# 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 is looking to enter an untapped market. They require a program that will improve driving skills and contribute to road safety by regularly updating training policies in accordance with state laws, ultimately leading to safer roads.

### 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 system must serve a dual purpose: it should facilitate online test administration and be available round-the-clock for training, while also functioning as a personal assistant for booking reservations. Furthermore, it must possess the capability to identify drivers, allowing the vehicle to assess their driving proficiency based on their driving habits.
* To support these functions, the system will maintain a comprehensive database on a website. This database will include drivers' license photos, records of their test progress, and a range of demographic information about each driver. This data will be instrumental in delivering personalized and efficient services.

### 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 program should be accessible both online and offline and include features like push notifications for updates and driver notifications. It should utilize cloud systems for data storage and management. Additionally, the program should display student demographics, including their first and last names, addresses, and payment information. For tracking test progress, it should show metrics such as the number of attempts, scores, status, and whether the student passed or failed.

## 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 should primarily be web-based, accessible through a website hosted on the cloud. It must prioritize speed and seamless user access to ensure a hassle-free experience. Additionally, the system's design should allow for flexible updates, enabling the client to easily incorporate new features whenever they choose to enhance the system's capabilities. This adaptability is crucial for keeping the system current and meeting evolving 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 platform should be based on Linux to enhance its security measures. Running on a Linux operating system provides a robust foundation for implementing stringent security protocols.
* Moreover, the system's security will be managed through the cloud infrastructure. This cloud-based approach not only ensures the security of the system but also handles the necessary databases for the backend. Cloud-based security solutions offer scalability and advanced protection measures, making it an efficient choice for safeguarding the system and its data.

#### 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 requires users to create a unique ID by providing a username and password during their initial access to the website. It's crucial to note that the input should be case-sensitive, ensuring accurate authentication.
* To bolster security, the system should incorporate multi-factor authentication methods such as RECAPTCHA, 2A Verification, and Login Key Authenticator. These additional layers of verification make it considerably more challenging for malicious actors to compromise user accounts.
* Furthermore, the system should be equipped with a real-time issue reporting mechanism that promptly informs the client of any problems or glitches with the website. This proactive communication enables the client to report and address issues swiftly, ensuring the website's continued functionality and user satisfaction.

#### 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 is designed to enable user modifications and user removal without the need to alter the underlying code. This means that administrators can make adjustments to user profiles and access privileges within the system without having to rewrite or reconfigure the software's codebase. This flexibility streamlines user management and ensures adaptability.
* Furthermore, the system will be adaptable and responsive to evolving needs. It will undergo updates as required to incorporate additional features and functionalities. This ensures that the system remains current and can accommodate changing user requirements and technological advancements.
* Additionally, the IT administrator will have complete control over the system, allowing them to make necessary changes and revoke access for former employees who should no longer have privileges within the system. This administrative authority ensures security and proper access control within the system.

#### 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 will need both a username and password to log into the system, and an additional layer of security through multifactor authentication will be implemented. This multifactor authentication enhances the security of user accounts by requiring more than one method of verification.
* Data exchange between the client and server will be handled through the cloud infrastructure. This cloud-based approach ensures efficient and secure communication between the two, facilitating data transfer and system functionality.
* To prevent brute force attacks, the system will automatically disable an account after four incorrect login attempts. This security measure adds an extra layer of protection by limiting the number of logins tries an attacker can make.
* If a user forgets their password, a password recovery process will be in place. They will be prompted to enter the email associated with their account, and a password reset link will be sent to that address. This user-friendly feature ensures that legitimate users can regain access to their accounts securely while maintaining account security.

### 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.”*

* [Insert text]

### 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.)?*

* **Reservation Booking**: Users can make reservations through the system. This feature allows users to schedule appointments or services as needed, enhancing user convenience.
* **Educational Resources**: The system offers practice tests and access to classes. This component supports user learning and skill development, making it a comprehensive platform for driver education.
* **Driver-Customer Pairing**: Users can view information about the driver they are paired with. This feature promotes transparency and allows users to know who their assigned driver is.
* **Access Control**: The system provides custom access based on the user's privileges. This means that different users may have different levels of access and permissions within the system, ensuring security and tailored user experiences.
* **Progress Tracking**: Users can track their progress within the system. It displays the tests taken and the work completed, allowing users to monitor their educational journey and achievements.

These functionalities collectively create a versatile and user-friendly system that caters to various aspects of driver education and interaction between users and the platform.

### 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 absence of a specified budget for the system development has led us to make certain assumptions. We're assuming that all the tools and technologies required to build the system will be within budget, even though the actual financial constraints haven't been defined.
* In addition to this, we are also assuming that we have easy access to all the necessary technology and resources. This assumption implies that we can readily acquire the software, hardware, and skilled personnel needed for the project without facing any significant logistical or procurement challenges.
* However, it's important to note that working under such assumptions can introduce uncertainty and potential risks into the project, as budget constraints and technology availability can greatly impact the feasibility and success of the system development effort. It's essential to clarify these aspects to ensure a smooth and well-managed project.

### 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 project timeline is approximately five months, and there hasn't been a budget specified. One significant challenge is the limited workforce available for building the website within this time frame. To address this, there's a need to hire more employees with the necessary expertise and skills to accelerate development.
* Considering the circumstances, adopting an Agile approach is highly advisable. Agile methodology allows for flexibility and adaptability in project management, making it well-suited for situations where timelines are tight, and requirements might evolve. It promotes efficient collaboration, rapid development, and the ability to adjust as needed, which can be crucial in successfully delivering a project of this nature within the given time constraints.

### 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 chart with multiple colored squares

Description automatically generated