# 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?*

* First and foremost, the main purpose of the project is to collect the system requirements of a company named DriverPass and help them design and build that system with the help of the Systems development methodology. DriverPass by the way as mentioned before is our client, It is a company that specializes in providing driving lessons and online practice exams to individuals with the aim of passing a driver test and attaining a valid driver’s license from their local department of motor vehicles (DMV). DriverPass wants their new improved system to provide students with access to online practice exams and on-the-road training to better prepare them for driving tests at the DMV and they need our help.

### 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 DriverPass would like for their system to have numerous abilities. The DriverPass company believes they have found a flaw in the driver training industry, and they have solutions to fix it. The company wants their customers or students to take online classes and practice tests aside from the regular services they provide as well as on-the-road training for current and future customers. On the whole, the company head wants their system to take advantage of the void in the industry when it comes to training students for the driving test at their local Department of Motor Vehicles (DMV). The main problem DriverPass wants to fix is to end the cycle of students not being fully prepared for both the on-the-road tests and computerized tests offered by the DMV. To fix this problem, the company wants their customer to have their online practice tests and also track and view their work done in the system. They believe that serval hours of on-the-road practices with designated drivers will help resolve the problem. DriverPass believes that these different components or fixes are needed for the system to improve its customers' chances of attaining a driver’s license.

### 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?*

* Ultimately, DriverPass wants its system to track and view its customers' online practice test progress on their personally created accounts. The system should also grant access to data online from any computer or mobile device, for instance, the company head will be able to download reports and serval information as long as he has access to the internet. The company also wants to limit the amount of information an employee can have access to, depending on the roles and rights of the employee. The system will be able to keep track of who made access to and every change of information either by an employee or customer. The system will enable the printing of an activity log. The DriverPass newly modified system will enable their customer to make reservations for driving lessons with each lesson lasting for approximately 2 hours on their online accounts or call the office. The system will be able to identify and track each driver paired with a customer on an on-the-road lesson that is the system will be able to track all 10 cars and its driver as well as the customer. The customer will be able to pick from three different packages which DriverPass can disable or enable. The system will again depict online test progress, all of the customer information needed by DriverPass, notes taken by the driver during the on-the-road practice test, the photo of the customer or student as well as the designated driver. The system will also depict if a student has any special needs. The policies, rules, and sample questions will be made available to the student after the system is completed. The measurable tasks needed to be included in the system design to achieve this is to arrange the task according to dependency and relevance. For instance, after collecting all the requirements for the system the next task is to create use case diagrams, followed by building an activity diagram for each use case, researching user interface designs, building a class diagram, and so on.

## 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?*

* Environments that I believe would be suitable for the system are both web-based and mobile applications. The new DriverPass system will prove efficient enough if it can run as a web-based software application and a mobile application. If the system is available as a mobile application, it will give the students learning flexibility in that they will be able to access DriverPass’ learning system at any given time and place. A web-based software application that meets all the requirements DriverPass has for its system would also provide a better learning management system or e-learning simply because people are more familiar with it being web-based and easy to navigate. The system should also be able to run as fast as possible to make the learning experience on the DriverPass system more fun, time efficient, and less stressful. Finally, the system should be updated as often as it should to maintain the data privacy of the students and system hacks. There will be frequent system updates based on compliance that is the tests and practices online will be up to date to meet the DMV’s requirements.

#### 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?*

* In terms of the platform suitable for the system DriverPass system, I believe it is the Windows operating system and MacOS. These operating systems are the most used and user-friendly in the world currently. A web-based application that is compatible with Windows and MacOS is the ideal way to ensure that students have the most success and best experience while using the system. The backend will of course require development and maintenance tools which are databases, IDEs, and frameworks to support the DriverPass software application. On the server side, the application should be able to be hosted on serve databases that are compatible with both Windows and MacOS. An example is hosting the application on a Windows server by running IIS or Internet Information Services. Development tools also include IDEs such as JavaScript, HTML, Java, and CSS.

#### 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 owner of DriverPass Liam, in an interview, noted that there will be various users of the system including him, his employees, and the students. Liam wants to have full access to all accounts to reset or deactivate an employee account if need be. The main distinguishing factor between the users will be the rights and roles of each employee in the company, for instance, the DriverPass secretary is limited by the system to only set appointments and other secretarial duties while Ian the information technology officer can more access and modify more features of the system. There will be input case sensitivity that is the DriverPass system will be able to distinguish between upper and lowercase letters for passwords. This will improve the security aspect of the system and ensure data privacy and system hacks. Finally, if there is a problem the system should notify the admin immediately of course depending on the level of impact the problem has on the system’s functionality.

#### Adaptability

*Can you make changes to the user (add/remove/modify) without changing the code? How will the system adapt to platform updates? What type of access does the IT admin need?*

* The system will allow the admin to remove, add, and modify users in the system without the change of code but there will be the need for code modification in case DriverPass wants to change, add, or remove a module in the system. The DriverPass system will be able to adapt to platform updates mainly through the automated detection of any important changes by the operating platform used for the system and installing the updates. The Information Technology (IT) admin will have full access to the system to make the necessary user additions, removal, and modifications.

#### 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?*

* Security is the most relevant nonfunctional requirement for this system because of the amount of personal data DriverPass will be handling. For instance, a password and a username will be required for a user to access the system. In connection or the data exchange between the client and the server, the use of the RESTful Application Programming Interfaces can be implemented in the development of the application while data can be mostly stored in cloud storage. If there is a successful brute force hacking attempt on a said account it can lead to the injection of malware, the hijack of that account, and ruin DriverPass’ technological reputation. An unsuccessful brute force attempt will lead to limited login attempts, the use of CAPTCHAs, the restriction of access to authentication URLs, frequent changes of strong passwords, and the use of Two-Factor Authentication. The user can reset their passwords via password reset URLs or the use of a backup password from 2FA.

### 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 offer a password reset option if the user forgets their password.
* The system shall provide user removal, additions, and modifications.
* The system shall allow scheduling or reservation of driving lessons.
* The system shall display the time and day of the reservation on a user’s account.
* The system shall identify and track the driver assigned to every driving lesson.
* The system shall allow drivers to add notes taken during the driving lesson to the student's online account.
* The system shall display three different packages offered by DriverPass.
* The system shall provide online tests and practices that conform which the DMV rules and policies.

### User Interface

*What are the needs of the interface? Who are the different users of 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 requires some features or needs, for instance, the interface must display the customer's personal information which includes their first and last name, current address, phone, and email address. The interface also needs to display the customer’s online test progress and notes from their driving lessons on the road. The interface will indicate it has special needs and will display the customer’s photo and the photo of the driver assigned to them. The different users of the interface will be mainly the customers and the drivers, and the users will mostly interact with the interface via an internet browser.

### 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?*

* Some of the things that were not specifically addressed in the design above are the amount of storage needed for the system and the amount of money DriverPass is willing to spend on its new system. The main assumptions I would like to make in the design about the users or the technology is that DriverPass employees are computer literate as well as their customers and they can navigate the new system with ease. I would like to assume that the technology being used will be able to provide cross-compatibility and will run on multiple platforms as well as web browsers.

### Limitations

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

* I believe the main limitation of this design process is inadequate use of time, for instance, it took 14 days for the collection of requirements. In terms of resources, there are few personnel available for the development of the web-based application, a tight budget, and limited technological tools needed to build the design.

### 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.*

