AI-Based Legal Advisory System

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Abstract - The AI-Based Legal Advisory System is a web-based platform designed to modernize legal service management by integrating artificial intelligence for efficient client-lawyer interaction, case handling, and legal assistance. This research paper mainly focuses on developing an AI-based Legal Advisory System that bridges the gap between clients, lawyers, and courts, making legal services more accessible and efficient. The system incorporates four primary dashboards—Admin, Client, Lawyer, and Court—ensuring a seamless user experience. A key feature is the AI chatbot, which assists users in understanding legal terms and relevant laws by retrieving Indian Penal Code (IPC) sections, penalties, and legal definitions based on keyword inputs. Additionally, the system employs a BM25-based case recommendation module that helps lawyers quickly find similar past cases for reference, enhancing legal research efficiency. Other notable features include real-time case updates, appointment booking, feedback mechanisms, police station integration, and automated case management. The proposed system improves accessibility, efficiency, and accuracy in legal proceedings, benefiting both legal professionals and the public while reducing the time required for legal research and consultation.

Key Words: BM25, IPC, AI chatbots.

1.INTRODUCTION

The legal industry is often characterized by complexity, time-consuming processes, and inaccessibility for the general public. Traditional legal consultations require individuals to seek professional legal assistance, which may not always be readily available or affordable. In response to these challenges, the AI-Based Legal Advisory System aims to bridge the gap between clients, lawyers, and courts by incorporating machine learning algorithms and AI-powered automation into legal service management. The system provides an interactive AI chatbot that allows users to input legal terms or queries and receive relevant legal information instantly. Moreover, the BM25 algorithm is implemented to assist lawyers in retrieving past cases that closely match their ongoing cases, improving legal research efficiency.

Beyond AI functionalities, the platform features a multi-user interface that caters to clients, lawyers, courts, and administrators. Clients can book appointments, track case progress, and receive notifications, while lawyers can manage their cases, retrieve case precedents, and handle client interactions efficiently. Courts can oversee case approvals, trial management, and law updates, while administrators regulate system-wide operations. Additionally, the system integrates police station details, allowing users to provide necessary information that can facilitate further legal procedures. By leveraging AI and web technologies, this system enhances legal accessibility, simplifies legal research, and optimizes legal service coordination.

The AI-Based Legal Advisory System leverages AI and machine learning to streamline legal services, making legal assistance more accessible and efficient. It features an AI chatbot for instant legal information and BM25 for case retrieval, aiding lawyers in legal research. The platform integrates clients, lawyers, courts, and administrators, enabling appointment booking, case tracking, trial management, and system-wide regulation. Additionally, police station details can be added for smoother legal procedures. This system reduces dependency on manual legal processes, enhances accuracy in case research, and ensures real-time case updates. Its impact includes faster legal consultations, improved case management, and better access to legal resources. Future developments may introduce deep learning for advanced case analysis, stronger security measures, and multilingual support, further enhancing its usability and effectiveness.

2. LITERATURE REVIEW

AI and ML Based Legal Assistant-The paper AI & ML Based Legal Assistant explores the use of artificial intelligence (AI) and machine learning (ML) to enhance legal assistance, specifically focusing on the analysis and interpretation of employment and loan contracts. This proposed solution addresses the labor-intensive nature of legal work by introducing a community-based platform that offers two key functionalities: connection to experienced legal professionals and interaction with an intelligent chatbot for document analysis. The chatbot uses natural language processing (NLP) techniques[1] to help users understand legal terms, resolve document gaps, and offer relevant responses to legal queries. This dual-option system is designed to make legal assistance more accessible, especially for users without a legal background, while simultaneously introducing efficiency and automation into legal operations. To address specific challenges in legal document processing, the paper presents four main approaches. First, it incorporates cultural and contextual understanding to better interpret legal language across diverse jurisdictions and regions, recognizing that legal terminology can vary significantly. Second, it proposes collaborative decision-making models that allow for collective analysis among legal professionals, enhancing accuracy and building consensus in complex cases. The third approach, experiential and precedent learning, allows the model to learn from historical cases, adapting its responses to reflect established legal practices. Lastly, to handle the diversity of legal document formats, the model uses ensemble techniques (combining CNNs, LSTMs, and transformers), which allows it

to process various document layouts more accurately, regardless of file format or structural complexity.

An Approach to Legal assistance using Artificial Intelligence- This presents the Virtual Legal Assistant (VLA), an AI-based system designed to aid individuals in navigating legal cases, particularly in regions with limited access to legal expertise. With India facing a significant backlog in its judicial system, VLA[2] aims to provide initial support by analyzing and referencing previous legal cases. VLA's design incorporates four main components: text analytics, a knowledge base, a question generation engine, and a conversational bot. Through text analytics, VLA processes case details—using tokenization, data cleaning, and similarity calculations—to match current cases with relevant historical precedents. The knowledge base stores and retrieves essential case data, rules, and ranking scores, enhancing accuracy in suggesting relevant cases. Additionally, the question generation engine utilizes semantic networks to frame case information as interactive questions, refining the details needed to understand the case. This is complemented by a conversational bot that enables users to engage in two-way dialogue and supports speech-to-text conversion, simplifying legal inquiries for users. VLA is intended to offer several benefits, such as estimating case duration, costs, and the likelihood of success based on comparable past cases, thereby helping individuals gain a clearer understanding of potential legal outcomes before consulting with professionals. This early-stage assistance is particularly crucial for those unfamiliar with legal processes, as it equips them with knowledge to make informed decisions about whether to pursue legal action. Additionally, by streamlining the research process, VLA can help alleviate the workload of legal professionals, allowing them to focus on more complex aspects of cases.

The critical study on Artificial Intelligence (AI) in the Indian legal sector –This paper emphasizes the transformative potential of AI in a traditionally conservative field. Despite the slow technological adoption in India's legal landscape, AI is poised to revolutionize practices such as legal research, document automation, and case management. Currently, many legal processes remain labor-intensive, relying on outdated practices; however, AI could streamline operations by providing lawyers with access to vast amounts of legal data, thereby reducing the time and effort spent on research. Applications like Kira[3], which aids in contract analysis and document review, are already demonstrating significant efficiency gains. The study outlines several benefits of AI implementation in Indian legal practices, including the automation of documentation, effective legal analytics, and enhanced due diligence processes. These advancements could lead to reduced workloads for junior legal staff, increased productivity, and improved client advisory services. Additionally, AI can help legal professionals accurately predict case outcomes and prioritize cases based on data-driven insights. However, the integration of AI also presents challenges. Concerns about job displacement, the accuracy of AI systems, and the ethical implications of relying on technology in legal decisions remain prominent.

An Analysis of the Feasibility of Artificial Intelligence to Replace Lawyers- This discusses the evolving role of artificial intelligence (AI) in the legal field, emphasizing that while AI's application in justice is an irreversible trend, it currently cannot fully replace lawyers. The authors differentiate between narrow AI[4], which can perform specific tasks like document drafting and legal predictions, and general AI, which aims for human-like intelligence across all domains. The paper acknowledges the significant potential for AI to enhance efficiency in legal services but warns against overestimating its capabilities, particularly in handling unique, nuanced legal cases. Key areas where AI is making strides include crime prediction and risk assessment in judicial decisions. However, ethical, effectiveness, and fairness concerns persist, as AI may struggle with complex legal reasoning and individual case personalization. The authors advocate for limited AI intervention in the legal profession, suggesting that AI could take over simple and repetitive tasks while human lawyers remain essential for complex legal work that requires emotional intelligence and ethical judgment. Nevertheless, they highlight the risks associated with AI's rise, including ethical dilemmas regarding client confidentiality, accountability for errors, and the potential for job displacement within the legal field. Furthermore, as AI tools like ChatGPT become capable of producing high-quality legal documents, the traditional lawyer-client relationship may be affected, leading clients to seek AI solutions for straightforward legal issues. The paper concludes that while AI can augment legal work, it cannot replicate the essential qualities and ethical responsibilities of human lawyers, underscoring the need for a careful balance between technology use and maintaining the integrity of the legal profession.

Artificial Intelligence Adoption and Ethical Consideration for Legal Providers- This paper explores the rapid adoption and evolving impact of generative AI (GenAI) within legal departments, highlighting its transformative potential and challenges. GenAI tools[5], such as ChatGPT, are streamlining various legal tasks, from drafting documents and performing due diligence to contract negotiation, helping in-house counsel overcome common obstacles like budget constraints and manpower shortages. The author draws a comparison to the way email and smartphones reshaped business practices, suggesting that generative AI will soon become an indispensable tool in the legal field. In-house lawyers, in particular, are incentivized to lead this technological shift as they strive to improve productivity and focus more on advisory work.

The paper also delves into the limitations and ethical concerns surrounding GenAI. Current generative AI models, such as ChatGPT, have limitations in information access and memory, with restricted data updates and word count capacities. They may produce erroneous content or "hallucinations," posing risks when used for critical legal tasks. Moreover, GenAI often lacks accountability, respect for intellectual property, and does not maintain confidentiality, creating legal and ethical risks that could expose firms to privacy breaches or IP infringement.

Deploying AI in the Legal Department-This paper examines how artificial intelligence can be integrated into legal departments to help lawyers streamline routine tasks. By automating simpler duties like document review, contract analysis, and data extraction, AI allows legal professionals to perform these responsibilities more efficiently and accurately. This automation not only decreases the time required but also generates cost savings, making AI a valuable tool for enhancing productivity and supporting legal workflows. In addition to

automation[6], AI provides advanced data analysis capabilities that enable lawyers to make better-informed decisions by quickly processing large amounts of information. AI tools can detect patterns, trends, and relevant precedents, allowing lawyers to base their decisions on thorough data analysis. AI capacity to process substantial legal information may improve the quality of legal advice and outcomes. However, responsible implementation, with an understanding of AI's strengths and limitations, is crucial to ensure its benefits.

Extending Full Text Search for Legal Document Collections Using Word Embeddings - This paper introduces a new method for enhancing search capabilities, aiming to go beyond traditional full-text search, which is effective for exact matches but limited in recognizing synonyms or related terms. Our approach allows retrieval of semantically similar content across search queries of any length without relying on ontologies. Instead, we leverage Word Embeddings[7] a technique increasingly effective in various natural language processing applications. The research was primarily tested on privacy laws and rental agreements, showing strong accuracy in identifying relevant documents and enhancing the effectiveness of legal research. A notable feature of this method is its use of cosine similarity to assess phrase relevance in a legal setting. This mathematical technique enables a deeper comparison of phrases based on semantic similarity rather than simply counting specific terms. Consequently, the system can better grasp and interpret the contextual connections between words and phrases, resulting in more pertinent search results. Ultimately, this technology has the potential to become an indispensable resource for legal professionals, providing valuable insights and supporting informed decision-making. As the field continues to evolve, its impact on the legal industry will only continue to grow.

How Artificial Intelligence Could Impact the Future of Family Law -This paper, discuss the transformative potential of AI technologies in the field of family law, focusing on critical areas such as divorce, child custody, and domestic violence. It begins by discussing the automation of legal processes, emphasizing how AI can streamline tasks like document preparation and case management. This automation not only alleviates the administrative burden on legal practitioners but also enhances efficiency in handling family law cases. This delves into the role of predictive analytics in family law, illustrating how AI systems can analyze large volumes of data to forecast outcomes in specific cases. This capability allows attorneys to provide more accurate advice to their clients, empowering individuals to make informed decisions based on likely scenarios and improving the overall legal process. Access to justice is another essential theme addressed in the paper. AI tools can offer legal information and resources to individuals who may not be able to afford traditional legal services, effectively democratizing access to family law. By providing affordable and accessible solutions, AI has the potential to bridge the gap in legal representation for underserved populations. Additionally, the paper discusses AI's implications[8] in mediation and dispute resolution. AI can facilitate negotiations by providing neutral, data-driven insights that help parties reach agreements without resorting to litigation.

3.PROBLEM STATEMENT

The legal sector often faces challenges in ensuring smooth communication between clients, lawyers, and courts. Clients struggle to find legal assistance and track case progress, while lawyers and courts face difficulties in managing bookings, case records, and trial updates efficiently. Lawyers, on the other hand, encounter difficulties in managing client interactions, handling appointments, and retrieving relevant legal information efficiently. The absence of an organized and centralized platform often results in miscommunication, case mismanagement, and increased workload. Courts also face inefficiencies in handling trials, managing case records, and processing legal approvals, leading to delays in the judicial process. Additionally, the lack of an integrated system for managing police station details, client requests, and legal references adds to the complexity of the legal ecosystem. Without a streamlined platform, information retrieval, case tracking, and legal research remain time-consuming and inefficient.

This project aims to address these challenges by proposing an AI-based legal advisory system that bridges the gap between clients, lawyers, and courts. The system provides a user-friendly digital platform for case management, legal consultation, and streamlined communication. By integrating automation, structured workflows, and real-time legal assistance, the proposed system enhances accessibility, efficiency, and transparency in legal services.

CHALLENGES IN EXISTING LITERATURES AND TECHNOLOGIES USED

SL.NO	LITERATURE PAPER	CHALLENGES
1	AI and ML Based Legal Assistant	Biased data affects accuracy AI may misinterpret legal languages.
2	An Approach to Legal assistance using Artificial Intelligence	Cannot handle complex legal cases. Struggles with new laws or unique cases.
3	The critical study on Artificial Intelligence (AI) in the Indian legal sector	May lead to data privacy concerns.AI systems can be biased in their decision making.
4	An Analysis of the Feasibility of Artificial Intelligence to Replace Lawyers	Reduce human expertise. It is harder to adapt to changing laws.

5	Artificial Intelligence Adoption and Ethical Consideration for Legal Providers	Complex models are used which is harder to explain. Lack of standardization affect quality.
6	Deploying AI in the Legal Department	Data security risk exist with AI use. Lawyers might rely too much on AI.
7	Extending Full Text Search for Legal Document Collections Using Word Embeddings	Slower with larger data set, best for under 500 pages. High computation demand affects speed.
8	How Artificial Intelligence could impact the future of family law	AI can invade privacy in family cases. AI could lessen personal interaction

Table 1: Challenges in Existing Literature and Technologies used

4.PROPOSED SYSTEM

Overview: The proposed AI-based legal advisory system is a web platform designed to streamline interactions between clients, lawyers, and courts. It provides a structured and efficient way to manage legal services, ensuring accessibility, transparency, and ease of use. The system integrates multiple user interfaces and AI-powered tools to enhance legal assistance and case management.

Our AI-based legal advisory system overcomes key challenges by integrating NLP for accurate legal interpretation, reducing bias through refined data, and ensuring adaptability to new laws. It balances AI-driven recommendations with human oversight for complex cases, enhancing reliability.By maintaining transparency and explainability, our system improves legal accessibility while preserving human expertise.

Key Features:

1.Multi-User Dashboard: Separate interfaces for clients, lawyers, courts, and admin for efficient management.

2. Case Management: Clients can book lawyers, view case updates, and track trial proceedings.

3. AI Chatbot: Provides legal information based on user queries using NLP techniques.

4. Case Recommendation System: Helps lawyers find relevant past cases for reference.

5. Court Management: Courts can update laws, issue trial schedules, and manage case reports.

6. Police Station Details: Allows users to access registered police station information for legal proceedings.

7. Feedback System: Enables clients to share experiences and improve service quality.

Client Module – Allows users to manage profiles, book lawyers, view appointments, and receive case updates.

Lawyer Module – Helps lawyers manage cases, accept/reject bookings, and retrieve past case reports using AI-powered search.

Court Module – Enables courts to add/update laws, manage trials, approve/reject case requests, and assign juries.

Admin Module – Manages platform users, approves lawyer registrations, and oversees system operations.

Machine Learning Integration – Uses BM25 for case retrieval and NLP-based chatbot for legal assistance.

Data Flow:

1.User Query → AI Chatbot (NLP) → Legal Information Retrieval (Accessible to any visitor before login).

2. Client Booking Request → Lawyer Approval/Rejection → Appointment Scheduling → Notification to Client.

3. Lawyer Query → BM25 Algorithm → Best Matching Case Reports Fetched (Only available in the lawyer module).

4. Court Updates → Trial Scheduling → Notification to Lawyer & Client.

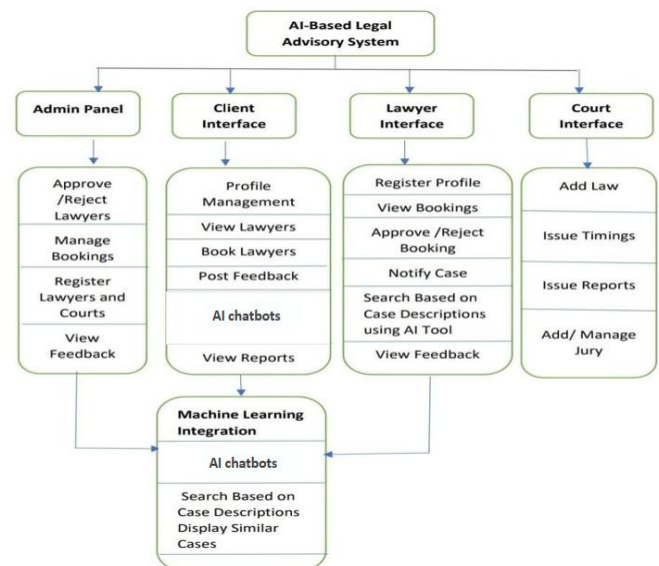5. Admin Approval → User & Lawyer Registration → System Access Granted.

Fig 1: System Architecture

User Layer – Clients, lawyers, courts, and admin interact with the system.

Network Layer – Facilitates communication between users and the server using HTTPS and WebSockets.

Application Layer – Processes legal queries using AI chatbot and case searches using BM25 algorithm.

Database Layer – Stores user data, case details, court records, and legal documents.

AI Processing Layer – Handles chatbot responses and retrieves similar case reports.

5. RESULT AND DISCUSSION

The AI-Based Legal Advisory System streamlines legal services by offering a user-friendly platform for clients, lawyers, and courts. Its AI chatbot utilizes NLP-based text classification to provide instant legal information, enhancing accessibility. The BM25 algorithm-powered case recommendation system aids lawyers in finding relevant past cases, improving efficiency and reducing research time. Additionally, the integration of court and police station data makes legal navigation easier. Unlike existing platforms like LawRato, this system delivers real-time legal assistance with more advanced case search features. However, challenges such as accuracy limitations, legal language complexity, and scalability must be addressed. Future enhancements, including improved NLP, multilingual support, and predictive analytics, can further optimize the system. Ultimately, this AI-driven solution modernizes legal services by increasing efficiency and bridging gaps in traditional legal processes.
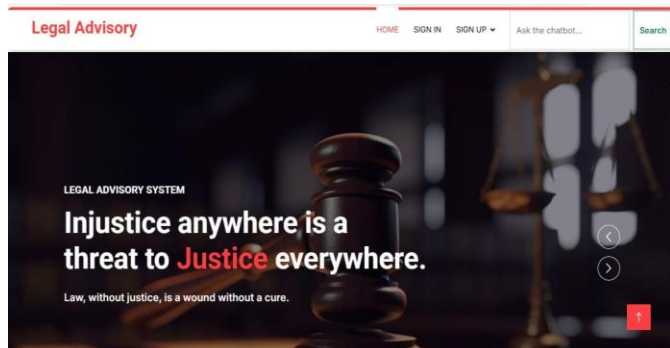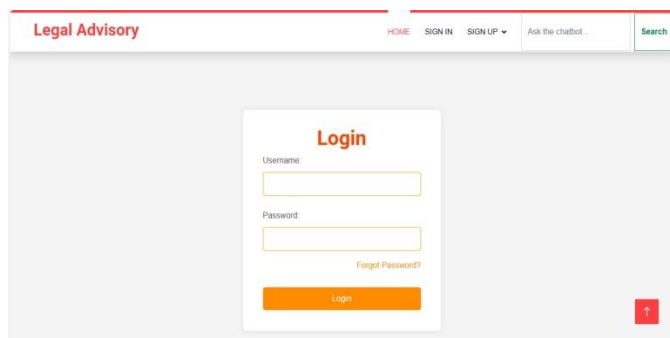
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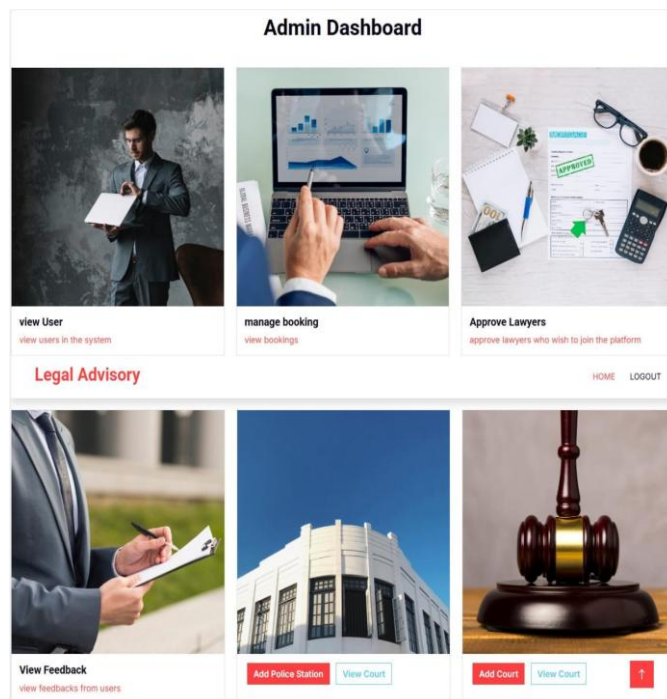

Fig 2: Home Page

Fig 3: Login Page

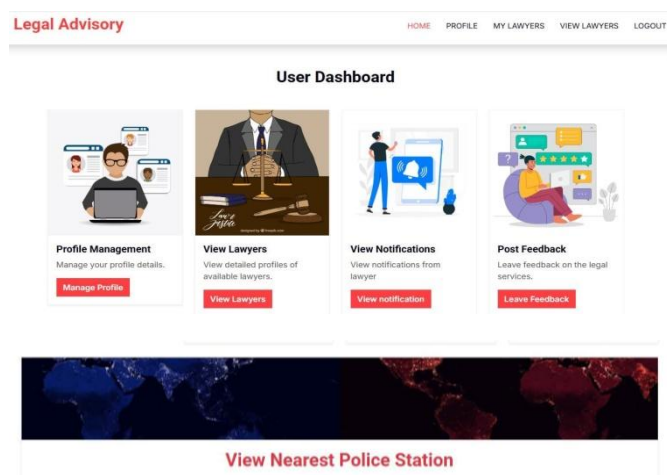**Fig 4:** Admin Dashboard

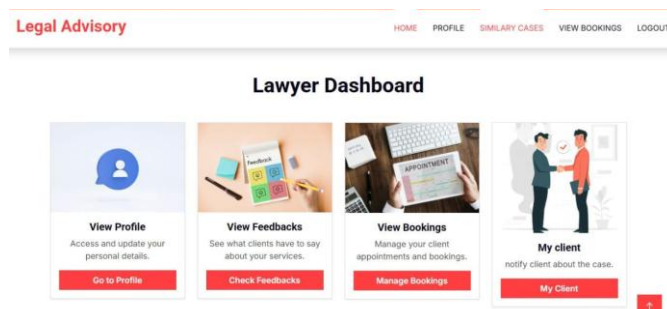**Fig 5:** User Dashboard

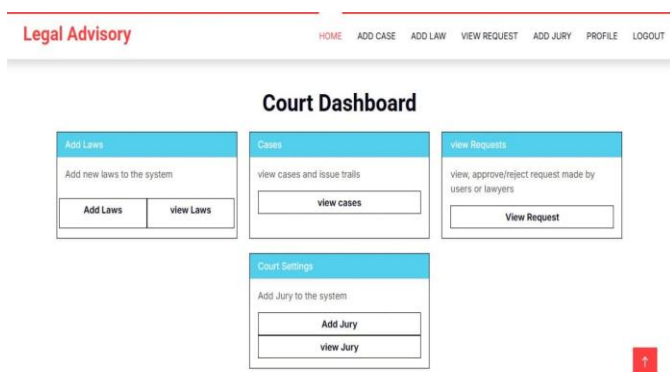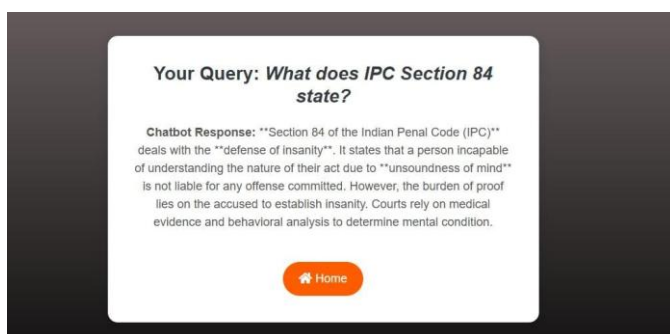**Fig 6:** Lawyer Dashboard

Fig 7: Court Dashboard

Fig 8: AI Chatbot Query-output

6.CONCLUSION

The AI-Based Legal Advisory System presents a transformative approach to modernizing legal services through artificial intelligence. By integrating AI-driven features such as an NLP-based chatbot for legal assistance and a BM25-powered case recommendation system, the platform enhances efficiency, accessibility, and legal research capabilities. This system bridges the gap between clients, lawyers, and courts by streamlining case management, legal consultations, and judicial processes. Despite challenges like data accuracy, legal language complexity, and system scalability, future advancements in AI, including improved NLP, multilingual support, and predictive analytics, can further enhance its effectiveness. As AI continues to evolve, this system holds the potential to revolutionize the legal industry, providing intelligent, data-driven, and accessible legal solutions while ensuring efficiency and accuracy in legal proceedings.

Unlike conventional legal platforms, it offers real-time legal assistance, reducing reliance on manual processes and supporting better decision-making for legal professionals. However, challenges like data accuracy, the complexity of legal language, and computational demands must be addressed for widespread adoption. Future improvements in NLP, predictive analytics, and multilingual capabilities can further enhance its performance, making it more reliable and adaptable. As AI technology advances, this system has the potential to reshape legal service delivery, ensuring improved accessibility, efficiency, and fairness in legal processes.

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