Pre-Synopsis Report

Area of Work: Artificial Intelligence, Natural Language Processing (NLP), Web Development, Personalized Education, Human-Computer Interaction

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❖ Proposed Title

"**AI-Powered Learning Tutorial Finder Website”**

❖ Type of Approach

Web Application Based

❖ Concepts/Ideas

The project revolves around the development of a **smart educational website** that helps users (especially students) identify and explore technical courses tailored to their individual learning needs. It incorporates web scraping for data collection, natural language processing for understanding queries, and deployment for public access.

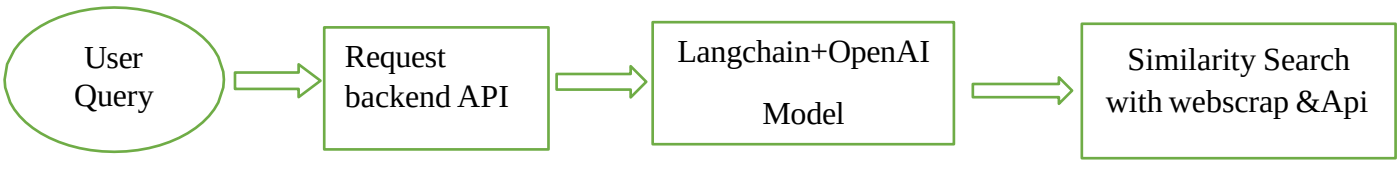
Key concepts include:

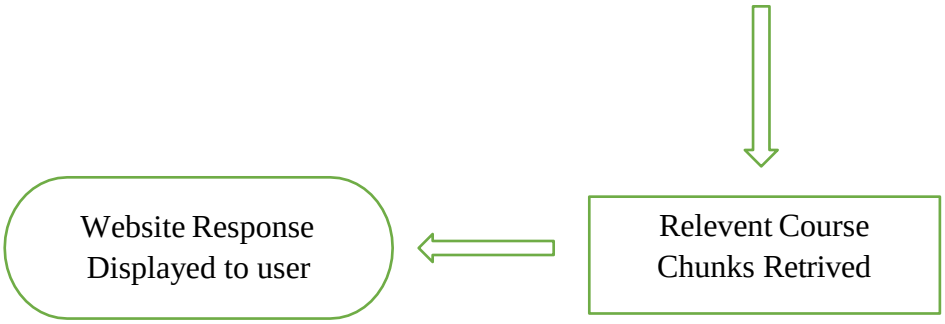
- Web scraping using Python (BeautifulSoup & Playwright)
- LLM integration using LangChain and OpenAI GPT
- Text chunking to bypass token limitations

❖ Objectives

- To build an intelligent website that recommends technical courses based on user input.
- To collect and preprocess course data from trusted sources via web scraping.
- To use LangChain and OpenAI to handle complex user queries and fetch relevant results.
- To enable personalized education access using AI-driven automation.

❖ General Block Diagram of the Model:





❖ Requirements (Optional)

❖ Software:

- Python 3.x
- LangChain
- OpenAI GPT (API Key)
- BeautifulSoup
- Requests

❖ Hardware:

- PC with minimum 8GB RAM
- Internet Connection

❖ Name of the Team Member

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2. **Mantasha Islam (2301220109013)**
3. **Aun Raza Khan (2301220109007)**

❖ References:

- Popenici, S., & Kerr, S. (2017).
- Russell, M. A. (2013). *Mining the Social Web.* O'Reilly Media.
- YouTube API Documentation – Google Developers. https://developers.google.com/youtube