# 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 project is to take advantage of a void in the market when it comes to training students for the driving test at their local Department of Motor Vehicles.
* The client, DriverPass, wants to provide students with access to online practice exams and on-the-road training to better prepare them for 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?*

* The system should help access one's data from anywhere, online and offline.
* Access data from any computer or mobile device
* The system should allow downloading reports and some information to work on at home, using Excel, for example.
* The system should track activities, like reservations, canceling, and modifying reservations.
* The company users should be able to print an activity report.
* The customers should be able to book a driver lesson (2 hours long) through their online account by choosing a date and time, a driver instructor, and a car.
* The scheduling feature should be available for the office secretary.
* The system should allow tracking booked appointments and what customer is matched up with what time, instructor, and car.
* The users should be able to modify or cancel appointments online.
* The system access should be role-based, including customers, an IT officer, and a secretary.
* The IT officer's role should include maintaining and modifying the system, such as resetting customer accounts and blocking other company users' access.
* The system should include three driving lessons packages that customers can choose from and allow some company's users to disable, modify, delete, and add new packages.
* The customer's information to reserve a driving lesson should include first name, last name, address, phone number, state, credit card number, expiration date, security code, and the customer's pick-up and drop-off (should be the same as the pick-up) locations.
* A customer should be able to reset a password to their accounts automatically.
* The system should be connected to the DMV and receive notifications when the DMV makes any updates.
* The system should run off the web, preferably over the cloud, so backup and security will be automatically handled.
* The system should allow contacting a student directly.
* The driver instructor should fill in the information about the lesson time, start hour, end hour, and any comments.
* Students should log in to their accounts and see their personal information, online test progress, driver notes, and photos of both the driver and student.
* The progress of an online test should include the test name, time taken, score, and status. The status could be 'not taken,' 'in progress,' 'failed,' or 'passed.'

### 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 is able to:

* provide role-based access to it and display the information that is needed to fulfill the role responsibilities;
* allow customers to create accounts, reset passwords, add personal information, book driving lessons, modify appointments, take online tests, and access progress information;
* notify about any DMV updates;
* track activities, like reservations, modifying reservations and canceling them with the ability to download reports for the company's purposes;
* allow accessing data online and offline, and modifying only online
* allow customers to download information needed for preparation in an offline format
* allow access from any computer or mobile device;
* allow IT officer to have full access to the system with the ability to maintain and modify it;
* allow the secretary to access and modify scheduling;
* allow drivers to add information about the lesson that is recorded in the system.

The measurable tasks that need to be included in the system design to achieve this are:

* the system running on the cloud;
* all features are accessible from any platform (computer and mobile device);
* access and download information features for a customer are available online and offline;
* the system includes main, contact, personal information, and packages information pages;
* the system is linked to DMV website updates and notifies about any new updates;
* all the updates made to the system, like reservations, modifications, and cancellations, are tracked and available in the reports with the executant's user ID.

## 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 web-based on the cloud.
* The data stored should be accessed on computers and phones.
* Every interaction between a user and the system shouldn’t exceed 1.5 seconds.
* The system should be updated upon each development iteration/bug fix or as needed.

#### 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 Unix and be adapted for different browsers and mobile devices:

- Google Chrome;

- Mozilla Firefox;

- Apple Safari;

- Microsoft Edge;

- Opera.

* The system requires a database to store users` information and progress.
* The back end requires a server to manage requests/responses.

#### 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 should distinguish users by their assigned roles and login/password.
* Admins and customers will have different login modules to access the information allowed by their role.
* The input of the login\password should be case-sensitive.
* All other input within the system should be case-insensitive.
* The number of attempts to access the account should be limited to 5; after unsuccessful attempts the admin should receive a notification about 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?*

* A customer should be able to create an account, add information, modify it, and schedule an appointment.
* A secretary should be able to add a customer to the system and modify the customer's information.
* DrivePass staff should be able to modify reservations in the system.
* The platform updates shouldn't compromise the system's performance.
* The updates should be done in less busy hours with the prior notification to customers.
* The minor updates should be implemented during agile iterations.
* The IT admin should have full access to all accounts to reset or block access.

#### 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?*

* For authorization needs, a user should have a login and password.
* The two-step verification is required for security purposes.
* For a secure connection, the system must employ the HTTPS protocol.
* The number of unsuccessful attempts should be limited to 5, with further lockout of the account, notification for the admin and email to the user’s email address.
* CAPTCHA should be implemented in the login section.
* The user should be able to reset the password or contact DriverPass staff for assistance.

### 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 customers to register with email addresses and passwords.
* The system shall allow a new customer to register an account only if the email address entered is not already in the database.
* The system shall provide password recovery possibilities.
* The system shall track activities, like reservations, canceling, and modifying reservations, with the executor’s login information and time.
* The system shall allow the DrivePass IT officer to print an activity report.
* The system shall allow customers to book a driver lesson through their online account by choosing a date and time, a driver instructor, and a car.
* The system shall allow customers to modify or cancel appointments online.
* The system shall allow tracking booked appointments and what customer is matched with what time, instructor, and car.
* The system shall include three driving lessons packages that customers can choose from and allow some company's users to disable, modify, delete, and add new packages.
* The system shall allow contacting a student directly.
* The system shall allow students to log in to their accounts and see their personal information.
* The system shall display online test progress.
* The system shall display driver notes.

### 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 system should include different interfaces for each role:

- customer;

- IT officer and owner

- secretary

- driver instructor

* The website for a customer should include the following:

- Home page;

- Reservation page;

- Online test page;

- Student's personal information page;

- Contact page.

* Students should see their online test progress, driver notes, and photos of both the driver and student. The progress of an online test should include the test name, time taken, score, and status. The status could be 'not taken,' 'in progress,' 'failed,' or 'passed.'
* The IT officer and the owner should have an admin panel with full access to customers' and employees' accounts, the ability to reset passwords, and the ability to restrict access to accounts.
* The secretary should have a scheduling interface with the ability to add new information to reserve a lesson or modify already existing information.
* A driver instructor should have an application where they could add information about the student, notes, and lesson time. The application should also be connected to the scheduling so that the instructors can track their lessons and availability.
* The system will be web-based so that customers can use it on a laptop or mobile device through their browser.
* The website should be adapted to all screen resolutions.
* A customer will be able to log in/register through the website.
* The IT officer and secretary will access the admin panel directly using the login/password.
* A secretary and driver instructors will access a scheduling application with a personalized interface based on the assigned role.

### 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?*

* The user interface is beginner-friendly.
* The website is available 24/7.
* The DrivePass staff is familiar with the admin panel and CRM tools.
* Users will have access to a stable Internet.
* The system will adapt to platform updates without losing its performance.
* Customers will add only correct and reliable personal information.
* The initial requirements from the DrivePass owner will stay the same.
* The users won’t try to breach security.

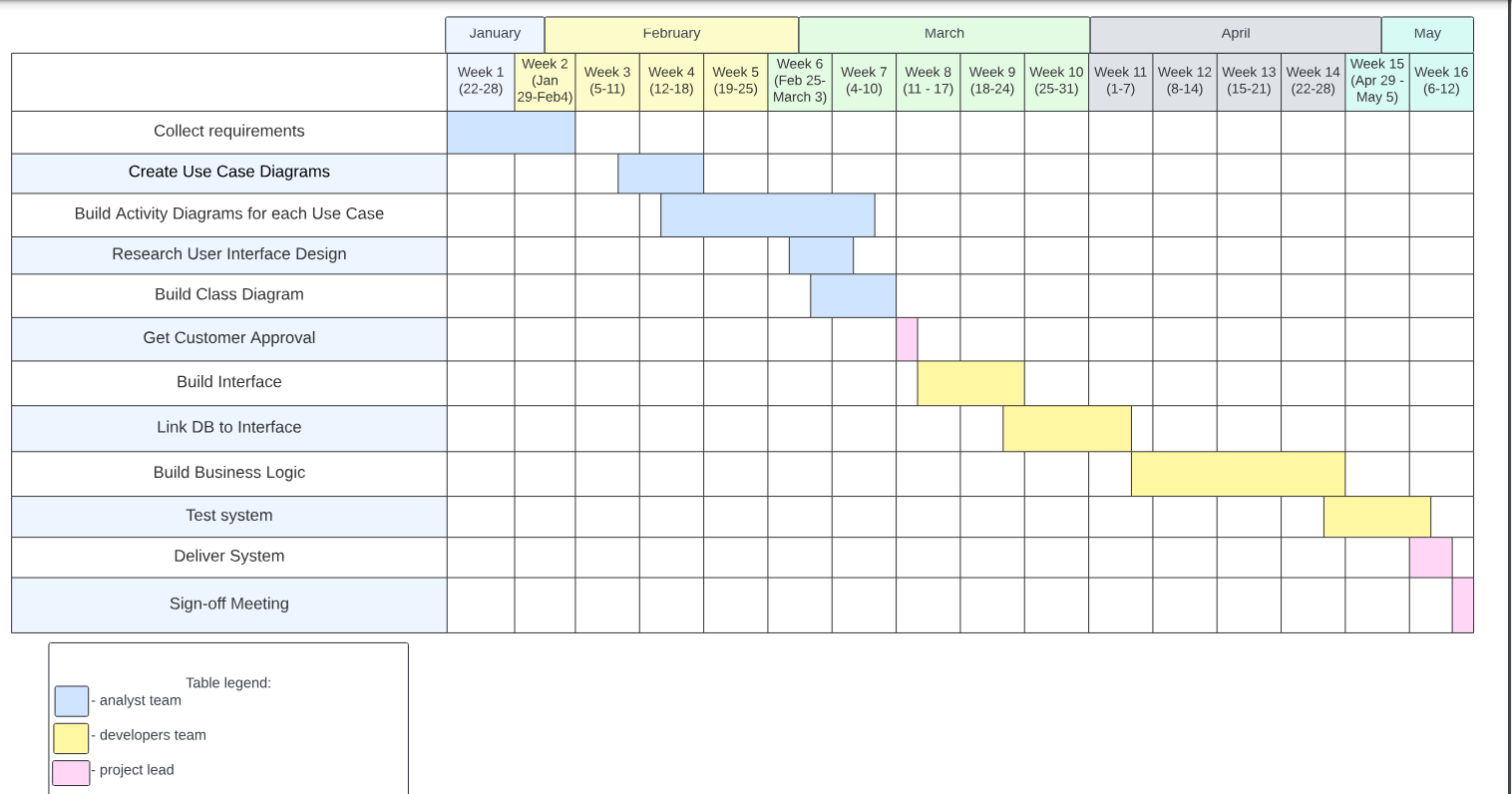
### Limitations

*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?*

* Dependency on stable internet connection. The customers couldn’t do anything offline except for downloading information to work on.
* The system should support scalability and not lose performance in peak hours.
* All personal information data should be secured and encrypted.
* Website compatibility. Some browsers can work with the website incorrectly or produce bugs.
* The website should be adapted to many screen resolutions, but some may be missed.
* The updates might disrupt the system’s regular operation.
* Depending on the changes along the way, the project might take longer to create.
* Linux can have a steeper learning curve, which might take extra time if not all developers have experience working with it.

### 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.*

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