# 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?*

* DriverPass is the client.
* The project’s purpose is to build a system that fulfills the DriverPass owner’s vision of providing better driver training that helps student drivers successfully pass the driving test.
* DriverPass owner, Liam, is hoping to take advantage of the market void when it comes to proper student training for the driving test by providing resources to prepare students for the driving test at their local department of motor vehicles.

### 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 realized the lack of proper and required driver training causes many people to fail their driving tests.
* DriverPass wants to provide better driver training for its students through online classes and practice tests to help them succeed in driving tests.
* DriverPass will also provide on-the-road training if the customer wishes to acquire it.
* DriverPass system consists of online classes and practice tests with the optional on-the-road training upon student’s request.
* DriverPass online System would have the ability to keep track of the student’s online test progress.
* DriverPass would offer a fully functional website preferably cloud-based accessible from any devices (computer or mobile devices) over the internet that provides appropriate options to its users based on their role and access level.

### 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?*

* DriverPass owner’s online data access from anywhere via any device.
* DriverPass owner’s ability to download reports and information for offline processing.
* Assigning admin role with full access control over all accounts to the information technology (IT) officer.
* DriverPass owner’s ability to track any reservation changes in the system.
* DriverPass owner’s ability to print the reservation activity report for further investigation.
* Users’ ability to create an online account to enter and manage their information.
* Users’ ability to make an online reservation on a specific day and time for driving lessons.
* DriverPass owner's ability to identify and track the driver and the car that has been assigned to the customer at a certain time.
* Provide users the ability to choose their desired package as well as set, change or cancel an appointment for hands-on driving lessons through their online account.
* DriverPass secretary’s ability to enter the user’s selected package as well as set, change or cancel an appointment for hands-on driving lessons upon student’s request.
* Presenting all packages offered by DriverPass with the option of disabling any packages that are no longer available.
* Ability to enter Customer’s first name, last name, address, phone number, state, pickup location, drop-off location as well as customer’s credit card number, expiration date, and security code into the system at the time of registration.
* System’s ability to identify that the pickup and drop-off locations are the same.
* Providing online access to the classes and practice tests for the enrolled students.
* Provide users the ability to reset their passwords online.
* Ability to receive update notifications from DMV about any new changes to rules, policies, or sample questions.
* Ability to show customer’s online test progress.
* Driver’s ability to input notes, comments, and times for the lessons.
* Providing information page on how to contact DriverPass.
* Provide information on how to contact the student.
* Collect Requirements
* Create Use Case Diagrams
* Build Activity Diagrams for Each Use Case
* Research User Interface Designs
* Build Class Diagram
* Build Interface
* Link Database to Interface
* Build Business Logic
* Test System
* Deliver 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?*

* The system must be web-based over the cloud.
* The system must process its users’ requests without any delay.
* The system must update shortly after receiving DMV notifications about new changes to rules and policies.

#### 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 be cloud-based and Platform-as-a-Service (PaaS).
* The system must be a website accessible from any browser on any computer or mobile device.
* The system must have a database to store users’ information (Profile and user’s assigned role).
* The system must have a database to store customers’ appointments for classes and driving lessons.

#### 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?*

* Roles will be predefined in the system with the addition of a special credential for the admin.
* Users need to create a username and password for accessing their accounts and online services.
* The system must have a defined admin for system and customer account maintenance.
* Only the password is case-sensitive.
* The system must notify the admin immediately upon encountering any crashes, performance issues, or any suspicious activity on the website. The system must also notify the admin upon detecting any unauthorized access to the website data or users’ information.

#### 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?*

* Yes. Users can be modified (add/remove/modify) without changing the code in the system.
* The system should be tested against each platform update to ensure full compatibility.
* New features should be added as a new update in the future if any.
* IT admin needs full access over all accounts for applying all necessary changes to the users.

#### 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?*

* Upon account creation, each user must set their username and password that meets the system’s defined guidelines.
* User must enter their unique credentials (username/password) each time they log in to the system.
* Other security measures such as two-factor authentication can be used to increase user security.
* REST API must be utilized to ensure that only authorized users can access their accounts and system.
* Secure web protocol such as HTTPS must be used upon exchanging any sensitive information between the user’s browser and the website.
* Data encryption must be used to secure the data exchange between the client and the server.
* The cloud service provider is also responsible for providing security tools for the users since they provide the system’s platform.
* The user account must be locked after three consecutive failed login attempts (to prevent brute force attack) and user identity must be authenticated by the system using other security methods such as two-factor authentication or security questions before providing a password reset option to the user.
* Users must have the option of resting their password if they forget it. To ensure their safety and their account security, each user’s identity must be authenticated first before they can 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.”*

* The system shall validate user credentials when logging in.
* The system shall notify the user with a message upon entering the wrong credentials.
* The system shall allow the user to create their account and enter their information.
* The system shall allow the user to make account modifications such as changing profile information.
* The system shall allow the admin to have full access over all the accounts.
* The system shall allow the admin to reset users’ passwords upon user request.
* The system shall prevent unauthorized access to the user account upon three consecutive failed login attempts.
* The system shall provide the user with a password reset option if they forget their password.
* The system shall present appropriate options and privileges based on the user’s defined role.
* The system shall provide accounts report generation and download for the company’s owner.
* The system shall keep track of all users’ activities and provide the ability to print activity reports.
* The system shall provide the ability to identify the customer’s assigned driver for on-the-road training.
* The system shall allow the user to access all DriverPass’s provided services.
* The system shall allow user to set, modify, or cancel an appointment online.
* The system shall provide the ability to subscribe to the different packages for each user.
* The system shall allow the company’s owner to disable packages that are no longer available.
* The system shall receive notification about new policies and rules updates to the DMV system.
* The system shall provide access to the online classes and materials if it is included in the user’s selected package
* The system shall display the user’s taken tests and their progress online.
* The system shall allow the driver to enter all training session notes into the driver notes section.
* The system shall have a contact us page for contacting the DriverPass company.

### 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 must have consistency on all users’ platforms.
* The system must detect the type of user’s device and adapt its user interface accordingly to provide a seamless user experience.
* The user interface is a webpage of a website on the cloud that presents the user with the DriverPass’s provided services and allows users to log in to their account (new user requires to create username and password) to select a package, make an appointment (set/modify/cancel), review material and take the online test if these options are included in the selected package.
* Different users for the interface are DriverPass owner, IT officer, secretary, driver, and the customer.
* DriverPass owner should access data online, download reports, review customer progress, print activity reports.
* IT officer should be able to perform full user management such as password reset, revoke access privilege, and account maintenance.
* Secretary needs to have the ability to set, modify, or cancel appointment upon the customer’s request.
* The driver needs to be able to enter their notes and other session’s related information under driver notes in the system.
* The customer must be able to create an account, enter their profile information, modify their profile information, make an appointment (set/modify/cancel) and pick a training package.
* The user can use any web browser on the computer or any mobile device to have access to the website.

### 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 have basic knowledge of using technology to access the website.
* Users have minimum requirements (such as internet, computer, mobile device, browser) to access the website.

### 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 designed system is not flexible to provide adding or removing package capability without having a developer or a system analyst involvement.
* The project’s budget has not been set.
* The time and resources can be inadequate for the project.

### 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.*

