# 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 goal of this project is to support DriverPass in creating a system to support driver training through online courses and practice tests as well as scheduling services for on-the-road training with drivers to assist drivers in passing the local department of motor vehicles 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 has identified an opportunity in the market where a void exists for training students for driving tests. Currently there is no good training options for drivers and many fail their DMV tests. They wish to fill that gap by providing on-the-road training, online courses, and practice tests to assist drivers. This will require multiple components:
  + The system will be online, or cloud-based, allowing access from anywhere on multiple types of devices
  + Documents should have the ability to be downloaded and uploaded to the site
  + Security components that assign roles based on user, allowing different levels of access
  + Ability to track changes made in the system to pull reports to identify the user that made the changes and what changes were made
  + Booking components that allow users to get reservations for training
  + Database to house users’ information
  + Ability to connect with the local DMV to receive updates on new rules, policies and additional information

### 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 complete, the system will need to be able to do the following:
  + Can be accessed from anywhere with an internet connection
  + Allow the creation of a user account
  + Ability to purchase one of the packages
  + Reservations system
  + Main page that displays Online test progress, user information, Drivers notes section, special needs, driver photo, and student photo
  + Online training courses that users can access if they purchased the corresponding package
  + Contact page that allows users to contact the company and the company to contact users
  + Multiple levels of roles associated with the system: Administrator, Managers, Drivers, Users
  + Receive updates from local DMV to keep training materials 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 be web-based, accessible from all platforms that have internet browser access
* The system will have a load time for each page of 4 seconds or less
* System should automatically when updates to user accounts, scheduling, or

#### 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?*

* System will run on all platforms that have internet connection as it is web-based
  + System will need to be able to execute on all major browsers
* Data base will need to be developed and executed with the system and used to house:
  + User accounts
  + Training documentation
  + Schedules
  + Available cars

#### 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 require all users to log in utilizing a username and password that is created when the user account is created.
  + Passwords are case sensitive
  + Passwords must be at least 8 characters long and not include spaces and cannot match the username
* All errors within the system should send notifications to the admin when they occur with a daily report that includes all errors sent at the end of each day

#### 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?*

* Modifying users (add/remove/modify) will be done making calls to the API, no changes to code required
* Updates to the system must occur outside of high traffic times to minimize downtime
  + Notifications of upcoming outages due to updates must be posted at least 24 hours prior to scheduled updates
* Admin accounts will have full access to the system, to include the data base, the server hosting the system, as well as user accounts

#### 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 will be required to log in to the system, including admins
* System will operate utilizing a REST API to ensure a secure connection between client and server
* To prevent brute force attack attempts, if a user attempts to log in to the system three times unsuccessfully, admin profile will be informed and user account will be locked
  + If locked, user can reset their account utilizing the email address assigned to the account to reset their password. If username is unknown, they can contact DriverPass to reset their account

### 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.”*

* When complete, the system shall be able to do the following:
  + The system shall allow access from anywhere with an internet connection
  + The system shall allow the purchase of one of the packages
  + The system shall allow access to training materials based on user’s purchased package
  + The system shall allow the creation of a user account capturing the following:
    - * First Name
      * Last Name
      * Address
      * Phone Number
      * State
      * Credit Card number
      * Credit Card expiration date
      * Credit Card security code
  + The system shall complete reservations
    - Allows user to book a day and time for training
      * When reserved, a car and driver are assigned based on what is available
      * Once assigned, system updates to show new availabilities based on day, time, drivers available and cars available
  + The system shall allow the uploading of drivers notes and display to the user and will contain the following:
    - * Lesson Time
      * Start Hour
      * End Hour
      * Driver Comments
  + The system shall track testing progress in the following manner:
    - * Test name
      * Time taken
      * Score
      * Status (*This can be any of the following*)
        + Not taken
        + In progress
        + Failed
        + Passed
  + The system shall allow the capture of special needs from the users
  + The system shall allow users to contact DriverPass with questions or issues
  + The system shall set multiple levels of roles associated with the system: Administrator, Managers, Drivers, Users
  + The system shall allow the following actions based on role:
    - Users role can:
      * Purchase a user package
        + Package one:

Six Hours in a car with trainer

* + - * + Package two:

Eight hours in car with trainer

In-person lesson on DMV rules and policies

* + - * + Package three:

Twelve hours in car with trainer

In-person lesson on DMV rules and policies

Access to online classes and practice tests

* + - * Make reservations for driving lessons
      * Modify existing reservations (Day and time selected)
      * Cancel existing reservations
      * Access online training if they purchased the package that includes it
      * Access online practice tests if they purchased the package that includes it
    - Managers role can (*Do everything from the Users role plus*):
      * Make reservations for other users
      * Upload drivers comments into users profiles
    - Administrator role can (*Do everything from all roles plus*):
      * Reset accounts passwords
      * Update all other role’s access rights (increase, decrease, or remove)
      * Pull usage/activity reports showing changes to the system and what user made the changes
      * Remove/disable packaging offerings
  + The system shall connect to the DMV API to allow information updates to be provided to DriverPass doing the following:
    - When update available, notification is triggered to DriverPass admins and the system can be updated with the new information, or correct current information
  + The system shall allow for transactions within the system, processing payments and providing proof of purchase

### 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 system interface will need to have the following functionality
  + All screens will have a navigation bar with links to the different pages
    - Navigation bar with the following
      * Home
      * Packages
      * Online tests/training
      * Scheduling
      * Account information
      * Contact us
  + **Home screen** will display online test progress of the user, the users information including any special needs, a drivers notes section, and a photo of their assigned driver and themselves.
  + **Packages screen** will display the three available packages that a user can purchase and allow the user to select one and proceed to a checkout to complete the purchase
  + **Online tests/training** will display the various training/testing materials based on purchased package to the user and allow them to navigate through them
  + **Scheduling** will display a calendar that shows available time slots for driving lessons and in-person training that a user can book
  + **Account information** will display the current user information and allow them to update the information
  + **Contact us** will display a text entry field that will allow a user to send a message to the DriverPass team as well as phone contact information
* There will be three users in total, the user, the manager, and the administrator.
  + Users will need to be able to access the site and navigate through each of the screens based on their purchases (for example, if they purchased the in-person training, they should be able to book time in the scheduling screen)
  + Managers will be able to do everything that a user can as well as make reservations for other users and create accounts for other users. They will also be able to upload driver notes to user accounts
  + Administrators will be able to do everything that a user or manager can do, as well as access other users accounts and block/remove them. They will also be able to pull reports from the system.
* The system is web-based and should be built utilizing responsive design, meaning it will shift based on if the user is on a browser, mobile, or a different 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?*

* All users have a way and device to access the internet
* Site is not multilingual, and all users speak or understand English

### 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?*

* Web-based system, meaning online accessible if user is online
* Cloud-based hosting by external company meaning no control if their services go down
* Budgets have not been addressed, so if changes to the system are required, the cost could be prohibitive
* The timeline is built based on the required duration of the project but if issues arise, delays will occur

### 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.*

