# 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 primary objective of this project is to address the scarcity of effective tools to assist individuals in passing their driving tests. The client, DriverPass, seeks to create a comprehensive system in the form of a website that offers students valuable resources to improve their driving skills and increase their success rates in the driving test. Specifically, the system should provide online practice exams, access to informative classes, and the convenience of booking on-road training sessions.

### 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 has identified a lack of sufficient tools in the market to assist drivers in passing their driving tests. Consequently, they have enlisted our help to create a website-based system that will provide students with online practice exams and the ability to book on-road training sessions. With proper security features in place and the ability to update the system when necessary.

### 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?*

* DriverPass seeks to resolve the problem of driving test failures by providing users with online practice exams, informative classes, and the convenience of booking on-road training through the proposed system. The system should allow users to access data from anywhere with an internet connection and incorporate proper security features to grant differentiated access to different users and manage their functionalities. Additionally, the system should track all reservations, cancellations, and modifications, while offering three different packages for on-road training.
* Completed System's Objectives and Measurable Tasks: Upon completion, the system should be a fully functional website enabling customers to seamlessly book, modify, and cancel on-road driver training appointments. Additionally, the system should provide users with the capability to access and complete practice tests and online classes. To achieve these objectives, specific measurable tasks need to be included in the system design, such as implementing user-friendly booking interfaces, secure authentication methods, user access controls, and database management. Object models, process models, and UML diagrams will aid in visualizing and efficiently developing the system, while careful selection of the operating platform and programming languages will ensure compatibility and effective implementation.

## 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?*

* Regarding nonfunctional requirements, the system should be web-based and hosted over the cloud to provide seamless accessibility to users from various devices. The system's performance should be optimized to enable fast and uncomplicated website access for users. Frequent updates should be facilitated, aligning with the client's decision to incorporate new features and improvements to enhance user experience and system functionality.

#### 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 run on the Linux platform, and the cloud technology will handle security and manage the databases required for the system's back-end operations. The system however will be cross platform in case drive pass eventually wants to switch to windows or any other platform.

#### 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?*

* Distinguishing between different users will be achieved by enabling user registration with unique usernames and passwords. Input will be case-sensitive to ensure security, and multi-factor authentication will add an extra layer of protection against unauthorized access attempts. The system should promptly inform the admin of any encountered problems, glitches, or bugs, ensuring swift resolution to minimize disruptions to the website's operation and user experience.

#### 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 design aims to enable seamless modifications to user profiles and the capability to remove users without requiring changes to the underlying code. As the system evolves, new features will be introduced through platform updates to meet the evolving needs of DriverPass. These updates will be implemented gradually, ensuring a smooth transition and integration of new functionalities. The IT administrator will be granted full access to the system to facilitate any necessary changes and manage user accounts, including the removal of former employees who should no longer have access.

#### 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 enhance security, the user login process will require authentication through a combination of a username, password, and multifactor authentication. Data exchange between the client and server will be facilitated by cloud technology, ensuring secure and encrypted communication. In the event of a "brute force" hacking attempt, the system will proactively respond by disabling the user account after four incorrect login attempts, thus preventing unauthorized access. If a user forgets their password, they will have the option to initiate a password reset process by providing their registered email address, receiving a reset link, and subsequently setting a new 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.”*

* The system shall fulfill various functional requirements to meet the needs of DriverPass. It will validate user credentials during login, manage reservations made by users, offer practice tests and classes, display information about the assigned driving instructor, and present three different driving package options. Additionally, the system will prioritize efficiency, ensuring fast and reliable performance. Access permissions will be tailored based on user privileges, providing custom access levels accordingly. The system shall maintain records of completed tests and user progress.

### 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 user interface needs to cater to different users, such as customers and DriverPass employees. For customers, the interface should provide options to book driving appointment packages, access online classes and tests, and view their progress. DriverPass employees will use the interface to make system updates and manage various aspects of the platform. The user interface should be accessible through multiple devices, including mobile phones, laptops, and computers, with seamless interaction across different platforms.

### 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 the absence of a specified budget, it is assumed that all the required resources, including the Linux environment and cloud services, will be available within the allocated budget. Additionally, it is assumed that there will be easy access to the technology needed to build the system. These assumptions underscore the importance of effective resource management and cost-conscious decision-making during the development process.

### 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 design faces certain limitations, primarily concerning time, resources, and manpower. With a limited timeline of five months for development, project planning and execution must be well-structured to ensure timely completion. The shortage of personnel could impact the development process, necessitating an agile approach to adapt to changing circumstances efficiently. While these limitations present challenges, a well-organized development strategy can help mitigate potential risks and ensure the successful delivery of the DriverPass system.

### 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.*

[Insert chart]

A screenshot of a computer screen

Description automatically generated