# Module One Assignment – System Components and Design

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# CS 255 Business Requirements Document

## System Components and Design

### Purpose

* The client is DriverPass, and they are a new company trying to provide comprehensive driver training services for students preparing for DMV driving test.
* The purpose of this current project is to design and specify a system that can manage DiverPass’s operations, such as learning (online learning specifically), practice test, and scheduling in person driving lessons for the student.
* The system should allow all users at DriverPass to manage customer information, select different training packages, change scheduling, and track the user’s activity.
* The main proposed goal is for DriverPass to provide students with all the tools necessary to better prepare for their DMV driving exams, which are commonly failed.
* The system should allow administrators to access data both online and offline, for example, the ability to download certain information for offline work from the database.

### System Background

* DriverPass is attempting to solve a societal problem; there are high rates of failure for individuals taking their driving exams at the DMV.
* DriverPass is trying to fill this gap in current education by providing improved driver training to students by using online learning, practice exams, and on-the-road lessons alongside a trained instructor.
* DriverPass wants us to create a system that will manage all the aspects of this training service, making it accessible and efficient for company administration, employees, and their customers.
* According to the CEO’s requests, the system will need components for:
  + User management with different roles for different people (Permission system).
  + Customer registration and profile editing.
  + Training package management (Enabling and disabling packages)
  + An online learning platform with courses and practice tests.
  + A scheduling system for booking, managing, and tracking in person driving lessons, including matching a driver with a student for car rides.
  + Reporting capabilities (Student progress or activity for instance).
  + Secure data management, specifically payment/personal information (Secure cloud integration)
  + Integration of a notification system for DMV updates to alter the courses as the DMV requirements change.
* DriverPass explicitly wants a web-based application histed in the cloud to minimize their internal IT needs for maintenance, backup, and security. (Need to choose a cloud hosting service that can meet these needs)

### Objectives and Goals

* The system must provide a secure meaning of role-based login (IT officers, boss, driving instructor, secretaries, students).
* The system must allow the IT Officer to manage all the user’s accounts, including activities such as password resets or access revoking.
* The system must allow customers to manage their account including automated password reset.
* The system must manage different training packages (Such as packages 1,2, and 3, potentially more in the future), and allow administrators to activate and deactivate at will.
* The system must provide an online learning environment (only package 3 can access) containing all the course materials and practice tests
* The system has to track and display the student’s progress on online practice tests, showing all associated data (score, progress, status, time taken, name, etc.).
* The system must track driver’s notes and comments for each driving lesson, and notes should be available to both students and staff.
* The system logs a user’s actions of significance (reservation, changes, cancellation, etc.)
* The system must allow administrators (Liam specifically) to generate and view activity reports, as well as download said reports for offline working.
* The system must include a means by which the staff will be notified of an update in processes from the DMV.
* The system must be hosted in the cloud; security and backups are reliable and automated.
* The system has to have an interface equipped to handle all user needs for registration and display pages for test progress and driver notes as per the client’s sketch.

## 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?*

* [Insert text]

#### 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?*

* [Insert text]

#### 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?*

* [Insert text]

#### 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?*

* [Insert text]

#### 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?*

* [Insert text]

### 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.”*

* [Insert text]

### 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.)?*

* [Insert text]

### 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?*

* [Insert text]

### 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?*

* [Insert text]

### 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.*

[Insert chart]