

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 client for this project is DriverPass, a company being started by Liam. The purpose of this project is to design and build a system that provides customers with access to online classes, practice driving tests, and scheduling for on-the-road training to help them pass their driving tests. The system should allow the owner, Liam, to access company data and reports from any computer or mobile device with an internet connection. The system must be able to handle customer registrations, manage different user roles, and schedule driving appointments.

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 DriverPass wants to fix is the high failure rate for driving tests at the DMV, which they believe is due to a lack of quality driver training options. DriverPass's proposed solution is to offer a comprehensive training service that includes online courses, practice exams, and bookable on-the-road driving lessons. The system will require several key components: A web-based, cloud-hosted platform to minimize the need for DriverPass to manage backups and security directly. A customer-facing interface for online registration, scheduling, and accessing training materials. An internal interface for employees (secretary, IT officer, owner) to manage operations. A database to store customer information, schedules, vehicle and driver assignments, and test results. A notification system to receive updates on new rules and questions from the DMV.

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 register online and select from three training packages with measurable completion tracking.
- Enable online scheduling of driving lessons with specific time slots, drivers, and vehicle assignments.
- Provide practice tests that automatically update with current DMV requirements and track scores with pass/fail status.
- Implement comprehensive user management with role-based permissions for admin, secretary, and customer access levels.
- Generate detailed activity reports showing reservation modifications, cancellations, and user interactions for accountability.
- Maintain secure customer data including personal information, payment details, and lesson progress with audit trail capabilities.
- Support both web-based customer access and phone-based appointment scheduling through secretary interface.

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 a web-based application, fully accessible from any modern computer or mobile device through a standard web browser. This ensures maximum accessibility for all user types from any location with an internet connection. To ensure high availability, scalability, and reliability, the system must be hosted on a reputable cloud platform. This architecture offloads infrastructure management, including server maintenance, backup, and security, from the client, aligning with their desire to minimize technical overhead. System response times for all common user interactions must be optimized for a fluid and responsive user experience. Under typical load conditions, interactions should feel near-instantaneous.

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's back end will run on Windows. To guarantee data integrity and prevent the risk of data redundancy or conflicting records, all data modification and update operations are constrained to an online-only environment. Users can download reports for offline viewing, but changes to the system's database can only be committed when the user is actively connected to the server.

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 identification will be managed through a unique system-wide identifier for each user account, which will likely be the user's email address (case-sensitive). The system should inform the admin of a problem immediately.

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?

- The system must be designed for administrative flexibility. It must allow an authorized administrator, such as the owner Liam, to enable or disable specific training packages from being offered to new customers. This action must be achievable through a user-friendly administrative interface without requiring any changes to the system's source code. The system must provide the IT Officer with a dedicated administrative interface to manage the user lifecycle. This includes the ability to add new staff accounts, modify user roles and permissions, and block or remove user access as required.

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?

- The users will need a userID and password to log in. All data transmitted between the user's client (web browser) and the system's server must be encrypted using industry-standard protocols, such as HTTPS/TLS. The system must provide a secure, automated password reset feature for customers, which typically involves sending a time-sensitive, single-use link to their registered email address. This empowers users while maintaining account security. The system should not store sensitive cardholder data (credit card number, expiration date, security code)

directly on its servers. This will alleviate much damage in case of a brute force attack. If the user forgets their password, they have the option to reset their password providing that they have access to their email.

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 new customers to register for an account through a public-facing online form.
- The system shall allow a Secretary to register a new customer on their behalf, for customers who sign up via phone or in person.
- The system shall require all users to authenticate with a unique identifier (e.g., email) and a password before accessing protected areas.
- The system shall validate user credentials against stored records upon a login attempt.
- The system shall provide a mechanism for customers to initiate a password reset process if they forget their password.
- The system shall allow a user with IT Officer privileges to administratively reset any user's password.
- The system shall allow a user with IT Officer privileges to block any user's account, preventing them from logging in.

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 layout: logo header, online test progress, student information, driver notes, special needs, photo sections, contact forms for customer service, and support requests.
- Role-specific dashboards for management (owner, IT officer) secretary, and students.
- Student interface includes: registration form, reservation system, online test portal, progress tracking.
- Management interface includes: activity reports, user management, package configuration, schedule overview.
- Secretary interface includes: appointment scheduling, customer information management, phone-based reservations.

- The users will interact with a web-based interface accessible through standard browsers on computers and mobile devices.

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?

- DMV will provide API or data feed for content synchronization. Credit card processing will be handled through a secure third-party payment gateway.
- Students have access to internet-connected devices for online components. Business operates within standard hours for phone-based reservations. Students can provide valid pickup/drop-off locations within the service area.

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?

- Package customization requires developer intervention for structural changes.
- System modifications need technical expertise beyond basic user management.
- Mobile app development not included in current scope.
- Integration limited to DMV systems that provide accessible data feeds.
- Budget and timeline constraints may limit advanced reporting features.

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.

DriverPass Project Gantt Chart

