# 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?*

* Liam is the Owner of DriverPass and he wishes to create a new system that will help train student drivers for their driving tests. He’s hoping to take advantage of a void in this market by creating a system that allows users to access learning materials, practice tests, and create reservations for on-the-road training. When creating the reservation, the user can select the date and time for their appointment, a Driver, and a predefined package with different benefits.

### 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?*

* System must allow users to access learning materials, and practice tests, and create reservations for on-the-road training.
* Problem – Liam noticed that a high number of people fail their driving tests.
* Components Needed
  + Cloud Database – used to hold User, User Type, Reservations, Vehicles, Packages, Emails, Phone, and Availability tables.
  + Front End Interfaces that allow employees to enter information and make reservations, Web Interfaces for Customers to make reservations and access online tests.

### 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?*

* Account Creation & Password Reset
* On & Offline Data access with only Online editing capabilities
* Audit tracking for Reservation Record changes (Who made the change, what kind of change was it, and when did the change occur?)
* Allow Internal and External Reservation Entry
* Allow Driving Package Management (Disable only for now, but the Client mentioned being able to add packages)
* Integration with DMV is needed to keep the information current.
* Define & Create Security Matrix – User Roles & Responsibilities (What role can do what and what can they not do)
  + Big Boss – Full Access.
    - **Special Rights** - Kick-off Password Reset, Block Access to past Employees
  + IT Officer – Maintenance
  + Secretary – Make Reservations
  + User – Make & Modify Reservations
* The Dashboard will allow users to see a summary of the following data.
  + User Information - First Name, Last Name, Address, City, State, Zip, Phone, email, etc.
  + Online Test Progress – Test Name, Time taken, Scores, Test Status (not taken, in progress, failed, or passed).
  + Contact Us Page with Information about the business.
  + Driver Notes Grid – Displays Lesson Time, Start Hour, End Hour, and Driver Comments that the student can use for feedback.
  + Special Needs Section
  + Driver Photo & Student Photo Sections
* Additional Interfaces
  + Reservation Page – Internal & External Users can create reservations on this page. On this page, they will be able to Select a Car, Driver, and Package with different benefits.
  + Student Record Interface for Internal Users
  + Internal Driver Note Entry Interface
  + Package Maintenance Interface
  + Driver Maintenance Interface
  + Car Maintenance Interface

## 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 the website must be hosted over the cloud.
* The System should be fast enough to allow users to access the website without any issue.
* The System should be updated at any point in time the client decides.

#### 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 will use cloud services to manage the database, backup, and security.
* The business did not request a specific operating system but we recommended that the system run on Windows.
  + Windows is reliant on Hardware and Memory size.
  + Windows is one of the most popular operating systems which means it has a lot of support

#### 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?*

* Each user should be able to create a username and password when accessing the website.
* Usernames and Passwords should be case-sensitive.
* The System should have multi-factor authentication to make it more difficult to hack into an account.
* The System should inform System Administrators of any problems, glitches, or bugs with the website immediately.

#### 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 allow users to modify, add, and remove users without changing code.
* The System should be hosted in two environments minimum. One Environment for updates and testing the other would be their live production environment.
* When updates on the Test Environment pass testing updates will be made to the live production environment.
* The IT Admin will have full access to the system to make any changes necessary or remove former employees who should no longer have 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?*

* The user will require a username and password to log in, along with multifactor authentication.
* The cloud will be responsible for the security between client and server. The cloud will also protect the data exchanged between them.
* The system should disable the account after five incorrect logins to prevent brute force attacks.
* If a user forgets their password, they will be prompted to enter the email they used to set up their account, and a password reset link will be sent to that address.

### 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 run fast and efficiently.
* The system shall validate user credentials when logging in.
* The system shall provide custom access based on the user and their privileges.
* The system shall provide practice tests, and classes.
* The system shall show the test and work the user has already completed.
* The system shall offer three different driving packages.
* The system shall book reservations when made by the user.
* The system shall show the driver the customer is paired with.

### 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 Dashboard will allow users to see a summary of the following data.
  + User Information - First Name, Last Name, Address, City, State, Zip, Phone, email, etc.
  + Online Test Progress – Test Name, Time taken, Scores, Test Status (not taken, in progress, failed, or passed).
  + Contact Us Page with Information about the business.
  + Driver Notes Grid – Displays Lesson Time, Start Hour, End Hour, and Driver Comments that the student can use for feedback.
  + Special Needs Section
  + Driver Photo & Student Photo Sections
* Additional Interfaces
  + Reservation Page – Internal & External Users can create reservations on this page. On this page, they will be able to Select a Car, Driver, and Package with different benefits.
  + Student Record Interface for Internal Users
  + Internal Driver Note Entry Interface
  + Package Maintenance Interface
  + Driver Maintenance Interface
  + Car Maintenance Interface
* The user should be able to interact with the interface from a mobile phone, laptop, computer, or any device that is capable of internet connection.

### 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 Budget for the system was not defined which means we’re assuming that we can afford the following.
  + Windows Environment
  + Cloud Services
  + Building the System
* We are also assuming that access to this technology is available or easily obtained.

### 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?*

* We have about five months to build this system without a defined budget.
* We may require more employees to build the system within the time frame provided. I recommend we take an Agile approach to ensure that development and testing get verified and completed.

### 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.*

Chart, timeline, waterfall chart

Description automatically generated

**Use Case DiagramDiagram

Description automatically generated**

**Activity Class DiagramsDiagram, schematic

Description automatically generatedDiagram, schematic

Description automatically generated**

**Sequence DiagramDiagram

Description automatically generated**

**Class DiagramDiagram

Description automatically generated**