# CS 255 Business Requirements Document

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, has noticed there are few tools and assistance to help drivers pass the driving test on market.
* DriverPass is requesting that our team assist them with creating a system in the form of a website. This website will provide students with practice exams and have the capability to register for on-the-road training.

### 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?*

* The client, DriverPass, would like their system to help fix the issue of people failing their driving tests.
* DriverPass would like to solve the above issue by providing online practice exams, classes, and have the capability to have customers register for in-person driving training.
* The system should be accessible from anywhere there is an internet connection.
  + The system, additionally, should give users different access based on their role on the website.
  + The system should have the capability to track reservations, cancelations, modifications, and should offer 3 different packages for the on-the-road training.

### 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?*

* Upon completion, the system should be a fully functioning website that allows customers to book, modify, and cancel on-the-road training.
  + Customers should also be able to take practice exams and take online classes.
* Access to the website should be designated to the appropriate employees to modify the website for improvements.
* To achieve these feats, object models, process models, and UML diagrams should be generated to visualize the system.

## 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?*

* This system should be on a web-based platform.
* Access to the website should be fast, allowing customers to access it without complications.
* The system should be updated when the client, DriverPass, decides they want new features added.

#### 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 preferably platform to run the system on is Linux.
  + Since the system needs a database to hold all the data for each customer and employee, Linux seems to be the most appropriate with its easy editing, secure features, 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?*

* Each user should have a unique profile that is accessible when a username and password is entered.
  + The username and password should be case-sensitive for an added layer of security.
* An admin should be alerted anytime there is suspicious login, or any bug related issues are noticed.
  + Additionally, customers should have the capability to report a problem with the website so that admins can investigate and fix the problem.

#### 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 should have the capability for the modification of user accessibility without altering the code.
* The system should be able to adapt to updates with ease.
  + When DriverPass wants a new feature, the appropriate steps should be taken to minimize downtime on the website.
  + Analytics should be taken to account for least website traffic and schedule for update then.
  + Messages about updates should be easy to see on the website to warn customers of downtime.
* The IT admin(s) should have full access to all parts of the system to make changes to employee accounts/access/modifications.

#### 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?*

* A case-sensitive username and password combo will be required for a user to access their account.
  + If the client, DriverPass, would like to add multifactor authentication (MFA), this would allow for an additional level of security for users.
* Since the back end will be on physical servers in data centers and the front-end will be accessible from home computers, laptops, and phones, DriverPass will utilize cloud technology.
  + This technology will handle the bulk of security of data exchange between the user and the server.
* There should be a lockout time of an account if a username and password combo is entered incorrectly 5 times.
  + After the time out, if the username and password combo is entered incorrectly a 6th time, a permanent lock should be put onto the account with the owner of the account needing to contact customer support at DriverPass.
* If a user forgets their password, the website should have a hyperlink for them to reset their password using their personal email.
  + Upon clicking the hyperlink, an email with instructions on how to reset their password will be sent to the user’s email.

### 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 book reservations when a user registers for on-the-road training.
* The system shall have up-to-date practice exams and offer classes.
* The system shall offer three on-the-road training packages.
* The system shall run efficiently and quickly.
* The system shall provide tailored access based on user privileges.
* The system shall show previous tests, classes, and on-the-road training that a user has already completed.
* The system shall show the instructors that the customers are registered with for the on-the-road training.

### 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 be user-friendly.
* The interface shall give the customers an option to make reservations for the on-the-road training packages, take online classes, and take practice exams.
* The interface shall give DriverPass employees the ability to modify and update the system.
* Any user should be able to interact with the interface from a mobile phone, laptop, home computer, or any other device that has access to the internet.

### 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?*

* There is no specified budget for this system.
  + That constraint could affect the multiple things from project length to quality of final product.
  + All prior requirements and project expectations are based on being within 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?*

* There is currently a 5-month tentative time frame for the project.
  + Because there is no specified budget, it is hard to determine the number of employees needed.
  + There is a limitation on needing more employees to build the website with the desired features. Otherwise, the project will take longer.
* Another limitation is access to the technology and knowledge of the technology.
  + Since the recommended OS platform is Linux, we will need employees with knowledge of how to operate in a Linux environment.
  + Linux is less popular than other OS platforms and therefore, harder to have and maintain employees with Linux knowledge.

### 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 graph with red squares

Description automatically generated with medium confidence