# 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?*

* DriverPass wants to take advantage of a void in the market in training students for the driving test at the local department of motor vehicles. They noticed that there is a need for better driving training because many people fail their driving tests at the 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?*

DriverPass wants to help people be trained at the local DMV so that they are prepared for when the test comes. They want clients to be able to take online training and practice tests. They also want to provide an option for on-the-road training. DriverPass wants to be able to access their data online and on mobile devices. They want to have the ability to download reports onto Excel or something similar. They want role based system for accessing confidential data. The administrator would have the ability to add, remove, and block accounts. He also has the ability to change passwords if a user forgets the password. The administrator would also have the ability to see who made a reservation or canceled a reservation. An activity report can be printed to show who is responsible. A client should be able to make reservations for driving lessons. Each lesson is two hours long. A date and time would be gathered for each reservation. A driver and car would be assigned to the lesson. A client can make the reservation online, by phone, or in person. There are three packages that a client can choose: Package One, Package Two and Package Three. Six hours with a trainer is Package One. Eight hours in a car with a trainer and an in person lesson of DMV rules and policies is Package Two. Twelve hours in a car with a trainer, in person lesson of DMV rules and policies, and access to online class is Package Three. Still, each lesson is two hours. So, a six hour course would be spread out into three lessons. The client should be able to include a pickup location and a drop off location. The owner, the CEO and the IT officer would be able to have administrative access. The administrator should have the ability to disable packages if needed. If the DMV makes changes to their policies, a notification would be sent to them, so they can be up to date. The system should run everything on the cloud, so that DriverPass will not have to worry about server maintenance. The interface should have online tests, client information, notes from the driver, the photo of the driver, the photo of the student, and information of other needs.

### 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?*

* Create system for online training and test practices.
* Create option for on-the-road training
* Create system to access data online
* Create system for mobile devices
* Create feature to download Excel reports
* Create system for access control by roles.
* Create administrative role
  + Create and add feature for adding, removing and blocking accounts
  + Create and add feature to see who is responsible for adding and canceling reservations
  + Create and add feature to for making an activity report for account activity on system
  + Create and add feature for changing passwords
  + Create and add feature to disable packages
  + Create and add feature to add and customize packages
  + Create and add feature to notify administrator of DMV policy updates
* Create feature for making a drivers lesson reservation
* Create feature to ask client for date and time of lesson
* Create feature to ask client for pickup location and drop off location
* Create feature for client to choose packages
* Create system for adding and removing packages
* Create interface to show online tests
* Create interface to show client information
* Create interface to show drivers notes
* Create interface to show photo of driver and student
* Create interface to show information of other needs.

## 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 should be web-based. Information would be stored and accessed online. The systems should have the capability of responding with driver, student or class information, and it should have the capability of downloading images quickly. The main concern of the performance of the system is volume. The system should be able to handle multiple web requests from many clients and instructors.

#### 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 iPhone, Android, and web browsers. The system would have a mobile app for iPhone and Android. The system can also be accessed online using a web browser. The back-end would require a web server: either a cloud server or a Linux server equipped with Apache. The back-end would also require a database to store the 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?*

* Users of the system would be distinguished by account types. Role based access control matrix would be used to define which users have access to what. An access control monitor would notify system administrators for any unauthorized access. Fail-safe defaults would also be put in place to ensure that unauthorized users cannot view sensitive information by encrypting passwords of accounts in the database.

#### 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?*

* You can make changes to user privileges online without having to change code. You can also move a user to a different role if you don’t want to make an individual change to the user privileges. When mobile platform updates happen, the system must be updated as well. Deprecations of methods in mobile platforms do occur. The system must be updated to work with the new changes. The system does not need to be updated for web browsers. If the system uses a cloud, updates to the cloud can occur. This forces the system to update with the cloud. If the system uses Linux server, the server must be updated to prevent any computer security risks. Computer security must also be considered in updating the system to prevent vulnerabilities throughout 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?*

* A user must have a username and password. Two-form authentication is recommended for logging in. Password attempts for accessing accounts must be limited to 4 attempts. Passwords can be recovered by email. Passwords must be encrypted in the database. A role based access control will be used to determine the user types and their permissions. No user should have more permissions than what is necessary for them. The server must be equipped with protection from DDOS attacks. An encryption key must be used when browsing through the website. An API authentication must be used to authenticate users to the system for many platforms. System hardware must be updated. Full backups of the database must be made once a week. Incremental backups must be made daily.

### 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.”*

1. When unauthorized access is found, the system shall notify system administrators.
2. The server shall log all changes of data.
3. When user orders a lesson, a confirmation email shall be sent to the user’s email.
4. When user creates account, an email verification is sent to the user.
5. The system shall only allow system administrators to make changes to user roles.
6. The system shall notify instructor of a new student.
7. The system shall notify system administrators and instructors of changes to the DMV.
8. The system shall notify system administrators of hardware updates.
9. When user requests to change password, the system shall send a password change email to user.

### 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 interface will have the ability to show online test. The interface will have the ability to show client information to system administrators and instructors. The interface should show driver’s notes to students. The interface would show the photo of the driver to the student. The interface would show the photo of the student to the instructor. The interface should show information of other needs. A browser would be used to interact with the system on a computer. A mobile app would be used to interact with the system on a mobile device. A terminal or a web browser would be used to interact with the system’s server.

### 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?*

* A web browser would be used to access the system on a computer. A operating system application can also be used to access the system, but its easier if the system is displayed on a browser. Hardware was not mentioned. The system will have a server and a database to hold and execute the information of the system online. The system would use a role based access control matrix to create roles and permissions. It is assumed that the system will have security in place to prevent users from accessing sensitive information.

### 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 limitations of the system are time, budget and client requests. The system shall be finished by May 10th. There is a schedule below that must be followed to finish developing the system. The client’s and our budget would be limiting on what can be developed in the system. This can affect the choice of system hardware. This can also affect on security and maintenance costs. Most importantly, the client will be the one who is deciding what the system should look like. The client may make changes to the system or limit what we can do for the 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.*

