# CS 255 Business Requirements Document Pieri

## 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?*

* Driverpass is the client of this project.
* The project is to produce a system in which Driverpass employees and customers can update, modify, and view information related to driver training as well as schedule on-the-road training.
* Driverpass employees should be able to input customer information as well as schedule training, tests, and drive times for those customers.
* Customers should also be able to reset their passwords and schedule appointments for training, tests, and drive times.

### 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 is currently inadequate training available to potential drivers who wish to take driving tests with the Department of Motor Vehicles.
* Driverpass, a future training hub for these future drivers, wishes to create a system in which they can better prepare these customers by creating an access point for online training, tests, and road practice that these clients can utilize.
* The system should include components for the ability to take tests online, schedule on-the-road driver training, update customer information, pull reports, view driver comments, view test statuses, and purchase training packages.

### 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 should be able to provide the customer with access to online tests that can be completed, graded, and reviewed.
* Driverpass should be able to export reports about customer statuses to pull reports offline, while information can only be modified while online.
* Differing access levels to information should be included to provide access control.
* The customer should be able to select one of the available training packages and purchase them.
* Driverpass should be able to disable specific packages when they are no longer available.
* The system will be comprised of a web page that has sections for online test progress, customer information, training driver’s notes, customer needs, driver photo, and student photo.
  + The online test progress section should include a list of test names along with the time they have taken the score and the status. This status should include the options “not taken”, “in progress”, “failed”, and “passed”.
  + The driver notes section should contain a list of any comments that the driving instructor has left as well as the times for the lessons. The format should be a table including “Lesson Time”, “Start Hour”, “End Hour”, and “Driver Comments”.
* There should be an input form in which the student or secretary can fill out customer info such as first name, last name, address, etc.
* There should also be an area to contact either the company or the student.

## Requirements

### 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?*

* The Driverpass system should be web-based to allow for compatibility with most common internet browsers.
* The system should run seamlessly to the end user, allowing for numerous concurrent accesses to the system at any given time.
* The system should be updated as new driving requirements are released by driving regulation agencies and as vulnerabilities are identified. Monthly is a good standard interval for updates.

#### 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?*

* The system should perform seamlessly on any Windows, MacOS, Linux, Android, and iOS device with access to a web browser.
* There needs to be a database to store user accounts and status information. Because it will be an all-online application aside from exporting reports, there will need to be a cloud database service for storage.

#### 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?*

* There should be separate accounts for each user. This account will be linked to their email address, as well as utilize case-sensitive password requirements.
* The system should inform the administration team of any problems as soon as they arise to ensure that there is as little downtime as possible within their service.

#### 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?*

* Changes to users should be done without the need to change any code. Features will be available to add, modify, and remove and user-specific information within the system’s graphical user interface.
* As platform updates are requested, they will be implemented after thorough testing. When DriverPass requests these features, implementation will begin.
* The IT administration team needs full access to the system to ensure any urgent modifications are easily completed. When they are informed of bugs or security breaches, they need access to correct the issues.

#### 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?*

* For a user to log in, they must provide a valid username and password, and the password shall be case-sensitive.
* If the user is unable to successfully enter their credentials a predetermined number of times, their account should be locked. This should prevent any “brute force” attacks.
* An administrator should be able to unlock the account if proper information is provided.
* If a user’s password is forgotten, they should be able to select “forgot username/password” within the login procedure to have some process initiated. This could be an authentication email to reset the password along with a list of security questions for the user to answer.

### 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 ensure the username and password provided from the login attempt are correct. If they are incorrect, the system shall not allow access to that username’s information.
* The system shall confirm driver registrations for both online and on-the-road training. This can be done by the user or the administration team.
* The system shall allow access to practice exams for the users.
* The system shall allow modification by the user or administration team to their personal information.
* The system shall provide user’s and driver’s information about who they are being paired with, what time the training is scheduled for, and what vehicle they will be assigned.
* The system shall provide grading to the user and administrators based on their scores on their tests.
* The system shall show the status of any tests or trainings they are assigned.

### 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 be intuitive for anyone to use.
* The different users of the applications are students, drivers, faculty users, and IT administration.
* Students need to be able to schedule or take any classes, trainings, or tests using the interface. They should also be able to update their personal information and see who they will be assigned with for on-the-road training.
* Drivers should be able to see who they are paired with for training. They should also be able to add notes to the student’s scheduled training.
* Faculty users should be able to assist students in modifying their personal information and scheduling classes, training, or tests for the student. They should also be able to assign drivers to students for on-the-road training.
* IT administration should be able to troubleshoot any problems within the system using the interface. They should also be able to pull reports for analytics.

### 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?*

* It is assumed that all users of the application have access to a device with an updated web browser.
* It is also assumed that the users have internet access to utilize the system.

### 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?*

* There is a limited timeline for the project.
* This limited timeline also comes with a limited budget.
* There is a limited manpower for the project, specifically the size of our development team.
* There will be security risks for allowing access to the system using outdated web services. This will cause a limitation in technology usability.

### Gantt Chart

A graph of a driver pass gantt chart

Description automatically generated