# CS 255 Business Requirements: Stirling, Dylan

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 primary goal of our consulting company is to collaboratively work with our client, DriverPass, to design, develop, and implement a comprehensive system that addresses their specific needs and objectives for a robust system to revolutionize driver training and testing services.

### 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 client, DriversPass, would like the system to provide a platform for the customers to be able to make reservations for driving lessons both behind the wheel, in-person, and online classes. The purpose of the system is to fill the void in the market and provide drivers training to the growing number of people failing their drivers tests at 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?*

* With the list of requirements listed from the data collected during the interview DriverPass would like their system to accomplish the following:
* Reservation management: Streamline the process of scheduling driving lessons, enabling customers to make, modify, or cancel reservations efficiently.
* Online Driver Training: Online driver training courses and practice tests, providing users with the necessary knowledge and skills to pass their driving tests.
* On-the-Road Training: Scheduling on-the-road training sessions, assigning instructors, and tracking progress.
* User Registration and Account Management: Users should be able to create accounts, log in, and manage their personal information and preferences within the system.
* Data Accessibility: Users should be able to access data regardless of their connectivity status, and data should remain consistent across devices.
* Role-Based Access Control: Access levels and permissions should be enforced accurately, and administrators should have full control over user roles.
* Activity Tracking and Logging: Activity logs should be generated, and administrators should be able to review them for auditing and troubleshooting.
* Compliance with DMV Regulations: System should successfully receive DMV updates, and training materials should reflect the latest regulations
* User Interface: Users should find the interface easy to navigate, and it should facilitate their interaction with the system.
* Reporting and Analytics: Users should be able to generate and view reports, and administrators should have access to relevant analytics data.

## 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 in a web-based environment.
* The system should respond to user requests within 2 seconds on average to ensure a smooth user experience.
* Updates to the system, including bug fixes and feature enhancements, should be deployed at least once every two weeks to keep the system current and responsive to user needs.

#### 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 be platform-agnostic and compatible with both Windows and Unix environments.
* The back end of the system requires a relational database to support data storage and retrieval.

#### 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 should be case-insensitive to ensure that users are not locked out due to case variations in their input.
* The system should inform the admin of any critical issues immediately through real-time notifications or email alerts.

**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 administrators to add, remove, or modify user roles and permissions without the need for code changes.
* It should adapt to platform updates by regularly checking for and applying necessary patches or updates.
* The IT admin should have full access to manage user accounts, reset passwords, and configure security settings.

#### 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 need to log in using a username and password combination.
* The connection between the client and the server should be secured using industry-standard encryption protocols (e.g., HTTPS).
* After a certain number of failed login attempts (e.g., 3), there should be a temporary account lockout to mitigate brute force hacking attempts.
* Users who forget their password should have the option to reset it through a secure email-based process with identity verification.

### 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 provide online driver training classes and practice tests.
* Users shall be able to make driving lesson reservations online.
* The system shall track user activity, including reservations, modifications, and cancellations.
* Users shall have different roles, including admin, IT admin, and secretary, with varying levels of access and privileges.
* The system shall support different driving lesson packages (e.g., Package One, Package Two, Package Three) and allow customization by the admin.
* The system shall collect and store user information, including first name, last name, address, phone number, state, and credit card details.
* Users shall be able to schedule, cancel, and modify appointments online.
* The system shall establish a connection with the DMV to receive updates on rules, policies, and sample questions.

### 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 cater to various user roles, including admin, IT admin, secretary, and customers.
* Admins should have access to comprehensive dashboard views for system management.
* Customers should be able to view their progress in online tests and lessons.
* The interface should be accessible through web browsers for desktop and mobile devices, ensuring responsive design and usability.

### 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 users have access to the internet to use the online system.
* Customers are responsible for providing accurate and up-to-date information during registration.
* The DMV provides an API or data feed for updates on rules, policies, and sample questions.
* The system will be developed using modern web development technologies and frameworks.

### 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?*

* Limited budget and resources may impact the speed of development and feature implementation.
* The system design may not cover all possible future features, and additional development may be required for new requirements.
* Strict adherence to DMV updates relies on the availability and reliability of their data feeds.

### 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.*

