# 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 client for this application project is DriverPass. Liam, the owner, envisions DriverPass as a platform that provides online training, practice tests, and optional hands-on driver training. The primary user demographic for this application comprises individuals aged 16 and older, as they are the target audience looking to obtain their driver's licenses.

### 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 problem identified by the owner of DriverPass is the deficiency in driver training, leading to a high rate of driving test failures. The essential components necessary for this application include:
  + An online platform for training and practice tests
  + Scheduling for hands-on training
  + The capability to access data from anywhere.
  + Implementation of measures to prevent data redundancy.
  + Report generation and download functionality, possibly for Excel.
  + Addressing security requirements, such as data encryption and user authentication
  + Efficient data storage management
  + Integration of payment processing systems.

### 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 proposed system for DriverPass aims to offer comprehensive online driver training, providing courses and practice tests to help users prepare for their DMV tests. It should handle reservations, enabling users to make, change, or cancel driving lesson appointments with specific cars and instructors, specifying the desired time and day for each two-hour session. Account management will grant different access levels based on user roles for the boss, IT officer, and secretary. Flexibility in customizing driving lesson packages and staying compliant with DMV regulations by remaining updated through a connection with the DMV system are crucial aspects. In order to accomplish these objectives, the system's design needs to focus on user-friendly interfaces, a strong database structure, robust security measures, integration with the DMV for updates, rigorous testing, and detailed documentation and training materials. Remote accessibility, allowing data access online and offline while maintaining data integrity, is vital. Operating the interface via the cloud will minimize technical glitches, ensuring secure backup and efficient data management for the successful functioning of DriverPass.

## 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 for DriverPass needs to run on the web, preferably through the cloud, allowing access from different devices like computers and mobiles. It should be quick, ensuring smooth and fast performance for online classes, reservations, and account management. While specific speed measurements aren't mentioned, the system should respond promptly for a good user experience. Keeping updated with DMV changes is crucial; thus, the system needs to connect with the DMV for timely updates. Though the exact update frequency isn't specified, regular maintenance for functionality and security enhancements would likely be necessary to keep the system running smoothly.

#### 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 for DriverPass doesn't specify running on specific platforms like Windows or Unix. Instead, it's likely to work on the internet or the cloud, accessible from different devices. For the backend, it will need a database to manage user details, reservations, lessons, and other important information.

#### 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?*

* In distinguishing between different users, the system would likely assign different roles or access levels based on the user's position or responsibilities within DriverPass. For instance, the boss might have broader access compared to the secretary or the IT officer. As for input sensitivity, the transcript doesn't explicitly mention whether the system is case-sensitive or not, so it's unclear based on the provided information. Regarding informing the admin about system problems, it's highlighted in the conversation that tracking and activity logging are important. In case of issues, the system should alert the admin when changes are made, such as reservations being canceled or modified. Additionally, there might be a need for notifications to the admin for critical issues or system malfunctions to ensure prompt attention and resolution.

#### 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?*

* I believe it's implied that such functionalities might be handled through an administrative panel or a user management section within the system. This setup would enable modifications to users without requiring direct changes to the system's underlying code. Also, for smooth adaptation to platform updates, the system could be designed with flexibility, employing standardized coding practices, and modular structures. This would help in reducing the dependency on specific platform elements, enabling easier adjustments or adaptations when platform updates occur.

#### 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?*

* To log in, the user would likely require credentials such as a username and password. However, the specific login requirements (like additional security measures or two-factor authentication) weren't explicitly mentioned in the provided transcript. To secure the connection or data exchange between the client and the server, implementing encryption methods like SSL/TLS protocols or using HTTPS for communication can ensure a secure data transfer, safeguarding sensitive information from interception or unauthorized access during transmission.

### 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 should let users log in and manage their driving lesson bookings online or at the office securely. It needs to store user details and track their actions for accountability. It must distinguish between different user roles, encrypt data for safety, and prevent hacking attempts by locking accounts temporarily after repeated failed logins. Also, it should have a "Forgot Password" option and connect to the DMV for updates. The system must be flexible for changes and generate reports on user activities for driving tests and 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.)?*

* The interface needs to be user-friendly, allowing various actions like logging in, managing reservations, accessing account information, and viewing lesson progress. Different users for this interface include customers booking driving lessons, administrative staff managing appointments, and an IT officer overseeing system maintenance. Each user will have distinct abilities, such as customers being able to book, modify, or cancel lessons, administrative staff managing reservations, and the IT officer handling system maintenance and user accounts.

### 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?*

* In my design above, several specific technical details were not explicitly addressed. This includes the exact programming languages, frameworks, or database systems to be used. Also, detailed specifics about the visual layout, colors, and specific features of the user interface were not outlined. Moreover, the discussion lacked specifics about data storage structures, backup procedures, or disaster recovery plans, and did not cover how the system would handle increased user loads or future scalability needs. Assumptions made in the design about users or technology they have might include presumptions about users' basic computer literacy to interact with the interface via browsers on their devices. It's also assumed that users have access to internet-enabled devices such as computers or smartphones for interface interaction. Furthermore, the assumption might include users preferring an intuitive and straightforward interface design for ease of use. Lastly, there's an assumption that users understand basic security practices for managing passwords or handling sensitive information. These assumptions can shape the system's design, but they should be validated through user research or consultations to ensure alignment with users' actual needs and capabilities.

### 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 current system design shows possible limitations that need attention: handling more users or data might be tough without changes to the system setup; there's not enough detail about how to keep user info safe; making changes to the system later could mean a lot of work because it's not very flexible. Also, the system might not work well on different devices or browsers, which could affect how users access it. Assuming users know the interface might miss problems that could stop users from liking or using it. Resource shortages like limited staff, money, or time might slow down how fast and how well the system is made and managed. To tackle these issues, plans need to focus on making it easier to expand, securing user data better, adapting the system for changes, improving how users interact with it, and managing resources well within limits.

### 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.*

A calendar with multiple colored squares

Description automatically generated with medium confidence