# 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 design and build a system for DriverPass, a company that offers driving practice and test preparation for all learners.
* The client (DriverPass) wants a system that helps learners register for lessons, schedule driving practice, and prepare for the DMV exams.
* The system needs to streamline learner access, track their progress, and improve communication between instructors, administrators, and learners.
* Ultimately, the goal is to create a centralized and efficient online environment that helps learners gain the confidence and skills needed to pass their driving tests.

### 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 currently struggles with managing lesson scheduling, communication, and tracking learner progress across multiple systems.
* Learners often have trouble booking lessons, accessing study materials, or knowing their progress toward DMV test readiness.
* The new system should centralize all these processes into one web-based platform that integrates lesson booking, progress tracking, and study materials.
* Who: The system serves learners preparing for driving exams, instructors providing lessons, and administrators managing scheduling and reports.
* What: DriverPass wants a web-based system that centralizes lesson scheduling, progress tracking, and access to learning materials.
* When: The system will be available 24/7 for learners and instructors, with administrative maintenance typically occurring during off-hours.
* Where: The system will be hosted on a secure web server, accessible via desktop and mobile devices.
* How: Through integrated modules for scheduling, communication, and learning, backed by a secure database for user management and reporting.
* The system will address the current communication and scheduling inefficiencies between learners and instructors.
* The platform will consist of:
  + Learner Portal: For account creation, booking lessons, accessing practice exams, and tracking progress.
  + Instructor Portal: To view schedules, update learner progress, and leave performance notes.
  + Administrator Dashboard**:** For managing users, lesson packages, vehicle availability, and generating system reports.
  + Scheduling and Calendar Module: To manage available lesson slots, prevent double-booking, and synchronize instructor availability.
  + Testing and Training Module: Containing online practice tests, DMV updates, and study resources.
  + Secure Database: To store user data, reports, and system logs safely.
* This system will run through a web browser with secure cloud hosting to allow remote access for all users.

### 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?*

* Allow learners to easily register, log in securely, and reset passwords when needed.
* Enable scheduling and rescheduling of lessons with real-time instructor availability.
* Provide access to up-to-date learning materials and DMV practice exams.
* Allow instructors to log notes on each lesson (duration, vehicle used, progress status).
* Generate automatic progress reports and performance summaries for learners and administrators.
* Offer the ability to purchase lesson packages online, with the system automatically disabling full or unavailable packages.
* Improve overall communication between learners, instructors, and administrators through notifications and built-in messaging.

## 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 operate as a web-based application accessible via browser on desktop and mobile.
* The system shall load primary pages within 3 seconds under normal traffic.
* The system shall support concurrent access by multiple users without performance degradation.
* System updates shall be conducted quarterly or as needed to align with DMV content updates

#### 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 be compatible with Windows, macOS, iOS, and Android devices through a web browser.
* The backend shall use a relational database (e.g., MySQL or PostgreSQL) for user, schedule, and progress data.
* The system shall require secure cloud hosting and HTTPS encryption.

#### 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 distinguish users by unique credentials (username/email) and role type (learner, instructor, admin).
* Input fields shall be case-sensitive for passwords and user IDs.
* The system shall notify the admin automatically if repeated login errors, failed updates, or database inconsistencies 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?*

* The system shall allow adding, removing, or modifying users without altering code, using admin control panels.
* The system shall adapt to browser and OS updates with minimal manual intervention.
* The IT administrator shall have full access to configuration settings and database maintenance tools.

#### 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 unique credentials verified by encrypted authentication.
* The connection between the client and server shall use SSL/TLS encryption.
* After five failed login attempts, the account shall be temporarily locked and the admin notified.
* Users who forget their passwords can reset credentials via secure email verification.
* Sensitive data (e.g., payment info, personal data) shall be stored encrypted at rest.

### 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 new users to register and create accounts.
* The system shall validate user credentials during login.
* The system shall allow learners to view and book available lessons.
* The system shall let instructors update lesson status (not taken, in progress, failed, passed).
* The system shall store lesson notes including duration, vehicle used, and progress comments.
* The system shall allow learners to access and complete online learning modules and practice exams.
* The system shall track learner performance over time.
* The system shall allow administrators to generate reports on user activity, lessons, and system usage.
* The system shall allow the client to activate or deactivate lesson packages based on availability.
* The system shall send notifications for upcoming lessons, cancellations, or updates.

### 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 include learners, instructors, and administrators.
* The interface shall be web-based, accessible through browsers and mobile devices.
* Learners can view dashboards for schedules, learning modules, and progress tracking.
* Instructors can manage schedules, record lesson data, and communicate with learners.
* Administrators can monitor reports, manage accounts, and control system configurations.
* The interface shall use intuitive navigation with menus, icons, and consistent color themes for accessibility.

### 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 will have access to reliable internet and compatible devices.
* Users will have a basic level of computer literacy.
* The DMV provides timely updates for test material synchronization.
* Instructors and learners will maintain accurate profile information.

### 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?*

* Limited by budget and available technology for advanced AI or analytics integration.
* The system relies on internet access; offline use is not supported.
* Performance may vary under extreme user loads.
* Third-party updates (e.g., browsers, OS changes) could cause temporary incompatibilities.
* Initial development constrained by time and staffing resources.

### 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.*

A diagram with pink rectangular boxes

AI-generated content may be incorrect.