

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 design and develop a new system for DriverPass that allows students to access both online practice exams and on-the-road driving lessons to better prepare for their DMV driving tests.
- The client, DriverPass, is owned by Liam, who wants the system to help students schedule driving lessons, access practice materials, and track their learning progress.
- My goal is to create a system that will be secure, easy to use, and web-based, allowing customers, administrators, and staff to perform their tasks easily and efficiently.
- The system should also allow management and IT staff to view reports, manage users, and maintain data accuracy while minimizing redundancy.

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 web-based system that combines both theoretical and practical training tools for students learning to drive.
- The problem they want to fix is that more than 65% of students fail their DMV driving test because they only study from previous tests and lack real preparation.
- The system will help students take practice exams, schedule lessons, view progress, and receive updates based on DMV regulations.
- The main components needed for the system include:
 - + A login and authentication module for different users.
 - + A lesson scheduling and tracking system to book, modify, or cancel driving lessons.
 - + An online testing system for practice exams and score tracking.
 - + A reporting system to view activity history and performance.
 - + A database for user, driver, and vehicle data.
 - + A secure connection for data transfer and backup on the cloud.

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?

- Students should be able to register online for lessons, schedule lessons, and make changes to their lessons at any time.
- It should enable DriverPass administrators to monitor all users, generate activity logs, and manage accounts securely.
- The system should automatically update practice exams and rules based on DMV changes.
- It is important that students are able to view their scores and test history in real time.
- Measurable tasks include:
 - + Secure login and password management.
 - + Lesson booking and rescheduling functions.
 - + Online practice test results tracking.
 - + Integration of DMV update notifications.

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?

- It is designed to be web-based and accessible through a web browser both on computers as well as mobile devices.
- It is important for the system to load each page within two to three seconds to guarantee optimal performance.
- It should be updated regularly to keep DMV data and practice materials accurate.
- The database will sync automatically with the cloud to prevent data loss.

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 operate on all major platforms including Windows, macOS, Linux, iOS, and Android, since it's web-based. Including Windows, macOS, Linux, iOS, and Android, as well as all major platforms, this system will be able to run on all major platforms because it is web-based.
- The back end will rely on a cloud-based relational database to manage data like user accounts, schedules, and lesson history. In the backend, a cloud-based relational database will be used for the management of data like user accounts, schedules, and lesson history.

- It is important that the web server supports secure data transmission (HTTPS).

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?

- Every user will have his or her own unique ID, username, and password that they can use for all services.
- There will be case-sensitivity in the passwords in order to ensure security.
- If a login error is encountered, a duplicate booking is made, or a data conflict occurs, the system will notify administrators when such errors occur.
- The activity logs will be able to show the name of the user who created, edited, or deleted each record.

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?

- Yes, the system allows administrators to add, remove, or modify users without having to make any changes to the system's source code.
- The system will adapt to browser or platform updates automatically since it's hosted in the cloud. In addition, the system will be able to automatically adapt to changes to browsers or platforms as it is hosted in the cloud.
- The IT administrator has full control over managing the users, as well as resetting passwords and updating configuration updates.

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?

- Every user will be able to log in using their unique username and password.
- It will be done by encrypting and securing all communications between the client and the server by using SSL/HTTPS to ensure all data is safe and protected.
- After multiple failed login attempts, the account will temporarily lock to prevent brute-force attacks. Users can reset their password using a secure password recovery process that includes email verification when they forget their password. The user can retrieve their lost password using a secure password recovery process involving email verification when they reset their forgotten password.

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.”

- When the user logs into the system, the system will validate the credentials of the user during the process of login.
- The system should be capable of registering users, editing their profiles, or cancelling their driving lessons.
- One of the most important functions of any system is the ability to reset passwords as well as managing user roles.
- The system should provide students with the option of taking online practice exams and viewing their progress.
- The system should be able to generate reports on the activity of users and the booking of lessons.
- During the course of the system, driver notes, lesson time, and progress shall be recorded and displayed.
- There should be the possibility for administrators to disable packages and to stop registrations for certain lessons.
- The system shall automatically retrieve and apply DMV updates to its test material DMV updates will be automatically retrieved and applied to the system's test materials.
- There should be a mechanism for sending notifications and reminders to students regarding upcoming lessons.

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.)?

There will be an interactive web-based interface and it will be mobile-friendly, meaning that people can interact with the system through their browsers on their computers or smartphones.

There are three different types of users who use the system:

- Students/Customers: Through this site, they can schedule lessons, take online practice tests, and review their progress reports.
- Employees (Secretaries/Trainers): These individuals are responsible for entering student data, updating lesson schedules, and viewing customer details.
- Administrators/IT Staff: Can monitor activity, reset passwords, update packages, and manage user permstaff: These staff members are capable of monitoring activity, resetting passwords, updating packages, and managing user permissions.
- There will be a navigation menu on the user interface, dashboards, and input forms on the user interface to facilitate user interaction. There will be a navigation menu on the user interface, dashboards, and input forms on the user interface to facilitate user interaction.

- A clear visual representation of notifications, test results, and appointment confirmations will be available on the dashboard.

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?

- I am assuming that all users will have reliable internet access and basic computer or smartphone knowledge. In this article, I am assuming that all users will have reliable internet access and at least a basic understanding of computers and smartphones.
- I am assuming that the DMV will provide data access to the DMV for further testing and rule updates.
- I am assuming that DriverPass employees will be trained on how to manage the new system. DriverPass employees will receive training on the new system.
- I assume that the payment processing will be handled as securely as possible by a third-party service.

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?

- In the first release of the project, we intend to focus on the most essential functions such as scheduling, testing, and reporting.
- As a result of the system requiring internet access, it will not be possible to perform most operations.
- The use of cloud services and third-party services may lead to an increase in costs or dependencies.
- There might be a need for more time or technical support for future updates or integrations, for example, new DMV APIs.

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.

CS 255 DriverPass Interview

GANTT CHART

