# 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 objective of this project is to enhance the current system of training students for driving tests.

### Liam, the owner of DriverPass and the client, aims to implement an improved online training platform that includes practice tests for students.

### Additionally, Liam desires the involvement of DriverPass staff in offering real-life training assistance.

### 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 to develop a system that enables students to receive training to help others pass their driving tests.

### The team's goal is to make this system available both online and offline.

### They are concerned about the ability to save any changes when offline.

### The team suggests using cloud technology for the interface, which would facilitate saving progress offline.

### Security must be taken into consideration, and access to this information should be limited to a specific number of employees.

### To achieve this goal, the system will require various components, such as an online and offline interface, cloud storage technology, and security measures to protect sensitive information.

### 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 completed system should be able to show driver's notes, comments, and time taken for lessons.
* The system should be accessible offline.
* The client should be able to track the driver assigned to the consumer, the time, and the car.
* Measurable tasks for the system design include staying up to date with tests, tracking, driving schedules, etc.
* The system should allow customers to choose packages and disable them once they are booked.
* Students will take their tests online, and progress will be displayed in the following format:
  1. Test Name
  2. Time Taken
  3. Score
  4. Status (failed, passed, in progress, not taken)

## 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?*

* Regular updates are necessary to ensure that the system remains bug-free and secure, and to keep up with any changes in DMV guidelines. Priority should be given to updating the system with any changes in DMV guidelines to ensure that students receive accurate information through DriverPass.
* The system should be web-based to ensure its success.
* The system should have fast speed to accommodate multiple students taking exams simultaneously and to ensure that requests can be transmitted quickly between servers.

#### 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 web browsers such as Microsoft Edge, Chrome or Explorer, making it compatible with Windows and other operating systems.
* The system should be responsive and able to resize to fit the screen of mobile devices.
* The back end of the system would require a database to store and manage information.
* The system should be designed to be scalable, so it can accommodate a growing number of users and data over time.
* To support the system, the back end may also require additional tools such as a web server, application server, and other middleware.
* The system should be tested on various platforms and browsers to ensure cross-platform compatibility and consistent performance.
* To maintain system stability and uptime, a backup and recovery strategy should be in place to ensure data availability in case of system failures.

#### 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 will use a unique user email and password to differentiate between different users.
* Inputs will be case sensitive to ensure security and prevent unauthorized access.
* After a certain number of incorrect inputs, the system will notify the admin to investigate the issue.
* The system will use multi-factor authentication to enhance security.
* The system will have an activity log to record user actions and any changes made to the system.
* The system will encrypt all sensitive information to ensure data security.
* The system will send automated email notifications to users regarding upcoming tests, schedule changes, and system updates.
* The system will have a password recovery feature for users who forget their passwords.
* The system will automatically log out users after a set amount of time to ensure account security.

#### 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?*

* Changes to user accounts can be made without modifying the code using POST requests and controllers.
* System updates and changes will be managed by the development team through requests and testing before implementation.
* The IT admin will have access to all user accounts and employee data, as well as the ability to remove employees who are no longer with the company.
* Access to the system and data will be limited based on user roles and permissions to ensure security and protect sensitive information.
* Any modifications to the code will be thoroughly tested to ensure the stability and functionality of 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?*

* To log in, the user will need to enter their email and password.
* To secure the connection and data exchange, the system will use HTTPS and SSL/TLS certificates.
* In the event of a "brute force" hacking attempt, the account will be temporarily locked out for a set amount of time, and both the user and the admin will be notified.
* If the user forgets their password, they can reset it through a password reset email sent to their registered email address.
* User data shall be encrypted and securely stored to prevent data breaches and protect privacy.
* Access to sensitive data and system functionality shall be restricted to authorized users through role-based access control (RBAC).
* The system shall implement a security protocol to protect user data and prevent unauthorized access.
* The system shall log all user activities and monitor for suspicious behavior to detect and prevent security threats.
* The system shall comply with industry-standard security practices and undergo regular security audits and testing to ensure the ongoing security of user data.

**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 require users to create an account before accessing training materials.
* The system shall confirm login information from the user so the user can access information.
* The system shall confirm customer selection from 3 packages the clients want the customers to see.
* The system shall make changes according to DMV updates or changes.
* The system shall confirm customer details, including Customer Address, Customers First and Last Name, Customers Credit Card Info, and Customer Phone Number.
* The system shall show exam progress and exam scores for students.
* The system shall confirm the type of user, such as an admin or a student.
* The system shall be available online, and certain materials will be offered offline such as study materials.
* The system shall display the disabled packages on the customer side.
* The system shall display 3 types of packages the client suggests.
* The system shall allow the client to disable packages if one of them becomes unavailable.
* The system shall allow a user to reset their password.

### 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 system shall provide an intuitive and user-friendly interface for both students and admins.
* The different users for this interface include students and admins, each with unique roles and permissions.
* Students will need to be able to log in, access study materials, take exams, view exam progress and scores, and reset their passwords through the interface.
* Admins will need to be able to log in, access customer information, confirm customer details, disable packages if necessary, and make changes according to DMV updates or changes through the interface.
* The interface will be accessible through a web browser, and it should also be optimized for mobile devices to provide flexibility and convenience for users.

### 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 design does not specify the specific technology stack or programming language that will be used for development.
* The design does not address the scalability of the system and how it will handle increasing numbers of users or traffic.
* The design assumes that users have access to a stable internet connection and modern web browsers or mobile devices.
* The design assumes that users have a basic understanding of how to use a computer or mobile device and navigate a web-based interface.
* The design does not address potential legal and regulatory requirements for the system, such as data protection laws and DMV regulations.
* The Users have basic computer literacy skills to navigate and use the system.
* Admins have the necessary permissions and credentials to access and modify customer information.
* The system is built on a secure and stable technology platform.
* The system can handle multiple concurrent users without significant performance issues.
* The design assumes that the system being developed falls within the budget.

### 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?*

* One limitation of the system design is that it assumes all users have access to an internet connection and a web browser, which may not be the case for all users.
* The system design also assumes that all users have basic computer literacy and can navigate the interface without difficulty.
* A limitation regarding resources is the availability of servers to host the system and the cost of maintaining them.
* Time is a limitation as well, as the development and testing of the system may take longer than anticipated, affecting the project timeline.
* A budget limitation may be present, which could impact the scope and features of the system design.
* A technology limitation could be the availability of the latest and most secure technologies that may not be accessible or affordable to the development team.

### 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.*

Timeline

Description automatically generated