# CS 255 Business Requirements Document

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?*

* DriverPass wants a cloud-based system that lets students take online practice exams, book two-hour driving lessons, and track their progress.
* The goal is to cut the high DMV failure rate by giving students flexible, anywhere access to training material and scheduling.

### 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?*

* Today, many DMV applicants fail because they cram old tests. DriverPass fills that gap with online study plus in-car training.
* Key components include
  + User accounts
  + Role-based security
  + Lesson scheduler
  + Package Manager
  + Online test engine
  + Reporting/export tools
  + DMV update integrations

### 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?*

* Let customers create accounts, purchase a package, and self-schedule, cancel, or modify lessons online
* Display live test progress (name, time, score, status) on the dashboard.
* Track who creates, changes, or deletes any reservation and print activity reports.
* Allow the owner to enable/disable a training package at will.
* Sync DMV rule and question updates automatically and alert staff when changes arrive.

## 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?*

* Runs as a responsive web app hosting in the cloud, avoiding local backups and maintenance.
* Pages should load in two seconds or less under normal load, with database updates appearing in real time.
* System checks for DMV content updates regularly and applies them.

#### 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?*

* Supports any modern browser on Windows, macOS, iOS, and Android.
* Use a cloud SQL database plus secure object storage for documents.
* Relies on a third-party payment and email API, no desktop installations needed.

#### 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?*

* Role-based login distinguishes Owner, IT, Driver, and Customer roles.
* All inputs are case-insensitive except passwords, which are hashed and salted.
* The system alerts IT if any transaction or sync fails, or if duplicate bookings 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?*

* Admin UI lets staff add, disable, or reprice packages without touching code.
* User accounts and roles can be added or revoked in real-time by IT.
* Cloud hosting abstracts OS patches and scaling; rolling updates require zero downtime.

#### 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 log in with email & password.
* After five failed logins, the account is locked and must be unlocked by IT.
* A self-service “Forgot Password” flow emails a reset link.
* IT can force a password reset or deactivate accounts instantly.

### 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 at login.
* The system shall let customers purchase a training package with a credit card.
* The system shall create, modify, or cancel lesson reservations and assign an available driver and car.
* The system shall display a customer’s online test status and scores in real time.
* The system shall log every create, update, or delete action with user, timestamp, and IP address.
* The system shall import new DMV questions and rules and flag them for review.

### 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 Portal: Website with pages for signing up, package selection, scheduling, payment, test dashboard, and profile editing.
* Employee Screen: Web form to enter walk-in or phone-in bookings and payments.
* Driver Screen: Tablet-friendly page to view upcoming lessons and add notes (start, end, comments).
* Admin Dashboard: Page for admin/IT to view reports, package toggles, user/role management, and DMV update logs.

### 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 access to email and basic web knowledge.
* Payment gateway handles PCI compliance.
* DMV exposes updates via a REST API or file-based feed.
* Each car has one assigned driver.

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### 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?*

* Customizing or adding entirely new package types beyond enabling/disabling requires developer effort.
* Budget limits to English-only UI.
* Team size and timeline restrict testing to standard browsers, no legacy support.
* On-the-road lesson tracking relies on manual entry until a future mobile app with GPS support.

### 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.*

