# 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 this project is to develop a system for their new client. The client is DriverPass. Based on the number of failed tests at the DMV, DriverPass would like software to provide online classes and practice test for driving. As well as handle on-the-road training if the customer desires. Preparing their clients for better DMV 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?*

* DriverPass needs a system that provides online exams and training management. The system needs to track each users activity and stay up to date with DMV policies. The system must manage payment activity handle user registrations.
* Driver pass seeks to improve the DMV test failures.
* DriverPass system will need a Cloud-based Web platform, and a User management System with a focus on user controls based on a users roles.

### 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 DriverPass system should provide effective driver training, lesson scheduling and secure data management. The system needs to handle payments, user access levels, activity tracking and up-to-date DMV regulations.
* Their system should support the following
  + Both online and offline access
    - Ability to download forms
  + Specific user permissions
    - Owner access level
    - IT access level
      * Responsible for maintenance
      * Modifications
    - Secretary access level
      * Make appointments
      * Cancel appointments
      * modify appointments
  + Customers need to be able to make reservations for driving lessons.
    - Lessons are two hours long
    - Customer needs to pick a time and date for each lesson.
    - Methods for reservations are online, in-person, and via phone.
  + Assign time, driver, and car information with each customer.
  + System activity tracking
  + Manage reservations tracking instructors, vehicles and lesson schedules.
  + Different training package options
    - 3 packages
    - 2 hour interval spread
      * Six hours in car w/ trainer
      * Eight hours in car with trainer and DMV rules and policies
      * Twelve hours same as eight w/ access to online class with all content and material plus practice tests
  + Payment processing
    - Collect customer information
    - Collect payment details
  + Maintain current DMV policies, rules and practice questions
  + Cloud based web services
  + Provide Customer progress and performance UI
    - View progress
    - Completed tests
    - Lesson details
    - Instructor’s comments

## 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 able to use the web, accessible from any PC or mobile device. Speed requirements weren’t specifically mentioned; however, the system should run efficiently without delays. The system should be updated whenever the DMV releases new information and remain up to date with security maintenance to provide a secure environment for its users.

#### 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?*

* To support most users, the system should run on the “major” PC platforms, Windows, Linux, and MacOS as well as Mobile devices using Android or Apple iOS.
* Yes, the backend will need a database to store details such as User information, the users test scores, and appointments.
* Because of scalability and maintenance, a Cloud-based SQL server would make a great fit. Other examples of tools needed for the platform include:
  + Security tools
  + Server-side Framework, for handling routing requests, and managing login and password information.

#### 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 between the users via the user’s Email or a User ID.
* Typically Emails and User ID’s are not case sensitive, but passwords are.
* The system should alert the Administrator if a User forgets a password or user ID. While nothing was specifically mentioned in the transcript, for security reasons there should be a notification upon so many failed attempts, so the Admin can block access.

#### 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 you would not need to change the code to update the users information.
  + User information would be changed by an admin
  + Admin can add or remove users or their accounts.
* Because the system should be “Web-Based” platform updates will happen without any effort from the user. These updates take place behind the scenes.
* The IT admin will need access to change the following:
  + User accounts
    - Adding/Removing Users
    - Disabling user accounts
  + User passwords
  + Exporting data
  + View reports from the system.

#### 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?*

* Users need a Username/Email address and Password
* HTTPs protocols should be used between the client and server, this encrypts data between the user and a website.
* If there is a “brute force” attack the system after so many failed logins the system should automatically lock the users account, as well as send a notification to the user and potentially the admin.
* If a user forgets a password, a link can automatically send the user a password reset link to the email account provided.

### 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 a user's credentials when logging in.
* The system shall assign a driver and car to each scheduled driving lesson.
* The system shall store, and display drivers notes for each completed driving session.
* The system shall allow administrators to add, modify, and turn off training packages.
* The system shall allow IT administrators to manage users and their accounts.
* The system shall be capable of generating schedules and testing history.
* the system shall Lock accounts after so many failed attempts.
* The system shall have separate roles for users, administrators, IT, and secretaries.

### 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 needs should be able to display the Test progress, the Driver Notes, Lesson schedules, Package details and User account settings.
* The different users are:
  + IT
  + Secretary
  + Owner
  + Customer
* IT shall be able to:
  + Manage user accounts
  + Edit permissions
  + Manage system settings
* Secretary shall be able to:
  + Create/Modify appointments for customers
  + Capable of registering with customers via phone or in person
  + View drivers’ schedules and the availability of cars
* Owner shall be able to:
  + Download information
  + Enable/Disable customer packages
  + Review driver notes and progress reports.
  + View customer and appointment reports.
* Customer shall be able to:
  + Register an account
  + Purchase a training package
  + Schedule and or modify lessons (time and cancel)
  + Retrieve a password
  + Manage their information
* The user will be able to interact with the interface through a variety of methods such as a PC or Mobile device.

### 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 client didn’t request a specific payment method
* The client didn’t request accessibility requirements for people with disabilities or other languages.
* The client didn’t request any specific programming language.
* Assumptions are that the user has internet access, a PC or mobile device, that the user is capable of reading, capable of legally driving, and has a payment method such as a credit or debit card.

### 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 weren’t any discussions in terms of price or budget between DriverPass, but we could assume that the client wouldn’t require high end features such as mobile app development.
* Limitations of communication between the DMV and DriverPass
* No multi language package
* The budget will likely be the “frugal” option
* Technology limitations would be providing support for users with older equipment or out of date operating systems.

### 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.*