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AI Legal Assistant

Second Year Project Synopsis
Submitted by

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Project Overview

Legal research is time-consuming and complex, often requiring professionals to read through lengthy documents and past cases.

Objective:

To develop an AI-powered legal assistant that simplifies legal research, document analysis, and case retrieval, enhancing efficiency and accuracy for legal professionals and non-experts. The AI Legal Assistant simplifies this process by:

1. Automating the summarization of legal documents and extracting relevant laws.
2. Retrieving past similar cases with judgments for quick reference.
3. Enabling interactive chat functionality for real-time document analysis.

Problem Statement

- Legal professionals, students and institutions face immense pressure to study and deliver accurate and timely judgements especially in a country like India where 5.1 crore cases are pending.
- New individuals involved in legal disputes, struggle to navigate legal jargon and processes.
- Automating document analysis and case retrieval will save time for legal professionals.
- This will help the School of Law's faculties and students to research and understand cases effectively and efficiently.

Methodology, Tools, and Techniques

**Approach Taken to Solve the Problem:**
1. Fine-tuning the Phi-2.7B model on legal-specific datasets for summarization, law extraction, and reasoning capabilities.
2. Implementing Retrieval-Augmented Generation (RAG) to retrieve relevant laws and past cases.
3. Utilizing Neo4j knowledge graphs to enhance the system's reasoning and relational understanding of laws.
4. Developing a web-based platform for users to upload documents, analyze content, and interact with the system in real-time.

Tools, Software, and Techniques Used:
• **Phi-2.7B model**: Open-source model from Microsoft. Fine-tuned for legal summaries and reasoning.
• **Neo4j**: Knowledge graph for improved contextual understanding of laws and relationships.
• **RAG**: Used for document retrieval and integration of external knowledge sources.
• **Web Development Tools**: HTML, CSS, Flask/FastAPI
• **Datasets**: Legal document summaries, Indian law QnA, and commonsense QnA datasets.

Methodology Flowchart
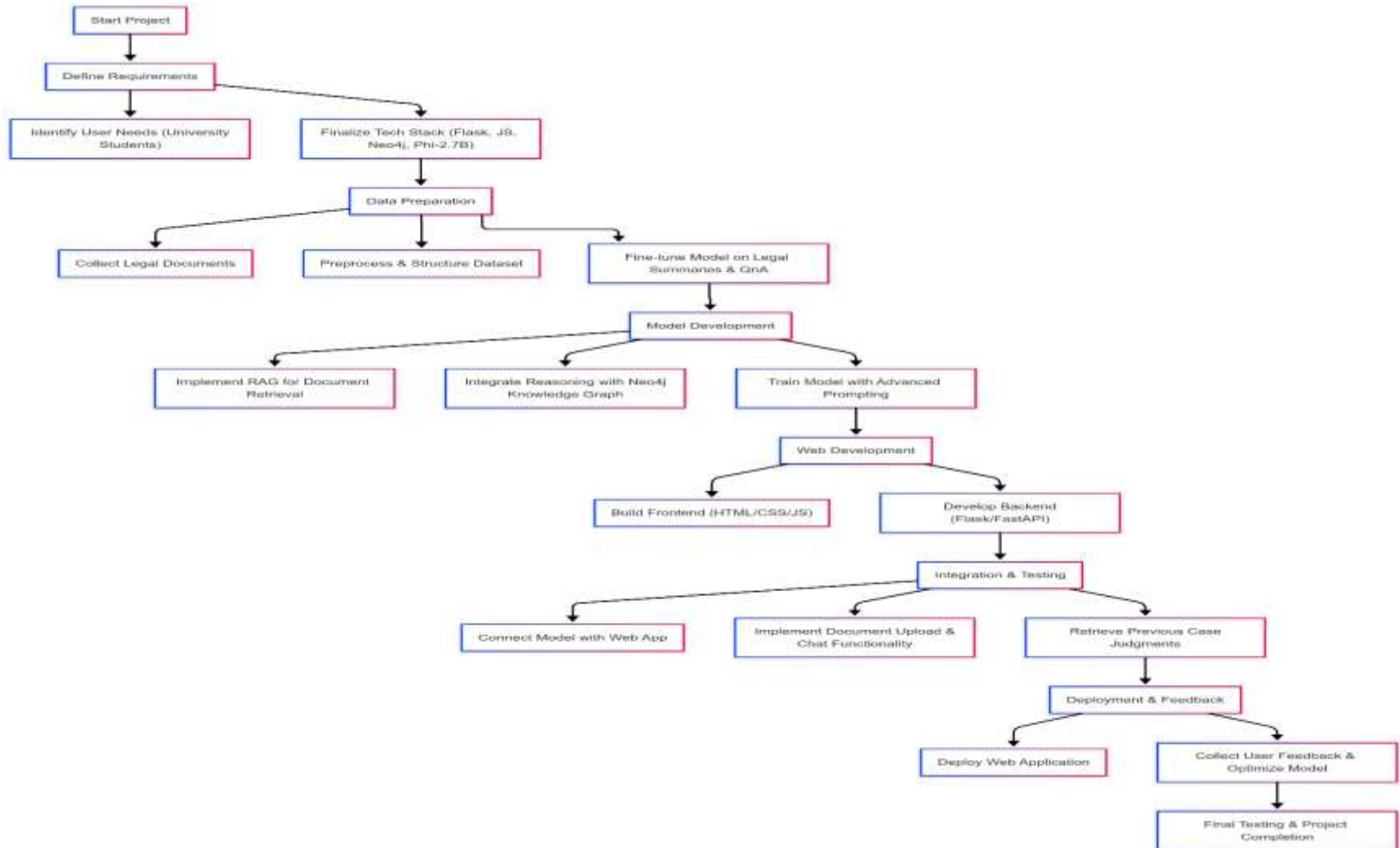
Expected Results & Impact

- A functional web-based AI assistant capable of summarizing legal documents, citing relevant laws, and retrieving similar past cases.
- A working prototype demonstrating document uploads, real-time interaction, and accurate case retrieval powered by AI.
- Potential Benefit:

  Law firms: Streamlined workflows and reduced research time.

  Students and Faculties: Simplified understanding of legal documents and laws.
- Future Scope:

  1. Expand database of cases and laws.

  2. Integration with real-time legal databases for continuous updates.

THANK YOU