comprehensive online learning platform for DriverPass that aims to help individuals prepare for their driving tests effectively.
* The client, DriverPass, wants a system that provides instructional content, practice tests, and progress tracking for users preparing for their driving exams.
* DriverPass wants to offer a user-friendly digital platform that improves driving education accessibility and success rates.

### 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 identified a societal issue where many individuals struggle to pass their driving tests due to inadequate preparation and lack of access to quality instructional resources.
* The problem they aim to solve is the high failure rate in driving tests and the limited availability of effective learning tools.
* DriverPass wants to offer a solution by providing an interactive, digital learning system that offers instructional videos, quizzes, and simulated driving tests.
* Key components needed for this system include: - A content management system for instructional material - A quiz and test module for practice exams - Progress tracking and reporting features - A user registration and account management system - Customer support integration

### 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 and manage personal accounts - Access instructional videos and learning materials - Take practice quizzes and full-length practice tests - Receive feedback on test performance and track progress - Book and manage real-world driving lessons - Access support resources for further help
* The system's objectives should be measurable through: - Completion rates for instructional modules - Number of practice tests taken - User pass rates for the official driving test - Positive user feedback and satisfaction ratings

## 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 shall be a web-based application accessible via modern browsers on desktops, tablets, and mobile devices.
* It shall respond quickly (e.g., pages and interactive elements loading within 2–3 seconds) to ensure a smooth user experience.
* The application will operate in a near real-time manner for booking updates, appointment changes, and report generation.
* Scheduled updates and maintenance should be performed during off-peak hours to minimize user disruption.

#### 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 shall run on all major operating systems, including Windows, macOS, Linux, iOS, and Android.
* It must be compatible with popular web servers (e.g., Apache, Nginx) and be deployable on a cloud platform (such as AWS, Azure, or Google Cloud) to leverage built-in backup and security features.
* The back end shall utilize a robust database system (relational or NoSQL) capable of handling multiple concurrent transactions and ensuring secure data storage.

#### 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 shall validate all user inputs (e.g., personal details, credit card information) to ensure data accuracy and integrity.
* User identification will be achieved using unique identifiers (e.g., email addresses or usernames) while passwords will remain case-sensitive.
* The system shall automatically notify administrators when significant data anomalies occur or when predefined error thresholds (e.g., multiple failed login attempts) are exceeded.

#### 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’s design will be modular so that user roles and functionalities (e.g., adding, modifying, or disabling training packages) can be adjusted with minimal code changes.
* IT administrators shall have full access to manage user accounts and roles, including the ability to add or remove users as needed.
* The application shall be designed to easily integrate future updates from external sources (such as DMV rule changes) and adapt to evolving platform standards.

#### 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?*

* The system shall require users to log in using a unique username (or email) and a strong password, with enforced password complexity policies.
* All data exchanges between client and server must be secured using HTTPS/SSL encryption.
* In the event of a brute force hacking attempt (i.e., multiple consecutive failed login attempts), the system shall temporarily lock the account and notify the IT administrator.
* A secure password recovery process shall be provided, using automated email verification to facilitate password resets.

### 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 customers to register for an account, update their profile information, and delete their account if needed.
* The system shall enable customers to schedule, modify, and cancel driving lesson appointments online.
* The system shall provide multiple training package options (e.g., Package One: 6 hours; Package Two: 8 hours; Package Three: 12 hours) and allow administrators to disable or modify package availability.
* The system shall track all appointments by linking customer information with specific drivers and cars, ensuring accurate scheduling.
* The system shall support an online learning module where customers can access practice tests and view their test progress (including details like test name, time taken, score, and status).
* The system shall provide an interface for drivers to enter lesson details, including start/end times and driver comments, for record-keeping and reporting.
* The system shall allow IT administrators to manage user accounts and roles, including password resets and account deactivation.
* The system shall integrate with external DMV systems to receive timely updates on rules, policies, and sample exam questions.
* The system shall generate audit and activity reports that record user actions (such as reservation creation, modification, or cancellation) for security and troubleshooting purposes.

### 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.)?*

* Customer Interface:
  + Must be intuitive and responsive, allowing customers to easily navigate registration, appointment booking, and access online training materials.
  + Designed to be mobile-friendly and accessible via common web browsers.
* Administrator Interface (IT and Management):
  + Should provide dashboards for managing user accounts, scheduling, package management, and monitoring system activity.
  + Must allow for viewing and generating detailed reports on user activity, system updates, and appointment logs.
* Secretary Interface:
  + Should offer a simple, user-friendly form for registering customer information via phone or in-person visits.
  + Must enable appointment scheduling, cancellations, and modifications with minimal steps.

### 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?*

* Users are assumed to have reliable internet access and use up-to-date web browsers.
* It is assumed that customers are familiar with online account management and appointment scheduling.
* Payment processing will be handled by a secure, third-party payment gateway, and sensitive payment data will not be stored on the system.
* Integration details and protocols with the DMV for rule updates will be provided by DriverPass or established as a future enhancement.
* The initial design focuses on a web-based system; native mobile applications are considered out of scope for this phase.

### 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 will initially be web-based; support for native mobile applications or offline functionalities for modifying data may be limited.
* Changes to training packages beyond enabling or disabling them will require developer intervention, as non-developer modifications are not supported in the current release.
* The project is constrained by available development resources, budget, and timeline; extensive customization or additional features may need to be phased in future releases.
* External integration with the DMV is subject to the availability and compatibility of the DMV’s API or data update mechanisms.
* Scalability may be limited in the initial phase, with potential performance impacts if the user base grows rapidly beyond current projections.

### 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.*

