# 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 DriverPass wants to provide students with access to online practice exams and on-the-road training to better prepare them for driving tests. DriverPass wants our consulting company’s help in designing a system that can handle these needs.

### 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?*

* There is a need for better driver training. So many people fail their driving tests at the DMV, so DriverPass hopes to take advantage of the void in the market when in comes to training students for the driving test. DriverPass wants customers to be able to take online classes and practice tests. DrivePass will also provide customers with on-the-road training if they wish. The built system needs to handle all of this.

### 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?*

* The system should allow the big boss Liam to access data online from any computer of mobile device.
* The system should allow the big boss Liam to be able to download the reports and some information that they wan work on at home, using Excel, for example.
* The system should have different rights and roles for different employees:
  + Big Boss
  + IT Officer
  + Secretary
  + Customer
* The system should allow the big boss Liam to have full access over all accounts so they can rest them if someone forgets their password or if they let go of someone, Liam should be able to block their access.
* The system should have tracking to know when a user makes a change to a record in the system. The tracking needs to know who made a reservation, who canceled it, who modified it last. The system should be able to print an activity report.
* The system should allow customers to use their account to make, cancel or modify reservations online for a two-hour driving lesson. The customer should be able to tell DriverPass the day and time when they want to take that lesson.
* The system should be able to have the secretary schedule a customer’s appointment, in case the customer calls or visits the office to schedule.
* The system should be able to identify the driver the customer is scheduled to go out with.
* The system should be able to track which user is matched up with a certain driver, time, and car.
* The system should allow customers to pick one of three packages:
  + **Package One:** Six hours in a car with a trainer
  + **Package Two:** Eight hours in a car with a trainer and an in-person lesson where we explain the DMV rules and policies
  + **Package Three**: Twelve hours in a car with a trainer, an in-person lesson where we explain the DMV rules and policies—*plus* access to our online class with all the content and material. The online class also includes practice tests.
* The system should allow big boss Liam to disable a package if they don’t want any more customers to register for it.
* The system should hold records of a registering customer’s information, which includes first name, last name, address, phone, number, state, credit card number, expiration date, security code, pickup location, and drop-off location which should be the same as the pickup location.
* The system should allow customers to automatically reset their password, in case the customer forgets it.
* The system should be able to be connected to the DMV, getting a notification whenever they have an update, so that they can update DriverPass with new rules, policies, or sample questions.
* The system should run off the web, preferably over the cloud with included backup and security and minimal technical problems.
* The system’s interface should include a page as follows:
  + 
* The system’s interface should show the tests the customer took, what’s in progress and the ones that the customer completed. It should include test name, time taken, score, and status (not taken, in progress, failed, passed).
* The system’s interface should show driver notes, which include any comments the driver left as well as the times for the lessons. It should include lesson time, start hour, end hour, driver comments.
* The system should include a page with an input form where the student (or secretary) fills in the student information.
* The system should include a page for contacting DriverPass, and a way to contact the student.

## 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 run in a web-based environment.
* The system will be primarily used for scheduling a driving lessons and taking practice tests, which only requires standard performance. No high-performance tasks like video streaming will be needed, so the standard performance will suffice.
* Since we want users to be able to reserve times for their driving lessons, we only want them to make reservations for times that are actually available, so we want to update the system in real-time so users can see the most current information.

#### 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 web-based application should run on the most common browsers, independent of the operating system being used, so that the system is usable for as many users as possible not only through desktops and laptops, but tablets and mobile devices as well.
* The system server will be cloud-based so that the owners do not have to worry about backup and security. There are different options for the operating system of the servers, most common using Linux or Windows. We will use Linux due to it being the cost-effective, stable option that our developers are already familiar with.
* The back end will require a database to store users and all their information such as logins, quizzes progress, payment information, reserved driving lessons, etc.

#### 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 will distinguish the different users through authentication. Each user will have a unique username and password login, which will identify them and allow them to view and update their personalized and permitted information.
* The input for passwords should be case-sensitive so we can have secure passwords that require lower-case and upper-case letters. Case-sensitive passwords are more difficult to guess than case-insensitive passwords due to the due to the expanded number of possible combinations.
* The input for user-names can be either case-sensitive or case-insensitive.
* When users forget their passwords or they are locked out of their accounts due to too many incorrect attempts, instead of having to notify the admin to reset the password, the user should be able to automatically reset it.

#### 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 allow changes to the user without changing code. For example, new users can be added, removed, modified as needed. Their user’s information should also be changeable. For example, the user should be able to update their contact info, payment info, scheduled driving lessons and other information, all without needed to change the code base.
* The system will adapt to platform updates with regularly scheduled system maintenance, so that the system is continuously updating to the recent updates to browsers, since browsers are constantly changed. This will help the system to continue to be used across multiple browsers, even when these are upgraded.
* The IT admin needs full-access to the system so they can provide support to the other users and make system updates as needed.

#### 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 user-name and password are required for the user to log in.
* The connection between the client and server will use the secure SHTTPS protocol to secure information transmitted. Sensitive information such as credit card information should be encrypted to protect and transmit it securely.
* The system will prevent “brute force” hacking by limiting the number of login attempts of a user, that way the hacking does not have opportunity to try an unlimited number of passwords for a user. Once the number of login attempts is exhausted, the user account will be locked and need to be reset.
* If a user forgets their password, they will have the option to automatically reset their password. Options for resetting can include sending a password-reset link to their registered email, or answering security questions that identify the user.

### 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 the big boss Liam to access data online from any computer of mobile device.
* The system shall allow the big boss Liam to be able to download the reports and some information that they wan work on at home, using Excel, for example.
* The system shall have different rights and roles for different employees:
  + Big Boss
  + IT Officer
  + Secretary
  + Customer
* The system shall allow the big boss Liam to have full access over all accounts so they can rest them if someone forgets their password or if they let go of someone, Liam should be able to block their access.
* The system shall have tracking to know when a user makes a change to a record in the system. The tracking needs to know who made a reservation, who canceled it, who modified it last. The system should be able to print an activity report.
* The system shall allow customers to use their account to make, cancel or modify reservations online for a two-hour driving lesson. The customer should be able to tell DriverPass the day and time when they want to take that lesson.
* The system shall be able to have the secretary schedule a customer’s appointment, in case the customer calls or visits the office to schedule.
* The system shall be able to identify the driver the customer is scheduled to go out with.
* The system shall be able to track which user is matched up with a certain driver, time, and car.
* The system shall allow customers to pick one of three packages:
  + **Package One:** Six hours in a car with a trainer
  + **Package Two:** Eight hours in a car with a trainer and an in-person lesson where we explain the DMV rules and policies
  + **Package Three**: Twelve hours in a car with a trainer, an in-person lesson where we explain the DMV rules and policies—*plus* access to our online class with all the content and material. The online class also includes practice tests.
* The system shall allow big boss Liam to disable a package if they don’t want any more customers to register for it.
* The system shall hold records of a registering customer’s information, which includes first name, last name, address, phone, number, state, credit card number, expiration date, security code, pickup location, and drop-off location which should be the same as the pickup location.
* The system shall allow customers to automatically reset their password, in case the customer forgets it.
* The system shall be able to be connected to the DMV, getting a notification whenever they have an update, so that they can update DriverPass with new rules, policies, or sample questions.
* The system shall run off the web, preferably over the cloud with included backup and security and minimal technical problems.

### 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 interface users include the owner, IT officer, secretary, and customers.
* The users will interact with the interface through their browsers through any device (desktop, laptop, tablet, mobile)
* The system shall have an interface including a page as follows:
  + 
* The system shall show the tests the customer took, what’s in progress and the ones that the customer completed. It should include test name, time taken, score, and status (not taken, in progress, failed, passed).
* The system shall have an interface showing driver notes, which include any comments the driver left as well as the times for the lessons. It shall include lesson time, start hour, end hour, driver comments.
* The system shall include a page with an input form where the student (or secretary) fills in the student information.
* The system shall include a page for contacting DriverPass, and a way to contact the student.
* The system shall allow the big boss Liam to access data online from any computer of mobile device.
* The system shall allow the big boss Liam to be able to download the reports and some information that they wan work on at home, using Excel, for example.
* The system shall have an interface view for customers to use their account to make, cancel or modify reservations online for a two-hour driving lesson. The customer should be able to tell DriverPass the day and time when they want to take that lesson.

### 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 System users will be aged 14 and up, because driving permits are issued starting at 14 years of age.
* Internet is available 24/7 for the web-app server to respond to client requests. Enterprise internet networks are increasingly better, even with occasional brief downtimes, internet will most of the time be available 24/7.

### 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 web-app server will only be able to handle a limited number of concurrent client requests. Computing resources are limited on the server so it can only handle so much. To handle more, more resources will need to be added.
* The DriverPass project cost must be within budget. The owner Liam has limited resources including the budget for the DriverPass project, so to build and complete it, the total cost must be within the budget limit.

### 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.*

*\*see next page*

Chart

Description automatically generated