# CS 255 Business Requirements Document

## System Components and Design

### Purpose

* DriverPass is a company that strives to improve the driver training experience by offering a unique blend of online and in-person resources to assist individuals in preparing for driving exams.
* DriverPass wants the system to be capable of managing lesson schedules and tracking users' progress and test readiness.
* Our goal is to create a system that does not only meet DriverPass's operational requirements but also aligns with their goal of improving the driver education experience.

### System Background

* DriverPass seeks to provide an affordable alternative to traditional driving schools with flexible options that are suitable for a wide range of users.
* DriverPass strives to improve test pass rates by facilitating more structured and accessible preparation for users.
* DriverPass seeks to create a user-friendly interface that enables users to easily navigate study materials, track their progress, and schedule driver instruction and practice tests.

### Objectives and Goals

* The system must enable users to create accounts, manage their personal information, and secure their data with authentication.
* The system must ensure secure payment processing through credit card or digital wallet.
* The system should enable users to schedule, reschedule, and cancel driving lessons utilizing a user-friendly interface.
* The system should offer study materials, practice tests, and tips to help users prepare for the driving test.
* The system should track user progress, including completed lessons, areas of improvement, and readiness for the driving test.
* The system should send notifications and reminders of upcoming lessons, cancellations, and payment due dates via email or SMS.
* The system should provide reports for both instructors and students, containing information such as lesson history and test results.

## Requirements

### Nonfunctional Requirements

#### Performance Requirements

* The system must process user interactions with response times under 3 seconds, even during peak usage periods.
* The system should support up to 1,000 users with no degradation in performance.
* The system should be updated regularly to ensure compliance with changing state driving regulations.

#### Platform Constraints

* The system should be accessible via web browsers (e.g., Chrome, Firefox, Safari, Edge). This ensures wide accessibility for students, instructors, and administrators.
* A relational database such as MySQL should be utilized to store data, such as user accounts, progress reports, and driving lesson schedules.
* A RESTful API should be used for interaction between front-end and back-end systems.

#### Accuracy and Precision

* Students shall access online practice exams, schedule and track on-the-road training, and view their test scores and progress reports.
* Administrators shall oversee system operations and manage content updates.
* Usernames and passwords must be case-sensitive for enhanced security.
* The system must be notified in the event of server unavailability or failure to connect to databases or services.

#### Adaptability

* A modular design shall be implemented to separate system components such as user interface, administrator access, and databases.
* The system shall schedule updates during low-usage periods to minimize interruption.
* IT administrators need specialized access to ensure smooth operation, system security, and effective troubleshooting.

#### Security

* A unique username and password will be required for users access the system.
* A one-time passcode shall be sent via email or SMS for enhanced security.
* The system must temporarily lock an account after 5 failed login attempts and notify the administrator.

### Functional Requirements

* The system shall validate user credentials when logging in.
* The system shall allow users to create an account with a unique email and secure password.
* The system shall lock accounts temporarily after multiple failed login attempts to prevent brute-force attacks.
* The system shall provide access to online practice exams for registered users.
* The system shall track and store users' progress and results for practice exams.
* The system shall enable users to schedule, reschedule, or cancel on-the-road training sessions.
* The system shall securely process payments for services.
* The system shall be accessible via web browsers and mobile devices.
* The system shall send reminders to users about upcoming training sessions and exam deadlines.

### User Interface

* Students shall manage their account, access practice exams, view scores and receive feedback on completed exams, and schedule training sessions.
* Administrators shall upload, update, or remove practice exam materials, access detailed insights into student performance, and modify, edit, or deactivate user accounts.

### Assumptions

* Students have basic digital literacy and can navigate web browsers or mobile apps.
* Administrators have the technical skills required to manage content and users via an admin dashboard.
* Users are equipped with modern devices capable of running current web browsers (e.g., Chrome, Safari, Firefox).
* Users have reliable internet access, with a fallback for occasional connectivity issues not being considered critical.

### Limitations

* The system may struggle with high traffic during peak times, such as before driving test seasons.
* While encryption and authentication are included, cyber threats evolve quickly, potentially revealing vulnerabilities.
* Limited time may force the team to prioritize certain features, leaving less-critical ones for later phases.
* Implementing a scalable, secure system (e.g., cloud hosting, backups, and monitoring tools) can be expensive.

### Gantt Chart

A screenshot of a gantt chart

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