# 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 create a new system for the company DriverPass.
* They want their system to be able to provide training/practice for individual that are preparing for their driving test. They will do this through assistance in studying for their lessons or through in person driving lessons.

### 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 their system to be able to help schedule and plan out in person and online tests for individuals looking for help to pass their driving tests.
* The problem they are looking to fix is the high failure rate in driving tests by offering a more comprehensive training for people looking to pass their test.
* When looking at the components needed for the system some things that are required are online classes to practice and study for the test, a scheduling system to set people up for in person driving practice, some different types of user roles and permissions to allow for certain users to deactivate certain packages. As for the system they want it to be a cloud-based system with some data security they also would like the system to be able to have future scalability to follow changes made by the DMV.

### 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 done it should be able to allow for students to schedule driving lessons while also allowing the students to take over the computer lessons from the website as well to allow for an ease of access for anyone looking to pass their driving test.
* The measurable tasks include Appointment scheduling allowing for a user-friendly interface to allow users to book appointments
* User accessibility allowing for users to access their data whether they are online or offline but only allowing for a change in data if online.
* User-interface There should be a user interface that meets DriverPass design ideas including a dashboard that displays the user’s progress and the amount of test taken and what there given scores are while also proving driving lesson information. And allowing for a spot for users to register and schedule an appointment.
* A feature to allow for users to report and track activity through their lessons.

## 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 environment should be a web-based application.
* The system would need to run generally faster since there is going to be a lot of data going in and out throughout different tests and updating results.
* The system should be updated as needed to fix any issues that arise and to expand infrastructure as the use of the system grows.
* User information should be updated and recorded over every scheduled appointment and or drive to change valuable 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 system should be able to run on any browser-based platform Chrome, Edge, Firefox, Safari.
* The system should be able to be converted to a mobile-friendly design when accessed by a mobile device.
* When looking at what the system wants to do, we know storing data is a must so having a database is a must.
* Along with using APIS and web services

#### 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 use session cookies to help differentiate between users.
* User passwords and usernames will be case-sensitive.
* The system will periodically send out a report consisting of which errors occurred and will send an immediate notification to an admin user. if a critical error occurs
* The system will also have different roles to help differentiate users.

#### 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 will have some built-in scalability to help accommodate for future growth.
* The IT admin will require administrative access to the system to allow for changes and updates as needed.
* The administration will have the ability to add/remove/modify users' accounts. If someone were to drop the classes, they could remove them. Along with that the user will be able to update their own account information or delete it if needed as well. This will simply be built into the system so no changes to the code will be needed to do so.

#### 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?*

* To log in it will need the following:
  + Username
  + Password
* To secure the connection
  + Use HTTPS as all data transferred between the client and the server should be encrypted to prevent any interception of vulnerable data.
  + Data Encryption needs to be used to make sure data is secured during transport
  + Using cookies to manage a user's session will only last a limited time.
* To manage an account, in case of a brute force attack
  + Have account Lockout to lock an account after a certain number of attempts and email the user of the account to inform them of the attempted breach\
* For recovering a forgotten password.
  + Implement a password reset link that requires a security question to send out.
  + And allow for optional two step authentication

### 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 students to create and alter their accounts.
* The system shall validate the user's login.
* The system shall allow students to view and schedule training sessions.
* The system shall allow instruictors to view manage and confirm training sessions.
* The system should allow students to take online exams.
* The system should allow the students to track their progress through their training and exams.
* The system should allow administrators to create, alter and remove any exam content.
* The system should notify students of any upcoming training or exams via email or text.
* The system shall create schedules for the instructors.
* The system shall allow students to cancel or change training and exam times given a timeframe.
* The system shall allow administrators to view the performance of both the students and instructors.
* The system shall allow IT administrators to manage different permissions and roles.
* The system shall maintain a collection of completed training and exams for each student.
* The system shall ensure secure storage and accessibility to all user data.
* The system shall log any issues or errors that come up to allow for troubleshooting.

### 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 of the user interface consist of:
  + A user-friendly design
  + A responsive and interactive interface
  + Progress tracking
  + Reservations for tests
  + Driver notes
  + Student Information
  + A photo of both the student and driver
  + And any special needs the student has.
  + The company's logo.
* The above should be everything the student driver can see and interact with.
* Some additional changes for the instructors would be a schedule for their day, and work that needs to be handed over and accessed for students that have already taken their drive.
* As for the admin, they will be looking at the information of the customers, what packages are reserved and also what packages they need to take off as it is sold out and an active view of which drivers and students are paired up throughout the weeks.

### 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?*

* All users can access the website 24/7
* All the users will have an understanding of how to navigate the webpage
* Customers will be on time and show up for the packages they have paid for.
* And that the company will have drivers available for drives when needed.
* Admins will be able to run and make changes to the website as needed.

### 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?*

* A time constraint of 15 weeks is set in place by the client
* The application must work on all web browsers.
* Issues involving a sustained internet connection to update information.

### 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.*

