# 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 client is a company named DriverPass.*
* *The owner Liam wants to take advantage of a gap in training for the driving test at the Department of Motor Vehicles (DMV).*

### 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?*

* *There is a need for more driver training because many people are failing their test at the DMV.*
* *Students will have the option to take online tests, practice tests and on-the-road training.*
* *The system needs to be able to access data online from any computer or device.*
* *The system needs to be able to download reports on programs such as Excel.*
* *For security, different roles need to be established with different levels of access.*
* *Reservations can be made online, by calling or visiting in person.*
* *The system should run on a cloud based system.*

### 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?*

* Customers should be able to make and cancel reservations for driving lessons.
* Admin accounts need to be able to review reports of modifications to reservations.
* Admin should be able to track which teacher is matched with each student (as well as time and car).
* Three training packages should be offered with different features.
* Admin should be able to disable a training package when it is full.
* Users can select a pick up and drop off location during registration.
* Users can reset their password if needed.
* Interface should accessible to all roles of the DriverPass system
* Admin should receive notification of updates to DMV policies so that tests can be updated (direct connection to DMV).

## 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.*

* The DriverPass system should be user friendly.
* The DriverPass system should be accessible on any web browser or mobile device.
* The DriverPass system should use 3rd party authentication to for user accounts
* The DriverPass system should store up to 5 years of student and course data to reduce storage demands and security risks.

#### 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?*

* *DriverPass will be able to run on any Internet browser such as Google Chrome, Firefox, Safari and Microsoft Edge.*
* *DriverPass should also be accessible on mobile devices*
* *DriverPass will run off a cloud based environment such as Microsoft Azure so that the owner Liam can download reports.*
* *The system should be able to load reservation pages, test pages, etc. without delay, lag time or interruption.*
* *The system should update whenever there are new DMV rules and regulations*

#### 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?*

* *DriverPass should work on all operating systems since it is web based application with a cloud server.*
* *To manage data and ensure smooth functionality support from a MySQL or NoSQL database may be needed.*

#### 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?*

* For login a Role Based Access Control (RBAC) system should be implemented
* To distinguish between different users roles should include user, admin and teacher.
* Different roles should have a different login portal for increased security and customization.
* Users will have case-sensitive passwords
* Third party authentication measures should be implemented.
* ~~T~~he system should send reports to admin whenever there are errors, crashes and password changes.

#### 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?*

* Users and admin will be able to create accounts with their personal information
* Users and admin will be able to update their accounts as needed
* IT admin need to be able to update passwords and add or remove DriverPass staff members
* System updates will be done during planned outages so that system vulnerabilities and functionality can be addressed.

#### 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?*

* As a part of the users account they will need a username and a password to log into their account
* The user will have three attempts to correctly enter their password or they will be timed out for 15 minutes
* System will use encryption to protect sensitive information
* Third Party Authentication will be an additional layer to enhance security.
* CAPTCHA can be implemented to reduce brute force hacking attempts
* The user has the ability to change their password if they forget it

### 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 for all roles.
* The system should match an instructor with a specific course.
* The system should describe each of the three packages offered by the DriverPass application
* The system should allow for users to register themselves for the different level of packages that DriverPass offers
* The system should send appointment reminders to students so that they do not miss their scheduled meetings.
* The system should allow students to retake their tests according to the DMV rules and regulations.
* The system should allow admin to download reports
* The system should communicate with DMV servers to update all course materials.
* The system should allow for a maximum of 10 simultaneous in car trainings at any given time.
* The system should allow admin to disable packages as needed.

### 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.)?*

* Interface should include the following features:
  + Logo
  + Online Test Progress Section - show what has been completed and what is in progress
  + Driver Notes Section - lesson time, start hour, end hour and driver notes
  + Student Information Section - first name, last name, address, city, state, zip code, phone number, email, etc.
  + Special Needs Section
  + Driver Photo
  + Student Photo
* The student will need to be able to update their information, make reservations and take tests.
* The teacher will need to be able to take notes during their lesson
* The admin will have full access to update passwords, add or remove packages, and add or remove staff accounts.
* The interface will be able to function on all browsers and mobile due to being web based.

### 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 are within the legal age group to be able to take a driving test and behind the wheel test at the DMV.
* Parents have given permission for their children to participate.
* Users have reliable access to the internet.
* Users can afford the cost of the course packages.
* Users have free time to take exams and train with teachers.
* Users live in a reasonable distance to be picked up.
* There will not be ambiguity in any DMV updates
* DMV updates will be delivered in a timely manner

### 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?*

* Budget Constraints: although DriverPass is using a cloud based system which will be more cost effective than running a traditional hardware server, there will be costs based on the storage capacity that is needed to run the system at the desired functionality.
* There will also be cost limitations based on the size of the development team.
* The size of the development team will affect the timeline of the release of the DriverPass application.
* Internet Access: this system is web based an so access to the internet will be mandatory to use the DriverPass application.
* There must be electricity or else the hardware and software will not work.
* Users may not be able to personalize the interface of the DriverPass system.

### 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.*

