IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 3, March 2026
Impact Factor: 8.2

Academic Smart Study Planner and Task Scheduler with Database Support

Prof. Leena Raut[1], Vishakha Chopade[2], Isha Lanjewar[3]
[1],[2]PG Scholar, Department of Computer Application
[3]Assistant Professor, Department of Computer Application
K. D. K. College of Engineering, Nagpur, Maharashtra, India
leena.raut@kdkce.edu.in, chopadevmukundrao.mca24f@kdkce.edu.in,
lanjewarisharadkumar.mca24f@kdkce.edu.in

Abstract: *Effective academic time management and structured study planning remain persistent and well-documented challenges for students enrolled in postgraduate and undergraduate programs. Existing digital productivity solutions impose excessive reliance on cloud infrastructure, continuous internet connectivity, and mandatory user authentication mechanisms, thereby limiting accessibility and raising substantive concerns regarding personal data privacy and institutional data security. This paper presents the design, implementation, and empirical evaluation of an Academic Smart Study Planner and Task Scheduler, a full-stack web application developed using Python Flask for the backend application logic and SQLite as the relational database engine. The proposed system delivers a comprehensive suite of academic productivity features encompassing personalized study timetable generation, priority-based task scheduling, deadline tracking with visual alert mechanisms, a real-time study analytics dashboard, and Pomodoro-based focus session management. The backend architecture implements a weighted multi-criteria scheduling algorithm that dynamically reorders tasks based on deadline urgency, user-assigned priority classifications, and estimated task durations. Experimental evaluation involving thirty postgraduate students over a six-week period demonstrated a thirty-eight percent average improvement in task completion rates, sustained Pomodoro session completion averaging 4.5 cycles per study session, and a ninety-four percent user satisfaction rate for the analytics visualization component.*

Keywords: Academic Planner, Task Scheduler, Flask, SQLite, Pomodoro Technique, Productivity Analytics, Study Management System, Web Application, Time Management