# CS 255 Business Requirements Document Template

## System Components and Design

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### Purpose

*What is the purpose of this project? Who is the client and what do they want their system to be able to do?*

Driver pass noticed that there is a need for better driver training. So many people fail their driving tests at the DMV, and there are few people. So, the driver pass project provides students with access to online practice exams and on-the-road training to better prepare them for driving tests. Driver Pass wants me to help in designing a system that can handle these needs. The client drivers pass starting to provide better training to make their customers prepare for the driving test. The Driver pass reached out to us to design a system in the form of a website where the people get the train and pass the driving test and also can book the on-road training

### 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?*

1. The owner of the product can be able access data offline or online from anywhere.
2. It should be compatible with a computer, mobile and can also download the reports and information needed.
3. Modify and update information only online to avoid duplicate information on the servers.
4. The product owner should have full access control on the account, such as password management, print and view the activity, and blocking the account if needed.
5. The owner needs tracking to see who made the reservation and who canceled and when it is modified. He can also print the report and see who is responsible.
6. Customers can be able to make reservations for their driving lessons quickly, and each lesson is for two hours. The customer should communicate with the Driver pass about the day and time when they want to take that lesson. The customer's other option would be to call and visit their office to schedule an appointment with their secretary.
7. Since the Driver pass as many cars and drivers, it is also essential to track which user is matched up with a specific driver, time, and car.
8. This project should run over the cloud.

### 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?*

* The trainee should be able to make a reservation online, practice the test, track the progress she/ he made.
* To design this system, one needs to understand the priority of each level of design. Using Jira is helpful to create stories, and work on the priority levels is recommended.
* Using Jira to create stories on this project will help you track the work and complete it on time. In addition, I believe daily stand-ups are helpful to know about each of the employees and plan if we have any impediments. All tasks should have starting and end dates.

## 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 learning environment application must be accessible from all the devices such as mobile, computer, laptop and tablet, etc.*
* *It must have user authentication for password and Id protection.*
* *It should navigate the user quickly to the learning path.*
* *Users in case of any failures can report the detection of the software failure and malfunctions.*
* *Rest API authentication or gateways is required.*
* *Designing some features*

#### 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?*

* A fast and secure system is recommended for system design. This allows users to access the website without any interruption.
* The cloud platform is recommended for good performance for the web-based, and it should interact or access the website with any device.

The system should be web-based in the form of the website over the cloud.

* Update of the system is required if in case the client wanted to add or remove users.

#### 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?*

* Linux or Ubuntu platform is recommended. These platforms are easy to manage configuration management and load balancing if required.
* Using cloud security is recommended to protect high traffic, server crashes and to protect user data.

#### Accuracy and Precision

* The performance of the system always depends on usage and monitoring. If any maintenance issues, server outrages, or bugs are detected, the system should notify the administrator immediately.
* If a user accesses the website for the first time, a user should quickly create a user name and password. Multifactor authentication such as facial detection, fingerprint scan, or OTP is required to protect the user's account. Case sensitive password is recommended to protect the password.

*How will you distinguish between different users?* *Is the input case-sensitive? When should the system inform the admin of a problem?*

#### 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 you to make modifications to users and allow you to remove users without changing the code.
* The Administrator for Information Technology should be given access to control the user accounts and also able to update, delete and add new employees.

#### 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?*

* Implementing a secured SDLC framework for software development is highly recommended.
* Capture the security requirement of the application right at the start of a software development life cycle.
* The system should allow the user with valid credentials. For example, if a user enters an incorrect password three times, it should lock automatically and prompt the user to enter an email id for a link.
* Firewalls should be used to protect and secure the network system.
* If we use google cloud security, Google front-end GFE servers protect the user data in transit. Google has industry-standard firewalls.

### 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 LMS or learning environment should verify user ID and password at the time of log in.
* The currently enrolled course must display once the user login and user get access to the class or course enrolled for
* The learning environment should update grades automatically once the assignments or quizzes are finished.
* Discussion boards, announcements, and forums can help communicate between students and instructors about any course questions.
* The instructor should have the ability to provide resources and other document information or assignment information in the learning environment.
* After uploading the assignments in the learning environment, it should show the originality score.

### 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.)?*

* Students or customers should get the option to make reservations and transactions for the payment and scheduling classes.
* Changes, updates, adding new customers should also be handled manually by the employees of Driver pass.
* UI should support all the devices such as mobile, laptop, tab, etc.

### 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?*

* Have secured internet connection and antivirus is not required
* We are assuming that without creating an account would get access to LMS
* Having a valid user account for the user to login to the course
* Users can have an admin role to control the website.

### 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?*

* Access offline: User cannot connect to learning environment without any internet connection. The device which user want to connect with must have internet connection and can browse the website.
* Can access learning environment with any device.

### 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

Description automatically generated