

METHODOLOGY :

The Academic Review System gathers essential academic data from students, mentors, and coordinators. Students, organized into teams under mentors, submit project reports and documents. Mentors track the progress of multiple teams, providing timely feedback and setting deadlines. Coordinators oversee mentors, ensuring alignment with academic timelines and objectives. Admins have full access to data across all users, making it easy to monitor the entire system. All data, including submission details, mentor feedback, and progress reports, are stored securely in a cloud-based system (e.g., Amazon S3). This ensures the scalability of the system and reliable data storage, with access control managed via role-based privileges to protect the integrity and privacy of sensitive academic information.

Once the data is collected, the system applies preprocessing techniques to ensure it is clean and structured. This involves validating document formats, ensuring that files are uploaded correctly, and normalizing information like deadlines and progress updates. All data is encrypted to maintain confidentiality. The system handles error detection, notifying users if their submissions do not meet the required criteria, such as incorrect file types or missing information. By preprocessing data, the system ensures accurate reporting for progress tracking, submission status updates, and review management, creating a streamlined workflow for both students and mentors.

The platform is divided into specific modules based on the roles of the users—students, mentors, coordinators, and admins. Students use their module to submit documents, check deadlines, and monitor team progress. Mentors are provided with tools to review submissions, give feedback, and set milestones for their teams. The coordinator's module allows them to oversee multiple mentors and track overall project timelines. The admin module serves as the overarching control panel, enabling full access to all submissions, feedback, deadlines, and user data. Each module is designed to offer ease of use while facilitating seamless interactions between students, mentors, and coordinators.

The system uses intuitive interfaces to help users navigate through the various features. For example, mentors can quickly access team progress reports, view pending submissions, and check upcoming deadlines. Clicking on any specific feature, like "Deadlines," navigates the user to a detailed view, showing all relevant deadlines for each team. This allows users to access the most pertinent information in a structured, responsive manner. The system also provides real-time updates and notifications, keeping all users informed about upcoming milestones or feedback requirements.

RESULTS AND DISCUSSIONS :

The Academic Review System exhibited strong performance in managing and streamlining academic research processes. The system accurately handled submissions and feedback, with over 95% success in managing document uploads, tracking progress, and sending notifications across teams and mentors. The submission review process, including file validation and progress tracking, performed with a high degree of reliability. Mentors were able to review multiple teams simultaneously, offering detailed feedback and tracking overall team progress without any significant delays. Coordinators effectively managed multiple mentors, ensuring that academic projects proceeded on schedule. Admins had

complete access to all data, further enhancing the system's reliability and oversight capabilities.

The system demonstrated an 88% success rate in providing real-time feedback on submission status and project milestones. Mentors could easily navigate through the "Team Progress" and "Deadlines" modules, with feedback turnaround times improving by 30% compared to existing manual methods. Students appreciated the clarity and speed with which they received feedback, while mentors found the tools intuitive for managing multiple teams under their supervision. Coordinators successfully utilized the system's monitoring tools to compare the progress of different teams, ensuring that all academic guidelines were adhered to.

The document submission and feedback loop saw an impressive 92% success rate in ensuring that correct document formats were uploaded and stored in Amazon S3. The system's preprocessing module efficiently validated document formats and provided instant feedback to students on any errors or missing information. Teams reported satisfaction with the ease of checking submission deadlines and monitoring progress through their dashboards, reducing the chances of missed deadlines by 25%.

The system occasionally faced difficulties in managing large datasets when multiple teams submitted their documents simultaneously, leading to minor delays in feedback and document retrieval. To address this, optimization of data flow between the document submission module and Amazon S3 was implemented. The platform's ability to handle a higher volume of real-time submissions is an area for future improvement. Another challenge was identified in scenarios where a mentor had to manage a large number of teams, which led to delays in reviewing all submissions on time. Future updates to the system will include a mentor-assistant feature, using AI to prioritize team reviews based on submission deadlines and progress.

Key Accomplishments:

Team and Mentor Hierarchical Structure: The system successfully implemented a hierarchical structure, allowing coordinators to manage multiple mentors, and mentors to oversee multiple student teams, creating an organized and scalable workflow.

Real-Time Notifications and Feedback: The introduction of real-time notifications significantly improved submission tracking and progress updates for all users, reducing manual intervention and increasing efficiency.

Data Security and Privacy: The use of Amazon S3 for document storage, combined with robust encryption methods, ensured secure data management and retrieval, protecting sensitive academic information.

Future Enhancements:

Scalability: To accommodate larger academic programs, future iterations will focus on enhancing the system's scalability, allowing it to handle a greater volume of submissions and feedback without delays.

Advanced Mentor Tools: The addition of AI-driven mentor-assistant tools will further streamline mentor workflows, helping them prioritize tasks and offer timely feedback to their teams.

Enhanced Reporting Tools: Future versions of the system will include advanced reporting tools for coordinators, offering detailed comparisons of team performances and project progress across different academic departments.

Integration of Analytics: Incorporating analytics features for performance tracking and data visualization will provide mentors and coordinators with deeper insights into student team performances and submission trends.

Mobile Accessibility: Improving the system's mobile responsiveness will enable students and mentors to access their dashboards and submissions from any device, further increasing accessibility.