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## 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 system needs to offer online practice tests along with actual driving lessons.
* Its the client looking for a way easier method to improve student training.
* DriverPass wants a system that can help students pass their driving tests.

### 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?*

* Many students don’t pass their driving test because they focus only on old exams. Which can cause an delay due to studying outdated exams.
* Wanting parts like online quizzes, user accounts and lesson plans. and progress tracking.
* DriverPass targets to fix this issue by handing it out to students with practice tests and real driving experience.

### 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 needs to have a lot of practice questions that are the equivalent to the actual test.
* Teachers and managers need to look at reports that show how well students are performing.
* Students should be able to register, take quiz/exams, and track all of their progress.
* The System should be very simple to work with, and very easy to understand and work great with.

## 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?*

* From a backend and front end point of view the system should work with the internet browser but able to be able to work on any both mobile phones and computers.
* The system must always be running and are receiving updates each month.
* Web Pages should be open fast; this should only be within seconds.

#### 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?*

* Should functionally work great with Windows, Mac, Androids and iphones using web browswer.
* On backend point of view with all this information, this needs a strong, secure and safe database that can keep information safe.

#### 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?*

* Users must maintain a unique passwords and usernames.
* Admins collect notifications when something isn't going right.
* The system ignores whether letters in usernames are uppercase or lowercase

#### 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?*

* It functions with updates for the web browser and all devices on the daily basis.
* Like Active Directory, IT staff can easily add or remove users without changing the whole program.
* Theres a dashboard that IT admin can manage user setting in that. For example, new hire, new role and even discharged everyone has different access. From contract to Vice president can access each roles using the dashboard.

#### 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?*

* Users need to sign in using a password.
* After trying to log in incorrectly after 5 times the Accounts lock.
* Resetting password can reset by the user email.
* The system uses secure connections known as HTTPS.

### 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.”*

* Students can sign up and make a profile.
* Users provide their details to log in, and it goes through verification.
* They can take practice tests to help with their understanding and grades.
* Booking driving lessons online can seem to be way easier and faster.
* As they develop, their scores and accomplishments are tracked.
* Reminders are sent for lesson times and test dates.
* Teachers and managers can keep an eye on how students are doing.

### 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.)?*

* You can access it on your phone or computer using a browser.
* Managers can review reports and keep track of everything that’s happening.
* The users include students, teachers, administrators, and managers.
* Students can take practice tests, monitor their progress, and arrange lessons.
* Teachers can organize their schedules and provide feedback to students.
* Administrators manage user accounts and system settings.

### 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 DriverPass IT team will provide support the system.
* Teachers and admins have tools to access the system.
* Users have internet access and know how to use the computer.

### 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 first version will focus on the most important features.
* Building up all the practice questions can take up sometime.
* Specific cool features like video lessons might not fit in the financial plan right now.
* A stable internet connection is well needed to use the system without any issues in th way.

### 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.*

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