

A
Mini Project Report
on
“Smart Task Manager System”

Submitted in partial fulfillment of the requirements

for Third Year B.Tech. Semester II

in
Computer Science and Engineering

To
Punyashlok Ahilyadevi Holkar Solapur University, Solapur

By

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SVERI's COLLEGE OF ENGINEERING, PANDHARPUR

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SVERI'S COLLEGE OF ENGINEERING, PANDHARPUR

CERTIFICATE

This is to certify that the Mini Project entitled

“Smart Task Manager System”

has been successfully submitted by

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*in partial fulfillment of the requirements for the **Third Year – Semester II** of the **Bachelor of Technology (B.Tech.) in Computer Science and Engineering**, as per the curriculum prescribed by Punyashlok Ahilyadevi Holkar Solapur University, Solapur, during the academic year 2024-2025.*

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NOMENCLATURE

| | |
|-------------|-------------------------------------|
| AWS | - Amazon Web Services |
| AI | - Artificial Intelligence |
| S3 | - Simple Storage Service |
| API | - Application Programming Interface |
| GUI | - Graphical User Interface |
| JSON | - JavaScript Object Notation |
| SDK | - Software Development Kit |
| OCR | - Optical Character Recognition |
| ML | - Machine Learning |
| NLP | - Natural Language Processing |
| UI | - User Interface |
| UX | - User Experience |
| JWT | - JSON Web Token |
| CPU | - Central Processing Unit |
| GPU | - Graphics Processing Unit |
| DB | - Database |
| I18N | - Internationalization |
| L10N | - Localization |
| CDN | - Content Delivery Network |
| SSR | - Server-Side Rendering |
| SPA | - Single Page Application |
| CORS | - Cross-Origin Resource Sharing |
| IAM | - Identity and Access Management |
| CRUD | - Create, Read, Update, Delete |

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2. Literature Survey

1. A comprehensive review of existing literature reveals several studies and systems related to task management in academic and organizational settings. Previous research has highlighted the challenges of manual task management systems, including inefficiencies in communication, lack of real-time tracking, and difficulties in performance evaluation (Smith et al., 2020)[1].
2. Several web-based solutions have been proposed to address these issues, with varying degrees of success. Notable works include the Academic Task Management System by Johnson and Lee (2019), which introduced a digital platform for assigning and tracking faculty workloads. Their system demonstrated improved efficiency but lacked robust reporting features. Similarly, the Smart Faculty Manager by Chen et al. (2021) incorporated cloud-based storage and mobile accessibility, though it faced limitations in scalability[2].
3. Recent advancements in cloud computing have enabled more reliable and secure task management solutions. Studies by Patel and Sharma (2022) emphasized the benefits of cloud-hosted systems for educational institutions, particularly in terms of data security and remote access. However, their research identified gaps in integration with existing university management systems. Other relevant studies explored notification systems and analytics in task management[3].
4. The work of Gupta et al. (2020) proposed AI-driven reminders and performance predictions, while maintaining that simple, user-friendly interfaces remain crucial for adoption in academic environments. Moreover, DeBerard et al. (2004) highlighted that timely intervention and proper academic guidance reduce dropout rates and help students better align their academic pursuits with personal goals. By shifting counseling services to a digital platform, the EduPath app aims to provide this guidance in a more efficient and scalable way[4].

5. Our Smart Task Manager System builds upon these foundations while addressing identified gaps. It combines the best features of previous systems cloud hosting, real-time tracking, and automated notifications—with enhanced reporting tools and a focus on departmental scalability. The literature confirms both the need for such a system and the technological feasibility of our proposed solution[5].
6. The transition from in-person to virtual services is further supported by rapid advancements in mobile technologies, making mobile apps a viable platform for delivering academic counseling services. Mobile apps, due to their ubiquity and ease of use, are uniquely positioned to provide students with continuous access to counselors, educational resources, and personalized advice (Wang et al., 2015)[6].
7. The authors propose a machine learning approach to prioritize tasks automatically in smart task management platforms. Their model considers user behavior, task history, and urgency levels. It improves decision-making and reduces manual effort. The system is tested in academic environments and shows improved task completion rates[7].
8. The React documentation introduces a component-based architecture ideal for building scalable frontends. React enables dynamic UI updates and smooth user interactions in task manager interfaces. Its virtual DOM and state management are effective in managing real-time task updates. Hooks and modular design patterns support rapid feature development.[8]
9. This guide presents how to build RESTful web services using Spring Boot. It emphasizes creating scalable and maintainable backend APIs for managing tasks, users, and notifications. The guide also covers security, validation, and integration with frontend frameworks like React. It is foundational for full-stack development of smart task systems[9].

10. The authors discuss the implementation of a cloud-based academic planner system that supports multi-user access, scheduling, and alerts. They analyze its performance in distributed environments. The system improves administrative efficiency and student coordination. Key technologies include cloud databases and asynchronous notifications[10].

12.2 Future Scope

1. **AI-Based Personalized Counseling:**

Integrating artificial intelligence (AI) and machine learning algorithms can help offer personalized recommendations for counselors and educational resources based on students' academic profiles, career goals, and preferences. AI can improve user experience by tailoring the guidance provided to individual students, academic programs, and career options based on their performance and interests.

2. **Community & Collaboration:**

Inter-Departmental Task Sharing: Allow cross-department collaborations (e.g., joint research tasks). **Public API Release** APIs for third-party developers to build extensions.

3. **Multilingual Support:**

Introducing support for multiple languages would expand the app's accessibility to students and counselors in diverse regions. By allowing users to select their preferred language, the app can reach a broader, global audience and cater to students from various linguistic backgrounds, increasing inclusivity.

4. **Security & Compliance:**

Blockchain for Audit Trails Use Hyperledger to create tamper-proof logs of task assignments/updates. **GDPR/COPPA Compliance** Implement data anonymization for privacy-sensitive reports.

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