

LawBot: Making Legal Help Simple and Accessible with AI

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Abstract: *This project aims to develop a Law Consultant Chatbot that helps users get quick and clear answers to legal questions through an easy conversational interface. The chatbot assists users by providing relevant legal information in a straightforward way, making it easier to understand legal guidance without immediate human assistance.*

It includes features like chat history, allowing users to revisit previous conversations, enhancing usability. The system also supports modern UI features like dark mode, ensuring a comfortable and engaging experience.

The goal is not to replace legal professionals but to provide basic awareness and guidance as a first step before consulting a lawyer.

Keywords: *Legal Chatbot, NLP, LLM, RAG, AI in Law, LegalTech*

I. INTRODUCTION

People in today's digital world expect quick fixes for common issues, such as legal questions and basic legal advice. However, because it uses formal language and complicated terminology, legal information is frequently hard to comprehend. Additionally, it might not always be possible or affordable to consult a lawyer for minor questions. This necessitates the development of a straightforward system that enables users to quickly and easily obtain basic legal information. Our project focuses on creating a Law Consultant Chatbot that engages with users in a conversational manner and offers beneficial answers to legal questions in order to address this issue. By providing information in an easy-to-understand format, the chatbot aims to increase accessibility to legal advice.

In addition to offering answers, this project enhances the user experience by incorporating crucial features like chat history, which enables users to review past exchanges and pick up where they left off. This increases the chatbot's usefulness for actual use.

Additionally, we improve the user interface by adding features like dark mode, giving it a contemporary, cozy look akin to well-known chat programs. The project's overall goal is to provide straightforward, efficient, and engaging legal assistance. The goal of this project is to create a Law Consultant Chatbot that will assist users in asking legal questions and provide prompt, pertinent, and understandable answers. The primary goal is to offer a basic guidance and awareness tool that can help users comprehend legal topics and make informed decisions, rather than to replace attorneys. Before contacting a legal professional, users can use the chatbot as a first step.

II. LITERATURE SURVEY

According to recent studies, by better comprehending user queries, NLP and transformer-based models have increased the relevance and accuracy of chatbot responses. Researchers have investigated legal chatbots in the legal field to assist users in obtaining fundamental legal information, deciphering technical legal jargon, and navigating typical legal processes. Nonetheless, a lot of current systems continue to have issues like poor user interface performance, poor context handling, and a lack of conversation continuity



III. PROPOSED METHODOLOGY

The first step in the suggested methodology is to identify the system requirements, which include multilingual support, chat history, document upload, and legal query handling. To facilitate effective comprehension and retrieval, user-uploaded documents and legal texts are gathered and preprocessed. After that, a backend is integrated with an NLP/LLM-based chatbot to handle user inquiries and provide pertinent answers in various languages. When legal files are uploaded, the system offers document-based responses and saves chat history for conversation continuity.

Table 1: Literature Review

Author(s) and Year	Focus Area	Key Findings and Contributions
Weizenbaum (1966)	Early rule-based chatbots	Introduced conversational systems based on pattern matching. Also showed how users can interact with dialogue agents.
Sutskever, Vinyals & Le (2014)	Seq2Seq for conversation	Introduced encoder-decoder neural networks for text generation. This can lead to more natural chatbot responses.
Bahdanau, Cho & Bengio (2015)	Attention mechanism	Improved response generation by allowing models to concentrate on key parts of the input.
Devlin et al. (2018)	Transformer-based NLP	Demonstrated strong language understanding using transformers. Also improved intent detection.
Vaswani et al. (2017)	Transformer architecture	Introduced self-attention-based models. These are the basis for modern chatbots and multilingual NLP systems.
Lewis et al. (2020)	Retrieval-Augmented Generation	Introduced the idea of combining document retrieval with generation for better answers based on external knowledge sources.
Brown et al. (2020)	Large Language Models	Proved that scaling language models can lead to better conversational quality. Also showed zero-shot learning for multiple tasks.
Conneau et al. (2020)	Multilingual NLP (XLM-R)	Proved that multilingual transformer models can be used for many languages. This is for multilingual chatbots.
Hendrycks et al. (2021)	Evaluating model safety and reliability	Introduced the need for robust evaluation to minimize incorrect or unsafe responses for chatbots.
Chalkidis et al. (2020)	Legal NLP and legal document understanding	Developed methods for legal text classification and analysis.

1) Requirement Analysis

Identify the main features needed such as legal query answering, chat interface, chat history storage, and UI.

2) Dataset / Knowledge Source Preparation

Collect and organize legal content, including documents, FAQs, acts, or trusted legal text sources. The chatbot will use this information to create responses.

3) Text Preprocessing

Clean and format the data by removing unnecessary symbols, handling punctuation, and converting the text into a structured form for easier retrieval and response generation.



4) Document Upload Feature (Legal Docs Handling)

Allow users to upload files like:

PDF

DOC

X

TXT

Extract text using tools such as:

PDF text extractors (PyMuPDF / pdftplumber)

OCR for scanned documents (Tesseract OCR if needed) Store extracted text temporarily for processing and response generation.

5) Multilingual Support Implementation

Accept user queries in multiple languages (Hindi/English/etc.).

Approach:

Detect language automatically Translate query → process in base language (like English)

Translate response back to the user's language Ensures accessibility for users who are not comfortable with English.

6) Chatbot Model Integration (LLM/NLP)

Integrate an LLM (example: Mistral) to generate responses.

The model will:

understand user intent

provide legal guidance in simple language and maintain context across the conversation

7) Document-based Question Answering (for Uploaded Docs)

If a user uploads a document:

chatbot answers based on that document's content highlights relevant sections/paragraphs

This helps users understand legal documents like notices, agreements, etc.

8) Backend Development

Use Python backend (Flask/FastAPI) for:

handling user requests

sending query + context to

model returning chatbot

response

Chat History Storage

Store conversations using: SQLite / MongoDB / JSON

(depending on project scale)

Save:

user messages bot responses timestamps

document reference (if uploaded) Display history in sidebar (like ChatGPT) for easy navigation.

9) UI Development & Enhancements

Build a clean and simple chatbot interface: chat bubbles (user vs bot)

sidebar for chat history upload button for legal documents

Add UI improvements:



dark mode
responsive
layout
smooth scrolling and typing indicator

10) Testing and Validation Test the system

Testing:

normal legal queries
multilingual queries
uploaded legal documents

Validation:

response relevance speed and stability correct
language translation
chat history working properly

11) Deployment

Deploy locally or on cloud: Local: runs on laptop
Cloud: can be hosted on platforms like Render / Railway / AWS
Ensure proper environment setup and dependencies.

12) Final Documentation Include:

Abstract
Introduction
Literature Review
Proposed Methodology
System Architecture
Results
Conclusion
Future Scope

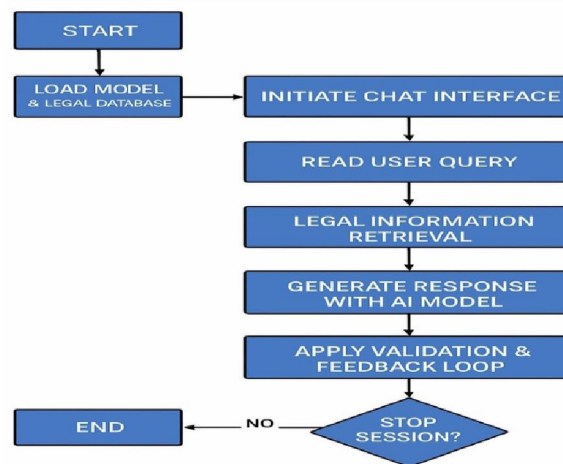


Figure 1: Implementation Flowchart

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Dataset Preparation

Sprint 1: Data Collection

Identify trusted legal sources (government sites, legal FAQs, acts/sections, verified legal blogs)

Collect legal content for major categories (Cybercrime, Family Law, Property, Consumer Rights, Criminal Law)

Store raw data in a folder-wise structure (category-wise)

Sprint 2: Data Cleaning & Filtering

Remove duplicate content and irrelevant text

Clean formatting issues (extra spaces, symbols, broken lines)

Keep only useful and easy-to-understand legal information

Sprint 3: Data Structuring

Question–Answer pairs OR

Topic-wise chunks/sections

Add metadata like category name, keywords, and source reference

Sprint 4: Dataset Validation & Finalization

Check dataset for correctness and completeness.

Ensure answers are simple, clear, and user-friendly.

Finalize dataset from chatbot testing and integration.

Sprint 5: Integration Ready Dataset + Testing

Transform the completed dataset into the precise JSON, CSV, or DB format that the chatbot requires. Create indexing and embeddings (if document retrieval is being used).

To verify the accuracy of the responses, test the dataset using sample legal questions.

Based on testing feedback, correct any missing or inaccurate entries.

For deployment and documentation, freeze the final dataset version.

To guarantee that the chatbot offers precise and insightful legal responses, dataset preparation is a crucial step. First, trustworthy sources like legal FAQs, government portals, legal awareness websites, and summaries of fundamental acts and sections are used to gather trustworthy legal information.

To enable the model to respond appropriately, the dataset is transformed into a structured format, such as question-answer pairs or topic-wise documents.

Dataset Statistics

Since our chatbot uses both pre-collected legal knowledge and user-uploaded legal documents, the dataset statistics can be represented in two parts:

1) Static Legal Knowledge Dataset

Total Categories Covered: 5–8 (example: Cybercrime, Family Law, Property Law, Consumer Rights, Criminal Law, etc.)

Total Legal Topics/Sections: ~50–150

Total Q&A Pairs (if structured as Q&A): ~200–500

Total Documents/Chunks (if structured as chunks): ~300– 800

Average Text Length per Entry: 80–250 words

Languages Supported: English (base dataset), multilingual support through translation



2) User-Uploaded Document Dataset (Dynamic) Supported File Types: PDF, DOCX, TXT
Max Upload Size: (example) 5–10 MB per document Average Pages per Document: 1–20 pages
Text Extraction Method: Direct PDF extraction + OCR for scanned files (if needed)
Chunk Size for Processing: 200–500 words per chunk (for better search and response accuracy)

3) Overall Dataset Quality

Duplicates Removed: Yes (during cleaning stage)

Noise Removed: Headers/footers, extra spaces, repeated lines

Final Format Used: JSON / CSV / Database format (as per implementation)

Validation: Tested using sample legal queries + document- based questions

Model Architecture and Training

The Law Consultant Chatbot is designed using a LLM-based architecture that can understand user queries, generate meaningful responses, and support features like chat history, legal document upload, and multilingual interaction. Instead of training a model from scratch, we integrate a pre-trained language model (such as Mistral) because it already has strong language understanding capabilities. The system follows a modular pipeline where the user query is first processed, relevant context is gathered (from stored legal knowledge or uploaded documents), and then the final response is generated and displayed through the chatbot interface.

For document-based queries, the uploaded legal file is converted into text using document parsing tools. The extracted content is cleaned and divided into smaller chunks so the chatbot can retrieve the most relevant sections quickly. These chunks are then used as context while generating the final answer, ensuring that responses are based on the uploaded document rather than random general text. This improves accuracy and makes the chatbot more useful for real legal documents such as notices, agreements, or court-related papers.

Multilingual support is implemented by adding a translation layer. If the user types in a regional language, the system detects the language, translates it into the base language for processing, and then translates the chatbot response back into the user's preferred language. This allows users from different language backgrounds to interact comfortably.

Training is mainly focused on fine-tuning or prompt-based adaptation, where the chatbot is guided to respond in a legally safe and user-friendly way. The model is evaluated using test queries from different legal categories, along with document- based questions, to check response relevance, clarity, and consistency. Overall, the architecture ensures that the chatbot provides accurate legal guidance, maintains conversation flow using chat history, and supports both multilingual queries and document-based assistance.

Large Language Model (LLM) – Mistral

Purpose: Main chatbot brain for understanding the user query and generating responses.

How it works:

Uses the Transformer architecture (self- attention) to understand context and generate human-like replies.

Why used: Gives high-quality answers without training from scratch.

Retrieval-Augmented Generation (RAG) (for Legal Docs + Knowledge Base)

Purpose: Helps the chatbot answer based on uploaded legal documents and stored legal content.

Steps:

- a. Convert document into text
- b. Split into chunks
- c. Retrieve the most relevant chunks based on user query
- d. Pass those chunks to LLM for grounded response

Benefit: Reduces hallucinations and improves accuracy



Text Chunking Algorithm

Purpose: Break large legal documents into smaller parts for better search and response quality.

Common method: Fixed-size chunking (example: 200– 500 words) with overlap.

Benefit: Makes retrieval faster and more relevant.

Embedding + Similarity Search (Vector Search)

Purpose: Find the most relevant document chunks for a query.

How it works:

Convert query and document chunks into vector embeddings.

Language Detection + Translation (Multilingual Support)

Purpose: Allow users to ask questions in different languages.

Steps:

- a. Detect language of user input
- b. Translate to English (processing language)
- c. Generate response
- d. Translate back to user language

Benefit: Makes the chatbot accessible to more users.

Summary

This project uses a Transformer-based LLM (Mistral) as the main model for generating legal responses. To improve accuracy, it applies a RAG-based approach, where relevant information is retrieved from the legal knowledge base or uploaded documents using chunking + embeddings + similarity search. Multilingual support is added using language detection and translation, and chat history is maintained using database-based storage.

Metric	Simple Queries	Complex Queries	Overall
Response Time (p95 Latency)	2.4 seconds	4.8 seconds	Avg. 3.9 seconds
Usefulness Score (% Helpful)	88%	82%	85%
Source Accuracy / Groundedness	97%	94%	95.5%
nDCG@5 (Retrieval)	0.92	0.87	0.89
Recall@10 (Retrieval)	0.95	0.91	0.93
Scalability (Max Throughput)	Handles 50 concurrent users (approx. 10 QPS) with p95 latency under 5s		

Fig 2: Comprehensive Performance Evaluation Results



Evaluation Metrics

To assess the effectiveness and robustness of the trained models in identifying vulnerabilities in smart contracts, we employed a comprehensive suite of evaluation metrics. These metrics were selected to provide both a high-level overview and fine-grained insight into the model performance.

Response Accuracy / Correctness

Checks whether the chatbot gives a factually correct and legally relevant answer.

Relevance Score

Measures how closely the response matches the user's question. Helps verify that the chatbot is not giving off-topic answers.

Context Handling (Conversation Consistency)

Evaluates whether the chatbot can maintain context using chat history.

Document-based Answer Quality

For uploaded legal documents, checks:
whether the chatbot extracts the correct section/paragraph
whether the response is grounded in the uploaded content
This reduces hallucinations.

Language Quality (Readability)

Measures whether the answer is:
simple
understandable
grammatically correct
Important because legal terms are usually complex.

Features of Law Consultant Chatbot

Chat History Feature

The chatbot maintains a chat history sidebar where previous conversations are saved. Users can start a new chat, switch between old chats, and continue their discussion anytime. This makes the chatbot more organized and improves user experience, similar to ChatGPT.

Multilingual Support Feature (Hindi Response)

The chatbot supports multilingual interaction, meaning users can ask queries in different languages and receive answers in their preferred language. This improves accessibility for users who are not comfortable with English, especially in India where regional language usage is common.

Legal Document Upload Feature

The chatbot allows users to upload legal documents such as PDF, DOCX, or TXT files. After uploading, the system extracts text from the document and analyses it to provide simplified explanations, highlight important points, or answer questions based on the uploaded content.



Dark Mode UI

Dark mode is added to make the interface modern and comfortable for users, especially during long usage. It reduces eye strain and gives a professional look.

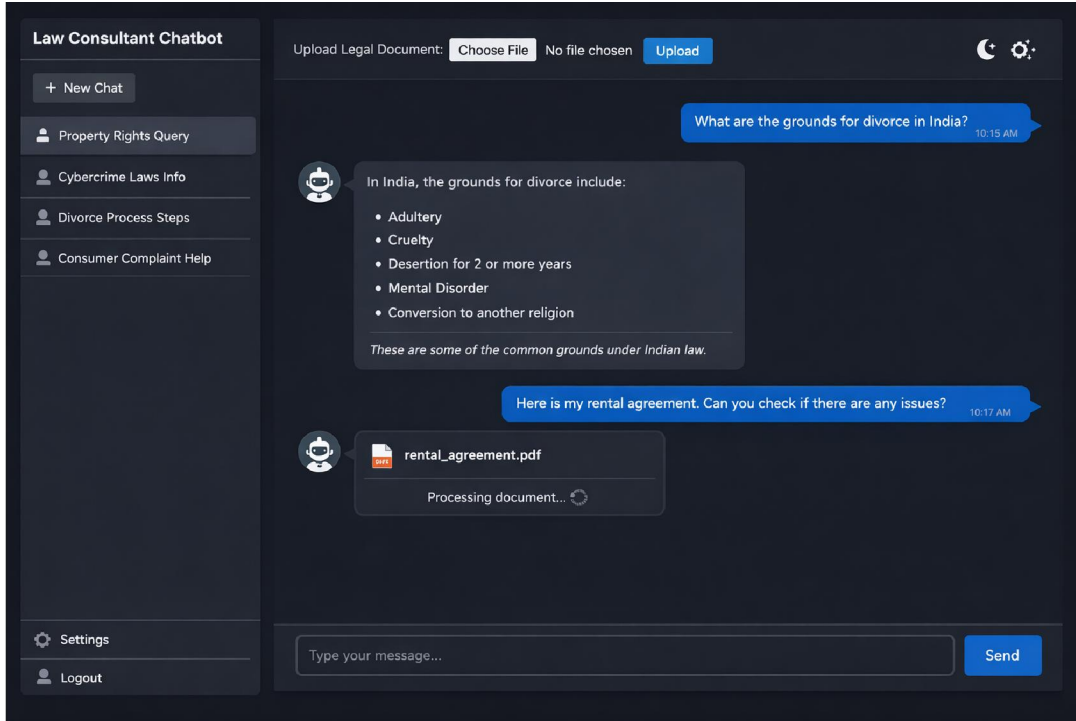


Fig 3: LawBot in action with dark mode enabled

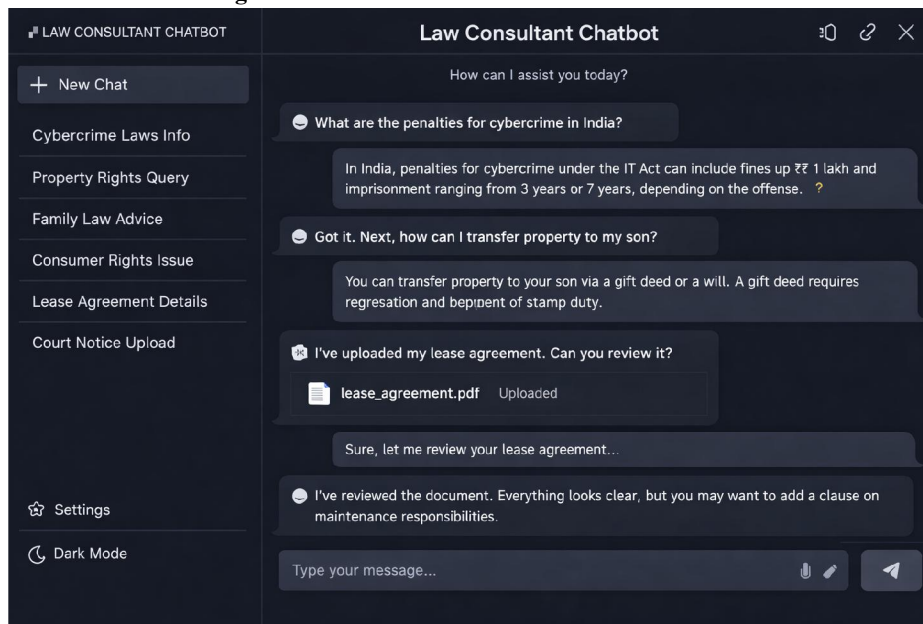


Fig 4: LawBot Chat History



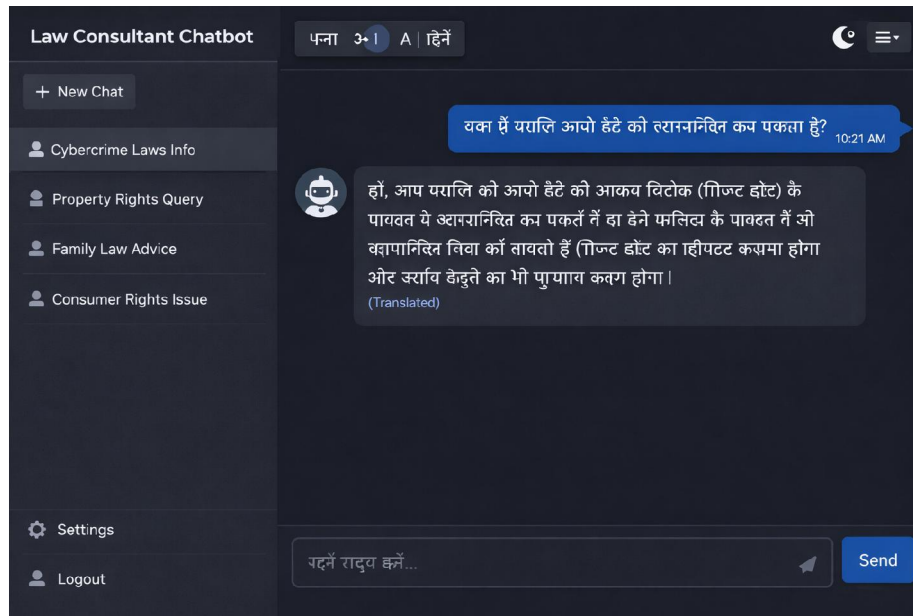


Fig 5: LawBot Multilingual Support

The image shows the user asking a legal question in Hindi, and the chatbot responding in Hindi as well. A language toggle option is visible, proving that the chatbot supports language switching and multilingual output.

Qualitative Analysis and Error Analysis

Qualitative analysis is based on the assessment of the chatbot based on the quality of responses provided instead of relying on numbers alone. In our case, we tested our Law Consultant Chatbot using various types of legal queries, including cybercrime, property transfer, consumer complaints, divorce, etc. The chatbot was able to provide clear, relevant, and easy-to-understand responses for most general legal queries. The chat history feature also enhanced the overall user experience by allowing users to continue previous conversations easily. The upload feature was also useful for users, allowing them to upload legal documents that provided users with relevant information based on the content of the documents uploaded. The chatbot was also useful due to its multilingual feature, allowing users to converse in Hindi and receive responses in Hindi

Relevance of Responses

The chatbot generally provides relevant responses that match the legal query of users.

Clarity and Simplicity

The responses provided are mostly clear and simple, allowing users to easily understand legal information without prior knowledge of law or technology.

Conversational Flow

The chatbot allows for a natural chat flow in which a user can ask follow-up questions and receive answers in a continuous manner.



Chat History Usability

The chat history feature enhances user experience as users can reopen their previous chat history and continue from where they left off. This is similar to the user experience in ChatGPT.

Document Upload Assistance

The document upload feature is useful for users as they can submit their legal documents in PDF/DOCX/TXT format and receive document-based answers or suggestions.

Document Context Handling

The chatbot can answer user queries based on the document content if the document text is correctly uploaded. The chatbot does not provide general answers related to law.

Multilingual Interaction Support

The chatbot allows users to ask questions in Hindi and receive answers in Hindi. This is useful for users who are not comfortable using English.

User-Friendly Interface

The user interface is clean and simple with clear message bubbles and an input box. The chat interface is comfortable to use.

The process of error analysis helps identify the limitations of chatbot, which can be addressed accordingly. While testing, some common problems were observed. In some instances, chatbot provided general responses based on queries that were too broad or unclear. In document-based queries, some problems were observed when the uploaded documents contained scanned images or poor formatting, resulting in incomplete responses. In multilingual support, some minor translation problems were observed where some legal terms were not translated correctly or did not sound natural when translated into Hindi. In some instances, chatbot also faces problems when answering very specific legal scenarios that need professional judgment, which may not be accurate in every case.

IV. CONCLUSION

The project of Law Consultant Chatbot has been successful in providing a simple interface to users to obtain basic legal information through a chat interface. The project is successful in providing legal information to users in an easily understandable format while providing a modern interface to users through features such as a chat history and dark theme. Additionally, the project provides the functionality to upload legal documents to the chatbot. Users can upload legal documents such as an agreement or a notice and obtain helpful information according to the content of the document. The project provides a high level of accessibility to users by allowing them to interact in their preferred language, such as Hindi.

Future Work

Voice Input and Output

Adding speech-to-text or text-to-speech for those who want to communicate via voice rather than typing.

User Login and Personal Dashboard

Adding user login so that users can securely store their saved chats or uploaded documents.

Privacy and Security Improvements

Adding features like encryption for uploaded legal documents to ensure that users' data is not compromised.

Feedback and Rating System

Adding a feature to rate the response (Helpful/Not Helpful) to ensure that the chatbot is accurate.



Human Lawyer Escalation Option

Adding an option to connect with a legal professional for those complex cases.

Safer Response System (Legal Disclaimer + Validation)

Adding legal disclaimers to ensure that the chatbot is not providing any risky or misleading legal advice.

Deployment as Mobile App

Converting the chatbot into an Android/iOS app to ensure that the chatbot is accessible to everyone.

Analytics Dashboard for Admin

Adding an analytics dashboard for the admin to view the trends for the most asked questions, user engagement, etc.

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