# 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 properly record all the requirements and objectives of my client and this system design. The client is DriverPass and they want their system to allow users take online classes, practice tests and on-the-road training. The system must be able to access data from anywhere, online as well offline on both computer and mobile devices. The ability to export data into excels for the boss to analyze reports.

**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?*

* The client is DriverPass and they want their system to allow users take online classes, practice tests and on-the-road training. The system must be able to access data from anywhere, online as well offline on both computer and mobile devices. The ability to export data into excels for the boss to analyze reports.
* The problem they are trying to fix is easily accessible drivers training.

**The different components needed for this system are listed below**

* Different levels of access.

1. All access for Ian, the big boss, and Ian. Access to make, cancel, or modify appointments for both secretary and users

* Send feedback when any modifications are made in the system for example a reservation being made or cancelled.
* 2 hour lessons day and time of lesson
* Return the user, the assigned driver and car, time of training
* Set pickup location to drop location but also allow them to be modified
* Users the ability to reset their password
* Get notifications for updates from the DMV with new rules, policies, or sample questions
* Interface contains test progress, user’s information, drivers’ notes for the user, special needs, drivers’ photo, and users' photo.
* The drivers notes need to include lesson time, start hour, end hour, and driver’s comments
* Cloud database and storage
* 3 base packages for users to choose from

1. Package One: Six hours in a car with a trainer
2. Package Two: Eight hours in a car with a trainer and an in-person lesson where we explain the DMV rules and policies
3. 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.

* Since lessons are only two hours. Package time slots would be divided by two to determine how many lessons are included in each package.
* Information needed to be stored and collected [first name, last name, address, phone number, state, and their credit card number, expiration date, and security code].

### 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 completed the system should be able to show an interface with the user’s test progress, user’s information, drivers’ notes for the user, special needs, drivers’ photo, and users photo
* The system should be able to modify or update the data unless you’re online; otherwise, we might end up with duplicate data on different servers. This might cause data redundancy
* A measurable task that needs to be included in the system design is the time and amount of lessons scheduled by the user
* The goal is to be able to complete Collect Requirements, Create Use Case Diagrams, Build Activity Diagrams for Each Use Case, Research User Interface Designs, Build Class Diagram, Get Customer Approval, Build Interface, Link DB to Interface, Build Business Logic, Test System Deliver System, Sign-off Meeting in 8 weeks’ time

## 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 that this system needs to run in is web-based (any software that can use cloud based storage) and mobile app (both apple and android)
* The systems need to be fast enough for users to interact with the program without delays.
* The system needs to be updated every time a user interacts with the system and makes a change in the schedule. The way the system can be completely accurate when showing appointment and trainer availabilities.

#### 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?*

* Based on the transcript the specifications for the system just need to be able to perform backups, security, and use cloud storage. I would recommend using Windows, Mac OS, Android, iOS, and Linux. These platforms will most likely run on the cloud for database and security so the tools that are associated with that will be necessary.

#### 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 different users will be distinguished based on their username.
* The input for usernames will be case-sensitive however the input on the website to navigate will not be.
* The system should inform the admins of issues right away. This should also come with an automated message that gets sent out to users once the problem has been officially received.

#### 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?*

* To change the code every time someone needs to add/remove/modify data would be very wasteful. Therefore, it is imperative to have the ability to do this without changing the code.
* The system will adapt to platform changes by shutting the system down for temporary times for scheduled maintenance.
* The IT admin will need all-inclusive access. Access to user and employee information will be critical to making the necessary changes and maintenance required.

#### 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 requirements for the user to login would be a username/password and a two-way authentication built in with security questions. A challenge response through the use of a captcha will also be built in for security.
* You can secure the connection or data exchange between client and server by using cybersecurity and cloud security together. One to protect the network and the other to protect the server.
* If there is a brute force hacking attempt the account will be locked after 3 failed login attempts
* If the user forgets their password there will be an option to send a reset password link to an alternate email that has been previously verified by the user. You can also select the option to input 3 of your security questions to reset your password on the website.

### 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 update the user when any update is made to their account
* The system shall provide the user times, prices, and options for online and driving training
* The system shall provide the user a transcript of all completed training
* The system shall allow admins to update it as necessary
* The system shall provide updates when the DMV updates its bylaws
* The system shall protect its users information and data

### 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 interface needs to show the online test progress, user personal information, driver’s notes, special considerations, and driver/user photo.
* The different user’s for this interface are the drivers, IT admins, and users
* Each user will need to be able to access the different packages that are offered, schedule appointments, and take tests.
* The user will be able to interact with the interface both through mobile and 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 things that were not addressed in my design include the process of linking with a trainer, the cost of the design and maintenance.
* The assumption I am making in the design about the users is that they will have access to the software and that they will be able to use the system without a tutorial or walkthrough

### Limitations

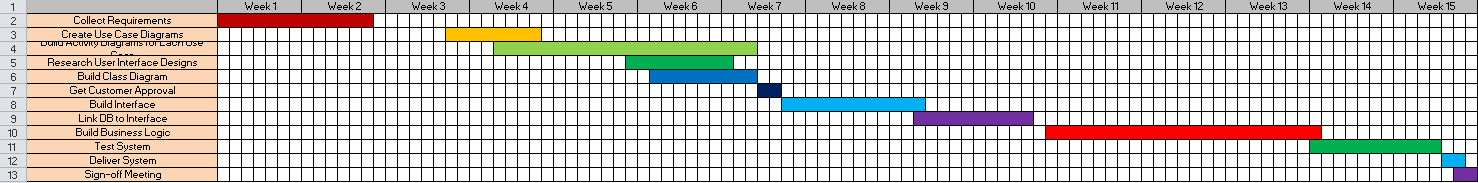
*Any system you build will naturally have limitations. What limitations do you see in your system design? What limitations do you have as far as resources, time, budget, or technology?*

* The limitations of this system are based on time and experience. Both of which I have very little of.
* The limitations I see in my system design boil down to the lack of details surrounding how the different parts of the system will actually be made and how they will all perform together.
* The limitations that I have naturally were that resources are limited to just the one interview, 5 months of time, a budget that hasn’t been discussed, and technology that must be able to work with the different platforms for testing and coding purposes.

### 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.*

My Gantt chart is difficult to read in this screenshot so I will also upload it with the assignment.



Both scatter plots show a negative trend. This is precisely the trend I would expect. Both weight and horsepower require more gas to perform the desired functions.

The coefficients of correlation between MPG and Horsepower are 1.00 and 0.773581.

The coefficients of correlation between MPG and Weight are 1.00 and 0.875315.

The direction and strength of the correlation is indicated by the negative sign and the value of the correlation coefficient. In this case the MPG and Horsepower have a strong negative correlation, while the MPG and Weight have a moderate negative correlation.