# CS 255 Business Requirements Document

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# 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?*

Our consulting company has been tasked with working with the company DriverPass. DriverPass has identified a need in the market for providing customers with online courses, lessons, a driving training. There is large failure rate at the DMV for students taking their driver’s written exam and driving test. DriverPass has filled this niche market and have asked us to facilitate their online course work. These online classes will give the necessary tools to driving students and will reduce the likelihood of test failures both on the driving exam and written exam.

### 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 components the company DriverPass needs are a computer and a server capable of providing access to customers and employees. DriverPass already has the required office space and 10 vehicles.
* The program will offer 3 packages. The 1st tier package options will offer 6 hours of driving time with a trainer in a vehicle provided by DriverPass.
* The 2nd tier package option will offer 8 hours of driving time with a trainer in addition to in person class room lessons.
* The 3rd tier package option will offer 12 hours of driving time with a trainer, in person lessons, and access to online classes and access to all related course material.
* The program will need to be secure. The system will need to be able have multiple tiers of access and permissions. The administrator function will allow the user to add, delete and modify customer and employee data in addition to tracking any modifications by other users.
* The employee will have access to all their student and will be able to add delete and modify lesson plans, depending on the tier the customer purchased.
* The customer will have access to classes, notes, and other information, depending which package they purchased.

### 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?*

It is our objective and goals to create the DriverPass program, which will do the following:

* All users, from administrator, to employee, to students, will need to verify their credentials by logging in.
* The customer will be able to view package options. Once a package is picked they need the ability to pay DriverPass.
* The student will have access to course material based on which package they purchased.
* The employee will have access to course material.
* The employee will have to ability to modify schedules and course work.
* The administrator will have access to all course material of all users and instructors.
* The administrator will have the ability to delete users, both employees and students.
* The administrator will have the ability to modify lesson plans and schedules.
* Changes made by instructors will be tracked and the ability to print a list of changes will be implemented.

## 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 stakeholders at Driver Pass have indicated that they do not want to deal with back up and security. They are open to the idea of running the web-based platform over the cloud. The stakeholders have also requested that data can be accessed remotely in order to obtain updated reports in addition to updates from the DMV. We should utilize a 3rd party cloud service provider such as Amazon Web Services to accomplish this goal.

#### 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?*

* Web based learning platform at DriverPass should be able to run on both Windows and Apple computer or laptop platforms. One constraint we have identified at DriverPass is the large amount of data that will be videos, lesson plans, and other data rich items. Due to the large amount of data, we will be primarily focusing on computer based operating systems and not mobile applications at this time. The back end cloud databases must have a high degree of security and information should be encrypted, as some sensitive information such as driver’s license numbers, social security and addresses with be stored on our database. Utilizing a cloud service will facilitate these needs, in addition to having the ability for rapid scalability in the future.

#### 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 will create their own user identification. The system will check to ensure that particular identifier has been chosen or not. If the identification user name has not been selected, the system will create the account and prompt the user to enter a password. Passwords will be case sensitive, at least 8 characters or longer, will contain 1 or more numbers, and will have at least one special character (ie: !@#$%^&\*). If the user name had already been selected by another user, the system will alert the customer and prompt them to enter another username. If issues arise, such as a forgotten password, locked account the system will alert the Administrator who will determine the next course of action. The Administrator will have the ability to reset passwords and reactivate accounts.

#### 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?*

* IT administrators at DriverPass will have the ability to make updates to the system and its data. The amount of downtime should be minimal if we utilize a 3rd party cloud provider. The IT Administrators will have the ability to delete data that is no longer needed, modify user accounts, and deactivate/ delete 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 need to log in with their credentials, which is a username and password that is at least 8 characters long, contains a lowercase and uppercase value, a special character, and at least 1 number. Data exchange should be encrypted, as sensitive information exits on the database. If a user forgets their password, they will contact IT Administrators to have their passwords reset. A user will, get no more than 5 attempts to enter the correct credentials. An account will be locked if more than 5 attempts are made. IT administrators will have the ability to reset passwords and unlock suspended accounts.

### 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 be accessible through laptop and desktop computers.
* The system shall utilize unique user credentials to so unauthorized access does not occur.
* The system shall validate user credentials when a user logs in.
* The system shall have a note taking feature for teachers.
* The system shall have the ability to add/delete/update customer accounts on as needed basis.
* The system shall secure sensitive data through encryption.
* The system shall have easy to understand layouts for students and teachers.
* The system shall have user profiles with photoidentification.
* The system shall be accessible to administrators and managers whether on or offline.
* The system shall have a function for scheduling lessons and road tests.
* The system shall have a database that includes lesson plans, practice tests, and videos.
* The system shall display progress, grades, and items of improvement where students need more work.
* The system shall obtain updates from the DMV for driving policies and regulations.

### 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.)?*

* There will be 4 tiers for the system and user privileges and how they interact with each other. They will be the customer, teachers, administrative staff, and manager level. Customers will have access to tests and lesson plans. Required information will be name, address, social security number, and payment methods on file. User information will be in a centralized data base that will only be viewable by the individual customer themselves, managers, and IT administrators. Instructors will have their pertinent information such as office hours, phone number, and e-mail address. Managers will have the ability to deactivate accounts, reset passwords, including IT Administrators accounts. Managers will have the most privileges to ensure that employees including IT Administrators and teacher, can have their account deactivated in the event someone gets let go.

### 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?*

* It is assumed that students, teachers, and other staff at DriverPass will have the necessary items, such as computers (Mac and Windows operating systems) that have sufficient processing power to run lesson plans and other data offered through DriverPass system and all other related learning materials.

### 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?*

* Our current anticipated limitation include the cost for the 3rd party cloud service provider. Another anticipated limitation is time. We currently have from January 22 2022 until May 10 2022, which is a difficult time line to provide such an extensive project.

### 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.* Chart, waterfall chart

Description automatically generated