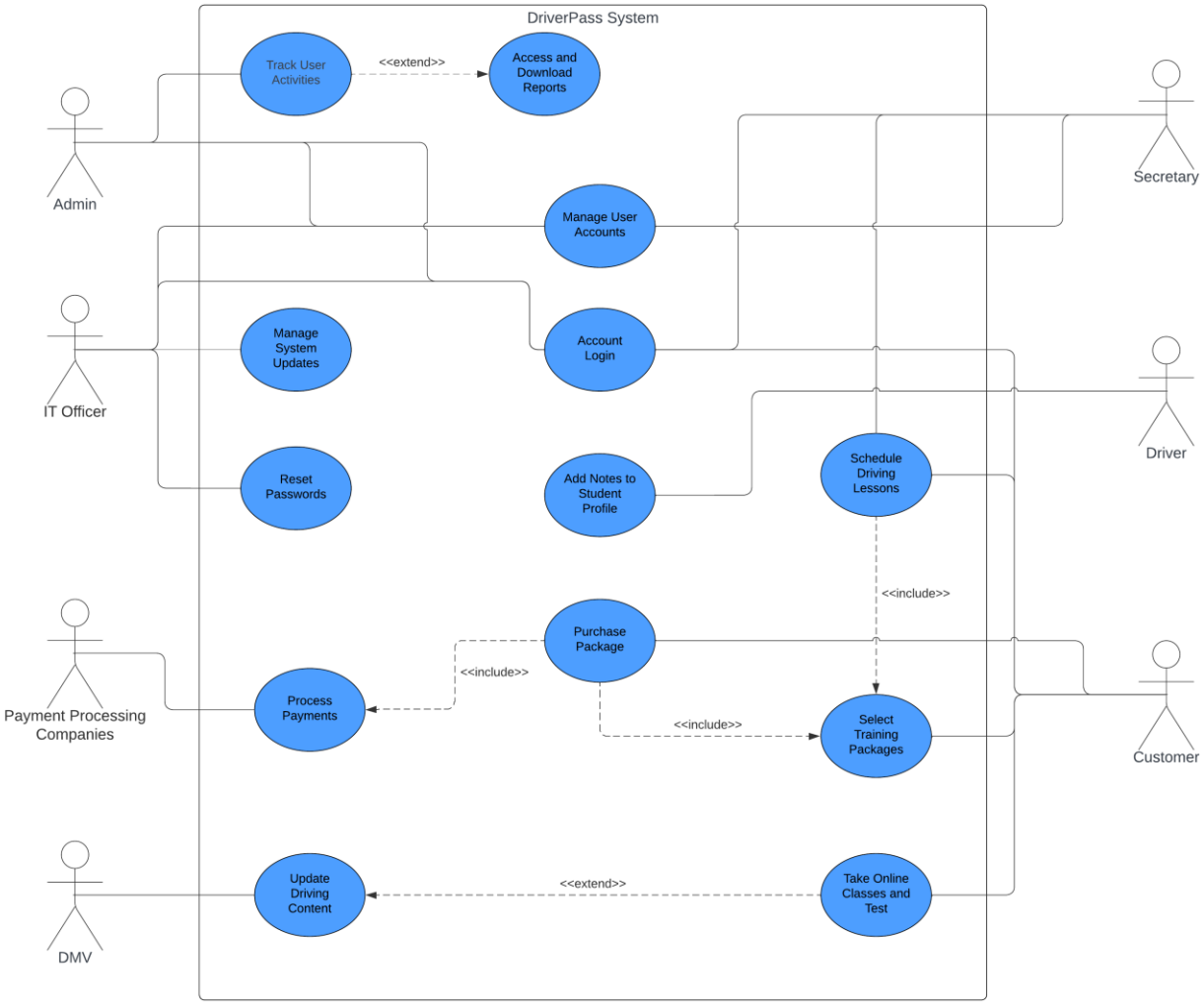
Southern New Hampshire University

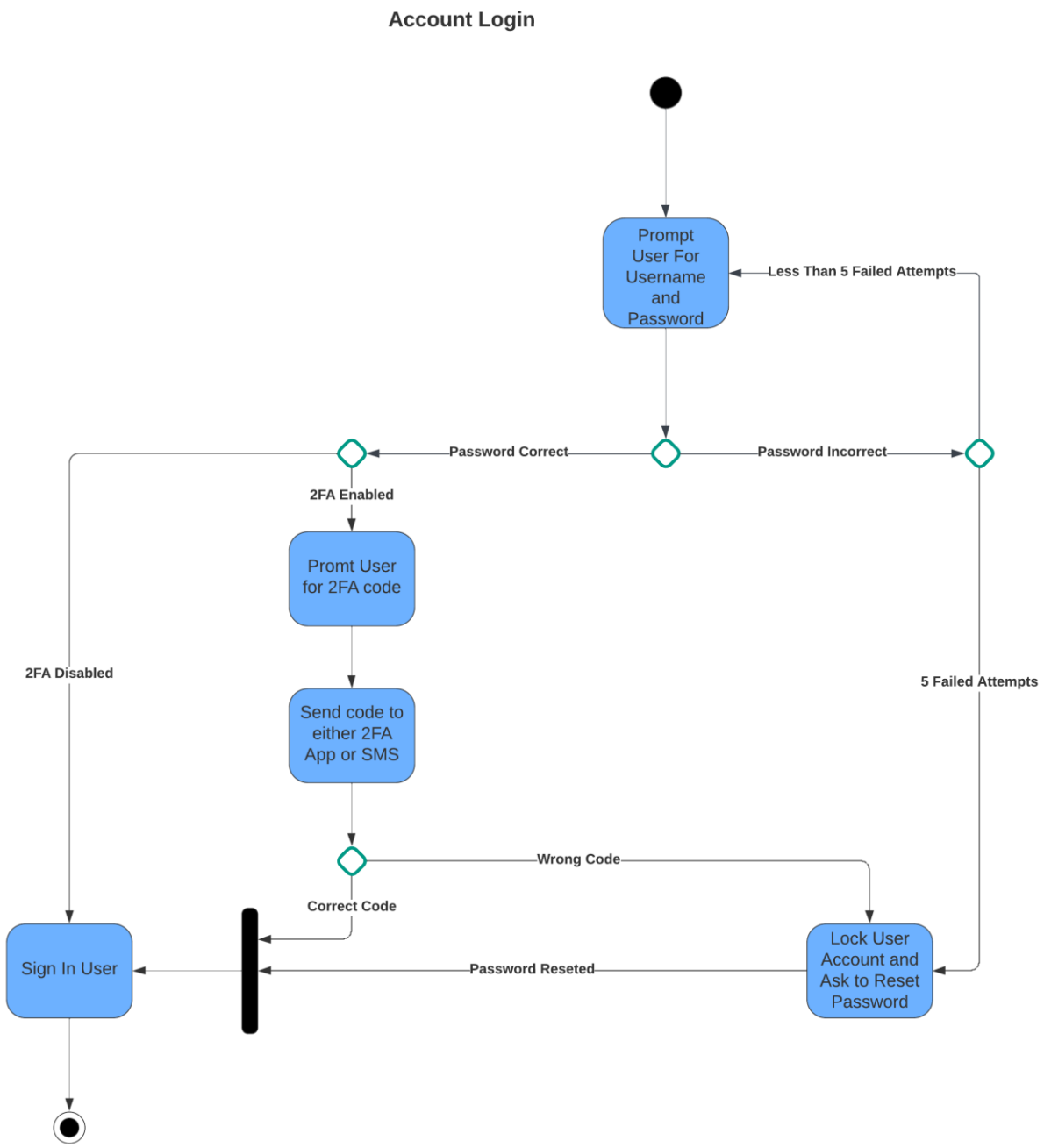
CS 255 System Design Document

UML Diagrams

UML Use Case Diagram



UML Activity Diagrams



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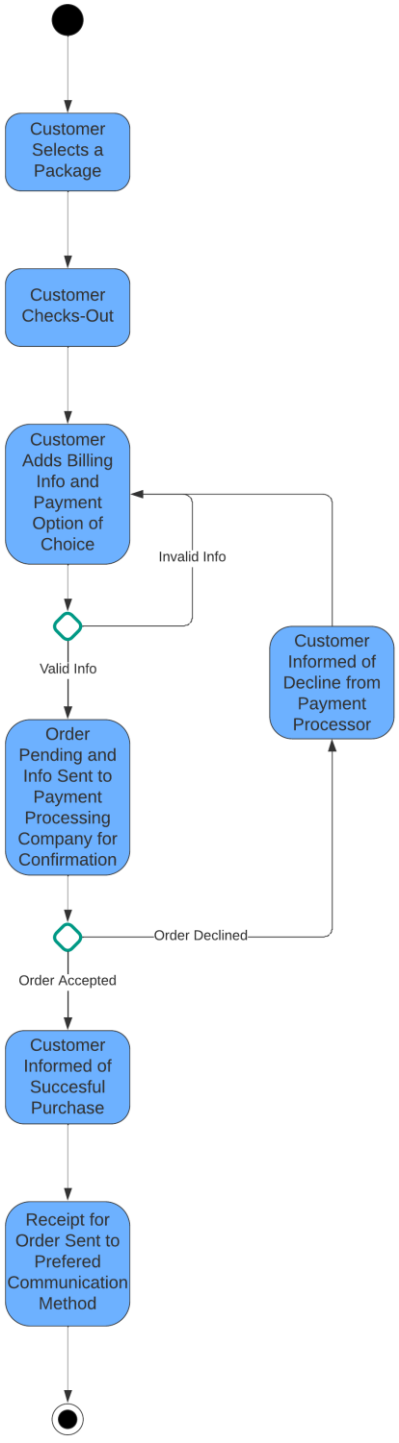
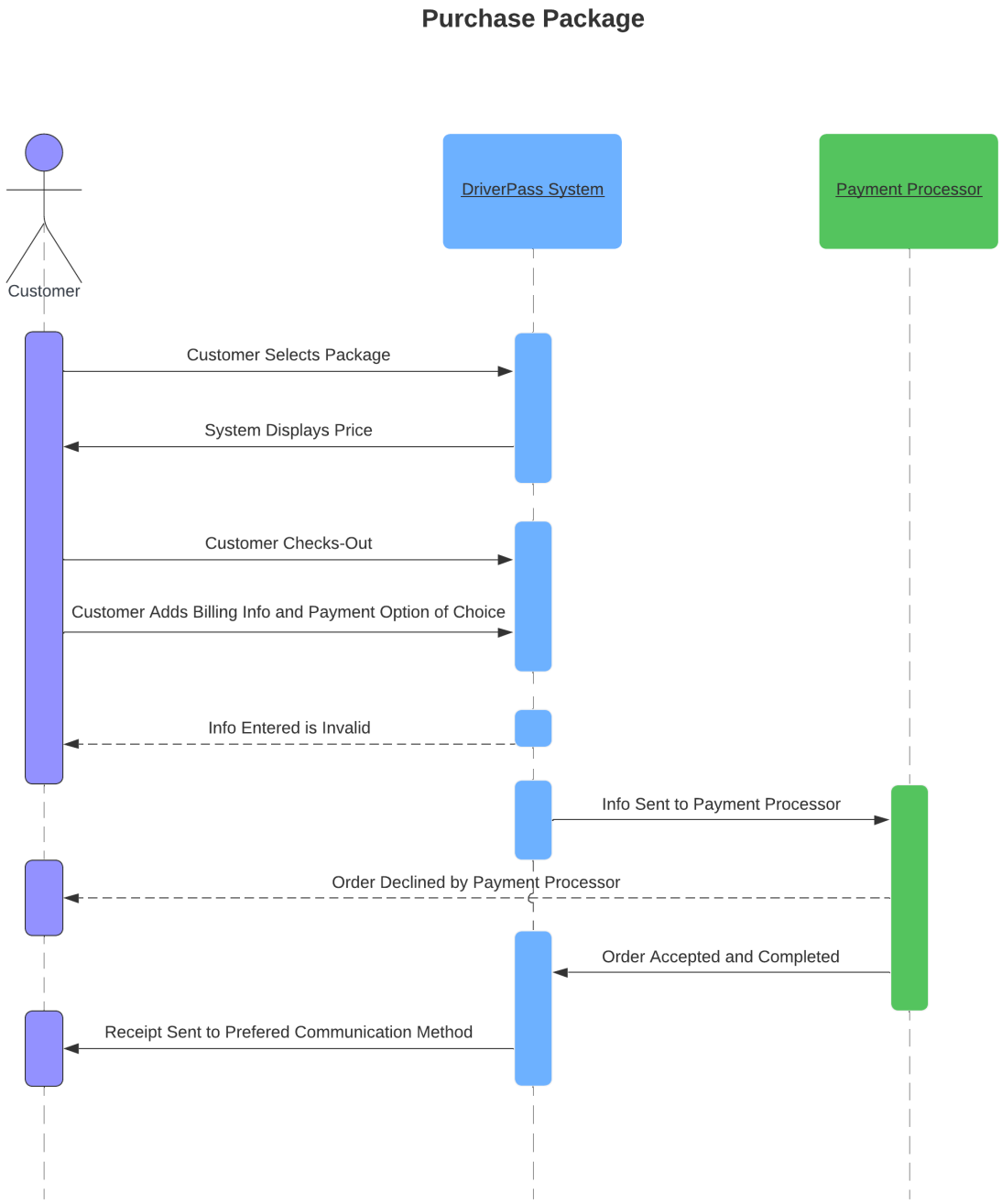
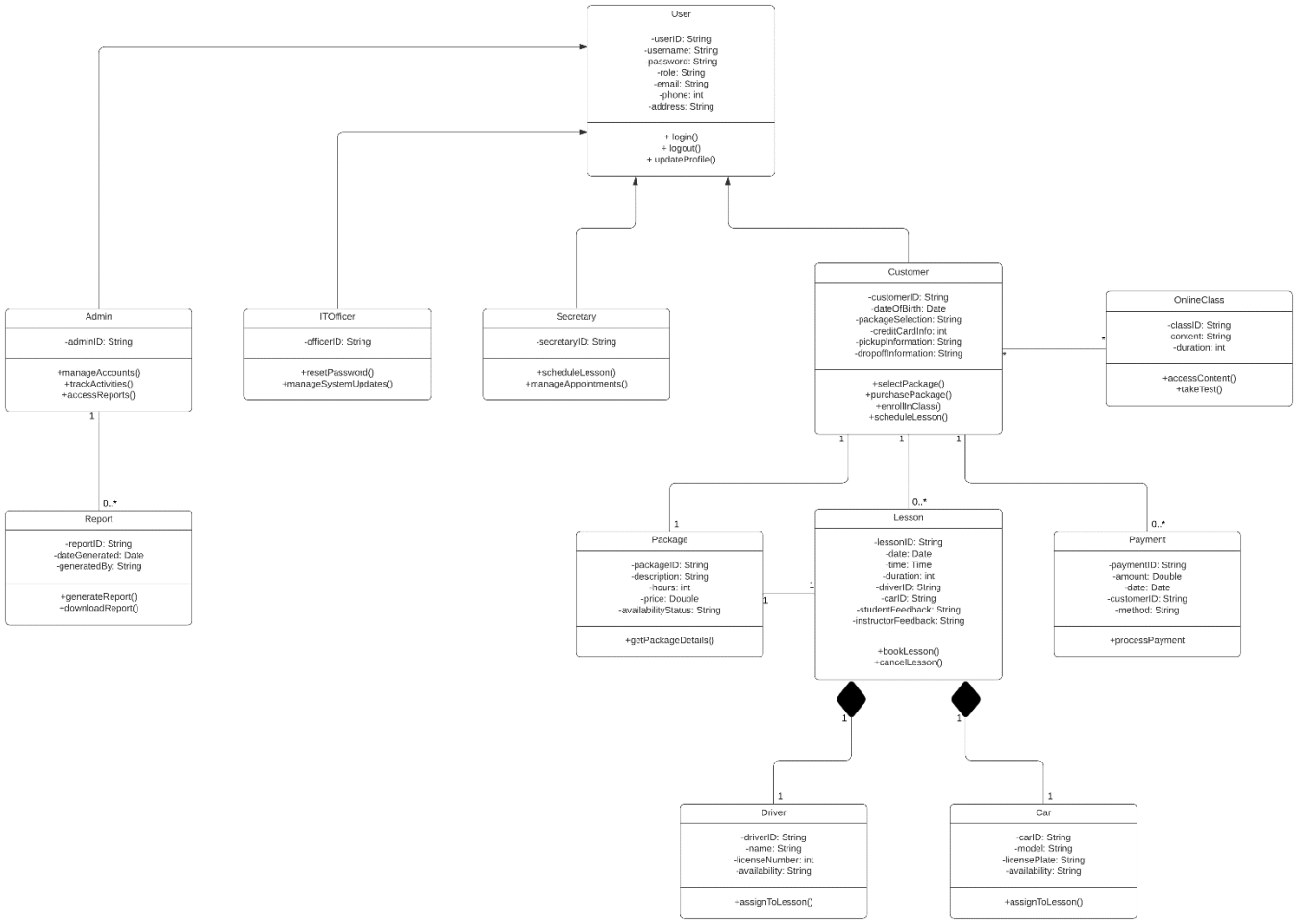
Purchase Package



UML Sequence Diagram



UML Class Diagram



Technical Requirements

Hardware Requirements

- **Servers**: Powerful web servers to handle web traffic, database management, and system processing. These servers should be capable of handling high concurrency levels for simultaneous users.
- **Storage**: Adequate storage for database, backups, and logs. This should include both primary storage for real-time data access and secondary storage for backups.
- **Network Infrastructure**: Robust network infrastructure to ensure reliable and fast internet connectivity, essential for cloud-based operations and real-time data syncing.

Software Requirements

- **Operating System**: Compatibility with multiple operating systems (Windows, Unix, etc.) for both server and client-side operations.
- **Database Management System**: A reliable DBMS for storing user and system information, with features for secure data storage, retrieval, and manipulation.
- **Web Server Software**: To handle web-based requests and serve the application to users on various browsers (Chrome, Safari, Firefox, Microsoft Edge).
- **Development Frameworks**: Appropriate frameworks for both front-end and back-end development, ensuring a user-friendly interface and robust backend logic.

Tools and Infrastructure

- **Cloud Hosting Services**: For hosting the web-based environment, ensuring scalability, reliability, and security.
- **APIs and Integration Tools**: For connecting with external systems like DMV databases, payment gateways, and other third-party services.
- **Version Control and Development Tools**: Tools like Git for version control, and integrated development environments (IDEs) for efficient coding and collaboration.
- **Security Tools**: Encryption, authentication, and security monitoring tools to safeguard user data and system integrity.

Additional Technical Specifications

- **Responsive Design**: The web interface should be dynamic and responsive, catering to both desktop and mobile users.
- **Data Synchronization and Backup**: Mechanisms to ensure data is consistently synchronized across different servers and regular backups are maintained.
- **Compliance and Security Protocols**: Compliance with DMV regulations and implementation of robust security measures, including two-factor authentication and encryption.
- **User Role Management**: A system to manage diverse user roles (admin, secretary, IT officer, customers) with appropriate access rights and controls.