POC: Agentic AI for Legal Professional Support (Final Cloud Version)

This document describes the final implementation of the Agentic AI system designed to support legal professionals in India. The goal is to simplify legal research and provide context-aware, AI-powered answers using Bharatiya Nyaya Sanhita (BNS) and various banking acts (BSA), while making the solution publicly accessible via a cloud-based web app.

Project Highlights

- Uses Google's Gemini large language model for intelligent responses.
- Legal context taken from BNS, banking acts, and case summaries (stored in a local JSON file).
- Built with Streamlit, allowing a simple and interactive user interface.
- Fully cloud-deployable on Streamlit Community Cloud, providing a public URL.

Final Technical Design

Originally, the project used a Flask backend to process AI calls, which required running a local server. For cloud deployment, we simplified the architecture by merging everything into a single Streamlit app file (app.py). This makes the app self-contained and easy to deploy without worrying about backend connections.

Key Components

- app.py: Main Streamlit app file that handles UI, loads the knowledge base, and connects to Gemini.
- knowledge_base.json: Stores BNS text, BSA text, and case summaries to provide legal context.
- requirements.txt: Specifies required Python packages (streamlit, google-generativeai).

Deployment Steps

1. Create a GitHub repository and upload app.py, knowledge_base.json, and requirements.txt.
2. Remove the old backend.py file (no longer needed).
3. Go to Streamlit Cloud (streamlit.io/cloud), connect your GitHub repository, and choose app.py as

the main file.

4. Update your requirements.txt to include only streamlit and google-generativeai.

5. Deploy the app - Streamlit provides a public URL to share with anyone.

6. Replace the placeholder YOUR_GEMINI_API_KEY_HERE with your actual Gemini API key in the code.

Advantages of the Final Version

- No local backend needed; everything runs in one file.

- Easy to deploy and maintain.

- Accessible publicly with a single link.

- Scalable and beginner-friendly.

Conclusion

The final version of this POC demonstrates a practical, modern, and accessible solution for legal professional support. By leveraging Streamlit and Gemini, we created a fully functional AI assistant that simplifies legal research and makes it widely accessible. This can be further enhanced by adding more legal acts, language support, or advanced analytics.