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SEAT NO:210

Project ID:10

PROJECT TITLE: SLOT BOOKING FOR TAC REVIEW

Technical Components:

Component Tech Stack:

Backend: Nodejs, Express JS

Frontend: Angular

Database: MongoDB

API RESTful services

Phases of Project

Stage 1: Planning and Requirement gathering

Stage 2: Design and Prototyping

Stage 3: DB Designing and Implementation

Stage 4: Backend Development

Stage 5: Testing & Integration

Stage 6: Deployment

1.1 Problem Statement

The current review scheduling process for Tac relies on manual Excel sheets and email communication, filling the Google Form leading to inefficiencies and potential errors. This can result in:

- **Scheduling conflicts:** Students and faculty may struggle to find mutually agreeable review times due to a lack of centralized scheduling visibility.
- **Communication delays:** Information about review slots and assignments might not reach all stakeholders promptly, hindering timely preparation.
- **Data inconsistency:** Errors can occur when manually transferring data between spreadsheets and emails.
- **Limited flexibility:** Modifying booked slots can be heavy workload and time-consuming.

1.2 Scope

The system will function as a portal for:

- **Students** to book review slots for approved projects and receive rewards upon completion.
- **Administrators** to manage slot openings, project registrations, and generate reports.
- **Faculty** to reserve slots for student reviews.

2. System Overview

2.1 Users

- **Admin:**
    - Manages slot openings for student bookings.
    - Oversees project registrations.
    - Sets slot availability based on project volume.
    - Generates Final Schedule based on Student and faculty Bookings
- **Student:**
    - Books a single slot for a Tac-approved project.
    - Has a 24-hour window to modify bookings after confirmation.

- **Faculty:**
    - Books slots to review student applications.
    - Can adjust booked slots within 24 hours for scheduling conflicts.

2.2 Features

- **Login and Registration:** Users with college email IDs can register and log in for system access.
- **Student Slot Booking:**
    - Students with approved projects can book a 3-day slot.
    - 24-hour window for modifying booked slots before the slot closes for flexibility.
- **Admin Access:**
    - Initiates scheduling of project reviews.
    - Generates an Excel sheet with review details upon slot closure.
    - Distributes the Excel sheet to students via email.
- **Faculty Slot Booking:**
    - Faculty can reserve a single slot after student bookings close.
    - 24-hour window for modifying booked slots before the slots closed for scheduling conflicts.
    - Faculty can book the slots based on the bookings of the students.
    - Faculty can book the slot can review the student of maximum count of 10.
    - When the faculty books the slot, the students in the booked slot, cannot be booked by another reviewer.
    - If it reaches maximum bookings of the slot by the faculty for the students in that particular slot then the particular slot for the faculty gets disabled automatically preventing double booking.

3. Functional Requirements

3.1 User Management:

- System should allow student, faculty, and admin registration and login using college email IDs.
- Admin should have the authority to manage user accounts and access levels.

3.2 Student Slot Booking:

- Students can book a single 3-day slot for their approved project.
- System should prevent duplicate bookings by the same student.
- Students can modify their booked slot within 24 hours for scheduling flexibility.

3.3 Faculty Slot Booking:

- Faculty can book slots after student bookings close.
- System should prevent faculty from booking overlapping slots.

4.Communication:

- The system should send automated notifications to students and faculty regarding slot booking confirmations and modifications.
- Admin should be able to distribute the final review schedule (Excel sheet) to students via email.

5.WORKFLOW: