

Project ID: 89

Project Title

Ai Learning Coach: Goal-Driven Study Planning & Companion

Client Name

Jinglin Sun

Group Capacity

2 groups

Project Tags

Software Development, Generative AI (GenAI), Human Computer Interaction (HCI)

Company/Organization Name (Including Department)

Innovra

Project Background

University students often struggle to manage multiple courses, balancing lectures, tutorials, readings, assignments, and exams. Without clear guidance, they face uneven workloads, last-minute cramming, and high stress. Teachers also struggle to deliver consistent objectives, provide timely feedback, and monitor progress, especially in large classes. This project aims to develop a web-based AI Learning Coach that transforms course materials and deadlines into personalised, adaptive study plans with visualised learning paths, integrated practice and revision support, and dynamic feedback to keep students organised, engaged, and motivated.

Project Scope

This project will deliver a prototype web-based AI Learning Coach that includes personalised, adaptive study plans, progress visualisation, integrated practice tools, a conversational assistant for guidance, a basic dashboard for monitoring class performance, etc.

Project Requirements

Admin Role

- Provide course materials, learning goals, and milestone requirements to guide study plan generation.
- Track class-wide progress and performance trends through a monitoring dashboard.
- Receive alerts about students falling behind and insights for targeted support. Student

Role

- Register multiple courses and add deadlines for assessments and exams.
- Receive a personalised, balanced study plan that distributes tasks across courses and days.

- Visualise learning paths and track progress with simple, clear indicators.
- Access integrated practice, revision tools, and extra support for weak areas.
- Interact with a conversational assistant for explanations, guidance, and motivation.
- Benefit from dynamic plan updates that adapt to progress and deadlines.
- Stay engaged with reminders, catch-up plans, and gamified rewards.

Required Skills

Fundamental grasp of Large Language Models (LLMs)

Web application development

Basic knowledge of Vision LLMs

(Optional) Basic Agent framework concepts (Langgraph, Langchain, AutoGen...)

User Interface (UI) development

This project is recommended for postgraduate students who have a foundational understanding of AI and have completed AI-related courses

Expected Outcomes

- Functional Prototype: effectively demonstrates the core functionalities
- Source Code: complete, well-organised, and adequately commented source code for all custom-developed components of the agent.
- Final Project Report
- User Guide: A concise and easy-to-understand guide for end-users (i.e., students) explaining how to effectively interact with the features of the prototype agent.

Disciplines

Web Application Development; Artificial Intelligence (Machine/Deep Learning, NLP)

Other Resources

None