AICADEMIC PLANNER: THE INTELLIGENT STUDY BUDDY

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ABSTRACT
AIcademic Planner is an AI-powered platform featuring multiple tools essential for assisting students in their academic journey, including timetable management, sourcing learning materials, and monitoring academic progress. Key features integrated into a single platform include task planners, semester calendars, attendance monitors, carry mark calculators, and customised study programs. AIcademic Planner utilises Artificial Intelligence (AI) and Big Data to help students manage their time and learning by providing real-time updates, data-driven insights, and helpful suggestions. Students are less likely to miss critical dates and deadlines due to the platform's seamless integration with an interchangeable university database, which continuously informs them about course schedules, assignment due dates, and other significant announcements and changes. Additionally, the platform encourages collaboration among students, lecturers, and various educational websites by sharing study materials that AI analysts further scrutinise. As a result, it delivers only relevant content and recommends study styles tailored to each student's unique learning needs. Moreover, AIcademic Planner's cloud-based structure allows access across multiple devices, helping students stay organised with their tasks. In conclusion, the platform offers a robust, straightforward solution that makes academic preparation a hassle-free, effective, and focused experience for both students and educators.

KEYWORDS: *Academic, Artificial Intelligence, Dashboard, Cloud-Based, Management*

PROBLEM AND OBJECTIVE

The main problem that led to the existence of the AIcademic Planner was the difficulties students faced in managing their academic journey due to hassles in planning and management in academics, such as challenges in integrating their academic matters with the independent system. Many students struggle to create a personalised study plan that suits their learning paces and priorities amidst many assignments and deadlines, making it time-consuming and inefficient if they manually organise it using a traditional method (Surykant Chavan et al., 2024).

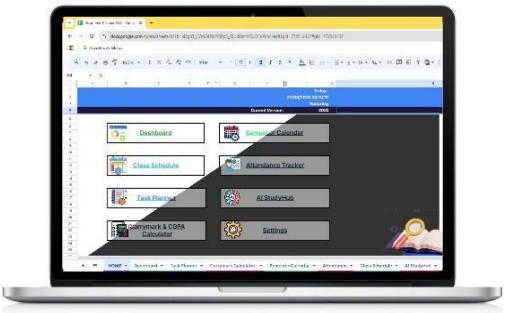
The objective is to help students manage their time efficiently. AIcademic Planner integrates classes, assignments, projects, and exams into one seamless platform, assisting students in managing their schedules effectively. With AI-driven recommendations, it prioritises tasks based on deadlines and user preferences, reducing stress and enhancing productivity. Another objective is to offer personalised learning support, allowing students to customise study plans and track their progress in real-time. This planner also provides data-driven insights, enabling users to analyse their productivity, identify challenges, and set milestones for academic success. According to Plooy et al. (2024), personalised adaptive learning support can help students learn effectively with tailored learning content to meet their needs and improve their understanding and retention. The goal of creating this product is to ensure students remain focused and organised. Automated reminders, intelligent planning, and insightful data-driven analytics will help students stay focused, organised, and on track to achieve their goals.

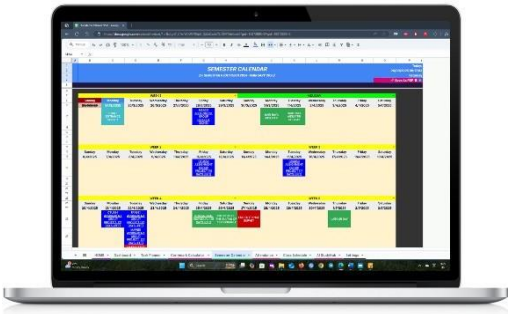
DESIGN DESCRIPTION

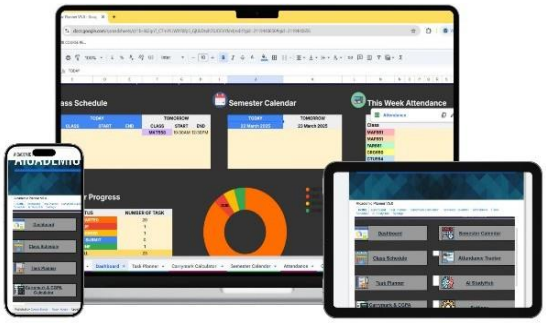
Using AIcademic Planner, students can organise their journey regarding class scheduling, planning, and guidance in finding material for assignments, which will help them set their final exam goals. The system requires students to fill in their personal and academic information, or they can upload the lesson plan, and the system will sort it out based on the data identified in the document using Optical Character Recognition (OCR) to personalise the content that suits them. For instance, the assessment due dates from the lesson plan will be automatically inserted into the system's calendar. Once they approach the due date, it will send an email and a notification through the phone to alert students about their assignments. Students can also view their class schedule and track their attendance. These functions can help students plan their studies and stay aware of any assignments due or whether classes will be held today. The lecturer will be informed via email to confirm the student's attendance.

Not just a simple time management planner, the AIcademic Planner also features data analytics and AI to assist students in completing assignments. AI can provide students with materials suited to the type of assignment, such as journals, books, and articles that contain relevant material or ideas. Additionally, it can suggest content to discuss in their assignment if the student is unsure how to begin. Data analytics will enable the system to recommend the best study methods and materials tailored to the student's learning style. With this integrated data analytics and AI system in the planner, students do not need to use separate apps, as everything is contained within the same platform. Another feature in the system is the CGPA tracker and carry mark calculator, which helps students set goals, such as the grade they want to achieve for the subject this semester. The system can calculate their carry mark and estimate projection marks for the final, as well as the trend of their CGPA and projections for next semester's GPA.

VISUALS







NOVELTY AND UNIQUENESS

AIcademic Planner harnesses Big Data, enabling users to create a personalised space on the platform by forming or severing links to multiple public and open-access databases from various online sources, all at their discretion. For example, it facilitates real-time syncing with the university database to retrieve and alert users about the latest information, including course registration, available slots in students' timetables, lecture schedules, attendance, assignment submissions, and examination dates. Therefore, any changes the university makes will automatically be reflected in the planner, ensuring timely notifications for students. Additionally, students can create and utilise their academic profiles to receive AI-tailored study plan suggestions based on their preferred learning pace, course difficulty, and examination dates through effective study strategies such as the Pomodoro Technique.

Moreover, the platform fosters collaboration between students and lecturers by sharing study resources. It also aggregates additional study materials from public and open-access databases on educational websites into the platform's repositories. Furthermore, AI visual analysis, complemented by OCR, will identify and categorise various formats of study resources according to their respective courses, reducing redundancy and filtering out non-academic materials within the repository.

BENEFITS TO MANKIND

AIcademic Planner can benefit students, particularly in tertiary education, by enhancing academic management through an all-in-one platform that provides a seamless experience and reduces the hassle of organising multiple functions. With everything in one place, students can manage their academic needs more efficiently. Learning also becomes more personalised with the help of AI and data-driven insights, allowing the system to recommend content tailored to each student's preferences and learning style. Additionally, students will gain a clear academic roadmap as AI and data analytics will project and estimate final grades, empowering them to stay focused, track their progress, and identify areas needing improvement, thus helping them achieve their desired academic performance with greater clarity and confidence.

COMMERCIAL POTENTIAL

The primary target users for the platform are university students who seek to effortlessly plan and track their academic progress throughout the semester while gathering and organising the necessary study resources to focus on studying instead of cumbersome academic management. Moreover, the platform gains competitive advantages by embracing the modularity of databases that can be hot swapped to cater to students' needs and leveraging AI, such as smart repositories. As an online platform, regarding scalability, its resource capacity and computing power can easily be adjusted to meet dynamic demand through its cloud host provider.

CONCLUSION

AIcademic Planner enhances academic management through an integrated platform, minimising student complexity. AI-driven personalisation and data insights tailor learning experiences to individual needs, while predictive analytics offer a clear roadmap for achieving academic goals. Students can monitor progress, stay focused, and address areas for improvement. Future enhancements could include adaptive learning pathways based on students' performance, integration with career development tools, and expanding the targeted users to include educators and lecturers to assist them in managing their research journey.

REFERENCES

Plooy, E. du, Casteleijn, D., & Franzsen, D. (2024). Personalised adaptive learning in higher education: a scoping review of key characteristics and impact on academic performance and engagement. Heliyon, 10(21), e39630–e39630. https://doi.org/10.1016/j.heliyon.2024.e39630

Surykant Chavan, P., Narayan Nikam, S., Parappa Chikodi, D., Dadaso Katkar, R., & Mandhare , R. M. (2024). AI-Based Study Planner. International Journal of Creative Research Thoughts (IJCRT), 12, 649–653. https://ijcrt.org/papers/IJCRT2412393.pdf