**CS 255 DriverPass Business Requirements Document**

**System Components and Design**

**Purpose**

* There is large failure rate of students taking the DMV driver exam and there is a void in the market on preparing them for the exam. The purpose of this system design is to take advantage of market opportunity in preparing students to take the driving exam at their local DMV with an online website that offers classes

**System Background**

* The components required for this system is a computer, electricity, automobiles, and a office
* The system will provide 3 packages to the customer. Package one offers six hours in a car with a trainer. Package two offers eight hours in a car with a trainer and an in-person lesson for DMV rules and policies. Package three offers twelve hours in a car with a trainer, in-person lesson, and access to online class that has all content and material
* The system needs to have security in terms of user permissions, for instance: read, write, and delete of customer data. This would apply to customer and the employees
* The system needs to track changes like changes to reservations and cancellations from any person

**Objectives and Goals**

* The system will provide the user with the ability to:

**-** Login with a username and password

- Sign up as a student driver

- Select one of the available packages

- Pay for the package

- Make reservations after choosing one of the packages

- Change and cancel reservations if needed

* The system will provide DriverPass with the ability to:

- Disable packages if necessary

- Modify packages for individual clients (a future release consideration)

- download a report or spreadsheet

- administer employee access (reset password or block)

- track changes and who is responsible

- Receive update notification from the DMV

**Requirements**

**Nonfunctional Requirements**

* The system should handle a large volume of users if demand goes up: speed does not slow and the server can increase in size to handle more processing
* The system should be up 24/7 and the servers should be reliable so that it doesn't go down due to limitations, security, and flaws
* The system should be hosted on a cloud provider that supports prices for small businesses
* The business provides driving lessons, so the system needs a friendly user interface

**Performance Requirements**

* Given that the user will use the web-based application to register for packages, performance speed is not the top priority. The demand from the application is low also, as only the package registration is being processed
* Updates are to necessary on security feature updates and keeping the user interface modern. It should run on one time events instead of updates every month

**Platform Constraints**

* The system should be running on a cloud provider, so it's likely to be Unix
* The backend would have a database, so that the customer data like package purchase is stored, name, address, and phone

**Accuracy and Precision**

* The system should be able to distinguish between admins, employees, and the users. This is done through a security feature that allows data access to the respective person
* Everyone is identified by their login and password information. The password is case-sensitive in order for passwords to be complex
* One use case when an admin is notified is when account get locked after too many sign in attempts. Another use case is when an account needs to get deactivate due to employee leaving

**Adaptability**

* The system should be able to add, remove, and modify users without changing the code. The code should be able to handle the changes
* The platform will be Unix based due to the reliance of a cloud provider and the cloud provider handles the security aspect, so the web application will have minimal adaptation to platform updates
* An admin can have access to the company's cloud account, so it can manage different services at different time such as processing power. Admin should also have complete control of the web application like changing user roles or adding/removing users

**Security**

* The user needs a login username and password to login
* The web application should address and prevent SQL injection attack for the login username and password query
* The web application should enforce password attempt limits to prevent brute force attacks and consider optional multi-factor authentication
* The web application needs a forget password link that allows users to reset passwords. This helps admins focus more on other needed areas

**Functional Requirements**

* The system shall validate user login information when logging in
* The system shall track changes made by all users and employees
* The system shall offer different packages to the users
* The system shall implement a payment API to charge the user
* The system shall have a calendar for the user to make reservations
* The system shall have organized instructional lessons for the student drivers
* The system shall have assessments to test what student drivers’ have learned.

**User Interface**

* The interface should be user friendly for the users since the focus should be on passing a driving exam. For the employees, the user interface should include more features, but it should be a no code web application
* The user interface should be intuitive enough for a non-tech savvy user to be able to navigate the site and find the information they are looking for
* The user would use a browser. There is no current agenda to bring support to mobile and desktop applications

**Assumptions**

* The cloud provider will support the backend technology implemented
* The cloud provider will host the website 24/7
* The cloud provider will keep the application secured
* The users and employees aren't tech oriented except the admin
* The company will update the database with new login usernames and passwords since registration is done through customer service
* The company has budget for the cloud provider
* The company will know how to use a database
* The employees and admins are trained

**Limitations**

* The system doesn't consider days available/unavailable in the schedule
* The system will have to be manually updated if there are updates in the DMV
* The system doesn't offer custom packages to the user, only 3 standard packages
* The system has no online support such as chat agents
* The system has no registration support online

**Gantt Chart**

