# CS 255 Business Requirements Document Template

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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

* The client is a company called DriverPass, a company that focuses on driving lessons and courses for student drivers. They wish to have a program made that will help student drivers take courses online with practice tests in order to help them pass driving exams.
* It also needs to have a form of reservation making so students can book time to practice driving with an instructor in person.
* They also wish this system to have a form of digital security and administration so that they can tier access to the different levels of the program based on what the user needs to be able to do.
* They also need a package tier system for users to select from based off their needs that will give them access to differing levels of classes and instruction time.
* It also needs the ability for an admin to modify or remove the packages should they need to change any of them.
* The program also needs to be web based and work on different platforms that users can access along with making it simpler for the admin to use so they don’t need to worry about its maintenance themselves.

### System Background

* DriverPass wants to make a web-based system that helps make preparing for driving exams easier.
* To do this they want a system that allows users to book virtually times with an instructor to take lessons on how to drive along with online courses and practice exams to help them pass the written portion of the exams.
* They hope that their system will cut down on the amount of people failing their exams due to not being prepared.
* The system should have a main online page for the user to interact with and this page should have a log in system for security.
* The program should also show the options in the form of packages that the user can choose based on their need. Ranging from packages with 3 lessons to a full package that includes access to the online classes and practice tests. This system also needs to be able to be modified by the admins to allow modification of the packages and the courses should need arise.

### Objectives and Goals

* The system needs to be web-based so a cloud operational system should be used so it can be accessed from any web browser.
  + Optional but not required mobile layout for phones and other mobile devices to access the page.
* The page needs to have a cloud security system that allows for tiered levels of admin control that can be modified as people enter or leave the company.
  + This should be implemented first to make sure that everything else can follow with it. Then the system needs a designed page to operate and allow the user a layout to interact with.
* This page should include access to the packages offered and access to the online classes and tests if the user has gained access to those through a package choice.
* Once a layout has been made the package structure should be built so it can be modified with changes or removals.
* Packages should be built on the number of hours a package includes of driving lessons and if the package includes access to the online lesson options.
* The system should also be setting the hours in multiples of two since each lesson is in two-hour blocks.
  + With the example of 6 hours being three 2-hour lessons.
* The system also needs to be built with the admins in mind since it needs to be user friendly enough for them to make modifications on their own without advanced technical knowledge.
* The program can be considered finished if the admins can log in and modify packages and make changes and if the users can access the page to choose packages, make payments and be able to access the online classes and tests.

## 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 since being accessed through a webpage needs to be web-based and should be stored over the cloud.
* The system should have the function to be updated whenever the client needs to update the information on site. It should also be updated as security needs change to prevent user information being stolen.
* The system needs to operate fast enough for the user to use the functions.

#### 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 run on a windows platform to take advantage of the hosting services and tools available with it.
* Windows has tools to help with security and makes creating it more easy with their more simple to understand tools
* Windows platform also works well with MS SQL database software.

#### 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 should include a username and password system. The password at least should be case-sensitive for security reasons, but both username and password can be made case-sensitive.
* It should also include some form of multiple factor authentication system like an email verify code.
* The system should contact the admin after a set amount of failed log ins attempts using the same username. It should also notify the admin when a user runs into problems or a user submits a complaint about a major problem.

#### 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 can be made to add and remove users without changing the code, it could use a storage database for the usernames and passwords. That way adding or removing a user is just a function in the code that removes or adds to the stored database.
* The system should be made ready in case new updated are needed for the platform. It could use the features available in the windows platform hosting to help it update as the platform updates.
* If a manual update needs to be made the system should have a backup copy from last current successful build, that way after updating if anything goes wrong the last copy can be used to reload.
* The IT admin should have a lot of the same accesses as the admin of the system. They should also have the access to update the system when employees are added and removed from the company to avoid unauthorized access. They also need access to monitor or make the updates to the system.

#### 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 to log in will need a username and a password.
* Using cloud based server security to secure the log in will secure the server side connection. Security on the webpage itself can help secure the data on the client side of the connection.
* If a “brute force” attempt to access the system is detected, where someone attempts to log in with the wrong password multiple times, the system should lock the account with the coordinating username. Access can be reacquired when the user uses a multifactor security like email verification.
* If the user forgets their password the user should be able to use their email to either reset the password or receive a temporary password. That way only the user email can be used for security.

### 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 the credentials the user enters when trying to log in.
* The system shall allow the user to book reservations for driving lessons.
* The system shall allow the user to view what driver they have been paired with
* The system shall allow verified users to access the practice tests and practice classes online.
* The system shall allow the user access to their practice tests results.
* The system shall allow the user access to the different packages offered by DriverPass.
* The system shall run at a speed and efficiency enough for the user to use the system.
* The system shall verify the user’s access to different features based off the user’s package.

### 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 interface are that it shall show the user the different packages, allow the user to access the online courses and tests, and allow the user the ability to make driver reservations to practice..
* The different users of the interface are the customers, the employees, the admins and IT personnel.
  + The customer will be allowed to access the features that are included with their package. Like accessing the package options, the courses and tests, and the reservations services.
  + The employee should be allowed access to change the package details and to modify reservations should a driver become unavailable.
  + The admin will have access to the change the package, modify the courses and tests, and make changes to the reservations.
  + The IT personnel will have access to the interface for all the reasons the admin has except for changes to any personnel data unauthorized to them.
* The user interface will be accessible on devices that can connect via internet to the webpage. With computer they will interact with mouse and keyboard. With mobile they will be accessed with touch screen.

### 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?*

* With my design I’m making the assumption that they budget for the system can cover the costs of the window’s platform services.
* I’m also making the assumption that the driver packages will be changed from 3 to either more or less over time.
* The other assumption that I’m making is that the cloud-based security is enough for the client’s needs.
* With the technology I’m assuming the user will have access to a mouse and keyboard for access.
* I’m also making the assumption that the user knows how to use the webpage interface.

### 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 main limitation is not having a budget given to use. Without confirmation on the budget we don’t know what expenses we can make.
* We also need to know what we are allowed with regards to personnel so we can assign tasks to complete the project within the 5 month project timeline.
* The system will also have the limitation of compatibility with apple platforms, since it is being built on a window’s platform.

### 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.*

