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# CS 255 Business Requirements Document

## System Components and Design

### Purpose

* This project will help DriverPass create an online system that can handle multiple options such as taking online classes and practice tests for students.
* DriverPass is a company that was created to help customers who struggle with passing their driving tests at the Department of Motor Vehicles and provide them with online and in-person assistance.

### System Background

* DriverPass wants to solve the void currently in the market for training students for their driving tests and provide an online system to organize and create more opportunities for customers.
* DriverPass wishes for their system to do multiple things: take online courses, provide practice tests, schedule appointments for in-person training, and collect information and additional data from registered students.
* There are additional components needed for DriverPass’ online system:
  + Access to users, but based on title/role:
    - Owner – full access to front and back end of system
    - IT officer – full access as an administrator to make changes to system when necessary
    - Secretary – access to customer’s information to schedule and/or cancel appointments
    - User/customer – limited access to only their personal information to log in and create and/or cancel appointments, as well as schedule online tests or in-person training
  + Setting up appointments via three packages offered
  + The ability to disable a package when reservations are full
  + Be able to display pick-up and drop-off locations
  + Must stay up to date with DMV compliances while training students

### Objectives and Goals

* The goals of DriverPass are focused on tasks that the company wishes to have completed within a five-month timeline.
* These goals can be achieved if we provide the following:
  + Having accessible data both online and offline
  + Choosing user access based on title or role in the company
  + Track when a user, specifically a customer, makes changes in the system
  + Make reservations online via their account
  + Track when a customer is out with a driver and car during training sessions
  + Customize driver packages offered
  + Ensure DriverPass is DMV compliant and stays updated
  + Create a learning management system for online tests
* The objectives, on the other hand, will focus on what systematic changes must be made to achieve the goals listed above.
* The objectives of the system are:
  + Creating a system that allows DriverPass to access data online from any computer or mobile device.
  + Ensuring that each member of DriverPass and customers are allowed specific access to the system based on their role or title.
  + Create a tracking system to ensure that when a user makes a change in the system or an issue arises, to print an activity report and find where the issue came from.
  + Create a reservation system or schedule for DriverPass to keep track of how many customers reserve a spot for driving lessons.
  + Creating a package system for customers to choose from:
    - Package One – Six hours with a trainer
    - Package Two – Eight hours with a trainer and in-person lesson with further lessons on the DMV rules and policies
    - Package Three – Twelve hours with a trainer and in-person lesson with lessons on DMV rules and policies as well as access to online classes with content and material (which includes practice tests)
    - DriverPass should also be able to disable packages when they want to restrict customer access.
  + For the package system and online tests, create an online learning management system to hold all lessons, materials, and tests.
  + Create a system that runs cloud-based, especially off the web.
  + Focus on creating the front-facing design based on DriverPass’ ideas which includes:
    - Logo
    - Online test progress section
    - Driver notes section (for drivers to input in the system)
    - Information on customer (name, address, phone number, email, etc)
    - A section for any special needs that need to be taken into consideration
    - A section for the driver and student photos

## Requirements

### Nonfunctional Requirements

#### Performance Requirements

* DriverPass’ environment will be run on a web-based cloud platform, as they have requested.
* The data should be accessible both online and offline.
* The focus is to be on the business side with minimal technical issues that may arise.
* The system should be fast enough to provide tests and updates for both DriverPass and customers.
* The system should be updated often, specifically a role for IT to ensure everything is running smoothly.

#### Platform Constraints

* Considering the system will be cloud-based, DriverPass’ system would perform best with AWS (Amazon Web Services) or Microsoft’s Azure.
  + Both platforms focus on cloud-based systems and providing easy and secure performance.
  + In addition to this, the system should be able to run on multiple platforms, such as Windows, Linux, and Mac. This allows for a wider range of customers to have access to the system.
* Since this is a website, there is a need for a database, specifically for the backend.
  + Both AWS and Azure provide database options to ensure the data is stored and protected (Simplilearn).

#### Accuracy and Precision

* The best way to distinguish amongst different users is by restricting specific access to user data. This would also include implementing a user type system to prevent certain users gaining full access to the system:
  + Owner: System will allow full admin access and inform owner of any system wide issues when they occur.
  + IT: Head of admin; will have access to all systems, especially when issues occur.
  + Secretary: Will only have access to customers’ information to make, change, or delete appointments.
  + Customers: Will only have access to their information when logging into the system.
* Inputs should be case-sensitive, specifically for users when entering usernames and passwords.

#### Adaptability

* Design and implement code that allows for changes to be made to the user.
  + Admins and secretary should have access and be able to add, remove, or modify a users’ information.
  + IT admin should have one of the highest accesses outside of owner to keep track of any system updates needed.
* System should be adaptable to platform updates, especially since we are on a cloud-based system.

#### Security

* For the user to log in, they will need a valid username and password.
* If a user forgets their password, a message should pop up on the screen that prompts user to go through the process of retrieving their password.
  + The user must enter an email that is already in the system to proceed to reset their password.
* If a user is trying to hack into the system, there should be security protocols in place to prevent attacks.
  + Cloud-based systems will have security in place to help prevent attacks, especially while utilizing platforms such as AWS or Azure (Simplilearn).

### Functional Requirements

* The system shall verify a users’ username and password.
* The system shall provide an online learning management system to take classes and practice tests.
* The system shall allow customers to create reservations.
* The system shall store user information pertaining to driver’s information (name, address, phone, etc.).
* The system shall keep track of any issues of problems that occur and inform the owner and IT admin.

### User Interface

* The interface will consist of seven main areas: logo, test progress, information, driver notes, special needs, driver photo, and student photo.
* The logo will be placed at the head of the system to display that it belongs to DriverPass.
* The online test progress section will show test customers have taken. This will also include:
  + Progress update
  + Completed list
  + Test name
  + Time taken
  + Score
  + Status
* Driver notes section should display a table that shows lesson time, start hour, end hour and driver comments.
* Special needs show any specific needs about user that will be taken into consideration.
* The driver and student photos are included to see which driver is assigned to which student while taking courses.
* The information section is for a student or secretary fills in their information to contact them for updates regarding their appointments or classes.

### Assumptions

* Users know how to navigate a website.
* User has access to the Internet.
* User has either a mobile device or computer to access system.

### Limitations

* The system will not function if there is no access to electricity or Internet.
* The system will not be accessible without a mobile device and/or computer.
* The system must be built with the five-month timeframe.

### Gantt Chart

**

**Reference**

Simplilearn. (2021, July 13). Top 7 Cloud Database in 2021: Transforming Cloud Computing. *Simplilearn.* <https://www.simplilearn.com/cloud-databases-across-the-globe-article>

Robinson, R. (2022, January 9). *CS 255 Business Requirements Document Template*. Module One.