# CS 255 Business Requirements Document Template

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*Revision 2*

## 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 DriverPass
* Purpose is to provide DriverPass with a system that provides students with access to online practice exams and on-the-road training to better prepare them for driving tests.
* DriverPass wants:
  + Customers to take online classes and practice tests
  + Ability to access data from anywhere
  + Ability to download reports and other information to work on at home
  + Ability to set different rights for users and to be able to change passwords and restrict access when needed
  + Tracking features that include who made reservation, who cancelled, and who modified it last and be able to print a report showing this information
  + Customers can make reservations which includes the day and time when they want the lesson, and which driver the customer is scheduled to go out with
  + Ability for customers to modify or cancel appointments
  + Customer to pick between 3 packages. Package one, package two, and package three.
  + Ability to customize future packages allowing them to remove or add new ones
  + Ability to disable a package now if they do not want any more customers to register for it
  + Registration information to include:
    - First and Last Name
    - Address
    - Phone number
    - State
    - Credit card number, expiration date, and security code
    - Pickup location of customer
    - Drop-off location of customer
  + Customers to be able to automatically rest password if they forget it
  + System to be connected to the DMV so they are in compliance
  + System to run off the web, prefers the cloud
  + Backup and security to be handled, they do not have time to
  + System interface should resemble picture provided
  + Online test progress should show tests customer took, what’s in progress, and what is completed
  + Driver notes to show comments driver left and times for lessons
  + Several pages including, input from student or secretary, contact page for DriverPass, and way to contact students

### 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 the system to provide students with access to online practice exams and on-the-road training to better prepare them for driving tests.
* DriverPass wants to fix and take advantage of the void in the market when it comes to training students for the driving tests at their local DMV.
* Components include:
  + Access from anywhere with the ability to download reports
  + Security which includes different access for each employee, password resets and blocking access
  + Ability for customers to make online reservations with various input fields
  + Connected with DMV for compliance
  + Web based with backup and security
  + Tracking features for reservations, cancellations, modifications, and drivers.

### 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?*

* System should:
  + Fully functional web-based system
  + Allow students access to online practice exams
  + Allow students to schedule on-the-road training
  + Maintain compliance with local DMV
  + Grant access to employees based on their security features
* Tasks:
  + Build use case diagrams, class and activity diagrams
  + User interface design
  + Meet with customer to review work
  + Build database tables and link to interface
  + Create security, role, and rights layers

## 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 cloud based to ensure security and conserve data space.
* The system should run fast enough without any significant lag time due to multiple users signed on and taking exams or access information simultaneously.
* The system needs to be updated frequently to ensure that there are no errors or security risks that would cause lengthy downtime.
* The system needs to verify DMV guidelines frequently to ensure the system is following proper procedures.

#### 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?*

* Using cloud services, the system will run on Linux. The cloud services will help secure all of our databases.
* A database will be needed to store the sites and client’s information.

#### 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?*

* Each user will have a unique login which will require an email for username and a password.
* Passwords will be case sensitive and contain at least one number and uppercase letter.
* Two-step authentication will be required to ensure security and it is becoming industry standard.
* After three failed attempts the system will notify admin of the problem
* System will inform admin of viruses, errors, abundant lag time, or data breach

#### 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 will allow changes to user accounts without changing the code.
* When client receives customer feedback this will start the process to begin updates. DriverPass will meet with our team and discuss key updates and added features. These updates will be done in increments to avoid system downtime.
* IT admin need full access in order to make changes to the system like removing users or former employees and the ability to restrict or modify access.

#### 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 will need a valid email address and create a password that meets our minimum strength.
* The user will also be prompted to activate two factor authentication
* The cloud server will secure the data exchange
* If a brute force event happens:
  + After three failed login attempts the admins are notified
  + After a fourth failed login the user account is locked and user will need to contact IT helpdesk to unlock account
* If user forgets their password an email will be sent to registered email account with a 1-time verification code that expires in five minutes.

### 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 three separate driving plans
* The system shall book customer reservations
* The system shall pair customer with a driver
* The system shall provide online practice tests, quizzes, and classes
* The system shall provide offline study material
* The system shall operate fast and efficiently
* The system shall provide user with custom access base on purchasing plan
* The system shall display tests and assignments user has completed
* The system shall store users’ personal information into database

### 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 needs to be a laptop, desktop computer, or mobile device with an internet connection.
* The interface needs to allow users the ability to book reservations, take online classes, test and exams.
* The interface needs to allow admins to make changes and update the system

### 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?*

* The main item not addressed in the design is the budget. Without a set budget we are making assumptions in several areas. One main area is using cloud-based services which is more expensive than hosting locally. I am also assuming that all of the features that I plan to create will fit within the budget.
* A second issue I am assuming is that the DMV will allow access to us to make updates to our system without dedicating someone to constantly check the DMV website for any changes.

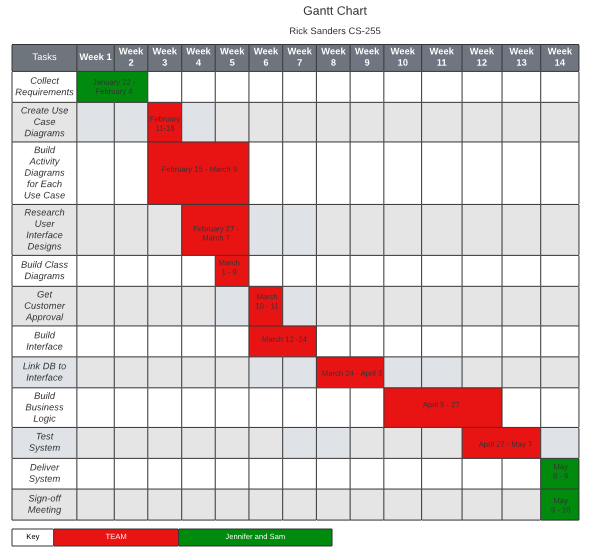
### Limitations

*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?*

* There is no budget for this project
* I am given five months to design this and that may not be enough time
* Users’ may see latency depending on their internet connection
* Access to DMV updates can cause issues depending on when the updates happen and if we have access to make these changes immediately

### 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.*

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