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CS-255

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# CS 255 Business Requirements Document

## 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 DriverPass which is a company that teaches students how to drive, has approached us for a new project. The purpose of the project is to provide training online and practice test for the written part of the driver’s test and to offer students on-the 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?*

* The client has asked us to create a system that will provide online classes, and the ability to schedule on-the-road training (in-house or by the student).
* The system needs to be accessed anywhere using cloud-based technology so that data can be accessed online at any time.
* The system will need to collect data from students that will need to be protected by a security system.
* The system will have an option to buy packages for on-the-road training. Then take them to a screen to schedule the sessions with the system understanding how many sessions there are based on the package purchased. The client wants the ability to disable packages.
* The system will have a high-level scheduling system that can be tracked by the client.
* The system will be connected to the DMV to provide alerts for any updates to any changes to rules, policies, or sample questions.

### 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 system will have the following functions:
  + Online classes
  + Alerts from the DMV for new information
  + Student accounts
    - Accept user input for personal information(in-house or student)
    - Client provided a sketch for interface
    - Ability for student to reset passwords
  + Security for data
  + On-the-road training packages
    - The ability for company to disable or reenable packages
  + Scheduling
    - Ability for student to schedule based on package or modify schedule
    - Ability for company to schedule or modify schedule
    - Ability to monitor the schedule
  + Ability to print activity report
  + Cloud-base technology

## 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?*

* This system will be a web-base system that will run using cloud-based technology.
* Speed should not be an issue since cloud technology is being used. The cloud will scale to the needs of the client.
* The system should have regular security updates and will be update regularly as new features are introduced or bugs arise that need to be squashed.

#### 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?*

* This system will use windows to run on. This is because most people are most familiar with this Operating system.
* Since this system is using cloud technology, the cloud service will take care of all the back end needs to run this system such as data bases and servers.

#### 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 the ability to create a username and password. Each username will be unique to the user. The password will be case sensitive, require at least one uppercase letter and a special character.
* If there are any problems that the system detects the system admin should receive a notification via text or email.

#### 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 give the admin the ability to *(add/remove/modify)* users. There will be no need to mess around with the code. This is something that is already built into the window operating system.
* As the different platforms are updated, the system shall be updated and tested before rolling the update live.
* The admin will have full access to the system. The admin will have the ability to any changes that are already part of the system such as managing users, making changes to preprogramed packages, and general upkeep of the system. Any major changes like adding more packages to the system will require a programmer.

#### 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?*

* Along with each user having a unique username they will have a complex password. The password will be case sensitive, require at least one uppercase letter and a special character.
* The cloud service will be responsible for the data exchange between the client and the server. Most cloud services are top notch when it comes to security.
* In the case of a brute force attempt the system will deactivate the connection and the account related to the attack.
* After five failed login attempts the account will be locked.
* If a user forgets the username or their account is locked, they can reset their password. They will have to answer 3 security questions, then a link will be sent to their email address to reset their password and unlock their account.

### 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.
* The system shall allow access with any device.
* The system shall have different levels of users.
* The system shall allow user to make or change reservations.
* The system shall provide practice tests that are update with current laws from the dmv.
* The system shall users to purchase different packages.
* The system shall allow the admin to modify packages with preprogramed settings
* The system shall use cloud technology
* The system shall allow the users to see their progress

### 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 be a web based that will run on the cloud. This system will work on all devices and will automatically change its format base on the device being used. There will be a mobile and a desktop version.
* There will be three levels of users. The customer, employees, and admins.
* It will provide the customer the ability to manage their own account page, take online classes and tests.
* All Users will need to be able to make and change appointments.
* The employee will have the ability to make and change appointments, print reports, and manage the online courses
* Admins will have complete access.

### 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?*

* At no point was there a discussion about a budget so we are assuming that we will be able to build this system within budget.
* we are assuming we will have all the resources needed to complete this project.

### 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?*

* We have five months to complete this project with limited staff.
* No budget was given so this will be a limitation when one is proposed
* Since we are using cloud technology, we are limited to specifications provide by the cloud company.

### 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.*

