# 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?*

* Develop a comprehensive training system for DriverPass.
* Client: DriverPass, focusing on driving test preparation.
* Desired Capabilities: Online practice exams, on-the-road training, customer management, DMV compliance, user-friendly interface.

### 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 aims to reduce the high failure rate in driving tests.
* Problem to Fix: Inadequate preparation tools for driving license exams.
* Components Needed:
  + Online Practice Exams: For theoretical preparation.
  + On-the-Road Training: Practical driving experience.
  + Reservation System: Scheduling lessons and managing resources.
  + Customer Registration and Information Management: Handling personal and payment information.
  + User Roles and Security: Different access levels for employees and customers.
  + Service Packages: Flexible training options.
  + DMV Compliance: Up-to-date with driving laws and regulations.
  + Cloud-based Infrastructure: Scalable and accessible.
  + User-Friendly Interface: Easy navigation for all user types.
  + Reporting and Analytics: Tracking progress and performance.
  + Feedback Mechanism: Collecting user feedback.

### 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 provide a comprehensive solution for driving test preparation.
* Measurable Tasks:
  + Implement an online platform for practice exams.
  + Establish a system for booking and managing driving lessons.
  + Create a customer management system for registrations and scheduling.
  + Ensure system compliance with DMV regulations.
  + Design a user-friendly interface accessible on various devices.
  + Integrate analytics for tracking user progress and system performance.
  + Incorporate a feedback system for continuous improvement.

## 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?*

* Environment: Primarily web-based for easy access and maintenance.
* Speed: System should be responsive, with minimal lag in user interactions.
* Updates: Regular updates for functionality and security, at least bi-monthly.

#### 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?*

* Platforms: Compatible with major operating systems (Windows, macOS, Linux).
* Backend Tools: Requires a robust database system (like SQL) for data management.

#### 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?*

* User Distinction: Different user roles (student, instructor, admin) with unique access levels.
* Input Sensitivity: Non-case-sensitive input where applicable.
* Admin Alerts: Notify admin for system anomalies or security breaches.

#### 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?*

* User Management: Ability to add/remove/modify user profiles without code changes.
* Platform Updates: System should be adaptable to platform updates, without major overhauls.
* IT Admin Access: Full system access for maintenance, updates, and user management.

#### 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?*

* Login Requirements: Secure login process with multi-factor authentication.
* Data Security: Encrypted data exchange between client and server.
* Brute Force Protection: Account lockout or alert after multiple failed login attempts.
* Password Recovery: Secure process for password reset, including email verification.

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### 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 provide an interface for students to take online practice exams.**
* **The system shall allow scheduling and management of on-the-road training sessions.**
* **The system shall facilitate user registration for new customers, capturing personal and payment information.**
* **The system shall offer different service packages for driving lessons, with the flexibility to modify these packages.**
* **The system shall ensure compliance with the latest DMV regulations and update content accordingly.**
* **The system shall be accessible via web browsers on various devices (desktop, tablet, mobile).**
* **The system shall provide different access levels for staff (instructors, IT, management) and customers.**
* **The system shall track and report on student progress and lesson completions.**
* **The system shall have a feedback mechanism for students to rate their lessons and instructors.**
* **The system shall maintain a database for storing and retrieving customer and operational data.**
* **The system shall generate alerts or notifications for significant events or changes within the system.**

### 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.)?*

* **Display Online Test Progress**: It should show the tests the customer has taken, their progress, and completion status, with details like test name, time taken, score, and status (not taken, in progress, failed, or passed).
* **Customer Information**: The interface must display customer information such as first name, last name, address, city, state, zip, phone, email, etc.
* **Driver Notes**: It needs to present any comments left by the driver regarding the student's performance or other observations.
* **Lesson Scheduling**: Display a table showing lesson times, start and end hours, along with driver comments.

Different users and their needs for this interface are:

* **Students**:
  + View their progress on online tests.
  + Access their scheduled lessons and any notes from instructors.
  + Update personal information if necessary.
  + Interact primarily through mobile devices or web browsers.
* **Instructors/Drivers**:
  + Record notes on student performance.
  + View and manage their lesson schedules.
  + Access student information for pickup and other necessary details.
  + Primarily interact via tablets or mobile devices for ease of use on the go.
* **Admin Staff**:
  + Oversee all student progress and lesson schedules.
  + Manage the input and updating of student and driver information.
  + Access through desktop browsers for more extensive data management capabilities.
* **IT Administrators**:
  + Ensure proper functioning and security of the interface.
  + Update the system as needed.
  + Access through specialized interfaces, potentially requiring desktop browsers for administrative tasks.
* The interface must be responsive and optimized to mobile, tablet and desktop views. The functionality must remain the same and provide similar experience across the platforms.

### 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?*

**Assumptions:**

* **Technical Proficiency**: Users are assumed to have a basic level of technical proficiency to navigate online interfaces.
* **Device Availability**: It is assumed that users have access to devices like smartphones, tablets, or computers to access the interface.
* **Internet Access**: The design presupposes that users have reliable internet access to utilize web-based features.
* **Software Compatibility**: It assumes that users’ devices are compatible with the technologies used in the interface (e.g., latest web browsers).
* **Security Knowledge**: The design assumes that users are aware of basic security practices, such as creating strong passwords for their accounts.

**List of considerations:**

* **Accessibility:** No specific mention of accessibility features for users with disabilities was made.
* **Language Options:** The interface does not explicitly include multilingual support for non-English speakers.
* **Connectivity Requirements:** The design does not specify if the interface can function with low bandwidth or if it requires a high-speed internet connection.
* **Payment Integration:** No mention of how customers will handle payments or billing information through the interface.
* **Customization and Personalization:** The ability for users to customize or personalize their interface experience is not addressed.
* **Help and Support:** It does not detail how users will access help and support, such as tutorials or customer service.
* **Notification System:** There is no description of how the system will notify users of important information (e.g., test results, lesson reminders).

### 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?*

* Limitations in the technology stack chosen could affect scalability and integration.
* Budget constraints might restrict the extent of customizability and scalability.
* Time constraints could impact the thoroughness of testing and feature development.
* Resource availability may limit the depth of features and overall system quality.

### 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.*

[Insert chart]

A graph showing a chart

Description automatically generated with medium confidence