

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?

- The purpose of this project is to assist our client, DriverPass, in enhancing driver training.
- DriverPass aims to provide a comprehensive system to better prepare their customers for driver's tests at DMVs.
- The client is DriverPass and the system should facilitate online classes, practice tests, and manage driving lesson reservations.

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 system should:**
 - Allow users to reserve driving lessons, specifying the day, time, and lesson type, with multiple reservation channels.
 - Manage reservations efficiently, track driver assignments, and log activities for reporting. It should also support flexible driving lesson packages to be purchased.
 - Have different user roles and rights management is necessary.
 - Stay compliant with DMV regulations through updates.
- **The problem needed to be fixed is:**
 - DriverPass aims to address the lack of effective and accessible driver training, particularly in reducing the number of people failing their driving tests at the DMV.
- **The system should include components for:**
 - Data access, reservation management, user roles, activity tracking, package scheduling, and DMV compliance.
 - It should offer a user-friendly web-based interface for customers, the admin/owner, the IT officer, and the secretaries, supporting both online and offline data access.

- It should also connect to the DMV for updates. Data accuracy and security are essential components.
- Admins should be able to track user activities, access and download reports, and manage user accounts.
- The IT officer should be able to manage user accounts, manage system updates, and reset passwords.
- The secretaries should be able to schedule driving lessons and manage user accounts.
- Customers should be able to take online classes and tests, select and purchase training packages, and schedule driving lessons.
- Drivers should be able to add notes to student profiles.

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?

- **The objectives of the system are to:**
 - Fulfilling market need for comprehensive driver training by capitalizing on the observed market gap in driver training, particularly in preparing students for DMV driving tests.
 - Integrating online and on-road training by providing a blend of online education (classes and practice tests) and on-the-road training to ensure comprehensive learning.
 - Flexible and accessible data management that enables seamless access and management of data online and offline to support business operations.
 - Diverse user role management that caters to different user roles within the company, ensuring appropriate access and control over the system.
 - Efficient reservation and scheduling system that implements an effective system for customers and secretaries to book, modify, and manage driving lesson reservations.
- **The goals are achieved if we can provide the following functionality:**
 - Expanding training packages and customization by offering a range of training packages with the flexibility to modify or add new packages in the future.
 - Maintaining DMV compliance by ensuring the training content remains up to date with DMV requirements, incorporating regular updates.
 - Streamlining customer registration and management by simplifying the customer registration process, including handling personal details and scheduling preferences.
 - Developing a cloud-based, secure system focuses on minimal technical issues and robust security.
 - Creating a user-friendly interface that is intuitive and showcases features like test progress, driver notes, and contact options.

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 should run in a web-based environment, preferably cloud-hosted.
- Online access should be fast and responsive with load times of only 1-2 seconds.
- Data should be synchronized between different servers and updated once per quarter 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?

- The system should run on various platforms, including web-based and mobile devices.
 - Chrome
 - Safari
 - Firefox
 - Microsoft Edge
- It should support the required database and infrastructure.
 - Database for storing user and system information.
 - Web server for processing and managing requests.

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 input should be validated and stored accurately, with different logins for administration, users, secretaries, and the IT officer.
- Only passwords should be case-sensitive, everything else does not need to be case sensitive.
- The system should inform the admin of any issues or discrepancies daily.

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 officer need?

- The system should allow user management without code changes in the backend.
- It should adapt to platform updates without any issues.
- The IT officer should have full access rights to maintain and/or modify the system.

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 should have a secure login process with robust authentication measures.
- The system shall encrypt data exchange between the client and server using two-factor authentication.
- Account lockout should occur after 5 failed login attempts.
- Password reset functionality should be available for users through a ‘Forgot Password’ option.

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 users to view and manage reservations, including creating, modifying, and canceling appointments.
- The system shall provide role-based access rights, such as admin access for resetting passwords.
- The system shall track and log activities, including reservations, modifications, and cancellations.
- The system shall allow customers to take online tests that can be displayed on their profile.
- The system shall allow input of student information, including personal details, contact information, and payment details.
- The system shall allow for the purchase of various packages.
- The system shall enable communication between customers, admins, and secretaries.
- The system shall stay connected to the DMV for updates on regulations, policies, and sample questions.
- The system shall display a page that has the customer’s online test progress, information, driver and student photos, and the driver’s notes on their student.

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 needs to be clean and simple, so those with minimal technical experience will be able to use the system with ease.
- Customers will use the system to view and manage lessons, access online tests, select and purchase packages and monitor progress all through the browser of their choice.
- The admin will have access to user management and system-wide activities tracking, which includes accessing and downloading reports.
- The IT officer will use the system to manage system updates and user accounts. They should also be able to reset passwords.
- Secretaries will use the system to schedule appointments and communicate with clients.
- Drivers will use the system to add notes to the student profile both before and after lessons.
- Users will interact with the system primarily through web-based interfaces. It will need to be dynamic so it can work on both monitor and mobile screens.

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 user will be technically competent enough to navigate the system.
- Users will have internet access for online functionality.
- DMV regulations and updates will be accessible through an API or a data feed.
- Users will have standard web browsers to access the system.

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 development may have limitations in terms of resources and budget that would be dependent on time and final requirements from DriverPass.
- Only a limited number of users can have a package at a time, due to the limited availability of vehicles.
- Implementing all features for non-developer users may not be feasible.
- Dependency on third-party services for some functionalities.
- The user interface design may be constrained by available tools and technology.
- Customers in certain regions may have slower speeds when accessing the system.

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.



(Will need to zoom in to see chart better)