# 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, DriverPass, represented by Liam and Ian, the owner and IT officer, respectively, seeks a system that assists individuals in passing their driving tests by offering online practice tests and providing a feature to schedule driving training with instructors.

### 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 noticed a high failure rate due to ineffective teaching and preparation.
* The goal is to provide a more comprehensive and interactive system for better learning and preparation.
* The system will include the following components:
  + Web-based application accessible via desktop and mobile devices.
  + User registration and account management
  + Online practice test module.
  + Scheduling and calendar integration for driving lessons.
  + Role-based access for students, instructors, and administrators.
  + Backend database and cloud infrastructure.
  + Administrative dashboard for content updates and system monitoring

### 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 system will be able to provide practice tests online, allow students to schedule driving lessons based on availability, allow instructors to manage schedules and provide feedback, include reporting tools for student progress, in a user-friendly, secure, and accessible platform.
* Provide practice tests online that reflect DMV exam standards
* Allow students to schedule driving lessons based on availability
* Allow instructors to manage schedules and provide feedback
* Enable secretaries to enter and manage appointments
* Include reporting tools for tracking student progress and system usage
* Operate as a secure, user-friendly, and accessible platform across devices

## 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 will be web-based and accessible through computer and mobile interfaces.
* The load time should not exceed 2 seconds under normal load, barring the user's internet being underdeveloped.
* The system should be available almost all the time.
* System updates should be applied with minimal to no downtime.

#### 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 support Windows, Unix, macOS, iOS, and Android platforms through a web interface.
* Backend tools include a scalable cloud-based environment such as AWS or Azure, while a database is necessary to store data, practice tests, and schedules. Certain microservices may be required to support modularity.

#### 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 distinguish between users through a role-based access control mechanism, allowing only authorized users to perform specific actions.
* Case sensitivity is crucial for login credentials, and input validation may be necessary for specific actions in other tasks.
* The system should log and notify admins of suspicious activity, such as multiple failed login attempts.

#### 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 without changing code should be handled through an admin interface.
* The system will be modular to allow for future adaptations and allow for updates while reducing system downtime and the need for major refactoring.
* IT admins will need full access to update materials, manage users, and generate reports/understand system performance.

#### 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 are required to log in through a secure portal using encrypted passwords.
* The data will be encrypted and use secure methods such as ssl or tls when in transit.
* The system will lock an account after 3 failed login attempts and notify the user and admin account.
* There will be a password recovery functionality available through email and sms 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 validate user credentials when logging in.
* The system shall allow students to register online.
* The system shall allow students to schedule, cancel, and reschedule lessons.
* The system shall assign and display available instructors for each lesson.
* The system shall allow instructors to view student schedules and leave feedback.
* The system shall display student progress for online tests, scores, statuses, etc.
* The system shall allow the admin to manage users.
* The system shall include a customer service support feature.

### 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 will be user friendly and accessible through computers or mobile devices.
* Students will be able to register, schedule driving lessons, take tests, track progress, and recover passwords.
* Instructors can track student progress, give feedback, and see/manage schedules.
* Admins have access to the system, can manage users, and update materials.

### 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?*

* Users will have internet access
* Lessons can be managed manually by staff
* Data will be handled by a cloud service provider

### 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 app will only support locations where DriverPass currently operates. Moving forward, it may require changes in the future to support expansion.
* Developer interaction may be required later to modify functionalities and accommodate changes.
* Interconnecting DMV with Driverpass may be impossible to integrate
* The development team may take longer without proper resources and money
* Budget may require adjusting functionalities to meet a minimally viable product.
* Interconnecting with third parties may be limited.

### 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.*

