# 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 develop a comprehensive, cloud-based system for DriverPass, a new company offering driver training services.
* The client, DriverPass, is owned by Liam and supported by his IT officer, Ian.
* The system must allow customers to:
  + Register for and schedule driving lessons online or via phone/office.
  + Select training packages that include on-the-road sessions, in-person DMV policy lessons, and online content/practice tests.
  + View lesson schedules, instructor notes, and track progress through online test.
* The system must allow DriverPass staff to:
  + Manage user roles and access
  + Track reservations and modifications, including audit logs showing who made changes
  + Assign students to specific cars and instructors for lessons
  + Download reports and customer data for offline work
  + Maintain security, password resets, and block user access when needed
* The system must be flexible enough to enable enabling/disabling training packages as needed
* It must remain compliant with DMV changes by receiving updates or notifications from the DMV
* The platform must be cloud-hosted with minimal technical upkeep for the business team

### 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 wants a cloud-based system to manage all aspects of its driver training business, including customer registration, appointment scheduling, online classes, and practice tests
* The main problem they want to fix is the lack of effective, accessible driver training, especially tools that combine online learning with behind-the-wheel instruction
* They need to streamline operations so customers can easily register, schedule lessons, and track their progress without depending entirely on phone or in-person visits
* The system should provide role-based access for staff, allowing different levels of control
* Key components needed include:
  + A customer portal for registration, password reset, and lesson scheduling
  + A scheduling system that matches students with available drivers, cars, and times
  + A reporting module to track activity logs and export data
  + An online testing module to deliver and track progress through practice exams
  + Driver notes and appointment tracking for each student
  + A secure login system with password recovery options
  + Notification and update integration from the DMV
  + Cloud hosting and automated backup/security features to minimize IT maintenance

### 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 customers to create accounts, log in securely, and reset passwords if forgotten
* Enable customers to schedule, cancel, or modify driving lesson appointments online
* Assign student to available drivers, cars, and time slots with accurate scheduling logic
* Support three distinct training packages with flexible enable/disable options
* Provide access to online course materials, including DMV-related content and practice tests
* Display customer test progress and results with status indicators
* Track and log all user actions
* Generate downloadable reports for administrative use in formats like Excel
* Implement role-based access controls for administrators, IT staff, and the secretary
* Maintain communication channels for both customer and staff
* Receive and display notifications when DMV content updates occur
* Host the system on a secure cloud platform with minimal need for manual backups or IT maintenance

## 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 fully web-based and accessible through both desktop and mobile devices
* It should be hosted on a secure cloud platform to reduce maintenance and ensure uptime
* The system must respond to user interactions within 2 second to ensure a smooth user experience
* It should support high availability and uptime, with minimal downtime during updates or maintenance
* Updates to the system should occur on a regular schedule, at least once per quarter, or more frequently if DMV policy or practice test changes are received
* Security patches and bug fixes must be applied promptly upon discovery or release
* The platform must automatically scale to handle increase in user traffic, especially during peak sign-up seasons

#### 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?*

* The system will be web-based and accessible across all major operating systems through standard browsers
* It should be mobile-responsive to support phones and tablets
* The back end will require a cloud-hosted relational database
* A web server framework will be used to handle server-side logic
* The system must be compatible with modern browsers

#### 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 will be distinguished through unique usernames or email addresses combined with secure authentication methods
* Input will not be case-sensitive for login credentials but will maintain case formatting for person info
* The system will validate all form fields to prevent errors
* Admins should receive alerts for failed logins, appointment booking conflicts, server errors, or unauthorized access attempts
* Logs will track all user actions and can be audited by the IT admin when needed

#### 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?*

* Basic user management should be performed through a secure admin interface without modifying code
* IT admins will require full system access, including the ability to reset passwords, deactivate accounts, and view system logs
* The system should be designed modularly so features like training packages can be enabled or disabled via the UI
* The platform should support automated updates and security patches with minimal manual intervention
* Future integrations should be accommodated through API-ready architecture

#### 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 will log in using their email and a secure password
* All communication between client and server will be encrypted using HTTPS and SSL protocols
* Accounts will lock temporarily after five consecutive failed login attempts to prevent brute-force attacks
* Users who forget their password can use a secure “Forgot Password” feature to receive a reset link via email
* The system will log all login attempts and alert the IT admin in case of suspicious activity

### 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 customers to register online and schedule driving lessons
* The system shall track customer appointments and match them to available drivers and cars
* The system shall allow administrators to view, add, modify, or disable training packages
* The system shall provide access to online course content and practice tests
* The system shall record and display test results with status
* The system shall log all changes to appointments and display activity reports
* The system shall support automated email notifications for account activity and DMV updates
* The system shall allow customers and secretaries to input student information via a form

### 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.)?*

* The interface should be clean, easy to navigate, and accessible through modern web browsers on desktop and mobile devices
* Customer users need to schedule/cancel lessons, view package details, track progress on tests, and reset passwords
* Secretaries need to enter and edit student info, create or modify reservations, and access lesson schedules
* Admins and IT staff need to manage accounts, monitor activity logs, disable packages, and perform security-related tasks
* The interface should support input forms, calender views for scheduling, progress tracking dashborads, and contact forms

### 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?*

* It is assumed all users have stable internet access to interact with the web-based system
* It is assumed that DriverPass staff will have basic computer skills and receive minimal training on using the admin service
* It is assumed that the DMV will offer updates through an accessible online system or feed that can be integrated with our platform
* It is assumed that the platform will not require internationalization/localization at this time
* It is assumed users will access the system through commonly supported browsers

### 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 initial version of the system will not include full customization features for training packages
* The system will rely on third-party DMV update integrations, which may vary in format or reliability
* Offline functionality is limited to viewing downloaded reports, modifications to data must be done online to prevent redundancy
* Due to time and budget constraints, advanced features such as AI-based scheduling, mobile apps, or DMV API integrations will by considered for future versions
* System testing and user feedback will be limited to internal staff and a small customer group prior to full launch
* Any scalability beyond local use may require infrastructure upgrades and compliance review

### 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.*

