Software Architecture Pattern of Online Examination System

Course Title: Software Development Project

Course No: CSE-3106

Submitted to

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Project Title: Online Examination System

Decision: Using Client-Server Architecture for Online Examination System Development

Reasoning: Adopting a client-server architecture for the online examination system allows for efficient distribution of responsibilities between the client-side (user interfaces) and the server-side (core logic and data management). This architecture facilitates scalability, reliability, and security, making it suitable for handling concurrent exam sessions and managing user data securely.

Client-Server Architecture Details:

1. Client Side:

- **Responsibility:** Provides interfaces for admin and students to interact with the system.
- **Functionalities:** Admin interface for managing exams and questions, student interface for participating in exams, viewing results, and ranks.

2. Server Side:

- **Responsibility**: Handles core logic, data management, and communication with clients.
- **Components:**
  - **Application Server:**
    - Implements core functionalities such as exam scheduling, question management, and result generation.

- **File Storage Server:**
  - Manages storage and retrieval of data related to users, exams, questions, students, and results.

3. Communication Protocol:

- **Responsibility:** Facilitates communication between clients and servers.

- **Protocol:** HTTP or HTTPS for web-based interfaces, custom TCP/IP protocol for optimized client-server communication.

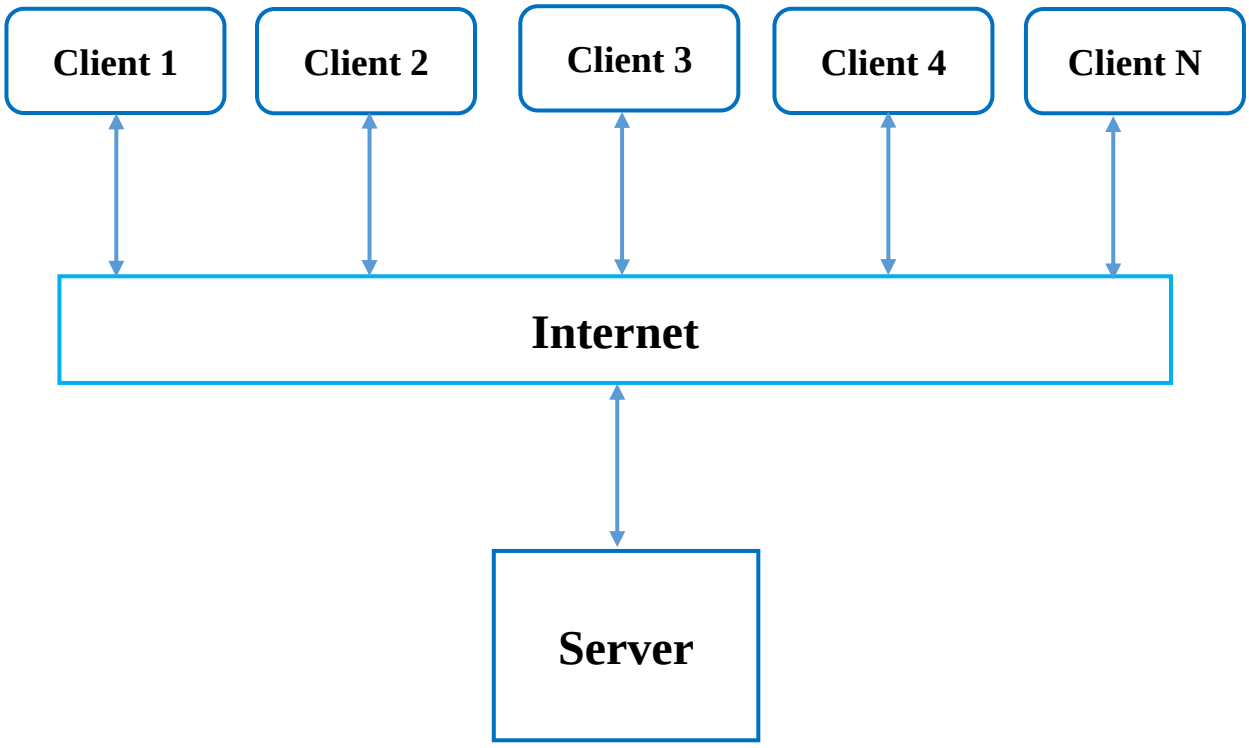

Figure: Diagram of Client Server Software Architecture Pattern