# 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 the project is to provide better driving training. The Clients are Liam and Ian. They want the system to help with access to data from anywhere as well as offline. Also be able to access on computer or mobile device.

### 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?*

The problem they want to fix is the number of drivers failing. The system is designed to help more people pass the drivers test. They want to be able to offer online classes and practice tests. That way they feel more confident when taking their test. Driverpass will also like to offer road training as an option for their customers.

### 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?*

* Create an account with the customers information and where they would like to be picked up and dropped off
* Be able to schedule appointments online
* Have the ability to reset their password

Other tasks:

* Have access to employees
* Know what driver is paired to what customer
* Track customers reservations
* Be able to remove unwanted packages
* Update information with DMV
* Show customers test and their current progress
* Be able to have drivers notes

## 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?*

* Needs to be web based
* Fast load times
* Be updated frequently

#### 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?*

* Be able to be ran on most desktops and the ability to be used on mobile
* User Interface needs to be able to adapt to users device
* Have the ability to store user information

#### 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?*

* **Distinguishing Between Users:**  
  Users will be uniquely identified using a combination of username/email and system-generated user IDs. Additional identifiers like multi-factor authentication (MFA) tokens or biometric data may also be used for increased precision.
* **Case Sensitivity of Input:**

**Usernames/Emails:** Typically case-insensitive.

**Passwords:** Case-sensitive for security purposes.

**Search Fields/Inputs:** Depends on the context but generally should support both modes based on user preference.

* **Admin Notification of Problems:**  
  The system shall notify admins in the following cases:

Repeated failed login attempts (suggesting a brute-force attempt).

System errors or failed processes (e.g., failed data sync, API timeouts).

Unusual user behavior or access patterns.

Critical updates or breaches detected.

#### 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?*

* **Modifying Users Without Changing Code:**  
  Yes, user changes (add/remove/modify) should be possible through an administrative interface or API without code changes.
* **Adapting to Platform Updates:**  
  The system should use modular design and version control (e.g., semantic versioning) for components. It should also have backward compatibility where possible and automated tests to detect issues with platform updates.
* **Admin Access Needs:**

Admins should have role-based access control (RBAC).

Admins may need read/write access to user management, system logs, and platform configurations.

Multi-factor authentication should be required for admin-level access.

#### 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 Requirements:**

Username/email + strong password

Optional (but recommended) MFA using email, SMS, or authenticator apps

* **Securing Connections & Data Exchange:**

Use HTTPS/TLS for all data transmission

Encrypt sensitive data at rest and in transit

Employ secure authentication protocols (OAuth2.0, SAML)

* **Brute Force Attack Response:**

Lock account temporarily after X failed attempts

Require CAPTCHA or MFA after repeated attempts

Notify user and admin of suspicious activity

* **Forgotten Password Recovery:**

Provide secure password reset via email/SMS link

Include identity verification steps (e.g., security questions or MFA)

Set link expiration time and logging of reset attempts

### 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 admins to create, modify, and delete users.
* The system shall enforce password complexity rules.
* The system shall lock accounts after repeated failed login attempts.
* The system shall notify users and admins of suspicious login behavior.
* The system shall support multiple access levels based on user roles.
* The system shall log all authentication attempts for audit purposes.
* The system shall allow password recovery through secure means.
* The system shall provide an interface for user management.
* The system shall allow users to update their personal information securely.

### 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.)?*

**Interface Needs:**

* Simple and secure login UI
* User dashboard for regular users
* Admin dashboard for managing users and viewing system logs
* Responsive design for use on mobile and desktop
* Accessibility features for compliance (e.g., screen reader support)

**User Roles:**

* **Regular Users:** Log in, view and manage personal data, reset password
* **IT/Admin Users:** Manage users, monitor logs, receive alerts, configure system settings

**Interaction Channels:**

* Browser-based interface (desktop and mobile responsive)
* Optionally, native mobile apps if needed for specific use cases

### 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?*

* Users have reliable internet access and modern browsers.
* Users have valid email addresses or phone numbers for verification.
* System is hosted on a secure and scalable cloud platform.
* MFA is supported and enforced for high-privilege accounts.
* Admins are technically competent and trained on platform use.

### 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?*

* **System Limitations:**

May not handle extremely high concurrent traffic without scaling adjustments

Third-party dependency updates may break some features

Password recovery is only as secure as the user’s email or phone

* **Resource/Time/Budget Constraints:**

Limited development resources may slow feature rollout

Budget may restrict advanced features (e.g., biometric login)

Time constraints may limit security hardening during MVP phase

* **Technology Constraints:**

Compatibility issues across different browsers or devices

Reliance on third-party libraries or platforms introduces external risk

*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 chart with a number of rectangular boxes

AI-generated content may be incorrect.