# 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 goal for the project is to develop a new DriverPass online system that can be used by students to take practice tests and allow for easy scheduling of driving lessons. Liam, the client, seeks the system to guide an online and in-person learning that is as seamless and organized as possible.
* The purpose is to support students as they pass their driving tests by providing them with reliable, up-to-date resources and a quick scheduling process.
* The system should also provide DriverPass staff with tools needed to effectively manage students, appointments, and reports.

### 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* DriverPass was created for students who fail their driving exams due to outdated materials or lack of practice.
* Our solution is to build a web-based system that integrates online test prep with real driving lesson scheduling.
* Currently, all scheduling and record-keeping are handled manually, thus wasting time and causing errors.
* The new system enables students to register, schedule, and study online while allowing staff to update information, track activity, and connect with DMV updates. The key components are a database, web interface, login and registration features, lesson scheduling, and an admin dashboard.

### 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?*

* It should be a tool where students can have an account on their side, schedule driving classes or take their practice exams online at any time.
* It ought to provide users with instantaneous access to instructor’s availability and send reminders or updates via email or text.
* This ensures that scheduling conflicts can be minimized, and all lessons are properly recorded and tracked.
* An instructor may be able to check in ahead of time the classes they are teaching, the students are making progress, and it is possible to update them after each class. Administrators would be well-served by reports on student performance, instructor schedules and financial summaries.
* The system ought to support better student-to-staff and better staff-to-staff communication, cut out time spent on paperwork and make the students’ learning experience more flexible and dependable.
* The objective in the end is to get better rates of passing for students, save time, and increase efficiency to benefit everyone.

## 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 a web-based platform that can be accessed by students, instructors, and staff from any modern browser. Under normal conditions, it should be able to load each page within three seconds to ensure a smooth user experience.
* The platform should support at least 500 active users at the same time without slowing down or crashing. Data should be backed up automatically daily to prevent loss. Regular updates should be applied every few months to fix bugs, improve security, and add new features.

#### 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 DriverPass system will execute in all popular operating systems (Windows, macOS, Linux) as well as with the mobile browsers of Android and iOS.
* It will use a secure web server and an SQL-based database to house all student and lesson files. The back end of the system will also probably be developed using frameworks such as .NET, Node.js, or Java, as required from the standpoint of future scalability. And it should be hosted on a cloud infrastructure like AWS and/or Azure for high availability and scalability.

#### 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?*

* A unique username or email is needed for each login to guarantee all data remains connected to the correct account.
* Every system input, such as lesson dates, times, and scores, will be validated before being saved. Passwords will be case-sensitive, as they must be securely formatted with letters, numbers, and symbols.
* If an input or scheduling mistake occurs, the system needs to automatically notify the admin so it can be reviewed quickly. Logs of system errors or failed transactions will be maintained to refine future updates.

#### 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?*

* Administrators should be provided with the ability to create, delete, and modify users and lesson data without the need for coding changes.
* It should automatically adapt to updates from browsers and operating systems without breaking key features. IT administrators will gain access to every system control including backups, logs, and security settings from a secure admin panel.
* Future updates, such as adding mobile apps or integrating new DMV data sources, should be easy to implement without redesigning the entire 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?*

* Every single user will have to log in with verified credentials (username and password). Data exchanged between users and the server will be protected by using HTTPS encryption for the system.
* If the login is not successful multiple times, then the account will be temporarily locked to prevent brute-force attacks. Forgotten passwords can be reset through an email verification link.
* All passwords will be encrypted and stored securely in the database. Sensitive data, for example personal details of individuals and payment data, will never be shown in plain text and will follow security standards like PCI and GDPR compliance.

### 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 allow students to create and manage accounts securely. The system shall validate user credentials before granting access to the platform. Students are to be able to schedule and cancel lessons online.
* This shall include online practice tests, and this shall retain the performance records for monitoring and evaluating it as needed. The system shall enable instructors to see lesson schedules and to update students' progress post-session.
* The system shall allow administrators to view reports and manage data related to students, instructors, and finances. The system shall send notifications to users about schedule changes, cancellations, and updates.
* The system shall enable administrators to update course materials and manage test content. The system shall keep records of all transactions, lessons, and user activities in an accurate manner for the purpose of reporting.

### 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 entirely web-based and will support desktop, tablet, and mobile browsers. This will serve many different audiences like students, instructors, and administrators. Students can register, sign in, book lessons, take tests, and see their performance results.
* The interface will help instructors keep on top of their schedules, check student progress, and record results of each lesson. The admin dashboard provides administrative control over user accounts, scheduling data, reports, and other high-level operations.
* In a way, the user interface should be clean and easy to navigate with icons and tabs for the intuitive feel. To this end, we will prioritize accessibility so that all users, including those with limited technical skills, can easily interact with the system.

### 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 access to a stable internet connection and basic computer knowledge. It is assumed that users have modern devices and updated browsers.
* The DMV will continue to provide updated testing material that DriverPass can use to maintain accuracy. Staff members will receive training and user manuals to understand how to use the new system effectively. It’s assumed that most scheduling will happen online, with minimal manual intervention.

### 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?*

* Its first release's mobile optimization may be limited until further development.
* It is dependent entirely on internet access, so it will not function offline. Time and budget constraints mean advanced analytics or AI-based recommendations may come later. After the initial launch, integration with external systems like DMV databases may require additional development. If the number of users grows rapidly, additional server capacity may be needed to maintain performance.

### 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]