# 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 to build a system that provides online classes, practice tests, and driving practice for customers to prepare for their driving tests at the DMV.
* System should support customer self-service and administrative tasks

### 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?*

* Provide a centralized platform for driver’s test preparation
* Provide student drivers with up-to-date resources and tools
* Customers can access online lessons, practice tests, and schedule driving sessions to prepare for the DMV driver's test
* System needs to run over the cloud and securely store data

### 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?*

* Enable customers to create/log into their account
* Enable customers to reset their password
* Customers can view time slots for driving lessons
* Customers can book/modify/cancel reservations from their account
* Secretaries can book/modify/cancel reservations for customers
* Automatic updates to available time slots and driving instructors as reservations are booked/cancelled (no double booking)
* Securely store customers’ information
* Integrate with DMV rules and sample questions; DriverPass should get notifications when DMV updates its rules, policies, or sample questions.
* The DriverPass owner can access and download reports from any online device.
* The user interface should include these features:
  + Progress for online tests
    - In progress and completed
  + Student information
    - First name, last name, address, city, state, zip code, phone number, email
  + Driver notes
    - Comments from the driver
    - Lesson start and end times
  + Driver photo
  + Student photo
  + Contact Us page

## 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?*

* System is web-based; it should be compatible with various web browsers
* Cloud-based
* Quick response time
* Content should be up to date with current DMV regulations; notify admins of 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?*

* Should run on all major platforms on various operating systems
* The cloud provides tools for security infrastructure, database management, software updates, and maintenance

#### 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?*

* Users should have a unique username; username-password combinations will be used to verify user identity
* Passwords are case-sensitive
* Admin should be notified when:
  + System goes offline
  + Multiple failed login attempts
  + Unusual activity: attempted unauthorized access, account login from an unusual location, unexpected network traffic

#### 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 data should be stored in a database separate from the codebase
* Authorized users interact with the database to add/remove/modify user data
* IT admin needs full access to user account with authorization to:
  + Change passwords and/or permissions
  + Remove accounts

#### 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?*

* User login credentials = a unique username and a password
* Use HTTPS to secure communication channels between the server and client.
* Encrypt transmitted data using TLS/SSL protocols
* In the event of brute force hacking attempts on an account:
  + Notify the security team
  + Lock the account
  + Monitor the account for suspicious activity
* Handling forgotten passwords:
  + Lock account after too many failed login attempts
  + Provide users with the option to reset their password
  + Send a time-limited, single-use password reset link to the email associated with the account
  + Confirm new passwords

### 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 an account.
* The system shall lock accounts after a certain number of failed login attempts.
* The system shall allow users to schedule reservations for driving practice.
* The system shall allow users to cancel or modify reservations.
* The system shall track user training progress through modules.
* The system shall permit IT admins to create, delete, modify, and disable user accounts.
* The system shall collect data and generate reports.

### 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.)?*

* Students can take online tests, attend online classes, schedule driving practice, track their training progress, and update their profile information
* DriverPass secretaries can schedule driving practice for students, view and modify student contact information, and view student profiles.
* Users can navigate all pages of the web application

### 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?*

* The budget constraints were not addressed
* It is assumed that all users possess basic digital literacy
* It is assumed that users are using up-to-date technology

### 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 progress of the project depends on the competency and availability of the development team. For example, John is on vacation until March 1st and will not start creating the class diagram until then.
* The DriverPass owner must approve the system design before moving into the next phase.

### 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 of a project

AI-generated content may be incorrect.