**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 purpose of this project is to provide students an easier way to prepare for their driving test. They wnat to help reduce the number of students that fail their driving test. To do this, they want a system to help teach and prepare students by giving lessons and providing practice.

**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?*

* There currently are a lot of students that fail there driving test at the DMV. To fix this they will require a system that is able to teach these students and test them after. There will need to be a website where the students and teachers can connect. There will also need to be a database to store information.

**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?*

* When the system is done, it should be able to allow students to take lessons on driving and even test take tests to confirm their learnings.

**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?*

* The system will need to be run on a website so people from all over can use it. The system will need to be fast enough to keep up with multiple users at once. Rules for driving stay consistent, but the material used will need to be updated. This should not be too often however.

**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?*

* I believe that the system should run on Windows to allow ease of access to the instructors and students. This also allows for easy acess to a database where student and instructor information can be saved.

**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?*

* To distinguish different users, a username and password login will be required. The input should be case-sensitive to protect data. The system should report issues when they happen to the admin. This way the admin can prevent serious damage from being caused.

**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?*

* There should be a way to change user data without changing code if something is wrong. The system should be able to update quickly and retain all previously stored information. A backup system should be put in place to prevent data loss during updates. The IT admin will need admin permissions to access any type of data in the system.

**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 login requires a username and password that are created by the user. To secure the connection between the client and server, encryption will be used. This way only the client and server have the key needed to unpack the data and makes it useless to anyone without the key. If encryption is used, a brute force data attack will only give the attacker raw data without the key needed to interpret it. If the user forgets their password, there should be a system to allow the user to change their password after giving personal information that only they would know (ie. birthdate, highschool name, pet name, etc.).

**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 require a login
* The system shall validate user credentials
* The system shall display lessons based on the user's progress
* The system shall test the user after each lesson
* The system shall store information on a database
* The system shall make backups of the information incase of errors
* The system shall allow an admin access to all information
* The system shall encrypt information to prevent attackers
* The system shall have three account types: student, teacher, and admin

**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 display things like lessons, account information, tests, and it should show previous lessons and scores. The different users for this interface will be students, teachers, and admins. The students will need to be able to see the tests and lessons that they must work on. The teachers should see the students scores and be able to change lessons and tests. The admins should be able to see everything that the system uses. The users will need to be able to access the system from all types of devices. To start, the system should be created on a website accessible through the browser, but over time, it can be adapted to a mobile app if requested.

**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?*

* The assumptions I am making are that everyone has access to a device and the company has the budget for a database.

**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?*

* Depending on the server used, there will be a limited amount of users before it starts to buckle under the pressure. There is a time limit given which means this all must be done before that deadline. The server used completely depends on the budget. The teachers creating the courses also must have a device capable of running the website.

**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.*

