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 build a system for DriverPass that provides online classes, practice tests, and on-the-road driver training. Liam, the owner of DriverPass, identified a gap in the market where many students fail their DMV tests. The system should improve access to training resources, give customers flexible scheduling, and help increase success rates on DMV exams. Liam and his IT officer, Ian, want a system that can handle lesson reservations, track student progress, and provide security and reporting features. My team, which includes Sam and Jennifer, are responsible for turning this vision into a working system that supports both students and staff.

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 the system to help customers access their data from any device and download reports they can work with offline, such as Excel. Security is a major concern because employees have different roles and access levels. For example, Ian needs full administrative control to reset passwords, block access, or manage staff accounts. Tacking is also critical, so the system must log who created, canceled, or modified reservations and when.
- The system needs to allow customers to reserve driving lessons online or by phone. Appointments must be linked to available cars and drivers since the company owns ten cars and employs multiple instructors. Customers should be able to make, cancel, or modify reservations themselves. Packages or training are offered in three options (6, 8, or 12 hours) that may include in-person DMV prep, online classes, and practice tests.
- Another important requirement is DMV integration. The system must be able to receive updates with new DMV rules, policies, and sample test questions so that DriverPass stays compliant. To avoid errors, the system must prevent duplicate data by requiring online access for updates.

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 be able to:

- Collect registration information (first/last name, address, phone number, email, state, and credit card details).
- Record pickup and drop-off locations for driving lessons.
- Allow customers to schedule, cancel, or modify appointments online.
- Track student online test progress, showing which tests were started or completed, scores, and pass/fail results.
- Provide driver notes, lesson times, and progress reports.
- Make reports available for download in formats like Excel.
- Connect to the DMV for automatic updates on rules, policies, and test content.
- Run on the web, preferably over the cloud, so DriverPass does not need to handle backups or security themselves.
- Provide a dashboard interface that displays student information, test progress, driver notes, and photos (as shown in Liams sketch).
- Ensure system security by protecting data and restricting access based on user roles.

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 needs to run as a web-based application so customers and staff can access it from anywhere with internet access.
- It should be able to support multiple users at the same time without slowing down.
- Updates should happen regulary to keep up with DMV rules and policies, and the system should automatically apply these updates when online.

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 all major operating systems.

- It must be cloud-based so DriverPass does not have to worry about backup and storage.
- A secure backend database will be needed to handle lesson reservations, user accounts, and reports.

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 log user actions, such as making or canceling reservations, to avoid scheduling conflicts.
- It should prevent duplicate records by only allowing updates when online.
- Input should be validated.

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 changes to user accounts without needing to rewrite code.
- Lesson packages should be flexible so new ones can be added, or old ones disabled in the future.
- The system should adapt to future DMV changes by automatically importing new rules and test materials.

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 with secure credentials, and passwords must be encrypted.
- The IT admin should have full access to reset accounts, block users, and manage staff roles.
- The system must lock out accounts after multple failed login attempts to protect agaist brute force attacks.
- Data exchanges between client and server must be encrypted to protect sensitive information like credit card details.

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 register with personal details such as their name, address, phone number, email, and payment information.
- The system shall allow customers to schedule, cancel, and modify driving lesson appointments online.
- The system shall track and display lesson times, start and end hours, and driver comments.

- The system shall allow customers to choose training packages and disable packages when no longer offered.
- The system shall allow customers to take online practice tests and track their test progress.
- The system shall allow instructors to enter notes and feedback about student lessons.
- The system shall generate and export reports in excel format for management.
- The system shall provide the owner with a dashboard view showing student progress, appointments, and training status.
- The system shall automatically update DMV rules, policies, and test questions to remain compliant.
- The system shall enforce role-based access, giving IT admin full control, secretaries scheduling access, and customers limited self-service access.

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 simple and web-based, accessible from desktop and mobile devices.
- Customers: log in, schedule/cancel lessons, view packages, track progress, and take online tests.
- Secretary: book appointments for customers who call in, update student records, and manage cancellations.
- Drivers: record lesson times, upload notes, and enter driver comments.
- IT Admin: manage system updates, reset accounts, block users, assign staff roles, and handle security.
- Owner: view reports, monitor reservations, and track customer performance.

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?

- Customers will have access to the internet and a device to use the system.
- DMV will provide timely updates for new rules and policies.
- Payment processing services will be reliable and secure.
- Staff members will have basic computer skills to use the system.
- Users will enter accurate personal details during registration.

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 depends on cloud hosting and internet connectivity for most updates and scheduling.
- DMV integration requires continued cooperation and data sharing.
- Budget and timeline may restrict adding extra features like advanced reporting or future training modules.

- The system cannot guarantee that every student will pass their DMV test, it only provides the training resources.
- Customization of lesson packages may require developer support in the future.

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.