# 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 a system for DriverPass, a new company aiming to improve driver training and reduce high failure rates at DMV driving exams.
* The system will provide students with access to online practice exams, online classes, and the ability to schedule and manage on-the-road driving lessons.
* The client, DriverPass, wants the system to be accessible from any device and to allow administrators to manage users, track activities, and generate reports.
* The project aims to give DriverPass a competitive edge by filling a market gap in driver education tools.
* DriverPass wants their system to integrate classroom-style instruction, practice exams, and in-car lessons into a single streamlined platform.
* The system should increase student pass rates on DMV exams, helping DriverPass build credibility and attract more customers.

### 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 that more than 65% of students fail their DMV driving test due to poor preparation.
* The problem to solve: lack of comprehensive training that combines online learning, practice exams, and practical driving lessons.
* System components:
  + Cloud-based web platform
  + Student accounts for scheduling and online learning
  + Administrative accounts for IT staff and management
  + Interfaces for secretaries to input data and schedule lessons
  + Scheduling engine for reservations and cancellations.
  + Learning management tools for online tests and study materials.
  + Payment processing system for package enrollment.
  + Reporting/analytics module for activity tracking and progress reports.

### 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?*

* Provide students with secure accounts for online classes and practice exams.
* Allow customers to schedule, cancel, and modify driving lessons online.
* Enable secretaries to input and update student information (including payment details).
* Generate reports for management on user activities, reservations, and progress.
* Track instructor assignments, lesson times, and student performance.
* Ensure system flexibility to disable packages and adapt to DMV updates.
* Provide secure role-based access for IT staff to reset accounts and manage permissions.
* Improve student DMV pass rates by providing reliable, updated training content.
* Increase customer satisfaction with a self-service online portal for lesson scheduling and progress tracking.
* Ensure administrative efficiency by reducing manual scheduling errors and minimizing phone/email overhead.
* Measurable tasks:
  + Generate activity logs of reservations, modifications, and cancellations.
  + Produce score reports from practice exams.
  + Track lesson attendance and instructor feedback.

## 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 cloud-based and accessible via web browser on desktops, laptops, and mobile devices.
* The system should respond to user requests within 5–10 seconds.
* System updates (security patches, feature updates) should be scheduled regularly with minimal downtime.
* **It should handle simultaneous users without lag, especially during DMV exam seasons when usage may spike.**

#### 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 a cloud-hosted environment to avoid local server maintenance.
* No local database will be stored at DriverPass offices; all data shall be stored and secured in the cloud.
* The back end will require a relational database (e.g., SQL) to store student, instructor, and scheduling data.
* Must support integration with DMV APIs for updates.
* System must be browser-agnostic (Chrome, Firefox, Safari, Edge) and mobile-compatible.

#### 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 between different user roles: student, instructor, secretary, IT/admin, and owner.
* Input validation must ensure credit card and personal details are correct before processing.
* The system shall notify IT/admin when suspicious activities occur (e.g., repeated failed login attempts).
* The system should enforce case sensitivity for passwords but allow case-insensitive usernames for convenience.
* Activity logs must display timestamps, user IDs, and actions taken for full 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?*

* Admin shall be able to add/remove/modify users without developer intervention.
* System should allow the owner to reconfigure lesson packages (disable, rename, change hours) without altering source code.
* The system shall automatically adapt to platform updates from the cloud provider.
* Must be scalable to add future features such as mobile app integration or new DMV testing formats.

#### 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 username and password login for all users.
* Passwords shall be encrypted and securely stored.
* Failed login attempts (3 consecutive failures) shall trigger a temporary lockout and admin notification.
* Password reset functionality shall be available for students through secure email verification.
* Data exchanged between the client and server must use secure connections (HTTPS/SSL).

### 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 validate user credentials when logging in.
* The system shall allow students to register and manage their accounts.
* The system shall allow students to schedule, modify, and cancel driving lessons.
* The system shall allow secretaries to enter and update student information.
* The system shall record and track which instructor and car are assigned to each lesson.
* The system shall allow students to take online practice exams and track results.
* The system shall allow instructors to record lesson notes and comments.
* The system shall connect to DMV services to update tests, rules, and policies.
* The system shall generate reports on reservations, cancellations, and user activity.
* The system shall allow administrators to reset or block accounts as needed.

### 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.)?*

* Web-based interface, accessible via browser on computer or mobile.
* Student interface: view/edit profile, schedule lessons, take online classes/tests, view results, download/print progress reports.
* Secretary interface: input/update student information, schedule lessons, process payments.
* Instructor interface: view lesson schedule, submit notes/comments for each student session.
* Admin/IT interface: manage accounts, permissions, and generate reports.
* Dashboard view for progress tracking (lesson times, instructor comments, test scores).
* Input forms for registration and contact pages.

### 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?*

* Customers have valid credit cards and working internet access.
* DMV will provide timely updates for rules and practice test material.
* Cloud provider ensures system availability, backups, and data security.
* Students have access to a computer or mobile device for online training.

### 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 function offline; internet access is required.
* Adding or removing packages requires developer involvement; only disabling is available to the owner.
* Functionality is limited by budget and time, meaning advanced features (e.g., AI tutoring) are excluded from this version.
* Dependence on DMV updates; delays from DMV will impact test content accuracy.
* Limited by resources: a small IT staff will manage the system.

### 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.*

