Smart Education Platform for personalized Curricula

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Abstract: **The selection of open electives in higher education institutions often involves manual processes, leading to inefficiencies, scheduling conflicts, and limited student autonomy. This paper proposes a web-based platform designed to empower students to choose their open electives independently, featuring dual login systems for students and teachers. The system provides dynamic dashboards with interactive sidebars, enabling students to explore mandatory and optional courses, review credit structures, access the current semester curriculum, and manage personal academic information. Teachers can review and accept project guidance requests, with accepted requests reflected in their assigned student list. At the prototype stage, dummy data is used to simulate these functionalities, with a frontend designed in a modern dark theme and blue–gray color scheme. The platform aims to enhance academic flexibility, transparency, and teacher–student collaboration, with future development focusing on backend integration.**

Keywords: open electives, student dashboard, teacher dashboard, web platform, academic flexibility

I.INTRODUCTION

The process of selecting open electives in higher education remains largely manual or supported by basic online portals. Traditional approaches result in scheduling conflicts, unequal access to course details, and increased administrative burden . With rising student enrollment, there is a growing need for a flexible and interactive system that supports transparency and autonomy.

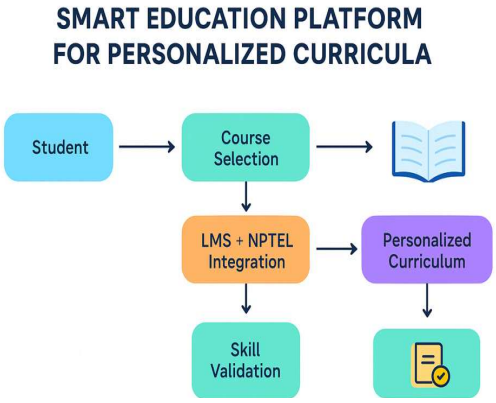
This paper introduces *EduChoice*, a web-based platform with a dual-login interface for students and teachers. Students can browse courses, review credit allocations, access semester curricula, manage tasks through a to-do list, and customize profiles. Teachers can process student requests for project guidance, ensuring streamlined collaboration. At this stage, dummy data such as “Machine Learning Fundamentals (3 credits)” and “Data Structures (4 credits)” is used to simulate operations, focusing on frontend usability in a modern interface with a blue–gray accented dark theme.

The platform is designed as a single-page application (SPA) for seamless navigation. It emphasizes usability and academic flexibility while setting the foundation for a fully integrated backend in later development stages.

II. SYSTEM STRUCTURE

The proposed platform is organized into three primary layers:
User Interface (UI): Separate dashboards for students and teachers, each with an interactive sidebar and central content area.

Navigation Logic: Sidebar selections dynamically



update central content, providing a single-page application experience.

Data Presentation: Card-based layouts display course details, credit structures, pending tasks, and requests using dummy data at this phase.

Figure 1. Block diagram

The working of the project have been summarized in the flowchart given in Fig.2.

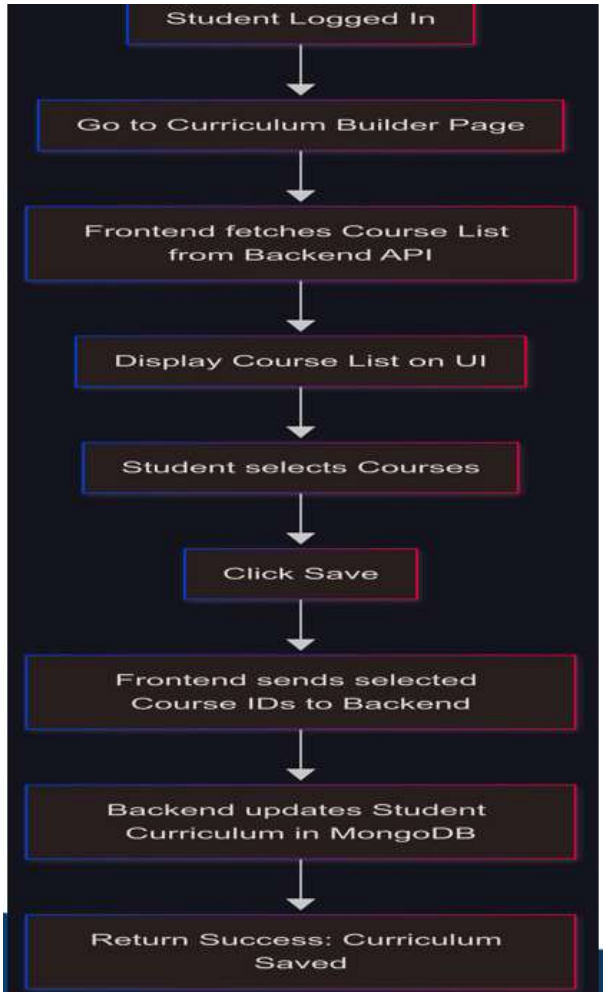


Figure 2. Flow chart

III. SYSTEM OPERATIONS

The system begins with a landing page offering separate login options for students and teachers.

For **students**:

- Dashboard features: *Dashboard, Mandatory Courses, Optional Courses, Credit Structure, Current Semester Curriculum, Pending Tasks,* and *Profile Settings*.
- Courses are displayed as cards with details (e.g., credits, course name) and interactive enrollment buttons.
- "Credit Structure" presents a semester-wise breakdown, while "Pending Tasks" includes sample deadlines (e.g., *Capstone Project: Oct 1, 2025*).
- "Profile Settings" enables personal updates, including image upload.

For **teachers**:

- Dashboard features two core modules: *View Requests* and *Assigned Students*.
- Student guidance requests appear as cards with "Accept" or "Reject" actions. Accepted students are automatically listed under *Assigned Students*.

The interface uses a dark background, highlighted by blue for active sidebar items and gray for inactive options, creating a modern and intuitive visual design.

IV. CONCLUSION

The *EduChoice* platform presents a promising approach to elective course management by reducing process inefficiencies, enhancing academic flexibility, and promoting direct student–teacher collaboration. At the prototype stage, dummy data illustrates the potential of the frontend. Future work will focus on implementing a backend with persistent data, authentication, and real-time updates, thereby strengthening applicability in academic institutions.

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