John Colon

**CS 255 Business Requirements Document Template**

**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?*

* Client: DriverPass
* The project's purpose is to provide a beter driver training through online corses, while using live instructions.
* Th problem we need to address is the need for a better driving training to increase the success rate due to the fact that more than 65% of people are failing thier driving tests at the DMV.

**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 offer appoinments for training sessions for online, in person sessions and live training sessions. They also want practice tests for users to be able to acess.
* DriverPass wants to also seek a solution to reducing the skill gap between the drivers to have more success than failures. The system will fillin the short failings for new drivers.
* The components the system will need is:

- Instructors

- Web-based distribution of courses, that allows users to see the information of courses, regulations of the DMV and able to make reservations. Allows the users to pick up courses, whether it is for an online test or public.

- System roles for Users, owners, instructors, and admins.

- Schedule appointments for driving lessons.

- 10 vehicles and information about them, 10 drivers and their info.

**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?*

* Users should be able to do:

1. create an account
2. select one of the three packages
3. make, cancel and edit testing reservation
4. View online material from any network connected device
5. reset password when needed
6. edit profile information
7. Take practice exams

* The System should be able to do:

1. track user progress
2. track user practice exam progress
3. store and allow modification of user contact information and profile

**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?*

* I would suggest using a Linux-based servers, to serve carious of browser clients due to the system being a web-based distributed system.
* This system needs to be performant as the application includes network's activities. This allows access to the current DMV-compliant testing, which being the material, practice or actual exam. This will be sending data to make reservations and/or updates of the user's information.
* The system needs to update the database layer anytime progress is made on exams, pratices, and changing of reservations.
* The system will allow the drivers to give feedback to the users from the drier lessons and tests.
* The system will also show reservation statuses when the user interacts with the course, tests or lessons.

**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?*

* Due to the system being web-based, it will need to be on Mac, Linux, and windows operating systems. This is because it is an agnostic platform. The browser development that needs to be concidered:

1. Chrome
2. Firefox
3. Safari
4. Edge

**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 System needs to have specific roles for each specific user, exp: User, admin, instructor, owner, etc.
* To keep these roles seperate, each account needs passwords and usernames, with an authenticator.
* A limit will be placed for specific roles to have access to specific sensitive information.

**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?*

* Users and staff should be able to create/add accounts to the system, where the system will have a class to allow this to happen.
* Users should be able to edit their profile information.
* Users should be allowed to enter requests.
* Admin, users and staff should be able to delete/remove accounts, tests, practices and course. Each one deleted/removed by specific roles.
* Updates should be able to modify the system, when agile scrum events allows.
* IT Admin role will have conrol over access to accounts, sensitive information, updating user info and former staff accounts.

**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 wu=ill need a username, password and authenticator number to access the system.
* For the user to be able to access the system safely, the network requests will be made through HTTPS. THis allows a secure communicatoin between the client and server system.
* When there is a brute force hacking attempt after 5 tries, the account will lock down the account's username. The system will send a message to an admin and the admin will send a message to the User that owns the username. They will begiven info on how to unlock their account, a warning of someone trying to access their account and how they will need to change their pasword.
* The password request will be handled by the user. This will use the matching/identifying a picture, answering a security question that the user setup and clicking a button to show they are not a robot and a reset link forwarded to the email the user setup.

**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 authentication and authorization to allow the user to log on.
* The system shall be web-based. If a user needs to have access offline, the user can download the data they need.
* The system shall track the user's activity. Which means it tracks their reservations, cancelations, any finished tasks, and modifications to their profile.
* The system shall provide detailed activity reports after a test, course or lesson is finished.
* The system shall list the three DriverPass course package types.
* The system shall allow users to create an account:

1. First, Last name
2. Address
3. Phone
4. Password

* The system shall allow users to reset their password.
* The system shall provide course, exam and practice progress and grades.
* The system shall display the instructor's feedback to the student User.
* The system shall allow exams, course and materials to be added, modified, and deleted
* The system shall allow users to contact instructors, secretary and admin users.
* The system shall have information that shows the DMV guidelines.

**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 different needs of the interface is access to a home page, account access/registration, course material, driver lessons, and testing material.
* The different users are Student user, Driver User, Staff User, and Admin user.
* The Student User would be able to do is:

1. access courses
2. add or cancel courses, tests, and driver lessons
3. access profile
4. create an account
5. download information for ofline access

* The Driver User would be able to do is:

1. access lessons
2. Give student feedback
3. create, modify and delete appointments

* Staff User would be able to do is:

1. Access lessons, tests, and minimal student information
2. create, modify and delete lessons
3. edit their own profile

* Admin user would be able to do is:

1. Create, modify and delete packages
2. Edit lower role's profiles
3. Access sensitive information

* Owner would be able to do is:

1. Full access to everthing on the system

* Web-based system, the interface will allow access through web browsers and mobile browsers.

**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 system will be accessable at any point of time any day. When the system needs an update, the page being worked on will give a notice of when it will be available when it is done.
* Users will have web access through Mac/Linux/Windows or iOS/Android. With iOS and Android, the system may need to be updated to allow access through mobile phone.
* Most Users will be young and already exposed to using technology to access our system. This means that our website will have more use opposed to them coming to the office or making phone calls to setup appointments. This this also means that they will use more of the online lessons due to busy life styles.
* DriverPass staff will have work equipment to allow them to access the system and interact with their clients.

**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?*

* The system is reliant on network connectivity and needs the user to have access to wifi. When wifi is unavailable, the users cannot interact with the system, not allowing creation, updating and deletion of anything on the system. This will not allow the users to download content, see their progress or reserve courses.
* Budget/Time is limited due to how the system needs to be able to be accessed soon. Due to using linux, it will be cost effient, which will lower the budget, but we will need developers that knows the system to be able to create the program. Time wise, we are on a deadline and need to ensure that the system is ready when finished.
* The cost of hardware and maintenance will have the budget go up. I would recommend using cloud-based database to allow DriverPass to save money for hiring staff for maintanance and lower the limitations of only using hardware.
* Due to needing the DMV guidelines made by DriverPass, if they do not have it prepared for us, the information could slow down the process of making a page for it.

**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.*

