**System Design Document: DriverPass**

**Emily Cruz Gutiérrez**

**UML Diagrams**

**UML Use Case Diagram**

(Includes interactions among customers, secretaries, IT officers, and the DMV system for managing appointments, payments, and reports.)

**UML Activity Diagrams**

1. **Schedule Appointment:** Illustrates the process of selecting a date, verifying availability, confirming an appointment, and sending a confirmation.
2. **Process Payments:** Shows how customers choose payment methods, verify details, process transactions, and receive a receipt.

**UML Sequence Diagram**

* **Schedule Appointment:** Depicts interactions between the customer, system, and secretary to schedule a driving lesson.

**UML Class Diagram**

* Defines key entities such as **Customer, Appointment, Driver, Car, Payment, and Admin**, along with their attributes and relationships.

**Technical Requirements**

**Hardware Requirements**

* Cloud-based hosting environment with scalable storage and computing resources.
* Secure servers for storing user data, ensuring compliance with security best practices.

**Software Requirements**

* Web-based application accessible via **modern browsers (Chrome, Firefox, Edge, Safari)**.
* Relational database for managing users, appointments, and payments.
* Secure authentication and encryption for handling sensitive customer data.

**Tools & Infrastructure**

* **Backend:** Cloud-hosted services for authentication, scheduling, and payment processing.
* **Frontend:** Responsive UI framework optimized for desktop and mobile access.
* **Security:** SSL/TLS encryption, multi-factor authentication, and account activity tracking.
* **Integration:** API connection to **DMV systems** for real-time regulation updates.

**Security Measures**

* **Role-based access control:** Ensures that only authorized users can modify records.
* **Data encryption:** Protects sensitive information, including payment details.
* **Account lockout policy:** Prevents brute-force attacks with multiple failed login attempts.
* **Audit logging:** Tracks changes to appointments and payments for accountability.

**System Limitations**

* Customizing driving lesson packages will require developer intervention.
* The system does not currently support **offline test-taking** (only downloadable reports).
* Future updates will be needed to support **automated DMV compliance tracking**.