Project Overview (Internal Draft for Supervisor Review)

1. Background & Motivation

In recent years, students and self-learners have increasingly relied on AI tools (such as ChatGPT and similar systems) to support skill learning. While these tools provide fast answers and explanations, they do not manage the learning process itself. Learners often face unstructured roadmaps, inconsistent daily guidance, lack of accountability, and difficulty maintaining continuity.

As a result, many learners start learning a skill but fail to complete it due to confusion, overload, or absence of a clear execution plan.

This project is motivated by the need for a structured, realistic, and execution-focused learning environment where AI assists the *process of learning* rather than simply generating content.

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2. Problem Statement

Current AI-based learning approaches suffer from the following issues: - Learning paths are generic and not broken down into executable daily tasks. - AI tools provide answers but do not manage learning progress. - Students lack accountability, progress tracking, and feedback loops. - Roadmaps generated by AI often lack realism and practical sequencing.

These gaps lead to poor learning outcomes despite the availability of advanced AI tools.

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3. Proposed Solution

The proposed system is a **web-based AI-assisted learning environment** that converts a selected skill into a structured, day-by-day learning plan with progress tracking and guided feedback.

Instead of acting as a tutor or chatbot, AI is used as a *process assistant* that helps manage learning flow, validate progress, and recommend next steps.

The system focuses on controlled guidance, realistic task execution, and learner accountability.

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4. Target Users

Primary Users: - University students - Self-learners acquiring technical or professional skills

Future Users (Out of Current Scope): - Course creators - Training institutes

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5. Core Features (Scope Locked)

1. **Skill Selection Module**
   Users select a skill or topic they want to learn.

2. **Structured Roadmap Generator**
   The system generates a constrained and realistic learning roadmap divided into weeks and days.

3. **Daily Task Engine**
   Each day presents clear, executable tasks with defined expected outcomes.

4. **Progress Tracking System**
   Users track completed tasks, learning streaks, and overall progress.

5. **AI-Guided Feedback Module**
   Users submit task outcomes and receive focused feedback and next-step recommendations from the AI.

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6. System Limitations (Explicitly Defined)

To ensure feasibility and clarity, the following features are **not included** in this project: - Training or building a proprietary AI/LLM model - Real-time AI tutoring or unlimited chat-based interaction - Video hosting or content marketplace - Certification or assessment authority

These limitations help keep the project focused, realistic, and deliverable within a single academic semester.

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7. Technical Architecture (High-Level)

- **Frontend:** React.js
- **Backend:** Node.js with Express
- **Database:** MongoDB
- **AI Integration:** External LLM API (used in a controlled and rule-based manner)
- **Deployment:** Cloud-based demo deployment (e.g., Vercel / Render)

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8. Market Relevance & Applicability

The project targets the rapidly growing market of self-learners and students using AI for education. Unlike generic AI chat tools, this system differentiates itself by: - Enforcing structured learning - Reducing cognitive overload - Emphasizing execution and continuity

The system is suitable for presentation under **Technopreneurship**, with potential future monetization models such as freemium learning paths or institutional licensing.

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9. Expected Deliverables

By the end of the semester, the project will deliver: - A functional MERN-based web application - One complete demonstrated learning journey (sample skill) - AI-guided task feedback workflow - Deployed prototype suitable for academic evaluation

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10. Future Enhancements (Post-FYP Vision)

- Tools for course creators
- Advanced analytics and personalization
- Paid learning paths and subscriptions

These enhancements are not part of the current implementation but indicate long-term potential.

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11. Conclusion

This project presents a realistic, technically feasible, and industry-relevant solution that bridges the gap between AI assistance and structured learning execution. By focusing on process management rather than content generation, the system offers a practical and defensible Final Year Project aligned with modern AI-assisted education trends.