# 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 purpose of the DriverPass system is to provide students with comprehensive training to pass their driving tests. The system will offer online practice exams, on-the-road training, and the ability to schedule driving lessons, ensuring students are well-prepared for their driving tests.

### 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 notice that there are fewer tool in market that can help students to pass driving test. Their research indicates that over 65% of students fail their driving tests because they rely solely on studying previous tests without sufficient practical experience. Recognizing this need, DriverPass wants to develop a comprehensive system that combines online practice exams with on-the-road training. This dual approach is designed to better prepare students for their driving tests by offering both theoretical knowledge and practical experience. The new system will provide features such as online practice exams, scheduling and tracking of driving lessons, and compliance with DMV regulations. This integrated solution will ensure that students receive the necessary preparation to succeed in their driving tests, ultimately reducing the failure rate and improving road safety.

### 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 objective and goals for the system are:

1. Provide online practice exams that helps real driving tests.
2. Offer scheduling and tracking for on-the-road training sessions.
3. Ensure data accessibility and security for all stakeholders.
4. Maintain compliance with DMV regulations and updates.

## 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 DriverPass wants their system to be web-based and hosted in the cloud, minimizing technical work for the them and ensuring accessibility from any device with an internet connection. The system should be fast enough for users to access without complications. Additionally, the system should update automatically, sending notifications to users when an update is available or has been applied. Regular updates will include both minor updates, such as content changes and bug fixes, and major updates, like new features and significant improvements.

#### 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 needs to be compatible with a variety of platforms, including Windows, Unix, macOS, and mobile operating systems like iOS and Android, to ensure that all users can access it regardless of their device. The DriverPass wants system to run via cloud which will eliminates the need for additional tools or databases, as the cloud infrastructure already includes these features. This approach also ensures that security and database management for the back end are efficiently handled, providing a seamless and secure experience for all users.

#### 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 be role-based system which will help distinguish between different users. The inputs will be case-sensitive to enhance security. Additionally, the system should provide real-time notifications to the admin in the event of any issues, such as glitches or bugs, to ensure prompt solution.

#### 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 would allow administrators to add, remove, or modify user accounts without requiring code changes for this the IT admin will need comprehensive access, including the ability to manage user accounts, monitor system performance, update content, configure settings, and access security logs. This level of access ensures that the IT admin can effectively oversee the system's operation and maintenance.

#### 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 be required to create a case-sensitive username and password and set up two-factor authentication (2FA) to access the platform. To ensure a secure connection, all data will be encrypted before transmission, HTTPS will be used, and security system updates will be monitored continuously. In addition. If a user incorrectly enters their password incorrectly there can be limit set and their account will be locked for 30 minutes or so, and both the user and an admin will receive an alert. This measure helps mitigate 'brute force' attacks by delaying unauthorized access attempts and notifying admins of multiple failed attempts. Two-factor authentication further enhances security by requiring a second form of verification, even if a password is compromised, and alerts the user of any suspicious login attempts. If a user forgets their password, they must enter their username and email address. If the information matches a record on file, an email will be sent to the user with instructions to reset their 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.”*

1. **The system shall enable students to take a driving knowledge test.**
2. **The system shall provide students with the capability to schedule driving lessons with an instructor.**
3. **The system shall grant staff the ability to schedule driving appointments on behalf of students.**
4. **The system shall permit administrators to remove employees from the system.**
5. **The system shall display a record of completed tests for each student.**
6. **The System shall provide system logs.**
7. **The system shall allow drivers to provide feedback or notes regarding students' driving performance.**
8. **The system shall provide secure login and password reset functionality.**

### 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 must cater to several essential needs, including displaying online test progress, personal information, driver notes, special needs, and both driver and student photos. It will support four distinct user roles: students, drivers, staff, and administrators. Students need to access online tests, schedule driving appointments, view and edit their personal information, and read driver notes. Drivers should be able to provide feedback on students and update their own profiles. Staff members are responsible for scheduling driving appointments for students and managing their own profiles. Administrators have the most extensive set of permissions, including scheduling appointments, viewing edit histories, adding or removing employees, editing profiles, and performing all tasks accessible to other user roles. All interactions with the interface will occur through a web browser, ensuring broad accessibility for all 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?*

* Users will have internet access to use the system.
* The system will integrate with DMV updates for compliance.
* Role-based access will be sufficient to maintain security.

### 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 limitation I see is that initial system design will not include module addition/removal by non-developers.

### 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 calendar with a number of days and months

Description automatically generated