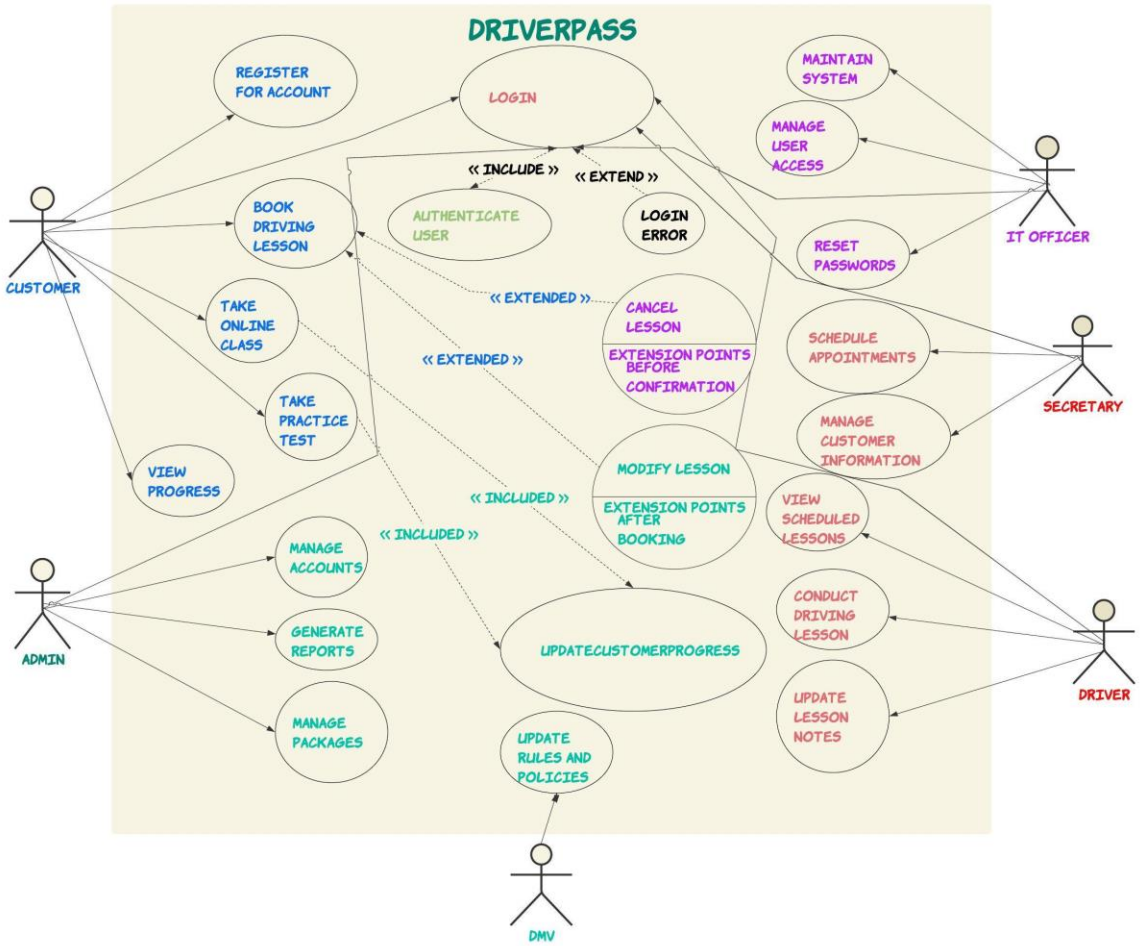
# CS 255 System Design Document Template

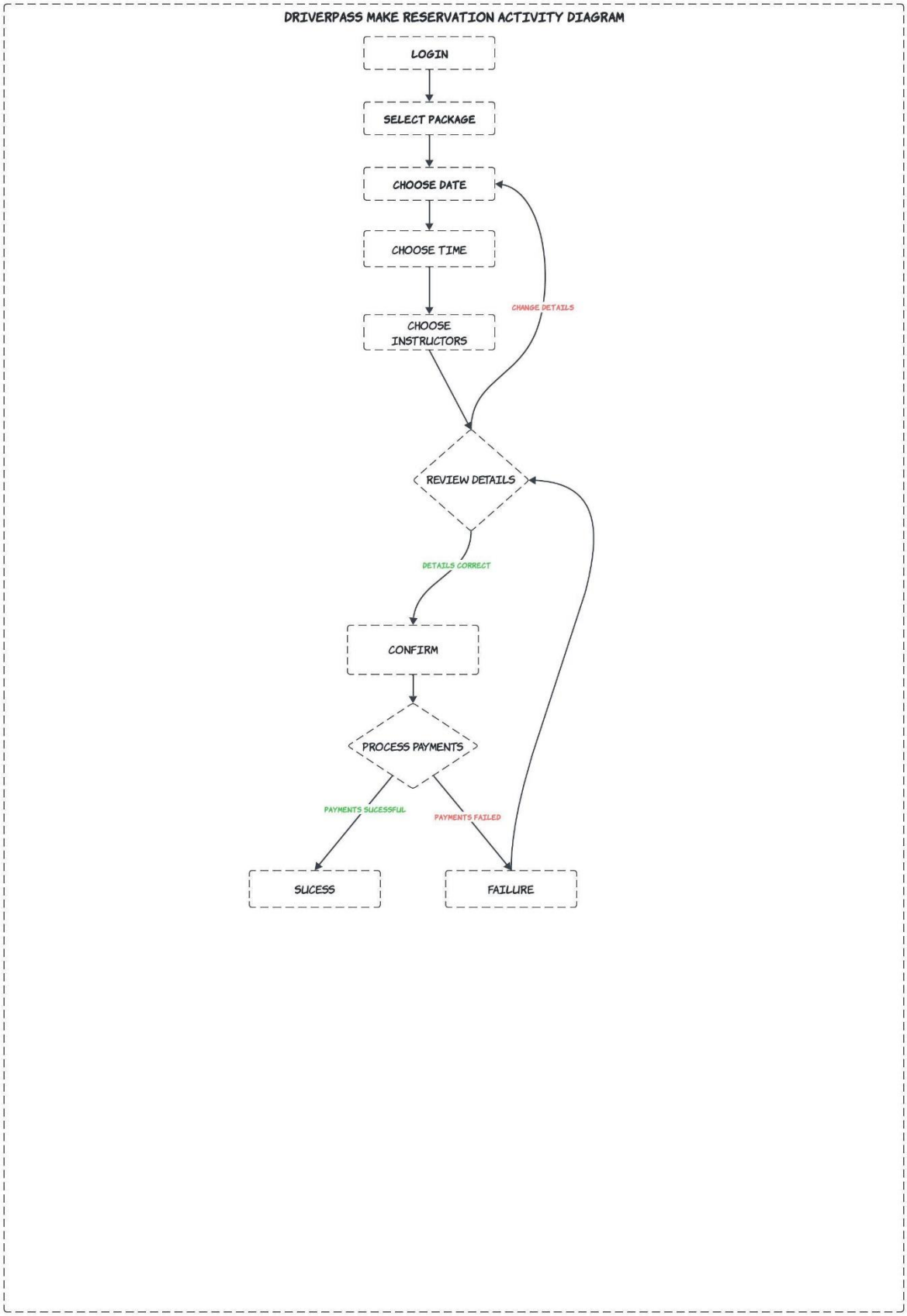
This template lays out all the different sections that you need to complete for Project Two. Each section has guidance to prompt your thinking. You will need to continually reference the interview transcript as you work to make sure that you are addressing your client's needs. There is no required length for the final document. Instead the goal is to complete each section based on what your client's needs are. Remove this note when you are finished, and replace all bracketed text with the relevant information.

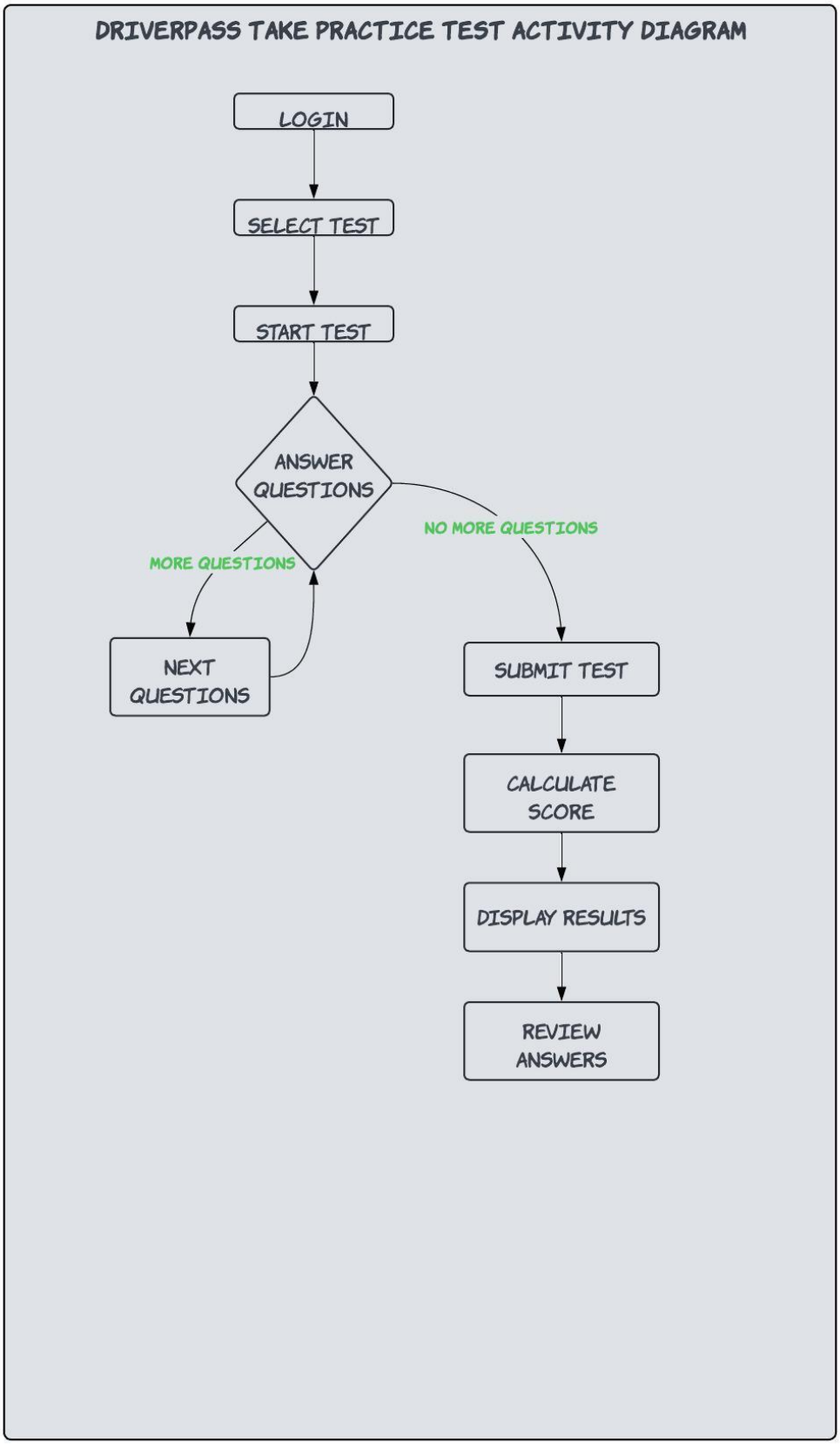
## UML Diagrams

### UML Use Case Diagram

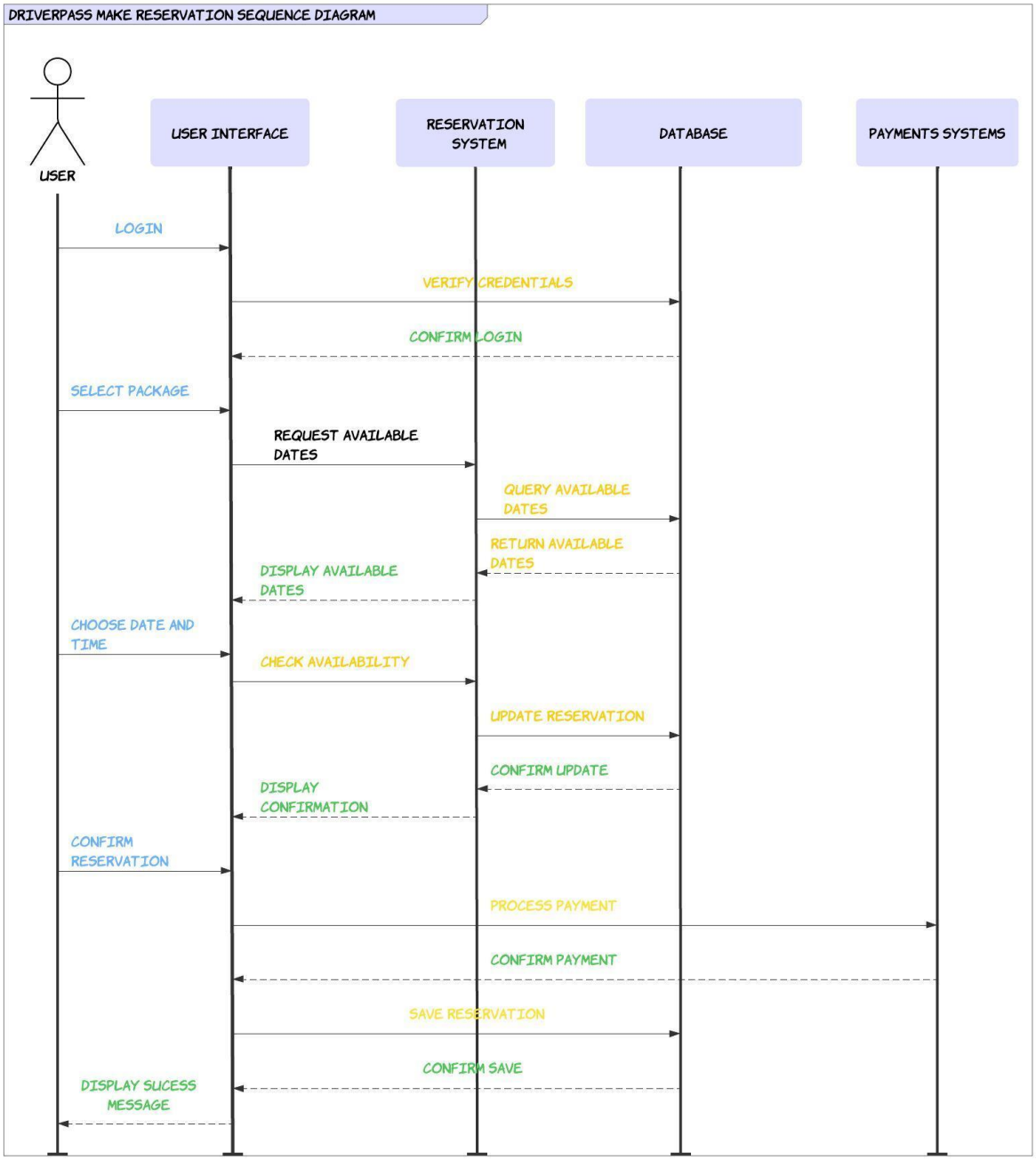



### UML Activity Diagrams

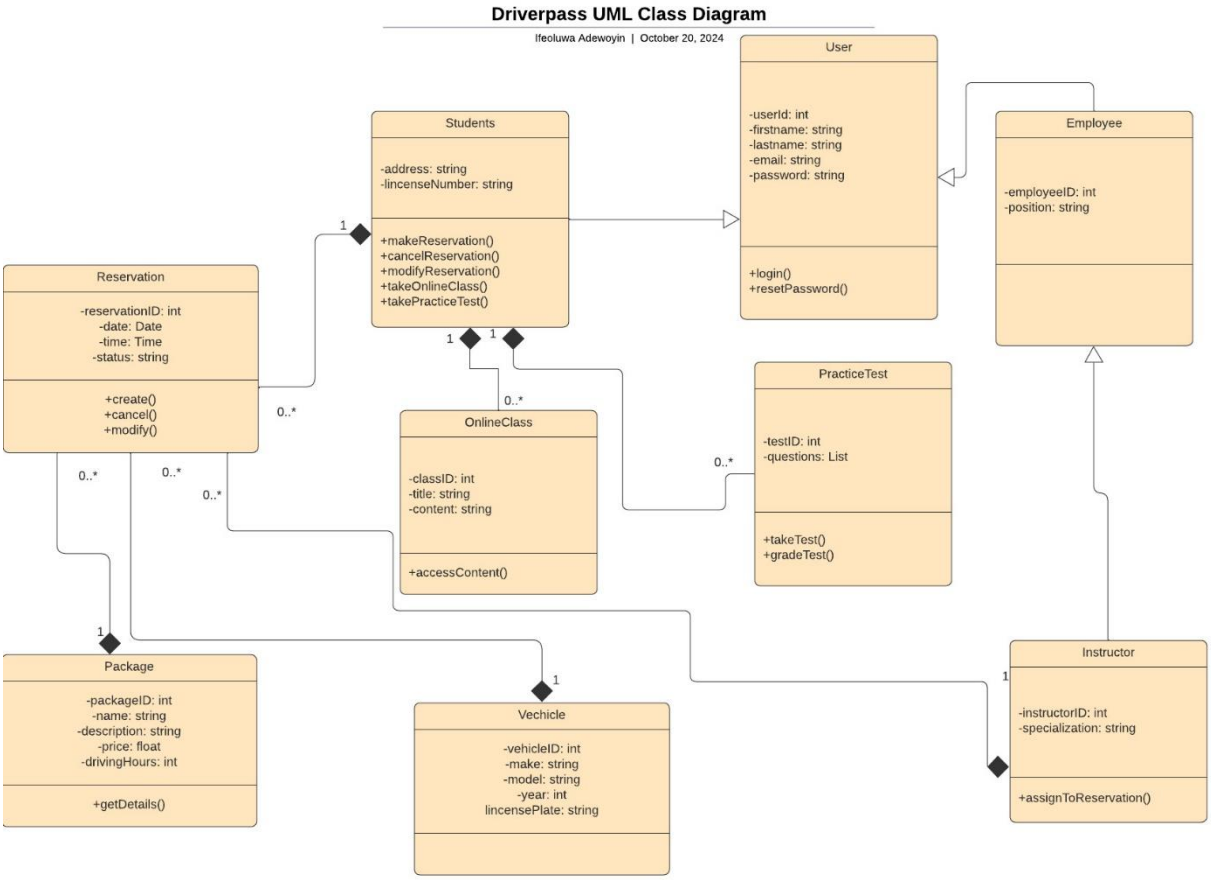

DRIVERPASS MAKE RESERVATION ACTIVITY DIAGRAM
LOGIN
SELECT PACKAGE
CHOOSE DATE
CHOOSE TIME
CHOOSE INSTRUCTORS
CHANGE DETAILS
REVIEW DETAILS
DETAILS CORRECT
CONFIRM
PROCESS PAYMENTS
PAYMENTS SUCESSFUL
PAYMENTS FAILED
SUCESS
FAILURE


DRIVERPASS TAKE PRACTICE TEST ACTIVITY DIAGRAM
LOGIN
SELECT TEST
START TEST
ANSWER QUESTIONS
MORE QUESTIONS
NO MORE QUESTIONS
NEXT QUESTIONS
SUBMIT TEST
CALCULATE SCORE
DISPLAY RESULTS
REVIEW ANSWERS

## UML Sequence Diagram




## UML Class Diagram




## Technical Requirements

*My document and Diagrams outlines the technical requirements for the DriverPass system, a web-based platform designed to provide driver training services including online classes, practice tests, and in-person driving lessons.*

***. System Architecture***

***Hardware Requirements***

- *Primary application servers*
- *Database servers*
- *Backup servers for redundancy*
- *Load balancers for traffic distribution*

***Software Requirements***

- *Web server software (e.g., Apache, Nginx)*
- *Database management system (e.g., MySQL, PostgreSQL)*
- *Server-side programming framework (e.g., Python with Django, Java with Spring)*
- *Client-side technologies: HTML5, CSS3, JavaScript*

***Network Infrastructure***

- *High-speed internet connection (minimum 1 Gbps)*
- *Hardware firewall*
- *Network load balancer*

***. Security Requirements***

***Authentication and Authorization***

- *Secure user authentication system*
- *Role-based access control (RBAC) for different user types (students, instructors, administrators)*

***Data Protection***

- *SSL/TLS encryption for all data in transit*
- *Encryption of sensitive data at rest (e.g., payment information)*
- *Regular security audits and penetration testing*

***Compliance***

- *Adherence to relevant data protection regulations (e.g., GDPR if operating in Europe)*

***. Integration Requirements***

***Payment Processing***

- *Integration with a secure payment gateway for processing student payments*

***DMV Integration***

- *API integration with DMV systems for real-time updates on rules and policies*

***. Data Management***

***Backup and Recovery***

- *Automated daily backups of all system data*
- *Offsite storage of backups*
- *Documented and tested disaster recovery plan*

***Data Retention***

- *Retention of user data and activity logs for a minimum of 3 years*

***. Performance and Scalability***

***System Performance***

- *Page load times under 2 seconds for 95% of requests*
- *Ability to handle a minimum of 1000 concurrent users*

***Scalability***

- *Horizontal scalability to accommodate user growth*
- *Ability to add additional servers without system downtime*

***. User Interface Requirements***

***Accessibility***

- *Compliance with WCAG 2.1 Level AA standards*
- *Responsive design for access from various devices (desktops, tablets, smartphones)*

***Browser Compatibility***

- *Support for the latest versions of major browsers (Chrome, Firefox, Safari, Edge)*

***. Reporting and Analytics***

***Administrative Reporting***

- *Generation of various administrative reports (e.g., user activity, financial reports)*
- *Data export functionality in common formats (CSV, PDF)*

***User Progress Tracking***

- *System for tracking and displaying student progress through courses and practice tests*

***. System Availability and Support***

***Uptime***

- *99.9% system uptime guaranteed (excluding scheduled maintenance)*

***Support***

- *24/7 monitoring of system health*
- *Technical support available during business hours*

***. Documentation and Training***

***System Documentation***

- *Comprehensive system documentation including architecture diagrams, API documentation, and user manuals*

***Training***

- *Training materials for system administrators and support staff*