**CS 255 System Design Document**

**UML Diagrams**

**UML Use Case Diagram**



**UML Activity Diagrams**



**UML Sequence Diagram**



**UML Class Diagram**



**Technical Requirements**

*Server Infrastructure: A robust server infrastructure to host the reservation system, capable of handling high traffic and ensuring low latency.*

*Database Server: A dedicated server for the database to store customer details, reservation records, and logs.*

*Workstations: High-performance computers for the IT Officer and Secretary to interact with the system.*

*Firewall and Security Appliances: To ensure data integrity and security.*

*Software Requirements*

*Database Management System (DBMS): A relational database like MySQL or PostgreSQL for storing reservation and user data.*

*Backend Framework: A server-side framework like Django or Node.js to handle business logic.*

*Frontend Framework: A client-side framework like React or Angular for the user interface.*

*Operating System: Linux-based OS for server and Windows/Mac for workstations.*

*Security Software: SSL certificates for secure data transmission and antivirus software for*

*workstations.*

*Tools*

*Version Control: Git for source code management.*

*Continuous Integration/Continuous Deployment (CI/CD): Tools like Jenkins or GitLab CI for*

*automated testing and deployment.*

*Monitoring Tools: Software like Grafana or Prometheus for system monitoring.*

*Backup Tools: Automated backup solutions for data recovery.*

*Infrastructure*

*Cloud Services: Optionally, cloud services like AWS or Azure can be used for scalability.*

*Networking: High-speed internet connection with redundancy.*

*Power Backup: Uninterrupted Power Supply (UPS) for all critical hardware.*