# DriverPass Business Requirements

## 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?*

* Our client, DriverPass, would like to build a driver training system
* The system would be available to it’s customers
* Customers would be able to take online classes
* Customers would be able to utilize practice tests
* Customers have the option for on-the-road training
* The goal is to help drivers who need better training before taking their drivers 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 aims to get more people to pass the driver test
* They would like to provide training material and practice tests
* They would like to be able to make reservations for driving lessons
* They would like to be able to pick from the packages available for driving lessons
* Security will need to be a priority for customer’s sensitive 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?*

* Be able to keep track of the drivers and cars
* Know which cars, drivers, and students are paired together
* Be able to make, cancel, and modify appointments
* Allow admins to pull information, to work with it offline

### 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?*

* Environments
  + Web Portal
  + Mobile application
* Web portal performance
  + Full features
  + Runs moderately quick
  + Up-to-date data
  + 99.9% uptime
* Mobile Application Performance
  + Moderate feature access
    - Access to training materials
    - Access to scheduling systems to make reservations and see upcoming schedules for in-person driver training
    - Have grades available for review
    - Review next steps in training course
  + Fast speeds
  + Up-to-date data

#### 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?*

* Web-based constraints
  + Screen size
  + Computer performance
  + Browser differences
  + Not all users will have up-to-date browsers
  + Mobile webpage constraints
    - Small screen
    - Big navigation buttons
    - Organized and prioritized data
* Mobile application constraints
  + Small screen
  + Succinct navigation and data
  + Prioritized data/display
  + No access to practice tests (in order to maintain control in one location, webpage)
* System support systems
  + A database will be needed to support and unify the mobile and web-based systems
  + The web platform will be the source of truth, API’s will be needed for the mobile application to gather accurate data from the web and it’s database systems

#### 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?*

* Each user will create a user id and password that can be setup by the user
* Each user will be assigned an id number after account creation
* Passwords will use a strength tool and will require lower case letter, upper case letters, at least one symbol and one number
* User id will not be case sensitive and will default to lower case
* Password is case sensitive
* Robot tests will be administered upon account creation
* Failure of robot tests will be accumulated over the course of a week and sent to administrators
* If there are account creation errors, users will be informed of contact information for customer service to help resolve issues
* If there is an issue with reservation scheduling, users will be informed of contact information for customer service to help resolve issues
* System down notifications will be sent to administrators
* Connection issues will be sent to administrators

#### 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 admin needs full privileges to add, remove, or modify users, reservations, training programs and plans, and billing information per the interview transcript
* Users will be setup so that they can be easily added, removed, and modified
* Addition, removal, and modification will be able to be handled dynamically without changing any code using objects, functions, and classes
* Platform updates (mobile software and browser updates) usually allow for backwards capabilities. This means that software that worked on prior versions typically works with newer updates.
  + Testing with beta versions of browsers and mobile software systems will have to be done to ensure adaptability
* Users will have access to add, remove, and modify their own user account
* Users will not have access to add, remove, or modify accounts outside of their own.

#### 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?*

* User information (including user id) will be accessed using encrypted data to ensure security of user accounts.
* Passwords and user ids will use SHA-1 encryption, or the current standard.
* If users forget their password there will be a “Forgot Password?” option for users to reset it
* If users forget their user id there will be a “Forgot User?” option to help users retrieve it
* Brute force attacks will be thwarted by minimizing the amount of login attempts to 5 before starting a timer that locks users out of their accounts.
* If users get locked out of their account permanently there will be a customer service number that they will be able to contact in order begin attempts to retrieve their password

### 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 validate user credentials when logging in.
* The system shall store driver’s information.
* The system shall be able to make, cancel, and modify appointments.
* The system shall allow administrators to add, delete, and modify users.
* The system shall allow users to add, delete, and modify their own user information.
* The system shall allow administrators to update and turn off individual packages.
* The system shall allow for data to be downloaded for offline use by administrators.
* The system shall provide training materials for customers to review.
* The system shall provide practice tests for customers.
* The system shall provide grades for users from the accumulation of practice tests and assessments.

### 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 web interface needs to display the dashboard supplied by DriverPass
  + Test progress
  + User information
  + Driver notes
  + Special needs
  + Student photo
  + Driver photo
* Link for reservations
* Link for tests
* Link for training materials
* The mobile interface needs to display the same dashboard but should not include a link for testing.
  + Test progress will still be shown on the mobile dashboard
* The primary user of the dashboard will be DriverPass customers/students
* There will be administrative users for DriverPass that will need to have access to add, remove, and modify users, reservations, packages, billing, and appointments.
  + Admin systems will only be accessible via the web portal

### 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?*

* Users interested in DriverPass have access to the internet.
* Customers are looking for additional training to help pass the driver’s license exam.
* There will be enough interest to keep our drivers employed.
* The scope of this project will not grow over time
* Users will want a mobile application to help them study and track progress
* DMV will keep their curriculum updated

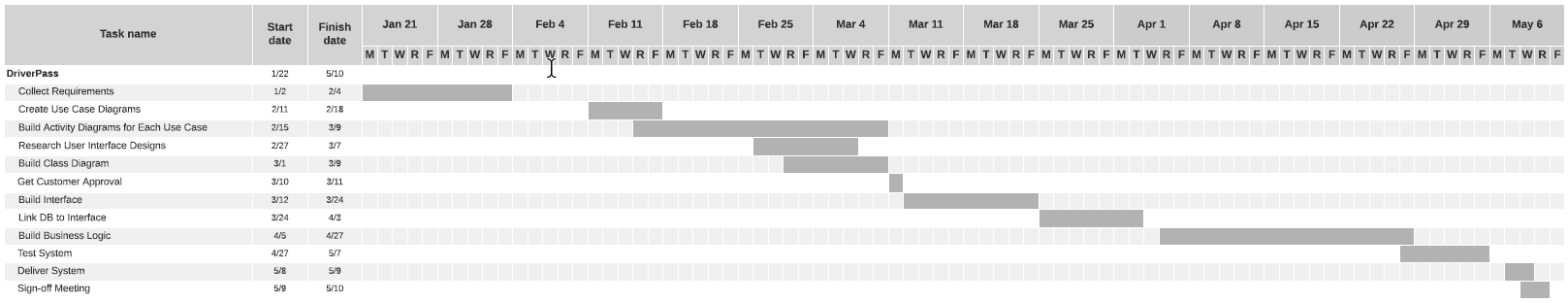
### Limitations

*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 mobile application will not include the practice tests
  + Potential for future development
* No dedicated PC software

### 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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