# CS 255 Business Requirements Document Template

## System Components and Design

### Purpose

* DriverPass is a company that wishes to help train students for their driving test. Their purpose is to provide training for customers by having access to online classes, practice tests, and on-the-road training.

### System Background

* DriverPass noticed a void in the market for training individuals to pass their driving test. While many students pass their written exam, many fail the driving test. A web-based system is to be created to manage and give access to information to help customers. Users, as well as the client’s staff, will have access to the system online via a cloud server so data can be accessed anywhere at any time. Students can take practice exams as well as schedule driving instructors to assist them in on-the-road training.

### Objectives and Goals

* This system is to help students study for the written exam as well as schedule appointments for on-the-road training. Three packages will be available. Package One will be six hours in a car with a trainer, two will be eight hours in a car with a trainer and an in-person lesson where they explain the DMV rules and policies, and the Third package will be the same as package two with added access to their online class with all the current content and material provided by the DMV, including practice tests. Users must be able to schedule, alter or cancel appointments. User interface should show tests progresses (such as test in progress, failed, or passed), information of the student (contact information), and notes left by driving instructor. The system itself should be able to be updated with the most current information from the DMV in order to stay current.

## Requirements

### Nonfunctional Requirements

#### Performance Requirements

* This system needs to be a web-based system in order to run, i.e., Cloud based.
* Considering student tests may require a time limit, speed is important. The system should run as fast as possible since information will be transferred between the client and the server constantly.
* The system should be updated frequently to keep security up to date, to ensure that all information from DMV is current, and to fix any bugs within the system.

#### Platform Constraints

* Since Liam wishes to use the system offline and excessed anywhere using Excel, Windows Servers is recommended.
* The Server end will require multiple databases to store customer information as well as DMV information.
* Back-end security is available with Windows Servers.
* Back-end access to the system for administrators and maintenance is required to fix bugs and update the system.

#### Accuracy and Precision

* User IDs, created by the users, will distinguish between different users. User IDs should be case sensitive, 8 characters long and include a number. Users can also use email with @server.com address for user ID using two-step authorization.
* Two-step authorization will be used for security purposes for non-email user IDs with phone number or email.
* The system will inform the admin if an account has failed login after five attempts, or any bugs within the system notified by users.
* If unauthorized access to databases is requested, the admin will be alerted.

#### Adaptability

* Ian, and all other IT members, will have full access to and control of the system.
* Changes to the user can be performed without changing code. Users, as well as IT and administration, can add, remove, or edit users’ profiles. However, only users can modify their personal information.
* In order to adapt to platform updates, scheduled maintenance times will be announced to inform users of when the servers will be down or inaccessible. For users what are currently logged in to the system when maintenance begins, a notification will alert them.
* Severs will only be down for a maximum of two hours at a time of slowest traffic of users, such as 2am to 4am.

#### Security

* Valid user ID and password will be required for the user to log in. If the user does not have an account, the ability to create one will be available.
* Two-step authorization is available upon users request during account set up.
* The security measures on Windows Server will ensure a secure connection between the client and server. Two-step authorization and captcha requirements will also be implemented.
* If a “brute force” hacking is attempted, the administrator will be alerted after five failed attempts to log into an account. A timer will be started, and the attempted account will be locked for up to 24 hours. A notification alerting the user that the account will be locked out after five failed attempts will be displayed after three failed attempts.
* To prevent brute force hacking and premature lockouts of accounts, passwords are to be created with a minimum of 8 characters in length, one number, one uppercase letter, and one special character (!, #, $, %, &, or \*) will be required.
* If a user forgets their password, users can enter their email address associated with their account, along with passing a captcha verification, to reset their password. An email will be sent to reset their password along with a two-step authorization to gain access to their account.

### Functional Requirements

* The system shall validate user credentials when logging in.
* The system shall be available online with some course materials available offline.
* The system shall be fast, efficient and secure.
* The system shall show user information (first name, last name, address, …etc.).
* The system shall display three driving plans designed to clients’ specifications.
* The system shall have the availability to make reservations between users and drivers.
* The system shall have accurate practice tests provided by the DMV.
* The system shall show users progress with tests (not taken, in progress, failed, or passed).
* The system shall be updatable in order to stay current with DMV information.
* The system shall show driver notes (lesson time, start hour, end hour, driver comments).

### User Interface

* The interface will be web based over the cloud.
* The interface will have a “main” profile page linking to other pages (user information, online test progress, …etc.).
* The interface will have the ability to contact the client or the driving instructor, respectively the client or driving instructor will have the ability to contact the user.
* The different users for this interface will be the users (students), administrators, and IT.
* The users will be able to create or edit their account, make reservations with drivers, contact DriverPass or the driver assigned to them, take tests and quizzes, and access information provided by the DMV.
* The administrator will be able to delete, modify, or delete accounts, contact user or drivers, maintain schedule of drivers, tracking of reservations, and temporarily disable packages.
* The user can interact with the interface via a web browser. This gives the user the ability to use a desktop or mobile device to gain access.

### Assumptions

* One aspect not addressed in the design is the budget. Windows servers come at a price, depending on the amount of data to be stored on their servers. Also new departments such as developers and technical support need to be created.
* One assumption being made in the design is that every user will have internet access. While appointments for driving courses can be made by phone, access to tests and DMV information will be accessed strictly online, with the ability to save to their device for offline access.

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### Limitations

* One requirement of the client is the ability to alter driver packages. A developer will be needed to add, edit or remove modules in future builds.
* Since the deployment is set to be in a few months, time is a limitation. Before building the interface can take place, customer approval is required. If altercations are to be made, this can offset the schedule for the delivery date.
* As stated before, a budget was never discussed and thus can be a limitation.
* The technology being used is something that most have access to, a web browser. Training may be required for employees of the client to be able to navigate the interface efficiently.
* While accessing the interface via a web browser is easy and effective, internet access can be a limitation since the system is only accessed through an internet connection.

### Gantt Chart

A screenshot of a white board

Description automatically generated