# 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 DriverPass, a company looking to create a small LMS to aid in students passing their written and physical driving test. The system should be able to aid students by helping with coordinating driving tests with instructors, giving feedback, and offering study resources for the written test.

### 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 the system to be able to store data for online/offline access. Essentially, DriverPass wants the system to act as an LMS for students and instructors to showcase the requirements defined within the interview. DriverPass wants to fix the lack of resources for teenagers attempting to take their physical and written driving test by offering an all in one package to accomplish everything from driving hours to the completion of the test. The system is going to need the ability to store data for online and offline access. The system is going to need the IT administrator and secretary to play their individual parts for creating student/driver/admin accounts and scheduling reservations. There should also be activity reports to record who changed data within the system.

### 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?*

When the system is completed, it should be a fully functioning LMS that has the ability to achieve the requirements set forth in the interview. These requirements include: scheduling drives, inputting hours and driver test notes, checking study progress, checking test completions, and editing core profile information. The system should be able store data, download reports, track system actions from users, print activity reports, have the ability to disable packages, automatic password resets, and connect to the DMV for notifications of new information.

## 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 application should be web-based and hosted on the cloud. The system should be the same speed as most web-based applications. There shouldn’t be absurd ping delays or load times. Everything should be optimized accordingly. The system should go through weekly updates to ensure that everything is running as it should.

#### 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 application is a web based application, so it should run on any platform that can support a browser. The back end should definitely have a database to store information regarding student test scores, completions, reservations, basic information, etc. The web based application is held up entirely on the database. A MYSQL database would be my preferred option.

#### 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?*

* Users should all be assigned a specific user\_id. Some users may have different roles which allow that user to do and see specific things within the application. In the database, all users can be assigned roles. Input should be case-sensitive regarding logging in and other authentication purposes. The admin should be informed of any problems any time malicious attempts, data breaches, or impactful bugs effect the system.

#### 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?*

* Users should be able to be modified by IT personnel. There should be a UI that is available to all IT personnel to change make changes to the backend. This way there’s no need to write SQL statements to change users. The system should be regression tested, unit tested, and dynamically tested to ensure that the system still operates correctly after platform updates. Any updates on the system will be rolled out internally because the application is web based. The IT admin should honestly have access to everything to ensure that he has the ability to make any changes necessary.

#### 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?*

* The log in should have multi-factor authentication which includes either an email or phone number. The login information should be stored encrypted on the database. HTTPS can ensure secure connection between the client and server. Information is encrypted when sent over HTTPS. Multiple attempts on brute forcing any accounts should lock the account and send a recovery link to the email of the account holder. If a password is forgotten, a link should also automatically be sent to the account holder as well.

### 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 have multi-factor authentication for log in.
* The system shall store user data regarding test progress.
* The system shall allow for automatic password resetting.
* The system shall have an effective dashboard for student learning.

### 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 needs to be easily understood by new users, along with also being efficient and straightforward with the design. The interface needs to show the following: driving hours/notes, driving progress, test progress, basic information, and pictures of the student and driver. The student should be able to check progress on studying for the written test. The student should also be able to check driver notes and hours. The student also needs to be able to update any basic information through the interface. The driver needs to be able to update student progress and adds notes on his/her interface. The admins should have an interface that allows for easy modification to student/driver profiles. The interface would be on a browser, so any device with a browser should be able to access the application.

### 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?*

* I’m making an assumption that we’re using a language such as react or nextjs with prebuilt libraries to create the application. Libraries such as bootstrap or mui have popular design standards that make it easy to emulate current trends related to design. I’m assuming that the interface is designed similarly to a dashboard concept as well. I’m also assuming that all the users in the system have access to a device that can connect to the internet through a browser.

### 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?*

* I see that this system will have limitations for expansion. Currently, there is only one IT person, a contracted company for the website, one secretary, and an owner. This company will have a hard time expanding initially until everything is under one roof. I see that the company will have limitations on creating new ideas and adding them to their application without more outside help. A web based app is going to perform slightly slower as well because it’s not a desktop application. There is a time and budget limitation as well, which holds this project to a deadline with only a certain amount of money put in.

### 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*