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CS-255  
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Assignment 1

## System Components and Design

### Purpose

DriverPass, a company that helps prospective drivers pass their written and functional driving tests, would like a system build to help with this effort.

### System Background

DriverPass has identified the problem that many people fail their written and/or driving test when attempting to get their license at the DMV. They believe that there is a void in the market for proper training to enable people to be prepared to successfully take these tests. They would like to develop a system and a platform that has multiple tools to help fill this void.

### Objectives and Goals

Upon completion, the system needs to be able to do the following:

* Provide users with training and practice tests to be able to pass the written portion of their testing at the DMV
* Allow users to schedule driving time with one of their trainers
* Keep track of which trainer is scheduled to go out with each user during their appointment
* Be accessed from anywhere (cloud-based)
* Have multiple tiers of user roles and responsibilities
* Ability to keep track of the driving training schedule
* Let users pick from multiple training packages
* Allow training packages to be disabled once they are full
* Push updates whenever the DMV has updated their information so DriverPass can stay up to date with the latest rules and regulations
* Keep track of user information
* Keep track of user training history

## Requirements

### Nonfunctional Requirements

#### Performance Requirements

* Needs to be cloud-based to system can be accessed from anywhere
* Needs to work on PC’s, tablets, and cell phones
* Needs to track and record all database changes

#### Platform Constraints

* Needs access to database to store and access data
* Nees to be cross-platform – Windows, Unix, etc

#### Accuracy and Precision

* User accesses their information through password protected entry
* Inputs are case-sensitive
* Data management handled by cloud provider

#### Adaptability

* Admin users need the ability to grant or limit access to other users
* Would like training packages to be added or removed without developer assistance in a future release – this will not be done in the initial release
* Packages need to be able to be disabled from the system
* System needs to be scalable and flexible for future changes

#### Security

* Multiple security levels:
  + Full access – able to access all accounts and reset them if someone forgets password. Also need to be able to limit or grant access to others. Can modify most aspects of the system.
  + User access – ability to set appoints for customers
  + Customer access – ability to make appointments for themselves only. Also should be able to cancel and modify appointments.
* Customer information and all other sensitive data must be kept secure from data breeches
* User has ability to reset their own password if forgotten
* Security handled mostly by cloud platform

### Functional Requirements

* Ability to print various reports in multiple formats – Excel, PDF, CSV, etc.
* Need to be able to make reservations for driving lessons.
* Need to be able to identify the driver the customer is scheduled to go out with, which car they are using, and the time they are scheduled
* Has the ability to allow customers to sign up for various packages:
  + Package One – Six hours in a car with a trainer
  + Package Two – Eight hours in car with trainer and an in-person class
  + Package Three – Twelve hours in car with trainer, in-person class, and access to online class and online practice tests
* Learning management system built in that has online courses and practice tests
* Ability to store basic customer information
* Ability to set pick-up and drop-off locations
* Connected to DMV so they can notify latest updates

### User Interface

* UI should contain the following components:
  + Online test progress
  + Basic user information
  + Driver notes
  + Special needs
  + Driver photo
  + Student photo
* Students and teachers both need access to the UI
  + Students need to be able to:
    - Update personal information
    - Schedule, modify, or delete appointments
    - Sign up or drop packages
    - Access all other information
  + Teachers need to be able to:
    - Access all information
    - Add notes
* Driver notes should have the following attributes:
  + Lesson Time
  + Start Hour
  + End Hour
  + Driver Comments
* Contact information page(s)

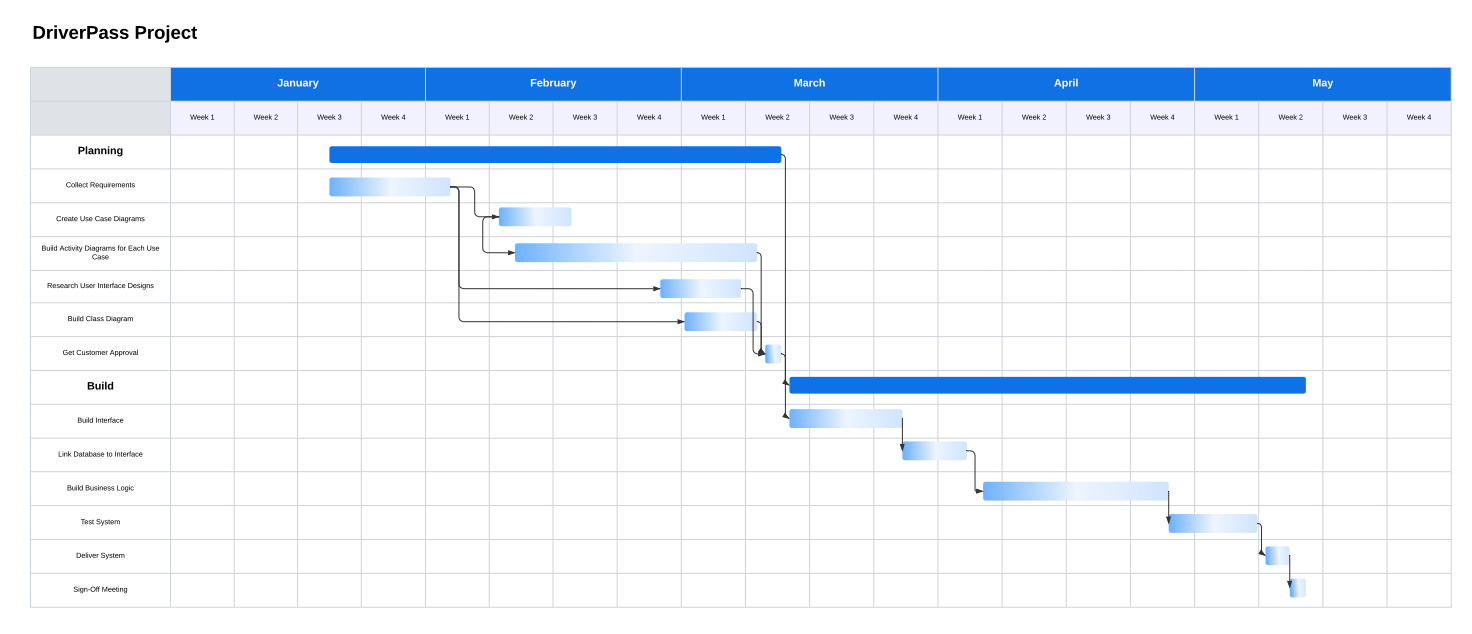
### Assumptions

* System will not be used for payments
* System will not be used for fleet management

### Limitations

* Must stay within customer-defined budget
* Must establish timeline with customer

### Gantt Chart

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