



Nexera Legal™ – AI-Driven Legal Automation for Pakistan NETSOL AI Hackathon 2025 Submission

Team Archwares™



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Problem Statement

Current Legal Challenges in Pakistan:

- ✗ Complex legal procedures
- ✗ Lack of affordable legal assistance
- ✗ Time-consuming manual processes
- ✗ Difficulty in finding relevant legal insights

The Need for AI in Legal Assistance

Solution Overview

Introducing Nexera Legal™ – AI-Powered Legal Assistance:



AI-driven legal insights



Automated tax report generation







Litigation support with document analysis

How it Works?

- Fast-GraphRAG for legal insights
- LCEL Chains for tax report generation
- Map-Reduce Chains for litigation support

Feature 1 – AI-Powered Legal Insight (Fast-GraphRAG)

How it Works:

-  Uses Fast-GraphRAG, inspired by HippoRAG
-  Converts legal documents into a schemaless knowledge graph
-  Finds relationships between legal terms, cases, and regulations
-  Optimized search for quick insights

Tech Stack:

- OpenAI GPT-4o Mini
- OpenAI Embedding Model
- AWS EC2 & S3

Feature 2 – Smart Tax Report Generator

How it Works:



Users input tax data via a single-page form



Pydantic parsers + LLM (GPT-4o Mini) generate structured tax reports



Tavily API fetches real-time compliance updates






Summarized insights ensure compliance with latest regulations

Tech Stack:

- OpenAI GPT-4o Mini
- LCEL Chains
- Tavily API

Feature 3 – AI-Powered Litigation Support

How it Works:

-  Lawyers upload case documents
-  Map-Reduce Chains extract key legal arguments
-  AI provides case law references & insights

Tech Stack:

- OpenAI GPT-4o Mini
- AWS S3 (for document storage)
- Whisper-1 (Speech-to-text for lawyer discussions)

Tech Architecture

Architecture Overview:



Frontend: Next.js, Tailwind CSS



Backend: FastAPI, Python, AWS EC2



LLM & AI Processing: OpenAI GPT-4o Mini, Whisper-1



Storage & Hosting: AWS S3, Vercel (Frontend)

Business Potential & Monetization

Market Opportunity:



\$X Billion Legal Tech Market in Pakistan



Growing demand for AI-driven legal automation

Revenue Model:



Subscription-based pricing for firms & individuals



Enterprise licensing for law firms & accountants



Freemium model for basic legal assistance

Future Roadmap



Short-Term Goals:



Beta launch with pilot legal firms



More integrations with local law databases

Long-Term Vision:



AI-powered 'Personal Lawyer' feature



Government collaboration for legal transparency



Expansion to other regions

Why Nexera Legal™?

Key Differentiators:



First-of-its-kind AI legal assistant in Pakistan



Real-time compliance updates & AI-driven case insights



Scalable & cost-effective for legal professionals & individuals