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OF ENGINEERING & TECHNOLOGY**

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FTTMS (FACULTY TIMETABLE MANAGEMENT SYSTEM)

Software Requirement Specifications Report

Team 1

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INTRODUCTION

The Faculty Time Table Management System (FTTMS) simplifies college scheduling with an easy-to-use interface for faculty to view and manage their class schedules and request swaps. Heads of Departments (HODs) can monitor all faculty schedules, allocate resources, and ensure class coverage, while also analyzing historical data for informed decision-making. Administrative staff can efficiently input and update faculty information, maintaining database accuracy. FTTMS fosters collaboration and flexibility among faculty and administration, enhancing schedule management efficiency. Its comprehensive features make it an essential tool for managing the complex scheduling needs of academic institutions.

1. LITERATURE SURVEY

1.1 Existing System:

In the existing system, scheduling processes in colleges are often managed manually or through basic digital tools. Faculty members typically rely on static spreadsheets or paper schedules, which can be cumbersome and prone to errors. This method lacks flexibility, making it difficult to accommodate last-minute changes or swap classes, leading to potential conflicts and inefficiencies.

Heads of Departments (HODs) face challenges in overseeing and managing schedules, as there is no centralized platform for real-time updates. Historical data analysis for strategic planning is limited, and administrative staff spend considerable time inputting and updating information manually. Overall, the existing system is inefficient and fails to support the dynamic needs of academic scheduling.

1.2 Drawbacks of Existing System:

- Manual Scheduling.
- Lack of Automation.
- Limited Accessibility.
- Limited Monitoring and Oversight.
- Data Entry and Management.
- Lack of Integration.

1.3 Proposed System:

The proposed Faculty Time Table Management System (FTTMS) is designed to modernize scheduling processes in colleges. It offers faculty members an intuitive interface to view and manage their schedules, with the flexibility to request class swaps with colleagues. This feature ensures that last-minute changes are handled smoothly, reducing conflicts and enhancing overall efficiency.

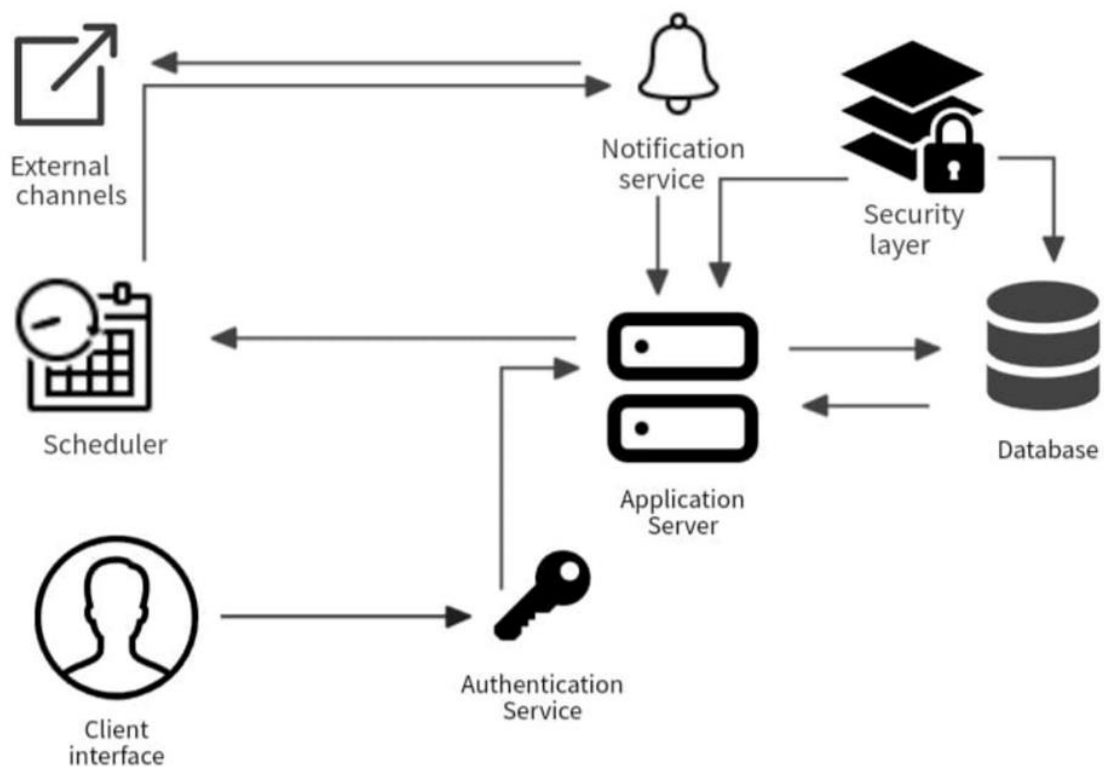
For Heads of Departments (HODs), FTTMS provides robust oversight capabilities. HODs can monitor all faculty schedules in real-time, ensuring optimal resource allocation and class coverage. Additionally, the system allows for historical data analysis, enabling HODs to identify trends and make informed decisions about future scheduling and faculty assignments.

Administrative staff benefit from streamlined data management, allowing for quick and accurate input and updates of faculty information. This centralization reduces the administrative burden and minimizes errors. By promoting collaboration and coordination between faculty and administration, FTTMS leads to more efficient schedule management and enhances the operational effectiveness of academic institutions.

1.4 Advantages:

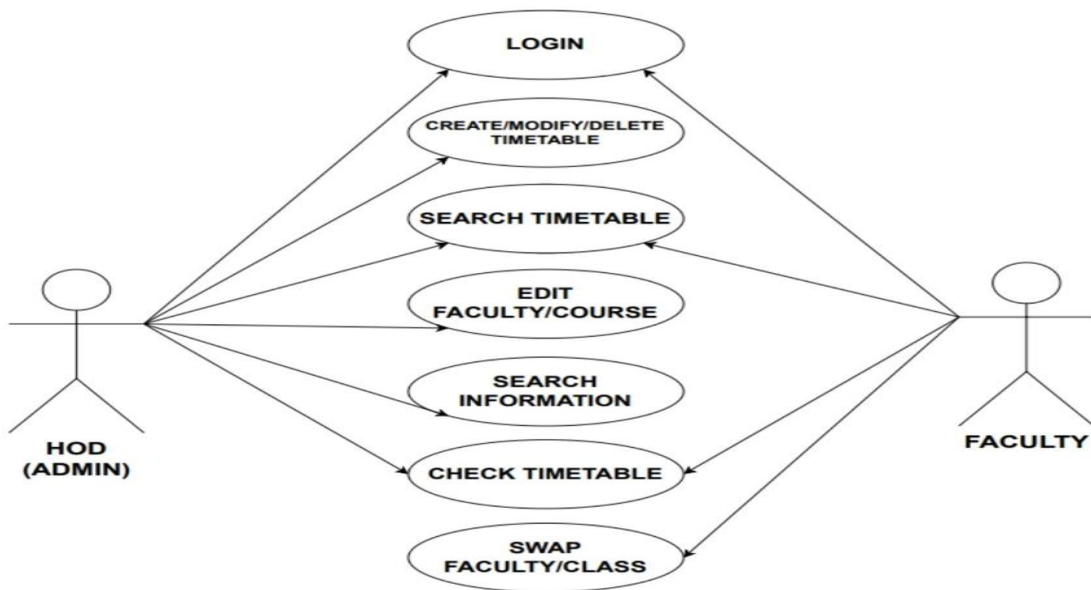
- Automated Scheduling.
- User Friendly Interface.
- Flexibility and Accessibility.
- Real Time Communication.
- Streamline Data Entry and Management.

1.5 System Architecture:

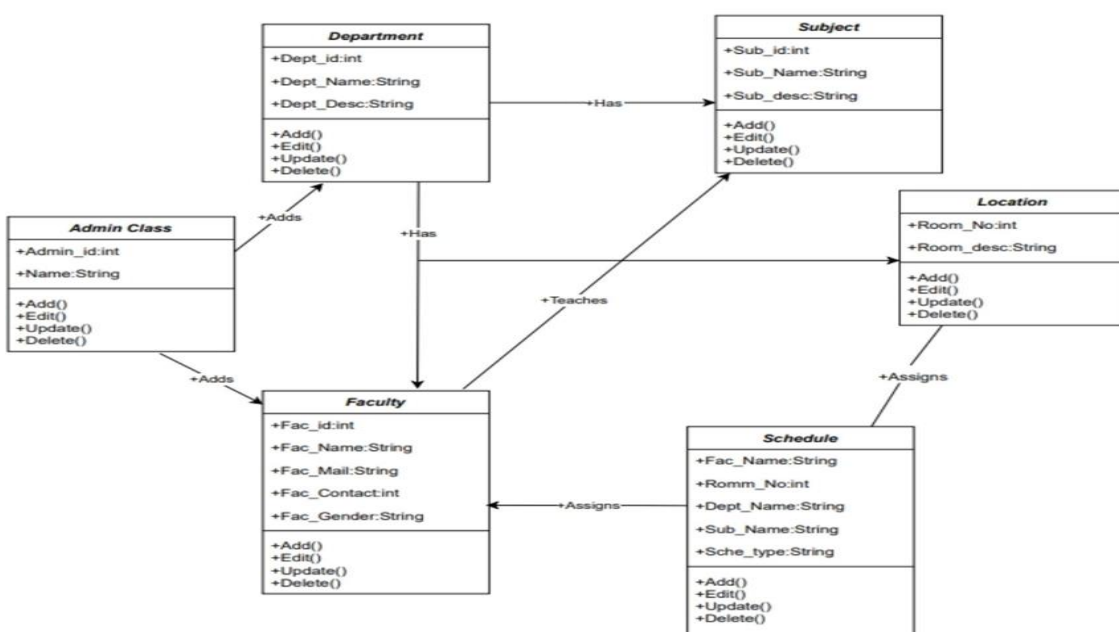


1.6 UML Diagrams:

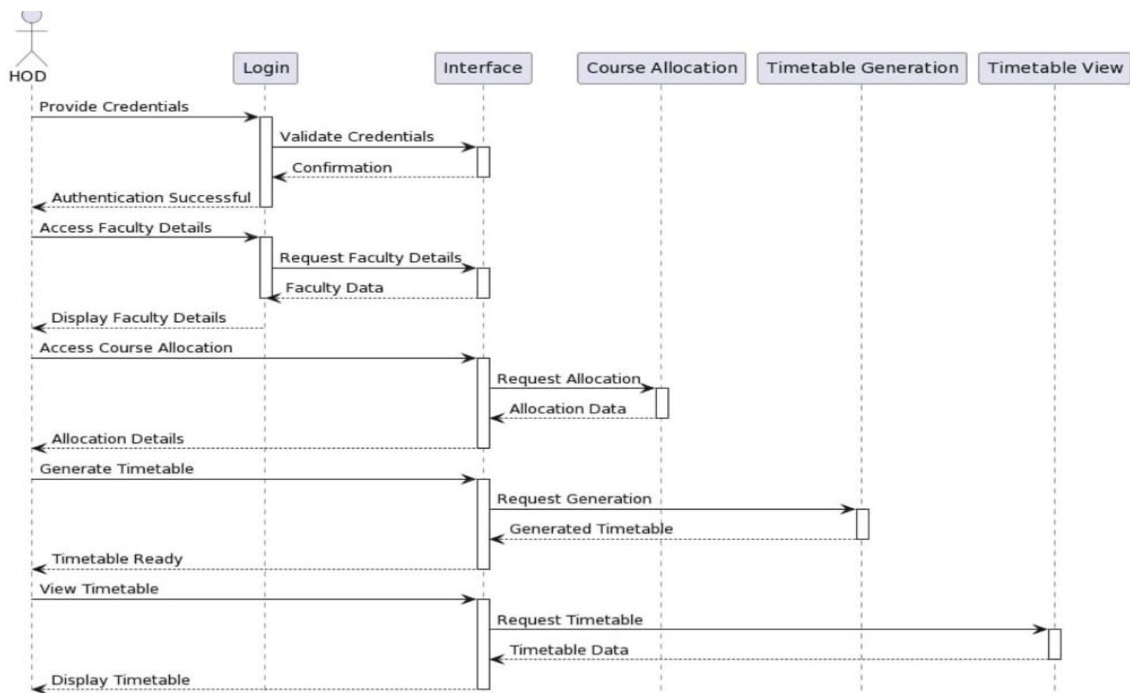
1.6.1 Use Case Diagram:



1.6.2 Class Diagram:



1.6.3 Sequence Diagram:



1.6.3 Activity Diagram:



2. OVERALL DESCRIPTION

2.1 Feasibility Study:

A feasibility study for the Faculty Time Table Management System (FTTMS) would be a critical step in assessing the viability and potential benefits of implementing such a system within an academic institution. Here's how the feasibility study might be structured.

2.1.1 Operational Feasibility:

Assess the operational aspects of implementing FTTMS, including its impact on current processes and workflows. Identify potential challenges or barriers to adoption, such as resistance to change or training needs for faculty and administrative staff.

2.1.2 Economical Feasibility:

Conduct a cost-benefit analysis to determine the financial feasibility of FTTMS. Estimate the initial development and implementation costs, ongoing maintenance expenses, and potential cost savings or revenue enhancements resulting from improved scheduling efficiency.

2.1.3 Technical Feasibility:

The technical feasibility of Faculty Timetable Management System involves assessing whether the hardware and software requirements can be met. This includes evaluating the availability and cost of necessary hardware and software, as well as the skills and expertise required to implement and maintain the system.

2.1.4 Legal and Ethical Feasibility:

Legal and ethical feasibility involves assessing whether the Faculty Timetable Management System complies with relevant laws, regulations, and ethical standards. This includes ensuring that data is handled appropriately and that the system is designed to protect Faculty privacy and confidentiality.

3. SYSTEM ANALYSIS

3.1 Software Requirement Specifications

A software requirements specification (SRS) is a comprehensive description of the intended purpose and environment for software under development. The SRS fully describes what the software will do and how it will be expected to perform. An SRS minimizes the time and effort required by developers to achieve desired goals and minimizes the development cost. A good SRS defines how an application will interact with system hardware, other programs, and human users in a wide variety of real-world situations.

3.2 Hardware and Software Requirements

3.2.1 Hardware Requirements

- HDD 512GB
- RAM 4GB
- PROCESSOR i5
- KEY BOARD
- MOUSE

3.2.2 Software Requirements

- Frontend: HTML5, CSS3, Javascript ES6, php 7.4
- Backend: MySQL 8.0
- Operating System: Windows 11

4. FUNCTIONAL REQUIREMENTS

4.1 User Login:

Faculty members, Heads of Departments (HODs) or admin personnel should be able to log into the system securely using their unique usernames and passwords.

4.2 View Class Schedule:

Faculty members should be able to see their assigned class schedules, including the subject, time, and classroom details.

4.3 View Department Schedules:

HODs should be able to view the schedules of all faculty members within their department to ensure adequate class coverage and resource allocation.

4.4 Manage Faculty Information:

Admin personnel should be able to input and update faculty information, including contact details, teaching assignments, and department affiliations.

4.5 Notifications:

The system should send notifications to faculty members and HODs regarding schedule changes, approval statuses, and other relevant updates.

4.6 User-Friendly Interface:

The system should have an easy-to-use interface with intuitive navigation and Clear instructions to facilitate user interaction for Faculty and Hod personnel.

5. NONFUNCTIONAL REQUIREMENTS

Non-functional requirements describe how the system should perform, rather than what it should do. Here are simplified non-functional requirements for the Faculty Time Table Management System (FTTMS):

5.1 Performance: The system should respond quickly to user actions, like loading schedules and processing requests, even when many users are using it at once.

5.2 Reliability: FTTMS should be dependable, meaning it should work without crashing or losing data. Users should trust that it will always be available when they need it.

5.3 Usability: The system should be easy to understand and use, even for people who aren't very good with computers. It should have clear instructions and be intuitive to navigate.

5.4 Compatibility: The system should work on different devices and web browsers, so users can access it from anywhere using their preferred device.

5.5 Maintainability: FTTMS should be easy to update and maintain over time. This includes fixing bugs, adding new features, and keeping it compatible with new technology.

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