# 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 provide a flexible, cloud-based online platform for driving students to take online classes, practice tests, and receive on-the-road training.
* The client, DriverPass, has two main stakeholders: Liam, the owner, and Ian, the IT officer.
* The client, DriverPass, wants a system that allows students to:
  + Register for packages that include driving lessons and educational materials
  + Schedule, cancel, or modify appointments online
  + Take online practice tests and view results
  + Access driver feedback and lesson history
* The system must also support staff roles such as user, admin, secretary, and IT for user management, scheduling, and data tracking
* The system needs to allow staff to manage user roles and appointments, and provide report features while students interact with learning modules and schedule training.

### 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?*

* Liam observed that many students fail their DMV tests due to poor preparation. DriverPass aims to fix this by offering a comprehensive learning system that integrates online and in-person training options.
* The system should support multiple components:
  + Online Learning Modules: Courses and practice tests aligned with current DMV policies
  + Reservation and Scheduling System: Enables students to book two-hour in-person sessions with assigned instructors and cars via the web, phone, or office.
  + User Roles and Access Control: Define permissions for admin, IT, secretary, and student users
  + Package Management: Allows selection and future customization/deactivation of training packages
  + Tracking and Reporting: includes activity logs and downloadable Excel reports
  + Student Portal: for registration, scheduling, and viewing progress
  + Driver Notes: includes lesson times and feedback from instructors
  + DMV Syncing: integration for receiving updates and policy changes
  + Securing and Password Recovery: Secure login, role-based access, and reset functionality
  + Mobile and Web Access: Fully accessible via phone or desktop
  + Cloud Hosting: minimizes technical overhead and improves availability.

### 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?*

* Allow users to create accounts and register for driving lesson packages.
* Provide online access to instructional content and DMV-style practice tests.
* Allow students to schedule, modify, or cancel driving appointments.
* Assign instructors and vehicles to appointments and avoid scheduling conflicts.
* Track student test progress (test name, score, status).
* Record and display driver notes after each session.
* Log all system activity (who changed what and when).
* Support multiple user roles with specific access privileges.
* Enable administrators to activate/deactivate training packages.
* Export reports to Excel (appointments, student performance, logs).
* Sync with DMV updates and notify the business of any changes.
* Allow users to securely reset forgotten passwords.
* Be hosted in the cloud and accessible across devices.
* Build user registration/login with role-based access control.
* Develop a package management tool for enabling/disabling offerings.
* Create a scheduling system with:
  + Two-hour appointment blocks
  + Driver/car assignment
  + Availability checking
* Implement online testing with:
  + Score tracking
  + Progress display
* Enable driver feedback entry and lesson time display.
* Build an audit trail of user activities.
* Include Excel export options.
* Add secure password reset via email/SMS.
* Build DMV update integration and notification module.
* Deploy in the cloud with automated backups and security features.
* Design UI views for student dashboards, admin tools, and scheduling (based on Liam’s sketch).

## 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 must be web-based and cloud-hosted.
* Accessible via desktop or mobile browsers.
* Page loads should take under 2 seconds.
* System updates should occur biweekly or as needed.

#### 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?*

* Compatible across Windows, macOS, Android, and iOS platforms.
* Back end requires a cloud-based database system (e.g., SQL).
* Front end must support major browsers (Chrome, Firefox, Safari, Edge).

#### 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?*

* Each user must be clearly identified by their role and credentials.
* Input validation required (case sensitivity, formatting, duplicate checks).
* Admins must be notified when issues or unusual activity are 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?*

* Admin/IT must be able to:
  + Add, remove, or modify users without code changes.
  + Disable packages without removing them entirely.
* System must adapt to operating system and browser updates.
* Platform must support modular growth for future features.

#### 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 must log in with secure credentials.
* Connections must be encrypted (HTTPS).
* After 5 failed login attempts, accounts should be temporarily locked.
* Forgotten passwords should be recoverable via secure email/SMS link.
* Admins must be able to reset or deactivate user accounts as needed.

### 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.”*

* validate user credentials at login.
* allow users to register for accounts and select packages.
* allow users to schedule, modify, or cancel appointments.
* match users with specific instructors and cars.
* record test results and track progress status.
* log all user actions and changes in the database.
* allow the admin to enable or disable training packages.
* support password reset through email or SMS.
* generate reports exportable in Excel format.
* send alerts for DMV updates and sync changes.
* store and display instructor notes for each lesson.
* enforce role-based access for students, IT, admin, and secretary users.

### 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.)?*

* Student users:
  + Register and log in
  + Select training package
  + Take practice tests and view results
  + Schedule, modify, or cancel lessons
  + View driver feedback and progress
* Secretary:
  + Enter customer data from phone or in-person interactions
  + Manage appointment scheduling
* Admin (Liam):
  + Monitor reporats and activities
  + Enable/disable packages
  + Access activity logs
* IT Admin (Ian):
  + Manage user accounts and permissions
  + Reset passwords
  + Ensure compliance and system updates
* The interface should be:
  + Web-based and responsive for mobile access
  + Simple, clean, and modeled on Liam’s sketch
  + Modular to support dashboards, scheduling, testing, and data entry

### 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 internet access and basic digital literacy.
* DMV provides timely updates through a structured format (e.g., API).
* Customers will prefer a self-service model but may still call or visit.
* The cloud provider will offer standard backup and recovery solutions.
* Liam will provide ongoing input and feedback during design/development.

### 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?*

* Offline functionality will be limited to viewing previously downloaded content (no offline updates).
* System updates or enhancements (like adding new package types) may require developer assistance.
* Budget and time constraints may limit the inclusion of advanced automation or AI features.
* The system will rely on third-party services (email/SMS for password reset, DMV API) which could affect availability.
* There will be a limited number of supported roles and permissions in the initial release.

### 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 screenshot of a computer

AI-generated content may be incorrect.

A screenshot of a computer

AI-generated content may be incorrect.

A screenshot of a calendar

AI-generated content may be incorrect.