# 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 who want a website that will give practice exams and online training for driving tests.
* DriverPass made this decision as they saw a gap in the market for education associated with learning how to pass a driving test. They want to educate potential drivers so that fewer fail their 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 to address the problem of people failing their driving test by introducing online exams, classes, and on the road training through their system.
* The system needs to be accessible both online and offline through a locally cached version.
* Any modifications and changes can only occur while online to eliminate data duplication.
* A booking system for handling appointments online using an online user system.
* There needs to be multiple purchasable packages for users, specified by the client.
* There should be tracking for when driving instructors and cars are usable.
* They wish to securely keep track of billing information, including names, addresses, and payment information.
* They wish to maintain a connection to the DMV to stay on top of any changes in the law as well as maintaining compliance with the law.
* The system needs to be cloud based to prevent unnecessary upkeep for DriverPass.

### 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?*

* On completion, clients should be able to book, change, and cancel on the road lessons through the website.
* Clients should be able to take practice tests and classes online.
* The system should have access limitations to prevent unauthorized changes.
* To create the system, we should use models (i.e. object model) using Unified Modeling Language (UML) to aid us.

## 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 needs to be cloud-based.
* The system needs to run over a website.
* The system only needs to be fast enough to run the website without any noticeable issues.
* The system should be updated each time there is a new change from the DMV.

#### 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 should run on Linux.
* The system will be running off of cloud computing, so many (if not all) of the tools will be provided by the service, including database management.

#### 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?*

* Through access control, each user should log in using a username and a case-sensitive password, as some email services treat email addresses as case-insensitive (ex. Google).
* When an error is encountered, an automated report system should send the error code(s) to the administrator along with relevant information.
* The system should also inform an administrator of a problem when unexpected downtime occurs.

#### 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 may be added, removed, and modified without touching code, as it is handled by a database, so these modifications can be done using the front end of it.
* When a platform update is created that is necessary to update to for the platform to function or prevent compromise, the update will be integrated.
* It is necessary for an administrator to have access to the entire system, allowing them to make changes to the system. This includes being able to revoke privileges for users or former employees.

#### 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?*

* In order to log in, the user will have to have a username and password. Multifactor Authentication (MFA) should be used for all employee and administrator accounts for extra security.
* The cloud computing service will be working as the security between the client and the server, as they are secure by design.
* To prevent brute force attempts, the account should lock after 10 failed attempts to log in.
* If a user forgets their password, they can follow a simple button prompt to send an email to their account which has a password reset link.

### 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 upon login.
* The system shall book reservations made by the user.
* The system shall provide practice tests.
* The system shall provide classes.
* The system shall offer three different driving packages to the user.
* The system shall provide access based on the user and their associated access privileges.

### 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 user interface needs to give the user the ability to make reservations, select packages, and take online classes as well as online tests. The user interface must also allow for administrative actions, such as changes to the system.
* The users are comprised of customers and employees which have no overlap.
* The user interface will be interacted through any web browser client, including mobile and desktop views.

### 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 and the client, DriverPass, will have ready access to cloud services and the internet.
* Users and the client will have a stable internet connection.
* Users will have a familiarity with web services.
* The client did not specify a budget, so each solution was assumed to be within the budget.
* The client did not specify a timeframe, so the proposed solution is assumed to be within a reasonable timeframe.
* The client will have staff to support the system on their end for delivery.

### 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 entire system must be built within approximately 15 weeks.
* The system must be built by a small team.
* The budget is unknown, so caution should be used to keep it low.
* The system has not been designed to scale and is centered around a small number of cars and a singular set of DMV rules.
* The cloud system the client chooses will be a single point of failure, if it goes, *everything* goes and there will be no way to control or restore the system until the cloud service is repaired.

### 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 screenshot of a computer screen

Description automatically generated