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 document a new system for DriverPass that supports the company's goal of providing better training tools for students preparing for their DMV driving tests.
- The system must allow customers to access online practice tests, online classes, and schedule on-the-road driving lessons.
- The system must support multiple user roles management, IT staff, secretaries, instructors, and customers each with distinct permissions and functionality.
- The project aims to create a secure, cloud-based system that can be accessed from any device, allows for data tracking, supports scheduling, and maintains accurate records of driving lessons, packages, test progress, and customer information.
- This document defines the business needs, requirements, design considerations, and system expectations that will guide development in Project Two.

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 identified a gap in the market where many students fail their DMV driving tests due to a lack of structured preparation. The company wants to improve student success by offering online learning resources and on-the-road driving instruction.
- The current challenge is that DriverPass does not have an integrated system to manage online courses, practice exams, student records, reservations, instructors, cars, or training packages. All of these activities need a single centralized system.

- The client wants a web-based and cloud-supported platform so that data can be accessed from any device. Management and IT staff must be able to access reports, administrative tools, and user account information remotely.
- The system must allow students to register for training packages, take online classes, complete practice exams, and schedule or modify their driving lessons.
- The organization needs the ability to track driving appointments, including which instructor, car, time, and student are associated with each reservation. This helps prevent scheduling conflicts and supports accountability.
- DriverPass requires flexibility in managing training packages. While adding or removing modules will require a developer, management wants the option to disable packages without rewriting code.
- The system needs to remain compliant with DMV standards. It must be able to receive updates from the DMV, including policy changes and new sample questions.
- DriverPass also needs a secure environment to store sensitive customer information such as personal details, payment information, lesson data, and test results.

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 system should provide customers with access to online learning materials, including practice tests and instructional content that prepares them for the DMV driving exam.
- The system should enable customers to register for training packages, enter their personal information, and schedule, modify, or cancel their driving lessons online or through the office.
- The system should allow DriverPass staff to manage reservations, instructors, cars, and customer information in a centralized, organized interface.
- The system should accurately track all activity such as reservations, cancellations, and modifications. This supports accountability and allows management to generate activity reports.
- The system should ensure secure account creation, password management, and administrative oversight. IT staff must be able to reset accounts and manage access for all employees.
- The system should maintain compatibility with DMV updates. It should notify DriverPass staff when test content, rules, or policies have changed.
- The system should operate as a cloud-based platform so users can access it from any supported device without concern for local backups or security management.
- The system should improve efficiency for DriverPass by reducing manual scheduling, preventing double bookings, and keeping all customer and lesson data consistent and accessible.

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 operate as a cloud-based web application that can be accessed through standard web browsers on computers, tablets, and mobile devices.
- User interactions such as logging in, loading practice tests, and viewing schedules should perform quickly and reliably with minimal delay.
- System updates, including content changes from the DMV, should be processed without causing downtime for customers or staff.
- The system should support multiple users accessing the platform at the same time without performance 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 must run in modern web browsers on Windows, macOS, Android, and iOS.
- The back-end must utilize a secure cloud-hosted database that stores customer information, scheduling data, account credentials, and test results.
- IT staff should be able to access administrative tools from any secure device without installing additional software.
- The system must support future integration with DMV systems for updates and notifications

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?

- The system must accurately identify user types such as customer, secretary, instructor, IT staff, and management.
- Data entries such as reservation times, payment information, and user details must be stored exactly as entered and reflected consistently throughout the platform.
- Inputs should be validated, including required fields, formatting rules, and prevention of invalid or duplicate reservation times.
- Administrative alerts should be triggered when issues arise, such as invalid login attempts or scheduling conflicts.

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 should allow IT staff to add, remove, or modify user accounts without making code changes.
- Management should be able to disable training packages so customers can no longer enroll in them, even though adding or removing full modules requires a developer.
- The system should remain functional across platform or browser updates and should not rely on outdated plug-ins.
- IT administrators must have full system access to manage settings, users, and permissions.

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 using secure credentials to access their accounts.
- Sensitive customer information, including payment data and personal details, must be protected during transmission and storage using secure protocols.
- The system should lock an account or prompt verification when repeated failed login attempts suggest a possible brute-force attack.
- Password reset options must be available for customers and handled securely.
- IT staff must be able to block access for former employees or compromised accounts.

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 customers to create an account, log in, and manage their profile information.
- The system shall allow customers to select and purchase training packages offered by DriverPass.
- The system shall store customer information including name, address, phone number, state, and payment details.
- The system shall allow customers to schedule, modify, or cancel driving lesson reservations online.
- The system shall allow the secretary to create, modify, or cancel appointments on behalf of customers who call or visit the office.
- The system shall track each reservation including the assigned instructor, vehicle, date, start time, and end time.
- The system shall store and display the number of hours included in each training package and apply them to customer scheduling.
- The system shall record test progress for online classes including test names, time taken, scores, and status.
- The system shall store instructor notes and comments for each completed lesson.
- The system shall allow management and IT staff to generate activity reports showing who created, modified, or canceled any reservation.
- The system shall notify DriverPass staff whenever DMV rules, policies, or sample questions are updated.
- The system shall allow IT staff to reset user passwords and modify account permissions.
- The system shall allow management to disable training packages so customers cannot register for them.
- The system shall validate all user inputs including required fields, formatting, and scheduling conflicts.
- The system shall ensure secure login, secure data transfer, and secure storage of all personal and payment information.

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 system must provide a browser-based interface that can be accessed from computers, tablets, and mobile devices.
- The interface must support multiple user types including customers, secretaries, instructors, management, and IT staff. Each user role should see only the tools and options relevant to their responsibilities.

- Customers should have an interface that allows them to enroll in training packages, schedule lessons, view test progress, take online practice exams, and update their personal information.
- Secretaries should have an interface that displays customer details, lesson schedules, instructor availability, and tools for creating or modifying customer appointments.
- Instructors should be able to view their assigned lessons, access student information, and record lesson notes and comments.
- Management should be able to view reports, monitor activity logs, and access scheduling and administrative tools.
- IT staff should have access to system-wide settings, account management tools, password reset features, and permission controls.
- The interface must provide clear navigation, consistent layout, and easy access to features such as scheduling, testing, lesson logs, and account management.
- The system should visually display online test progress including test name, score, time taken, and completion status such as not taken, in progress, failed, or passed.
- The interface must include entry forms for customer registration, contact details, and payment information.
- The system should include a contact page for communication between DriverPass staff and customers.

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 that all users will have access to a stable internet connection when accessing the cloud-based system.
- It is assumed that customers will be able to provide accurate personal details and payment information during registration.
- It is assumed that instructors, secretaries, and management will receive training on how to use the system once it is deployed.
- It is assumed that DMV updates will be provided in a format that can be integrated into the system without major redesign.
- It is assumed that DriverPass will supply the required vehicles, instructors, and scheduling information needed for accurate reservation tracking.
- It is assumed that the system will not support offline editing of data, since this could cause conflicts or duplication.
- It is assumed that additional training packages or future features will be added only through developer involvement and not by the end users.
- It is assumed that administrative staff will follow proper security practices when handling user accounts and resetting passwords.

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 system cannot support offline data modification. Any changes made to customer information, reservations, or test content must occur while connected to the internet to prevent data conflicts.

- DriverPass will rely on developers to add or remove major modules or new training packages, since these actions cannot be done by nontechnical staff.

- The system depends on receiving timely updates from the DMV. If the DMV changes policies or test materials without providing proper notice, the content may become temporarily outdated.

- The performance of the system may be affected by external factors such as server outages, internet disruptions, or cloud hosting limitations.

- There may be budget or time constraints that limit the number of advanced features that can be included in the initial release.

- Staff and customer adoption of the system may depend on the quality of training and documentation provided after deployment.

- Integration with DMV systems may require additional approval or technical changes that are outside of the project's control.

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.