# CS 255 Business Requirements Document Template

## 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 improve driving test pass rates by providing driving lessons with trainers, classes on DMV rules and policies, and online classes with practice tests.
* The clients are Liam, the owner of DriverPass, and Ian, DriverPass’s IT officer.
* They want the system to be able to manage bookings, account and information management, and progress tracking as well as administrative tools such as action logging and password resets.

### 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?*

* They want the system to:
  + Manage driving lessons, either online, in the office, or over the phone.
  + Provide online classes and practice tests.
  + Track client progress.
  + Integrate with DMV to keep information up to date.
  + Log actions and print activity reports.
* The problems they want to fix are:
  + Accessibility to updated DMV rules and guidelines.
  + Accessibility to driving trainers.
  + Accessibility to online classes and practice tests.
* The different components are:
  + User management and authentication
  + Action logging system
  + Scheduling/reservation system
  + Training/testing system
  + Driver/student management system/database
  + Cloud service
  + DMV 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 be able to:
  + Enable the creation and removal of users as well as assigning security roles
  + Log actions and generate action reports
  + Be accessible online and offline
  + Allow clients to schedule, manage, and cancel reservations
  + Enable clients to access course and practice test materials
  + Track client progress and provide driver feedback
  + Integrate with the DMV to ensure information is always updated
* Measurable tasks are:
  + Interviewing the client (DriverPass)
  + Creating a list of user roles and their permissions
  + Use case diagrams
  + Activity diagrams
  + Class diagrams
  + Logging and database framework
  + UI design and interface
  + Reservation and progress tracking framework
  + Unit testing

## Requirements

### Nonfunctional Requirements

#### 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 web-based.
* The system shall run efficiently with a large user base.
* The system shall be updated regularly and when the DMV provides updated resources.

#### 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 in the browser on mobile and desktop devices.
* The system shall have access to a database.

#### 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 enforce role-based access.
* The system shall validate input, including matching case.
* The system shall notify admins of system errors.

#### 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 shall provide IT admins the ability to modify users.
* The system shall provide IT admins the ability to modify packages.

#### 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 encrypt sensitive data.
* The system shall provide activity logs.
* The system shall provide temporary account lockouts.
* The system shall provide password management.

### 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 accounts.
* The system shall validate user credentials.
* The system shall allow users to reset their passwords.
* The system shall allow IT admins to reset user passwords.
* The system shall restrict access according to user roles.
* The system shall allow users to make, modify, and cancel lesson reservations.
* The system shall allow secretaries to make, modify, and cancel lesson reservations for users.
* The system shall allow users to enroll in lesson packages.
* The system shall support the creation, modification, and deletion of lesson packages.
* The system shall allow IT admins to enable and disable lesson packages.
* The system shall allow users to reserve time slots for in-person driving lessons.
* The system shall automatically assign drivers to users.
* The system shall allow users to access practice tests.
* The system shall store and display user progress and driver notes.
* The system shall log user and administration activities.
* The system shall allow IT admins to generate activity reports.
* The system shall hook into the DMV to obtain up-to-date resources.
* The system shall update test content according to DMV policies.

### 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.)?*

* Users:
  + Should be able to view course materials.
  + Should be able to view and take practice tests.
  + Should be able to view and enroll in lesson packages.
  + Should be able to view and manage driving test appointments.
  + Should be able to interact with the interface via touchscreen on mobile devices and mouse and keyboard on desktop devices.
* Secretaries:
  + Should be able to view and manage user driving test appointments.
  + Should be able to input information received over the phone or in-person.
* IT Admins:
  + Should be able to view and manage users and their passwords.
  + Should be able to view and manage lesson packages.
  + Should be able to view system logs and activity reports.

### 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 have access to a strong and stable internet connection.
* It is assumed that users have computer literacy.
* It is assumed that users will live in areas where contracted drivers are available.
* It is assumed that the system will be hosted in a secure, scalable cloud environment.
* It is assumed that payment data will be managed by a third-party provider.
* It is assumed that the DMV will provide access to their resources for automatic retrieval.

### 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 may not have DMV integration immediately.
* The system relies on the availability of drivers in different areas.
* Lesson packages require developers to implement.
* Budget and time constraints may affect UI development.
* Multi-language support may not be immediately available.

### Gantt Chart

A screenshot of a project

AI-generated content may be incorrect.