# CS 255 Business Requirements Document Template

## System Components and Design

### Purpose

* The project aims to develop an online driver training system for DriverPass.
* DriverPass wants to help students pass their DMV driving tests through online practice exams and on-the-road training.
* The system should allow students to:
  + Register for training programs and create accounts.
  + Book, modify, and cancel driving lessons.
  + Take online practice exams and track progress.
  + Stay updated with DMV rule changes.
* Administrators should be able to:
  + Manage student accounts and lesson schedules.
  + Assign instructors and track student progress.
  + Ensure system security and user data protection.

### System Background

* Many students fail their DMV driving tests due to lack of preparation.
* DriverPass wants a web-based system that provides:
  + Online practice exams to help with the written test.
  + Driving lesson reservations with instructors.
  + Tracking features for student progress and scheduling.
* The system should include:
  + User roles (Students, Trainers, Administrators).
  + A scheduling module for lesson bookings.
  + An exam module for practice tests and results tracking.
  + A reporting system to log progress and reservations.
  + DMV integration to receive rule updates.
  + Cloud-based access for easy use on any device.

### Objectives and Goals

* User Management:
  + Allow students to register, log in, and access training materials.
  + Enable role-based access control for different users.
* Lesson Scheduling:
  + Let students book, modify, or cancel driving lessons.
  + Assign trainers, vehicles, and time slots for each session.
* Training & Exams:
  + Offer three training packages (Basic, Intermediate, Full).
  + Provide online practice tests with scoring and feedback.
* Tracking & Reporting:
  + Store student progress, lesson history, and test results.
  + Generate reports for admin use and business tracking.
* Security & Compliance:
  + Protect user data with secure logins and role management.
  + Ensure compliance with DMV rule updates and notifications.

## Requirements

### Nonfunctional Requirements

#### Performance Requirements

* The system shall be a web-based application accessible via modern browsers on desktops, tablets, and smartphones.
* The system shall load pages and process transactions within 3–5 seconds under normal conditions.
* The system shall support concurrent users without significant performance degradation.
* Updates to training content (such as DMV rule changes) shall integrate automatically with minimal downtime.

#### Platform Constraints

* The system shall be hosted on a secure cloud platform to ensure high availability and scalability.
* The system shall support standard operating systems (Windows, macOS, iOS, Android) via web browsers.
* The back-end must utilize a relational database to store user accounts, reservations, and training data.
* The system shall integrate with external services such as the DMV API and a secure payment gateway.

#### Accuracy and Precision

* The system shall clearly distinguish among user roles (Students, Trainers, Administrators) and enforce role-based access controls.
* All user input (registration, scheduling, payment details) must be validated for correct format and consistency.
* Every modification to records (e.g., appointment changes, account updates) shall be logged with precise timestamps and user identifiers.
* Inconsistencies or errors must trigger notifications to administrators immediately.

#### Adaptability

* The system shall allow administrators to add, remove, or modify users and training packages through a user-friendly interface without requiring code changes.
* The system shall be designed in a modular fashion to accommodate future enhancements and platform updates.
* Configuration changes (such as updating lesson durations or package details) shall be manageable via a settings panel accessible to IT administrators.
* The cloud-based infrastructure will ensure that the system can scale as the user base grows.

#### Security

* The system shall require secure login credentials (username/password) and implement multi-factor authentication for administrative accounts.
* All data transmitted between the client and server shall be encrypted using HTTPS/SSL.
* The system shall lock user accounts after a set number of failed login attempts and provide an automated, secure password recovery process.
* All security-related events (logins, account modifications, failed attempts) shall be logged and available for administrative review.
* Sensitive user data (e.g., payment information) shall be handled by a trusted third-party payment gateway, ensuring compliance with security standards.

### Functional Requirements

* The system shall allow users to register, log in, and create an account using a secure online form.
* The system shall enable students to book, modify, and cancel driving lesson reservations by selecting available dates and times.
* The system shall assign instructors and vehicles automatically based on availability when a lesson is scheduled.
* The system shall provide online practice exams and track student progress, including test scores, time taken, and status (not taken, in progress, passed, or failed).
* The system shall offer three training packages (Basic, Intermediate, Full) and allow customers to purchase a bundle of their choice.
* The system shall generate detailed activity reports for administrators, logging actions such as reservations, cancellations, and modifications.
* The system shall securely process payments through a third-party payment gateway and generate receipts that can be printed or emailed.
* The system shall integrate with the DMV to receive real-time updates on rules, policies, and sample test questions, triggering notifications to administrators upon update.
* The system shall provide a “Contact Us” feature for users to submit inquiries or feedback, routing the information to the appropriate support channels.

### User Interface

* **General Design:**
* The interface shall be web-based and mobile-responsive, ensuring a seamless experience on desktops, tablets, and smartphones.
* The design will be clean, modern, and aligned with DriverPass’s branding.
* **For Students:**
* A dashboard that displays upcoming lessons, online course progress (including practice test statuses and scores), and available training packages.
* User-friendly forms for account registration, lesson scheduling, and online test-taking, with clear validation messages.
* **For Secretaries and Administrators:**
* A scheduling interface with a calendar view for managing appointments, alongside administrative dashboards for managing user accounts and generating reports.
* Tools to enable modification, cancellation, and rescheduling of lessons.
* **For Instructors:**
* A simplified portal to view their lesson schedules and input post-lesson feedback and driver comments.
* **Navigation & Accessibility:**
* Clear and intuitive navigation menus, accessible to all users.
* Features such as “Contact Us” and an FAQ section to assist users.
* The interface will comply with accessibility standards, ensuring support for users with disabilities (e.g., screen readers, high contrast options).

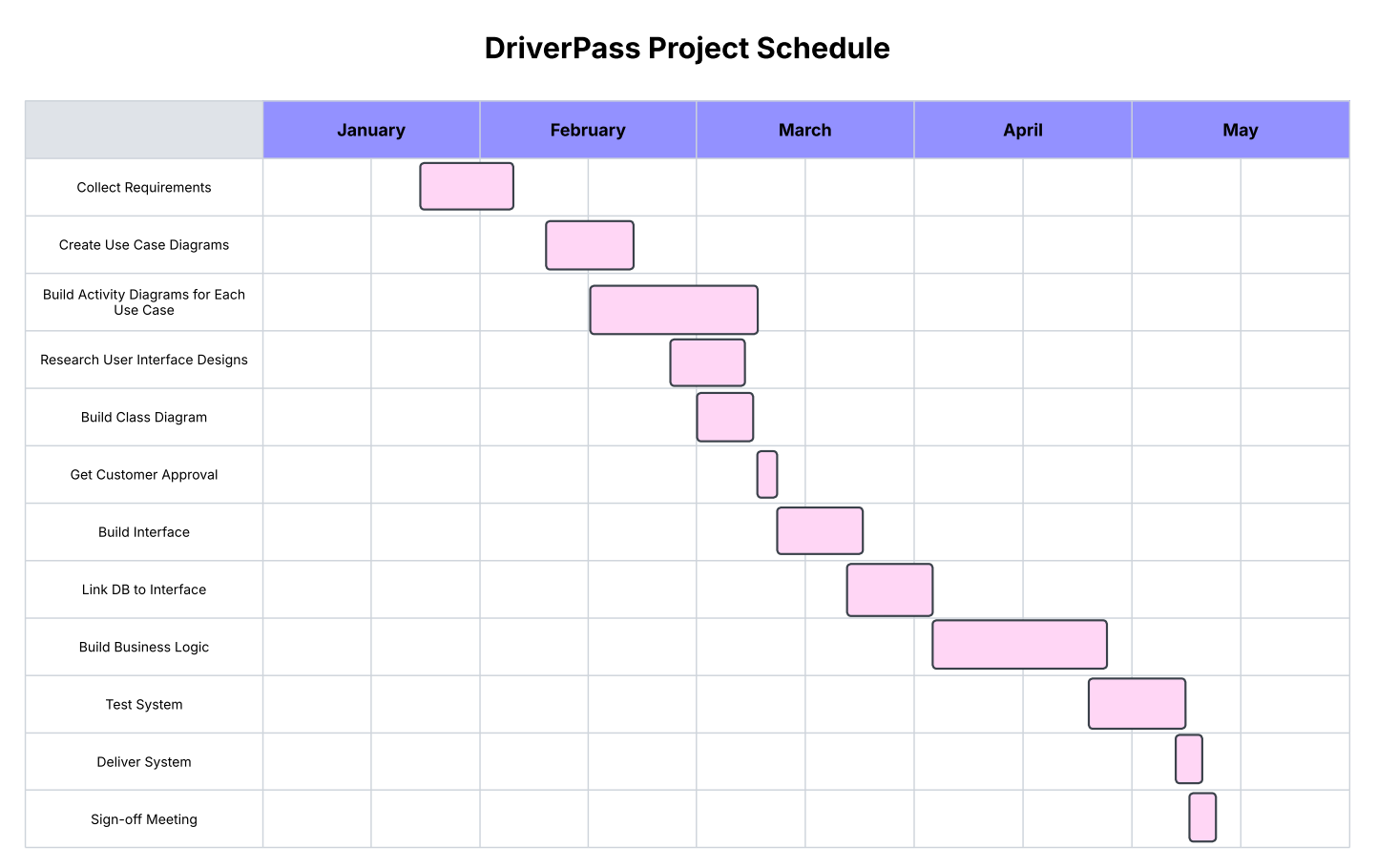
### Assumptions

* It is assumed that all users have reliable internet access and are using modern web browsers.
* It is assumed that the DMV will provide regular updates (via an API or data feed) to keep the training materials current.
* It is assumed that the initial user base is moderate, with the system designed to scale as DriverPass grows.
* It is assumed that payment processing will be managed securely by a third-party service, so sensitive payment data will not be stored locally.
* It is assumed that all users (students, instructors, administrators) have a basic level of computer literacy.
* It is assumed that business rules (e.g., lesson duration, package limits) will remain constant during the initial release, with major changes deferred to future updates.

### Limitations

* **Time Constraints:** The project timeline (January to early May) limits the scope to essential functionalities; additional features may be added in later phases.
* **Budget Constraints:** The solution must use cost-effective, cloud-based tools, which may limit customization and advanced features.
* **Connectivity Dependence:** The system relies on continuous internet connectivity; any outages or disruptions in cloud service could impact operations.
* **External Dependencies:** The system’s accuracy in training materials is dependent on timely updates from the DMV, which are outside our control.
* **User Training:** Less tech-savvy users may require additional support to fully utilize the system’s features.
* **Security Risks:** Despite robust security measures, no system can be completely immune to evolving security threats; continuous monitoring and updates will be required.

### Gantt Chart

**