AI Powered Legal Assessments: Evaluating Advocate Skills Through Scenario Based Simulations

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Abstract
This study introduces a brand-new interactive web tool that mimics actual legal situations to improve young advocates' hands-on training. The application creates a thorough and engaging learning environment by integrating multiple cutting-edge technologies. There are fewer practical experiences and more theoretical components to the current system for evaluating law scholars. One of the few methods they may currently demonstrate their legal expertise is through MootCourt. We employ a number of strategies, like incorporating an interactive chatbot, automated file management, and a case scheduling mechanism, to enhance exposure and allow them to hone their legal knowledge in a risk-free setting. The case scheduling system efficiently manages and distributes case time to maximize courtroom operations. Advocates can easily organize and submit legal papers with the help of automated file management. In order to improve the standard of legal education and preparation, the suggested solution seeks to provide a stable, controlled AI-driven chatbot for dynamic client and opposing advocate interactions, a case scheduling system for effective judicial management, and an automated file management system for seamless document handling in a risk-free setting that mimics real-world legal practice. This creative method bridges the crucial gap between academic understanding and real-world experience by giving young advocates a risk-free environment in which to hone their abilities.
Keywords: AI-Driven Chatbot; Interactive Web Application; Legal Education; Legal Scenario Simulation.

1. Introduction

Young advocates encounter several difficulties as they move from theoretical knowledge to practical abilities in the rapidly changing field of law practice. The gap between academic understanding and real-world application emphasizes the need for innovative solutions that provide clients with risk-free practical experience. New developments in technology present encouraging chances to tackle this issue. Through the integration of multiple innovative technologies, this paper suggests an interactive web application that simulates actual legal circumstances, improving the practical training of aspiring advocates. An AI-powered framework for simulating court cases created especially for young advocates is presented in this paper. Through the use of scripted characters and events, the platform offers an interactive setting where students can interact with realistic legal scenarios. The suggested remedy makes use of knowledge gained from current studies on chatbot integration and developments in legal technology. As explained in [1], the creation of a knowledge-based chatbot makes use of complex attention mechanisms to guarantee precise and contextually appropriate interactions. This chatbot is essential to the suggested application since it allows users to have realistic and lively conversations with fictitious clients or opposing advocates. This method not only makes learning more engaging, but it also fits in with the developments in AI-powered legal tools that were mentioned in [2]. By improving speed, transparency, and client service, these tools have started to revolutionize the legal profession, highlighting the importance of incorporating innovative technology into legal education. This system serves as a self-assessment tool, in contrast to conventional legal assistants or AI systems that provide direct assistance

in legal research. It assesses the user's performance based on their interactions with the case rather than offering any legal assistance. By mirroring courtroom operations with features like case scheduling, automatic file processing, and scenario-based assessments, the platform improves procedural comprehension and legal literacy. Additionally, the suggested solution addresses the issues of case backlog and resource constraints in legal practice by incorporating case scheduling and file management features modeled by [3]. The tool streamlines the workflow for advocates and judges by automating these procedures, ensuring effective administration of case schedules and records. The design of this application is also influenced by the scenario-based approach to competence-based assessment covered in [4] and [5], which highlights the significance of realistic, problem-solving scenarios in legal training. This approach facilitates ongoing skill growth and improvement by simulating actual court hearings and giving users relevant feedback. In summary, this article offers a thorough architecture that incorporates innovative technology in order to produce a solid and engaging legal education platform. By expanding on recent findings and improvements, the proposed method aims to bridge the gap between theoretical knowledge and real-world application, enhancing both the quality and efficiency of legal education.

2. Literature Survey

With a number of advances that enhance access to justice and legal services, artificial intelligence (AI) is increasingly being incorporated into the legal industry. The usage of knowledge-grounded chatbots, which combine internal and external knowledge to deliver contextually relevant responses during legal consultations, is one noteworthy breakthrough. Due of their poor contextual awareness, traditional chatbots frequently provide basic advice; however, more recent developments have brought in sophisticated attention processes. These processes—querycontext attention, query-knowledge attention, and context-knowledge attention—improve the chatbots' capacity to take into account and reflect dialogue context in addition to external legal information. Experiments using datasets such as Wizard-of-Wikipedia have shown increased performance metrics, indicating that this leads to more accurate and relevant responses [1]. Another significant development in AI in the legal industry is the use of virtual legal assistants, or VLAs. VLAs are particularly useful in areas with restricted access to skilled legal practitioners because they are made to provide AI-driven legal consultations and analysis. These systems, which are based on commercial virtual assistants like Alexa or Siri, are customized for the legal industry by being trained on enormous databases of court cases. This feature enables VLAs to offer prompt and reasonably priced legal advice, tackling problems like the backlog of unresolved cases in overworked legal systems, like those in India [5-7]. By streamlining the first consultation procedure, VLAs improve access to legal services and lessen the strain on judicial institutions. The selection of datasets is essential for creating knowledge-based chatbots that work well. An abundance of legal case data from the Indian legal system is available in the Indian Kanoon dataset [https://indiankanoon.org/], which offers rich contextual information for teaching chatbots legal queries. Conversational data from the Cornell Movie Dialogues Corpus [https://www.cs.cornell.edu/~cristian/Cornell_MovieDialogs_Corpus.html] aids in improving chatbots' comprehension and production of natural dialogue [8]. The extensive collection of web data provided by the Common Crawl dataset [https://commoncrawl.org/] can be used to improve the chatbot's knowledge base and general conversational skills. A range of datasets are available on Kaggle Datasets [https://www.kaggle.com/datasets] that can be utilized for chatbot training and particular legal cases. Lastly, AI4Bharat [https://www.ai4bharat.org/] focuses on Indian languages and legal terminology, providing datasets that are particularly valuable for developing region-specific legal chatbots [9]. Together, these datasets help build chatbots that are both contextually correct and flexible enough to operate in a variety of legal contexts. An important development in AI applications for law is the shift from conventional expert systems to contemporary legal decision-support systems [10]. Modern decision-support systems help legal practitioners by offering well-informed suggestions based on historical facts, in contrast to early expert systems

that sought to mimic human legal experience. This strategy offers a viable means of enhancing access to justice without completely automating the legal profession, which is advantageous for free legal assistance services that are run on limited resources [1]. Scenario-based learning approaches, which provide immersive, practical experiences that bridge the knowledge gap between theory and practice, are increasingly being used in legal education. The significance of creating assessment systems that represent real-world scenarios and actual competencies is emphasized by methodologies such as the "Scenario Model for Competence based Assessment" [4]. These techniques help legal students and novice practitioners build their problem-solving abilities and competencies, making them more equipped to handle obstacles in the real world. The "Scenario Based Method for Teaching, Learning and Assessment" offers a versatile framework for instructing and evaluating pupils, and it is particularly relevant to the legal field [5]. Through a cycle of investigation, debate, and evaluation, this approach promotes active problem-solving and ongoing learning, leading to a deeper comprehension and real-world application of legal principles. Legal research is time-consuming by nature and necessitates a solid understanding of legal terminology and principles, as stated in [4]. The study suggests an AI-based legal aid system that uses machine learning algorithms and natural language processing (NLP) to communicate with users and retrieve pertinent legal provisions in order to overcome this difficulty. The system uses parameters like hit and loss rates to prioritize findings, ranks retrieved laws according to similarity, and intelligently finds important terms and relationships inside legal texts [11]. The system's noteworthy accuracy of over 80% greatly increased the effectiveness and accuracy of legal research. This illustrates how AI may improve the standard of legal services and expedite legal workflows. Despite the progress, problems still exist. VLAs and knowledge-based chatbots need to get over their limits in order to handle complicated queries and guarantee contextually relevant responses. Scalability is still a problem because it takes a lot of resources to create AI systems that work well across different legal domains and countries.

Collaboration between engineers, legal experts, and legislators is required to address these issues [3].

3. Methodology

The suggested system is a web-based platform for legal assessments created to improve young advocates' and law students' practical abilities [12]. Users can interact with case materials, evaluate facts, and practice making legal decisions in an interactive setting by simulating real-world legal events. The platform is built with a full-stack architecture that includes PostgreSQL for structured data storage, Node.js for backend processing, and Angular for the front end. RESTful APIs facilitate communication between the front-end and back-end, guaranteeing a seamless and modular data flow [13].

3.1. Scenario Design and Case Simulation

The system's scenario-based simulation model is its primary component. Every case scenario, which includes individuals like clients, witnesses, and advocates, is meticulously written to mirror actual legal challenges. These scripts are dynamic sequences that replicate actual case proceedings rather than just static stories. Based on actual circumstances, the case utilized in the present edition was self-developed. To guarantee depth and authenticity in the evaluation, this scenario was divided into interactive parts. Users can investigate legal settings and formulate answers based on legal knowledge rather than memorization due to these established but dynamic dialogues [14]. Scenario-based learning provides a more immersive and hands-on experience than standard legal training approaches, which may mostly focus on academic instruction and little practical exposure. The implementation involves creating a series of detailed scenarios within the application, which users can interact with and navigate to practice their legalskills.

3.2. Chatbot Integration Using Dialogflow CX

The integration of a chatbot developed with Google's advanced conversational AI platform, Dialogflow CX, is a crucial technical element of the system. Users can gather case-related data, mimic client interviews, and examine scenario details with this chatbot, which serves as a virtual client interface. A Dialogflow CX agent was created and trained using intents, entities, and flow-based conversation pathways associated with interactions in legal cases

in order to put this into practice. The Dialogflow CX console was used to evaluate and certify the chatbot's accuracy and consistency of flow. Using Google's Auth Library in server.js to authenticate using the service account key and generate a valid access token, implementing a dedicated server.js file in Node.js to manage communication between the platform and Dialogflow CX, creating a service account in Google Cloud Console with the required privileges, including the Dialogflow API Client, downloading the JSON key for secure authentication, and accepting POST requests with the agent ID, session ID, and user input that are then forwarded to Dialogflow CX to retrieve the relevant bot responses were the steps taken to establish backend connectivity with Dialogflow CX. All communications with the chatbot are guaranteed to be safe, verified, and contextually relevant to the case situation according to this design. The chatbot does not provide legal advice; it strictly facilitates user interaction with the case content to simulate real client advocate dialogues.

3.3. Assessment Framework
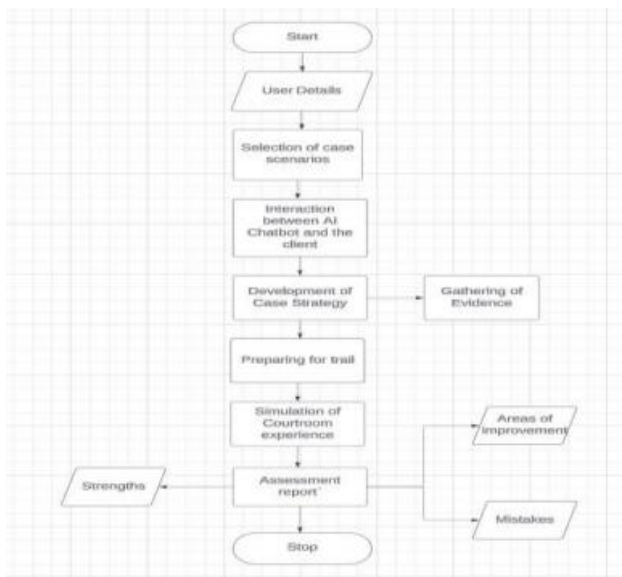

Figure 1 Flow Diagram

The system for evaluating performance is intended to be impartial and instructive. Following interaction with the case scenario, user responses are evaluated according to how the practicing individual moves forward or departs from the actual case's resolution, which will be approved by a real advocate. No automatic tips or outside help are used to generate scores (Figure 1). The results are safely saved for evaluation and comments after being categorized as "Excellent," "Good," or "Needs Improvement." This guarantees consistency in evaluation and gives students useful information to help them become more legal-savvy.

3.4. Integration and System Architecture
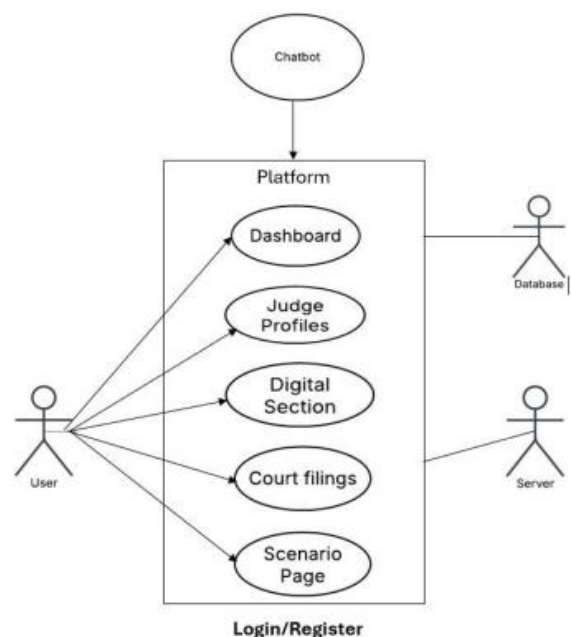
Figure 2 Use Case Diagram
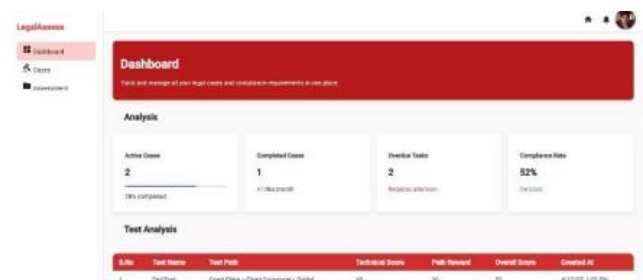
Figure 3 Dashboard Page

The chatbot, file management, scheduling, and scenario-based components are all integrated into a single web application by the overall system architecture. With the scheduling system regulating case timings, the file management system handling document activities, and the chatbot offering real-

time discourse, the architecture guarantees smooth communication between various modules. The suggested architecture offers a cohesive and effective setting for legal instruction in contrast to current platforms, which might give disjointed or less integrated solutions. PostgreSQL is used for database administration, Node.js is used for backend services, and Angular is used for front-end development. This combination guarantees a scalable and reliable solution that facilitates dynamic interactions and effective legal process management. The proposed solution aims to enhance young advocates' practical training by leveraging these cutting-edge technologies and methodologies to provide a comprehensive and genuine learning environment that bridges the gap between theoretical ideas and real-world application. (Refer Figure 2 and 3)

4. Future Work

Although the platform's present iteration concentrates on a specific legal scenario with a fully functional client-side chatbot, a number of improvements are anticipated to expand the system's functionality. Expanding the scenario library by incorporating numerous real-time case studies from different legal fields, including contract law, criminal law, and civil law, is one of the main objectives. These scenarios will all adhere to the current interactive style, giving students the opportunity to encounter a variety of legal issues. Furthermore, the assessment methods will be enhanced by adding AI-based analytical tools that can examine responses' coherence, legal depth, and relevance in addition to their accuracy. This would improve the scoring system and give every student more individualized feedback. From the standpoint of the user experience, the system will be expanded to incorporate performance statistics, allowing students to monitor their development over time, pinpoint their areas of strength and weakness, and get personalized recommendations for enhancement. More chatbots in subsequent rounds to mimic conversations with judges, witnesses, and the opposing lawyers will be created. This will make the simulated legal environment even more realistic and turn the platform into a full-fledged virtual courtroom training suite.

Conclusion

By providing an interactive, scenario-based legal assessment platform, this initiative offers a novel way to close the gap between theoretical legal education and real-world application. The system offers law students and future advocates an immersive learning environment by integrating conversational AI with Dialogflow CX with web technologies like Angular, Node.js, and PostgreSQL. Young advocates can receive more hands-on and immersive training due to the scenario-based learning approaches from "Scenario Model for Competence-based Assessment" and "Scenario Based Method for Teaching, Learning, and Assessment." These methodologies outperform conventional theoretical training techniques because they offer real-world simulations that improve competency development and problem-solving abilities. The online application's realistic implementation of these scenarios will better equip users for actual legal difficulties. The platform's primary strength is its capacity to replicate actual legal scenarios in a dynamic yet controlled setting. Without outside help, it allows users to apply knowledge contextually, engage in meaningful legal reasoning, and get structured feedback. The chatbot interface promotes skill development in customer contact and case comprehension in addition to increasing interactivity. The system has the potential to completely transform legal education and equip the upcoming generation of legal professionals with the critical thinking and decision-making abilities needed for the field with planned improvements like more case scenarios, AI-powered assessment tools, and expanded chatbot roles.

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