

FYP Manager: Simplifying Project Allocation and Supervision

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Abstract: *This project introduces a comprehensive web-based system to automate and streamline final year project management for students and faculty. It manages the entire project life cycle—from project title recommendations based on student preferences and faculty expertise to final grading and report generation. The system includes project and team management, progress tracking, and real-time monitoring for all stakeholders. A key feature is the deduplication function, which automatically detects and removes overlapping project proposals, reducing administrative workload. It efficiently matches students to suitable projects using prioritization mechanisms based on skills and interests. Students can submit preferences, view projects, and communicate with advisors, while faculty members can access real-time progress reports and performance data. The platform promotes collaboration among students, guides, HODs, and coordinators, ensuring transparency and timely decision making. By formalizing project allocation and monitoring, the system enhances efficiency, minimizes errors, and creates a more professional project management environment.*

Keywords: *Web-Based System, Project Allocation, Student–Faculty Collaboration, Project Tracking, Project Prioritization, Deduplication Functionality, Automated Project Matching, Real-Time Monitoring, Progress Reporting, Team Management*

I. INTRODUCTION

1.1 Importance of the Final Year Project

The FYP holds immense significance as it bridges academic theory with real-world application. It enables students to conduct independent research, analyze data, and propose practical solutions—showcasing their technical and analytical competence.

1.2 Skill Development and Professional Growth

Beyond academics, the FYP cultivates essential skills such as critical thinking, problem solving, time management, communication, and teamwork. These transferable skills prepare students for professional environments and enhance their employability.

1.3 Career and Academic Advancement

The project experience helps students refine career goals, explore specialized interests, and build a professional portfolio that can impress employers or graduate programs. For those pursuing higher education, a well-executed FYP demonstrates the ability to conduct independent research—a crucial requirement for postgraduate studies.

II. PROBLEMS IDENTIFIED

The Final Year Project (FYP) management process faces several challenges affecting its efficiency and effectiveness. A major issue is the lack of clear guidelines, causing confusion among students, faculty, and administrators. Inconsistent instructions for project selection, execution, and evaluation hinder smooth operations. Limited access to research materials and technical resources restricts topic diversity, while poor project allocation often mismatches students with unsuitable projects. Communication gaps lead to missed deadlines and inadequate support, and insufficient mentorship from faculty impacts project quality. Technological shortcomings, such as outdated software, further slow progress. Weak timeline management and subjective evaluation criteria can cause delays and bias. The absence of deduplication results in repetitive project topics, while inadequate monitoring tools make tracking difficult. Limited collaboration platforms restrict interaction and feedback. Addressing these issues requires clear policies, better communication, modern infrastructure, and efficient monitoring and assessment tools. Thus, a web-based system is essential to streamline FYP management, improve clarity, and enhance coordination between students and faculty.

2.1 Cloud Computing

Cloud computing drives digital transformation by enhancing efficiency, agility, and connectivity across industries. It enables businesses to modernize processes, making them faster, more secure, and cost-effective.

Software as a Service (SaaS):

SaaS is a cloud-based model that delivers software applications via the internet, eliminating the need for users to manage infrastructure or updates. It typically operates on a subscription or pay-as-you-go basis—examples include web-based email services.

Key SaaS Characteristics:

- **Multi-Tenant Architecture:** All clients share a single, centrally maintained infrastructure, enabling rapid updates and innovation.
- **Easy Customization:** Users can tailor applications to their needs without affecting the shared system, ensuring upgrades are seamless and low-cost.
- **Better Access:** SaaS enables secure access from any device, allowing multiple users to view and manage data simultaneously.
- **Consumer Web Interface:** Familiar, intuitive interfaces make SaaS applications easy to use and update compared to traditional software.

III. SYSTEM ANALYSIS

3.1 Existing System

The traditional Final Year Project (FYP) management process relies heavily on manual, paper-based operations. Students submit printed project proposals, which faculty review and approve manually. Mentor assignment occurs through in-person meetings with HoDs, while document sharing happens via hard copies or emails, leading to scattered records. Reviews, grading, and attendance tracking are done manually, requiring physical documents and signatures. Communication mainly occurs face-to-face or through emails, often causing delays and miscommunication.

Disadvantages:

- Slow, inefficient, and error-prone manual workflow.
- Excessive paperwork causes storage and management challenges.
- Communication gaps lead to delays and misunderstandings.
- Resource-intensive due to printing and physical approvals.
- Difficult to track project progress effectively.
- Environmentally unsustainable due to paper use.

3.2 Proposed System

The proposed web-based FYP management system replaces manual processes with an automated, digital platform. It enables electronic proposal submission, automated title approval with deduplication, and efficient mentor assignment based on expertise. A centralized document repository ensures organized storage and easy access. Online reviews, automated attendance tracking, and digital grading streamline workflows. Additionally, an integrated notification system keeps all stakeholders updated on deadlines and events, ensuring smooth communication and collaboration.

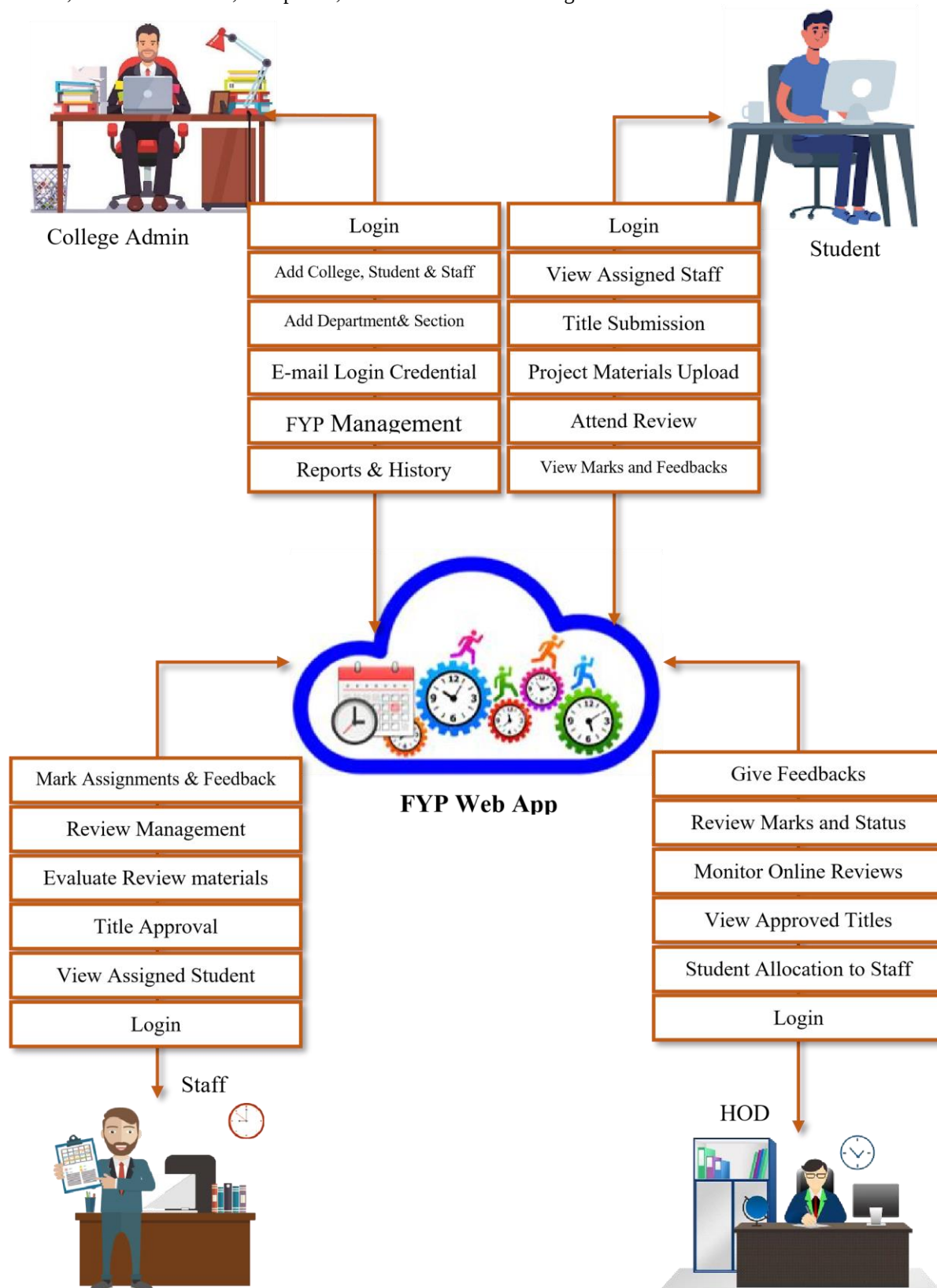
Advantages:

- Automation speeds up approvals and reduces faculty workload.
- Deduplication ensures unique and diverse project topics.
- Online mentor assignment improves efficiency and transparency.
- Centralized storage simplifies document management.
- Digital grading and tracking enhance accuracy and accessibility.
- Notifications ensure timely updates and improved communication.
- Reduced paper usage supports environmental sustainability.

IV. SYSTEM ARCHITECTURE DESIGN

The system architecture is a three-tier web-based model comprising the user interface, application, and database layers. Students, faculty, and administrators interact through a web interface for easy access. The application layer handles project allocation, deduplication, and progress track. All project data is securely stored and managed in a centralized database.

The system uses cloud technology (SaaS) for scalability and accessibility.
Overall, it ensures efficient, transparent, and automated FYP management for all users.



V. IMPLEMENTATION AND INTEGRATION

The implementation of the Final Year Project (FYP) Management System involves the development of a fully functional, web-based application designed for seamless interaction among students, faculty, and administrators. The system is implemented using modern web technologies such as **HTML, CSS, JavaScript, PHP/Python, and MySQL**, ensuring a responsive and efficient user experience.

The **frontend** provides an intuitive user interface for project submission, allocation, and monitoring, while the **backend** manages business logic, authentication, and communication between modules. The **database layer** securely stores all project-related data, user information, and evaluation results in a centralized structure.

Integration focuses on ensuring smooth communication between system modules—such as **project proposal management, mentor assignment, progress tracking, and grading**—to maintain data consistency and workflow automation. APIs are utilized for efficient data exchange and synchronization across components.

Additionally, the system is **integrated with cloud-based infrastructure**, supporting realtime access, scalability, and backup for enhanced reliability. Continuous testing and validation are conducted during implementation to ensure system accuracy, performance, and security before deployment.

Overall, the implementation and integration approach guarantee a **robust, scalable, and user-centric platform** that effectively addresses the challenges of traditional FYP management.

VI. EVALUATION AND RESULTS

The FYP Management System was evaluated based on usability, efficiency, and accuracy in managing final year projects. Students, faculty, and administrators tested key functionalities, including project submission, mentor assignment, progress tracking, and grading.

The system significantly reduced manual workload, eliminated redundant project proposals through deduplication, and improved communication with automated notifications. Real-time dashboards allowed stakeholders to monitor project progress effectively, ensuring timely interventions.

Overall, the results demonstrated that the web-based system is efficient, user-friendly, and reliable, providing a more organized, transparent, and streamlined process compared to the traditional manual approach.

Table Name: Review Result					
S.No	Field	Data Type	Field Size	Constraint	Description
1	id	int(11)	11	Null	id
2	Department	varchar(20)	20	Foreign Key	Department
3	Register Number	varchar(20)	20	Null	Register Number
4	Description	varchar(30)	30	Null	Description
5	Staff id	Varchar	30	Null	Staff id
6	Review mark	Varchar	20	Null	Review mark
7	Remark	varchar(20)	20	Null	Remark

VII. CONCLUSION

In conclusion, the comprehensive design and development of the Final Year Project (FYP) Web App is rooted in a user-centric approach, employing Bootstrap for Front-End responsiveness and Python with Flask for Back-End efficiency. Leveraging MySQL ensures structured data storage, a critical aspect for housing essential project information. The system's key features, such as project title recommendation, team prioritization, and deduplication mechanisms, aim to optimize the project selection process and enhance collaboration among students, advisors, and administrators. The End User Dashboard, Mentor Assignment, Title Processing and Deduplication, Digital Signature Integration, Review Material Submission, Online/Offline Review, Review Evaluation and Grading, Attendance Tracking, Report Generation, and Notification System modules collectively contribute to streamlining the entire FYP process. These modules facilitate efficient project management, personalized mentorship, systematic title processing, secure digital signatures, collaborative review processes, and seamless communication. The FYP Web App, with its user-friendly interfaces and robust functionalities, stands poised to revolutionize the traditional manual approach to final year project management, ensuring a more streamlined, transparent, and collaborative experience for all stakeholders involved.

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