CSS 255 Project One

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 is DriverPass and they want to create an online website to help people pass their driver's test.

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?

* DriverPass wants the system to help individuals prepare and pass their drivers test. They believe too many people are failing the test due to a lack of training sources.
* The components for this system and many and include parts such as
  + The website
  + Security
  + Order tracking and shipping
  + A notification system for both the customer and the business and many more

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 should function by itself with little maintenance occasionally.
* DriverPass wants the system to handle online testing and practice as well as scheduling drivers tests for customers. The system will sell different packages and allow driving teachers to grade and assist customers as needed. Creating an optimal plan to complete the layout and code of this project is going to be needed.

Requirements

Nonfunctional Requirements

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?

* The system needs to be able to run on multiple platforms to enable as many ways to practice driving as possible
* The system needs to be able to be accessed online to enable work at home as well as automatically updating based off of Microsoft and the DMVs changes.
* The system should be able to hand multiple users using the website at once

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?

* The website should be able to run on as many platforms as possible.
* The website would need a database to support it, DriverPass needs to store the users information and progress through their driving practice

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?

* The input should be case sensitive and store the users name in a database to ensure duplicates are not possible. This will allow the system to distinguish between users and give users a method to personalize their account. The system should notify the admin if any bugs occur in the naming process. The system shouldn’t be able to support duplicate names or, if the client wants, special characters.

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 admin should be able to modify user accounts to enable proper storage of data and the maintenance of the application. If the user wants to close their account or if they cancel their bundle the admin should be able to delete the account, or change it, to free up the memory for the website and other users.
* The system should automatically update to platform updates from Microsoft and or the DMV.
* The admin should be able to modify the users account based on the users needs but with limited access.

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?

* The user should be required to log in with their desired username and password.
* We can secure a stable and safe connection between the user and the server through encryption such as SSL.
* If there is a brute force hacking attempt the system should lock out the account after a number of failed attempts. This will stop the attack and inform the user so they can create a new password. The application will need rigorous firewalls and network security.
* If the user forgets their password they should have the option to reset the password but a form of verification/encryption should be put in place to ensure that it is the owner of the account requesting the reset. This can come in the form of a security question.

Function 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 . . .”.

* The system shall allow users to learn how to drive
* The system shall allow users to purchase DrivePass bundles
* The system shall allow users to schedule appointments
* The system shall host multiple users at once with no disruption to the application
* The system shall provide users with driver notes from driving teacher
* The system shall be protected with encryption

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 needs to be easy to follow and read but pleasing to the eye for the users involved
* Both the customer and business will need to be able to navigate and use the interface.
* Customers will need to be able to read online test progress
  + Set appointments
  + Purchase bundles
  + Review driving teacher notes
  + Practice online driving
* The business side will need to handle bundle purchases as well as the management of the website or user accounts in the need of emergency
* The interface should be accessible from as many different forms as possible such as mobile, desktop, or even consoles.

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?

* There are assumptions on how well the application will run with a large number of customers using the application at once and this will vary depending on the technology the client provides.
* Smaller details such as color scheme and design are not specifically declared.

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?

* Any system will be limited to some degree by every factor such as resources, time, budget, and technology.
* The project will be largely impacted by time and resources, how much the client can afford and how quickly they want the project completed. These factors are a huge factor in the development and will greatly affect the outcome of the quality.

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.

