# 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?*

* For this project, the client DriverPass would like to provide a service that aids driving students in preparing for their driving test.
* The client is requesting a web-based application to manage these services so backup and security will be handled by the provider, and they can focus on their business.

### 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 feels a lack of proper driving training is leading to an increased amount, of students failing their driving test with the DMV.
* DriverPass wants to provide a service for driver training which will include online classes, practice exams and driving lessons.
* The system will offer the classes and practice exams, store the customer’s basic information and manage scheduling of driving lessons.
* The system will consist of a signup form, login page, scheduling tools, learning modules, a personal page for each customer and a “contact us” section.
* The system will track modifications made by all users so mistakes can be easily tracked and rectified.
* The company owner will have access to the application data from anywhere online and the system will have reporting capabilities for offline use.
* The IT officer will be the system administrator and will manage the application which would include such tasks as resetting passwords, assigning rights and roles to all users and removing inactive users.
* A company administrative assistant will be able to aid customers in purchasing packages and scheduling lessons when customers call for assistance.
* Driving instructors must be able to view scheduling and leave notes for customers pertaining to their driving lessons.
* Customers will be able to access the application, purchase driving packages, schedule driving lessons and view their progress in the program.

### 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 will present the customer with three levels of driving lesson 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 will include a signup form that can be accessed by customers online or an administrative assistant internally and will require the following information:
  + First Name
  + Last Name
  + Address
  + Phone
  + State
  + Credit card number
  + Expiration Date
  + Security Code
  + Pick up Location
  + Drop off Location
* The system will give the customer the ability to schedule, modify or cancel driving lessons.
* Customers should have the ability to reset their passwords without engaging the system administrator.
* The system will include a customer information page, based on the owner’s design, which will include:
  + Online testing progress (completed, not taken, in progress, passed, failed)
  + Notes from the driving instructor (table format)
  + Basic information
  + Special needs
  + Photo of the driver and instructor
* The system will include learning modules and online practice exams for customers who purchase access to them.
* The system will require scheduling logic which includes:
  + 2 hour driving windows
  + Customer, driving instructor and vehicle coordination
* The system will provide accessibility to schedules and contact information to customers and driving instructors.
* The system should give the client the ability to disable driving packages if they choose not to offer them anymore.
* The system should be connected to the DMV so it receives pertinent compliance updates to keep all lessons up to date.

## 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 will run in a web-based cloud environment that can be accessed by computer or mobile device.
* All pages should be loaded in one to three seconds.
* A performance baseline should be established, preferably during peak user time, so administrators can detect performance problems.
* The system will be updated monthly unless critical patches are needed sooner in which case that will be worked out with the client on an as needed basis.

#### 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 run in Windows and MacOS environments.
* Numerous web browsers will be supported such as Microsoft Edge, Google Chrome, Safari, Firefox and Samsung Internet.
* The system will require cloud-based storage and an SQL database to store and manage internal and customer data.

#### 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?*

* All clients will choose a unique Username and password.
* User Input will not be case sensitive, but forms will auto-correct obvious capitalization errors (examples: first name, last name, city, state etc.).
* Emails and phone numbers inputted by users will go through a validity check to ensure they are feasible entries.
* The system will alert administrators of an issue on exceptions, data inconsistencies or poor performance.

#### 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?*

* In the initial implementation, it would take a developer to add/remove/modify modules however functionality to disable/enable modules will be available.
* Platform updates should be non-disruptive whenever possible.
* The IT administrator would require access to the web server and database to apply updates and assist users with profile related issues.

#### 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 unique username and password are required to log into the system.
* The system will recommend a complex password that has nothing in common with the user. They can decide whether to use it or create their own.
* The password will require eight characters which will include one digit, one special character and be case sensitive.
* The system will use two-factor authentication.
* Accounts will be locked, and a user will be asked to change their password if a “brute force” hacking attempt is detected.
* Forgotten passwords can be recovered via security questions or through the IT administrator.
* The system will have an activity log to track the activity of all users in case a mistake is made.

### 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 support reporting for offline work.
* The system shall assign roles and privileges to users based on those roles.
* The system shall allow users to schedule, modify or cancel driving lessons.
* The system shall allow administrative assistants to schedule, modify or cancel driving lessons for clients.
* The system shall manage scheduling lessons in two-hour windows and handle any conflicts automatically.
* The system shall match a perspective student with an available driving instructor and vehicle.
* The system shall offer users three driving lesson packages with different offerings.
* The system shall include a library of online driving modules for enhanced learning.
* The system shall provide practice exams for perspective drivers.
* The system shall allow DriverPass to disable driving packages if they no longer want to offer it to clients.
* The system shall store basic client information such as name, address, phone number and credit card information which are collected at user registration.
* The system shall have access to the DMV database to keep all lessons and practice exams up to date.
* The system shall provide users with their online test progress, basic information, special needs requirements (if needed), an optional picture and notes from their driving instructor.
* The system shall allow driving instructors to post notes on a student’s page.

### 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 user interface should have the following characteristics.
  + Simple and easy to use for a variety of users with different levels of technical proficiency.
  + The interface should be compatible with web browsers on computers and mobile devices.
  + The interface design should be consistent such that navigation in different sections is similar.
  + The interface should support mouse clicks and touch screen for navigation and actions.
  + Actions from the interface should be clear and obvious so users can easily recognize and accomplish tasks.
  + Incorrect actions should be reversible by the user whenever possible.
  + Registration forms should recognize invalid email addresses and phone numbers and auto-correct capitalization errors.
* Different interface users and the tasks they perform.
  + Liam, DriverPass owner:
    - Requires access to DriverPass data whether online or offline.
    - Requires reporting capabilities so he can view them offline.
    - Requires account access for users and driving instructors.
    - Requires access from computers and mobile devices.
  + Ian, DriverPass System Administrator:
    - Requires the ability to make system updates.
    - Requires the ability to disable/enable driver package offerings.
    - Requires access to all user accounts to fix any issues.
    - Requires the ability to reset passwords and block unauthorized users.
    - Requires access from computers and mobile devices.
  + DriverPass customers:
    - Requires the ability to register for the DriverPass system.
    - Require the ability to view, schedule, modify and cancel driving lessons.
    - Requires access to the status page to view driving instructor notes and testing status.
    - Requires access to the driving modules and practice exams.
    - Requires access from computers and mobile devices.
  + DriverPass Administrative assistant:
    - Requires the ability to assist in registering clients.
    - Require the ability to view, schedule, modify and cancel driving lessons.
    - Requires access from computers and mobile devices.
  + DriverPass Driving instructor:
    - Require the ability to view schedules so they can keep track of their appointments.
    - Require the ability to leave driver notes and view student progress on student status pages.
    - Requires access from computers and mobile devices.

### 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?*

* Users will always have access to the system.
* Users have the technology required to access the system, which includes a computer or mobile device that has an internet connection and an up-to-date web browser.
* Users are tech savvy enough to navigate the system.
* IT administrators will be experienced and require very little training to get up to speed on their tasks.
* The system will be hosted on a secure and reliable cloud-based server.

### 

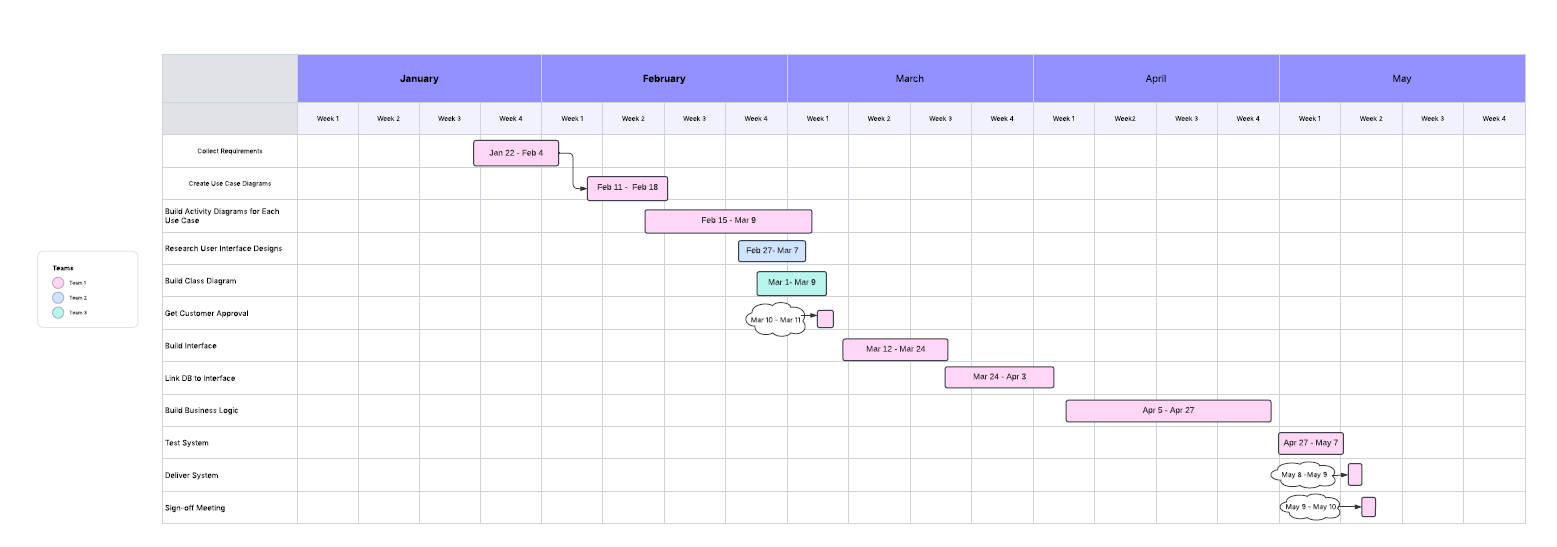
### Limitations

*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?*

* For the initial release the client will not be able to add, modify or remove modules.
* Time management will always be a factor when working on a project. Knowing the expectation of when the system needs to be delivered will be a determining factor for the functionality that will be made available for the initial release.
* Cost for the project must be considered, and the team must stay within the budget. Factors such as salaries, materials and facilities are all costs that would be accrued for the project.

### 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.*

**