Southern New Hampshire University

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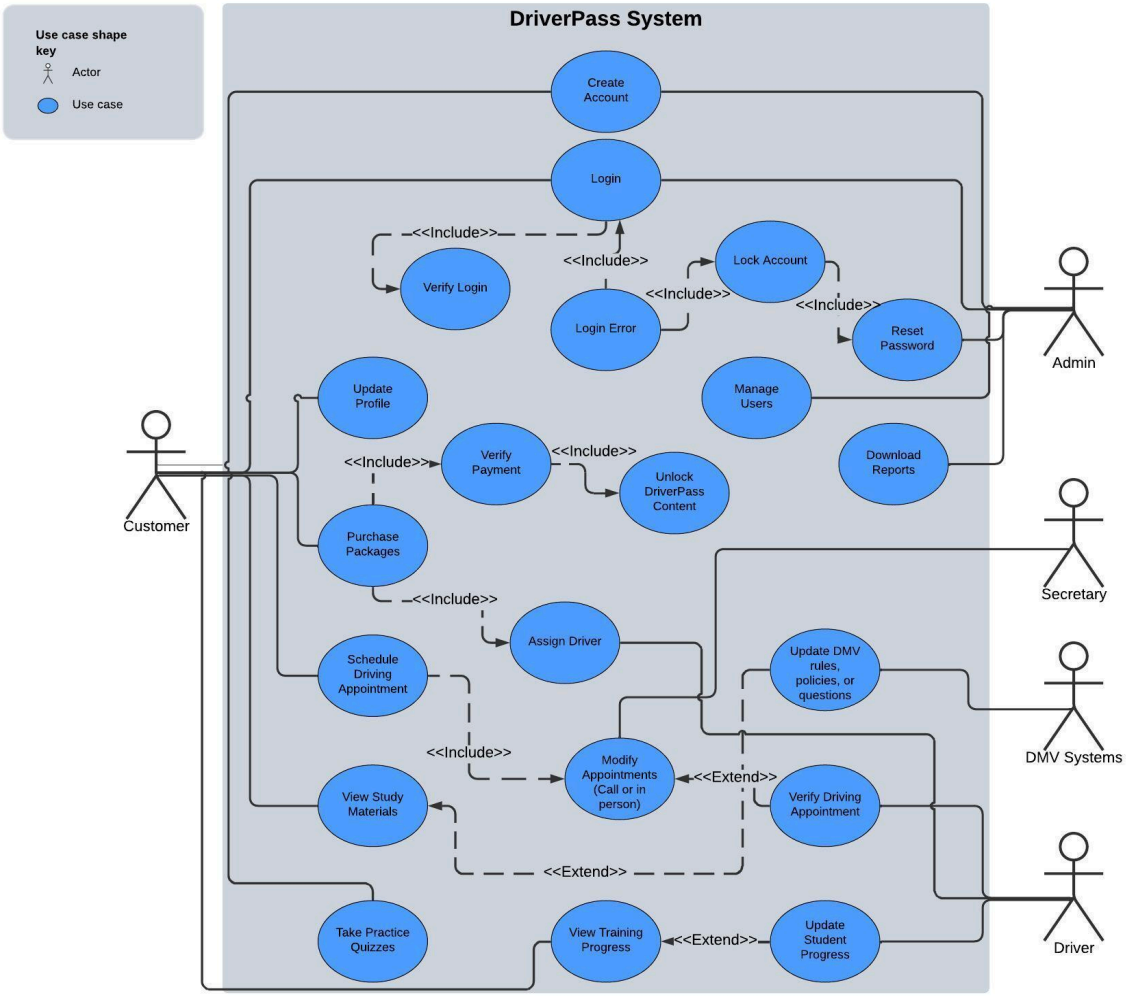
CS 255 System Design Document

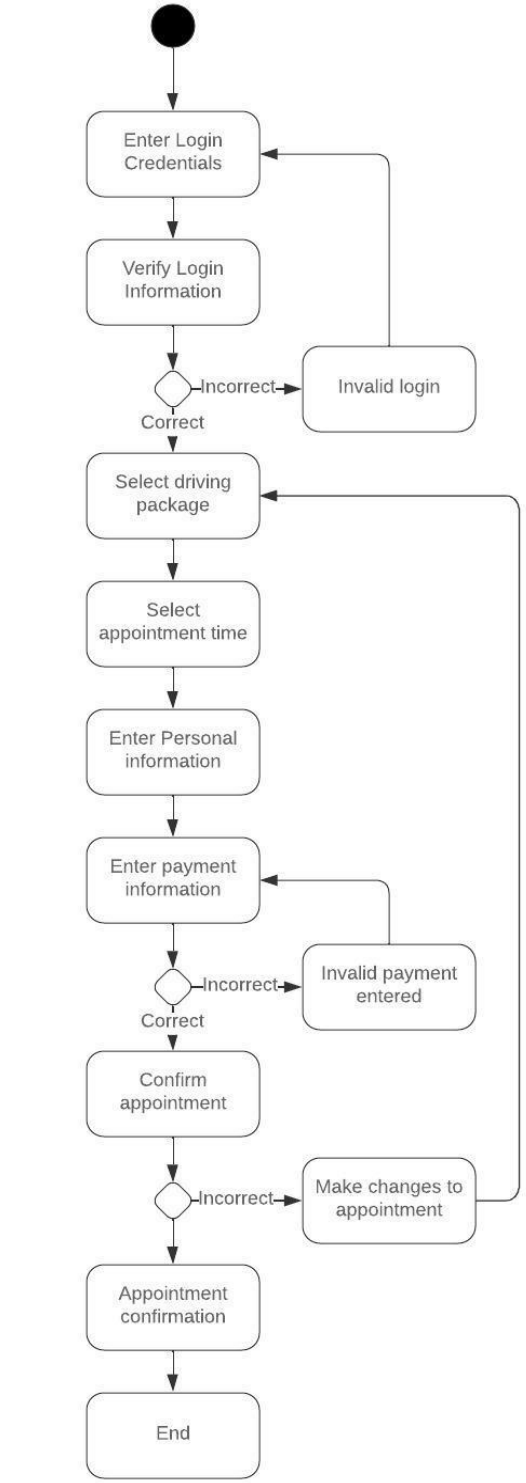
UML Diagrams

UML Use Case Diagram

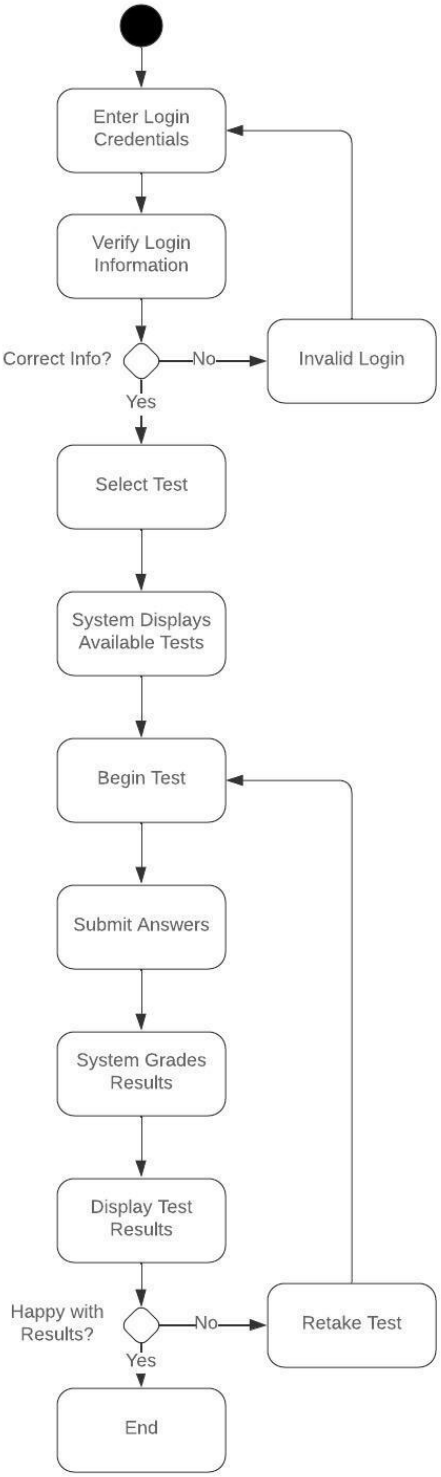


UML Activity Diagrams

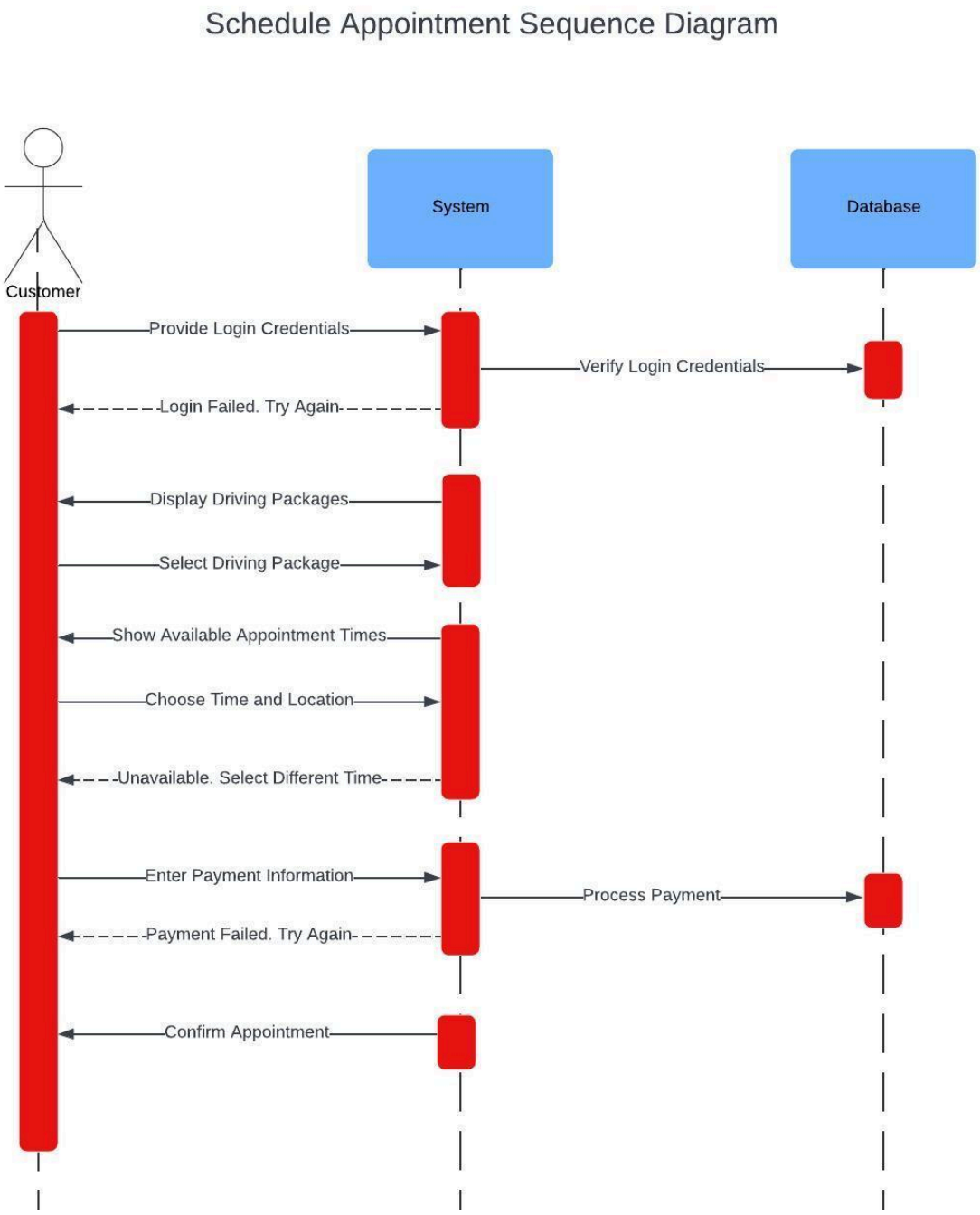
Schedule Appointment Activity Diagram



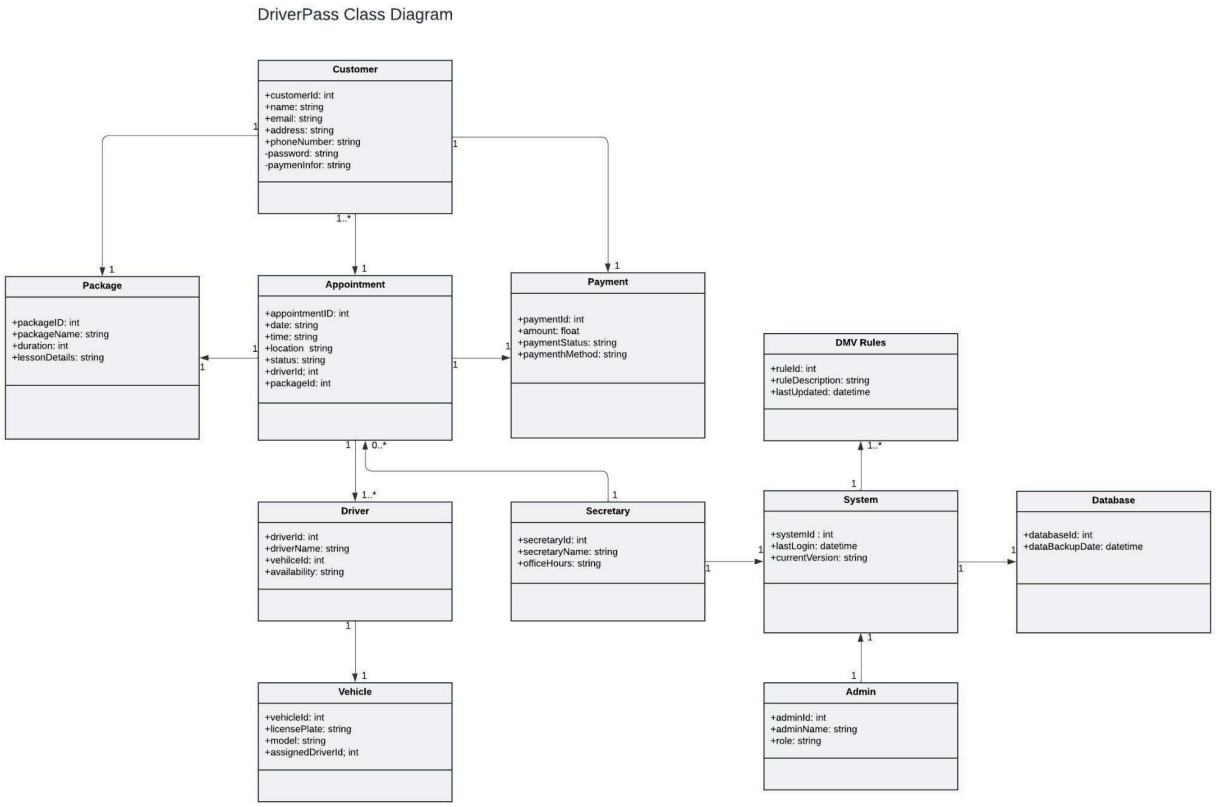
Take Online Test Activity Diagram



UML Sequence Diagram



UML Class Diagram



Technical Requirements

Hardware Requirements:

- Cloud Hosting: The system will be hosted on cloud platforms like AWS, Google Cloud, or Azure to ensure it is flexible and scalable
- Client Devices: Users can access the system on desktops, laptops, tablets, and smartphones
- Servers: Cloud servers will handle the system's traffic and can scale up or down as needed
- Internet: Users will need a secure and stable internet connection

Software Requirements:

- Frontend: User interface will be built using web technologies (HTML, CSS, JavaScript) and frameworks like React for a smooth. responsive experience
- Backend: The backend will use technologies like Node.js or Django to manage business logic and user request
- Database: Data like user info, appointments, and DMV rules will be stored in a relational database
- Security: Login and sensitive data will be secured using encryption and JWT tokens for authentication

- Payments: The system will integrate with payment systems like Stripe or PayPal for secure transactions

Tools and Frameworks:

- Version Control: Git will manage code changes, with repositories on GitHub or GitLab
- Automated testing and deployment will be set up to ensure quick updates and bug fixes
- Database Management: Tools like phpMyAdmin or pgAdmin will be used for managing the database.
- Monitoring: Tools like New Relic or Datadog will track performance and avoid overload

Infrastructure Requirements:

- The system will run on cloud platforms that can scale based on user demand
- Traffic will be spread across servers to maintain performance and avoid overload
- Regular backups will ensure data is safe
- A content delivery network will speed up loading times for users