# CS 255 Business Requirements Document Template

## System Components and Design

### Purpose

DriverPass would like a system designed for the purpose of allowing users to access learning content as well as schedule driving lessons.

### System Background

DriverPass has noticed that many people fail their DMV drivers test, to the point where it is almost a common occurrence. They would like to solve this problem by providing an easy to use, learning program and test administering service to the market.

### Objectives and Goals

* Collect Requirements
* Create Use Case Diagrams
* Build Activity Diagrams for Each Use Case
* Research User Interface Designs
* Build Class Diagram
* Build Interface
* Link DB to Interface
* Build Business Logic
* Test System
* Deliver System

## Requirements

### Nonfunctional Requirements

* Security

User authentication.

Protecting sensitive user data like banking information.

User “clearance” restrictions to certain data.

* Accessibility

Administrators can download reports to work offline.

* Interoperability

System can communicate with as many different devices as possible.

* Performance

The system and database should be up to date instantly in order to prevent double scheduling of one time slot.

#### Performance Requirements

* Web-based

The system should be web-based as to increase interoperability as well as ease of production.

* Instantaneous database updates

The system should write to the database as soon as users submit new information. This way, the system is *always* up to date.

* Functionally optimized

On the user side, the system performance has no need to be as fast as possible. The system should be as optimized as possible to meet all requirements, but no excess time should be spent on optimization.

#### Platform Constraints

The platform should be run in windows. DriverPass indicated the use of Microsoft Excel, the use of windows as a system platform will work well for DriverPass’ needs. Additionally, compatibility with Microsoft Azure for database management will help with exporting database information to Excel files.

#### Accuracy and Precision

* Users have different credentials

Depending on the account logged in, a user will have access to different things.

Base users will have access to the usual scheduling, tests, etc.

Technician accounts will be able to access the same things as the base user for testing purposes as well as update and edit the system.

Administrator accounts will have all previous access as well as access to the database containing sensitive user information.

* Input validation

System must validate all input as to prevent security breaches. The system should also notify the administrator when any suspicious activity is detected.

#### Adaptability

* User Information updates

User information can be updated by the user account owner, administrator, and IT administrator. The secretary user type can update any user’s scheduling data.

* IT admin has access to debug information

#### Security

* Password protection

User accounts will be password protected.

* Optional two factor authentication

Users will have the option to activate 2FA for their account.

* Input validation
* Database requests are made automatically

Users without the proper credentials cannot make database requests. Only their personal information will be requested automatically.

* Password recovery

Users who forget their password can regain access to their account by proving their identity though registered email and 2FA method if applicable.

* Account freezing

If suspicious activity is detected, the administrator should be notified to review the activity. If the activity detected is serious enough, the system may automatically freeze the account.

### Functional Requirements

* Authentication

The system validates user credentials when logging in.

* Authorization Levels

The system only shows information relative to the user. In the case of administrator accounts, the user can access any information on the database. In the case of the secretary account, the user can access any user’s scheduling data.

* Audit Tracking

Any time a user completes an action such as completing a practice test, or scheduling a driving lesson, the system keeps a record of this action in the database in connection with their account. The system also stores transaction confirmation receipts for each payment transaction from a user.

* Transactions

A user transaction can be changed or cancelled any time before the service paid for is utilized.

* Administrative functions
  + Main Administrator

Access any database information.

Make changes to any user’s information.

Implement changes to system functionality (updates, etc.)

Freeze/unfreeze user accounts.

View debug/analytical information about the system.

* + IT Administrator

Access any non-sensitive database information.

Make changes to any user’s information.

Implement changes to system functionality (updates, etc.)

View debug/analytical information about the system.

* + Secretary Account

Make changes to user’s scheduling data.

### User Interface

The user interface of the main user page DriverPass described in the interview is separated by sections. The sections are:

* Online test progress section

Lists the tests a user has completed, the grade they received, when they completed the test.

Lists the tests a user is in progress of taking, the percent completion.

* User information section

Lists users name, contact information, mailing address.

* Driver notes section

Lists driving lesson dates, times, notes from instructor.

* Additional information section

User photo, instructor photo, and user’s special needs

The user will also be able to navigate to a lesson scheduling form where they can schedule their next driving lesson.

Another page the user can navigate to is the contact page where they can contact customer support services.

The web-based system should also be able to detect when the user is accessing the system on a mobile device and adjust the formatting of the user interface to properly fit a mobile screen.

### Assumptions

* Users are connected to the system via the internet
* All users are registered to the system
* The system database is always accessible
* Data is always saved to the database correctly

### 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?*

* Third party reliance

The system will have to rely on a third-party database to function.

* Server capacity

The system may experience slowing when many users access the system at once.

* Compatibility with older systems

Users with older devices may experience issues or not be able to access the system at all

### Gantt Chart

Graphical user interface, application, table

Description automatically generated