

LAWYER BOT:AI LEGAL ASSISTANT FOR GUIDANCE AND LITERACY IN INDIA

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ABSTRACT

Hundreds of people find themselves in a position that they need primitive information and guidance on the law. Despite that, involving the professional legal advice can be so costly to the extent of handling even lesser cases and general inquiries. Artificial intelligence (AI) has opened up new possibilities in the arena of educating the individuals to be aware of their rights, breaking into confusing legal structures. Through the proposed project, I have provided LawyerBot, which is a virtual assistant based on AI and capable to provide accurate details about Indian statutes and chapters of law. LawyerBot offers advisory on how various legal issues are to be approached and how laws can address them. The 300-installed LawyerBot has been able to communicate digitally in a conversational manner through a chat interface and has multiple benefits, including better access and easy access to legal counselling and making charges on insignificants. It also enhances the degree of legal literacy as it creates awareness of the laws of India among an ordinary citizen. Lawyerbot can empower

citizens by individually processing their rights using a convenient chat interface and orientate them within legal system..

Keywords: People, Information, Accessible, Dynamic approach, Legislation, Artificial Intelligence Law Support, Work with the Cases, Indian Law Improvement and Separation.

INTRODUCTION

The field that concerns law and profession is law relying to the customs and practices of a group of people and a set of provisions concerning the behaviour of a group of people that are binding to a group of people. The prevalence of the body of rules by a domineering party is the imposition of the rule. There are other types of rules and Principles signified by the word Law. Law is an instrument that determines the behavior/conduct of man. Justices, Morality, Goodness, logic, and order and Righteousness are the facets of the Law in the society. Under the body of legislature the law represents the law, Acts, Rules, Regulations, order of court, Decrees, judgment, and orders of court and Ordinances. All these- Law therefore gulps all these, Law in its turn being encompassed under these of

Acts, Statute, Rules, Regulations, Order, Ordinance, Justice, Morality, Reason, Righteous, Rules of the court, Decrees, Judgment, Order courts, Injunction, Tort, jurisprudence, Legal theory etc all fall. Indian Penal code (IPC) The standard law that governs the principle of liability in India as a result of the acts discussed owing to a criminal liability on Indian Penal Code (Under the Indian British rule the Indian Penal Code emerged. It is on record to have started its point in 1860 when the British law on its colonial conquests was concerned. Before the Indian Penal Code came into existence through in India there was the Mohammedan law in use.

LITERATURE SURVEY

Problem

Prospective students and parents often encounter challenges in accessing accurate and timely information during the engineering college admission counseling phase.

Objective

The overall aim of this study was to design and deliver a chatbot on the engineering college's website to streamline the information retrieval process during the counseling phase

Methodology

Neural Network Methods for discovering non obvious patterns. TF-IDF Vectorization for relevance determination Sequential Modeling to understand contextual information Pattern Matching.

Dataset

The datasets utilized in this study comprised queries commonly posed by prospective students and parents during the engineering college admission counseling phase.

EXISTING WORK

The general system of accessing the legal information and guidance traditionally incorporates the use of professional lawyers, conducting manual research, or seeking specialized help of legally skilled people. Some of the major characteristics of the traditional system include the following:

Law Counseling Services

There is a usual approach of people seeking legal help via hiring it in a law firm or hiring only lawyers individually. This is in the process of booking visits, visitation, and payment of fees on consultations.

Legal Research by Hand

The process of legal research is manual and is done by the members of general population, lawyers, and law students to locate applicable laws, statutes, and case precedences.

Law Reference and Resources

Access to law libraries and sources is invaluable to ample legal research. Law libraries have legal texts, case laws reporters among other works that one can use as reference.

PROPOSED SYSTEM

The recommended system which will be referred to as a lawyerBot is a comprehensive system of legal aid and assistance which will host an accurate legal guidance, advice and assistance to the users. The system also targets diverse needs of diverse users in regards to legal matters and incorporates various modules and functions to accomplish the objective. The logic of the system is the following one:

LawNet Model Incorporation

Such an approach has found support in the LawNet Model Integration Module that integrated the LawNet model that is built through the application of such advanced methods as BERT. The module successfully classifies an offense on the basis of descriptions provided by the users and predicts the sections or category of law. It applies a mix of superior machine learning technologies in order to offer users accurate and informative classifications of law.

Chat Interface LawyerBot

The LawyerBot Chat Interface was developed with assistance of Flask-SocketIO and it enables the chat.

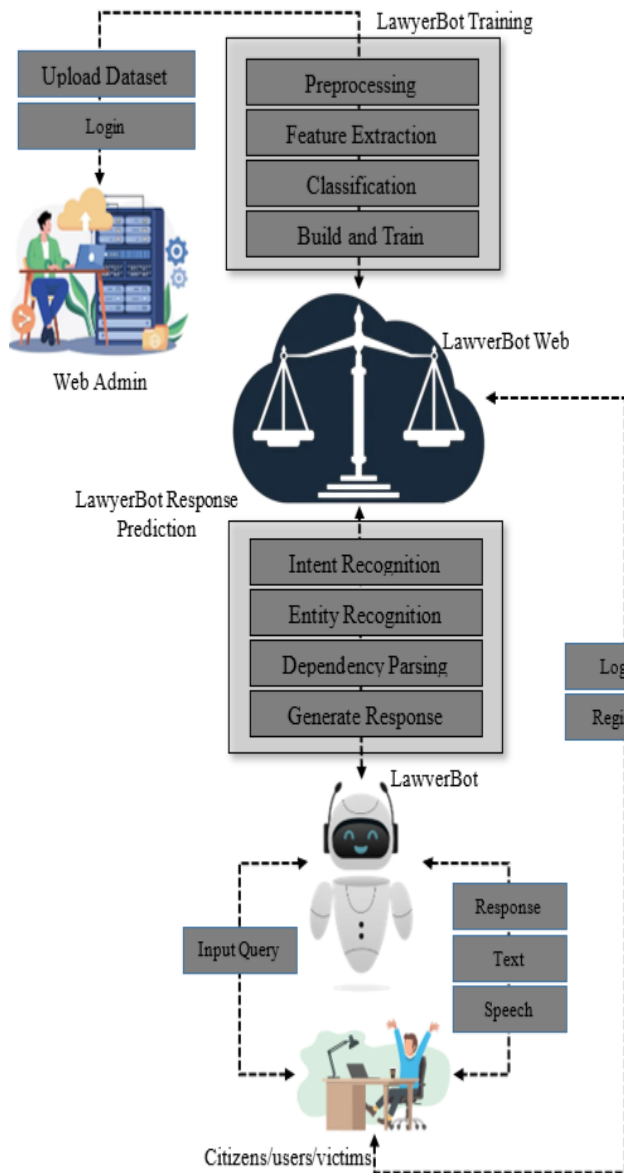
Immediate response of the users with the system. It equips its users with the ability to carry out legal dialogue, to submit questions, and receive speedy responses, bringing an interactive process of legal assistance.

METHODOLOGY

LawyerBot system can be realized with the help of integration of various components and technologies which should be able to help with providing effective legal services. The backend may be implemented in Python with Flask framework with endpoints that handle the user authentication, query submission, and the administrator endpoint, and the generation of responses. A MySQL database will manage database collections, user accounts, the information of advocates/lawyers and the system setting with full CRUD operations. The integration of machine learning with the use of TensorFlow and a fine-tuned BERT model that has been trained on the IPC section, description, offense and punishment datasets bring the effectiveness in the classification of the queries. Major text preprocessing, such as tokenization, stopword removal, and stemming or The preprocess (NLTK) of emmetization, will provide the best input in order to be classified. Multilanguage translation: utilization of services as Google Translate or Microsoft Translator allows to reply in the personal way of language. The frontend will be implemented with HTML, CSS, JavaScript, and Bootstrap making it easy to use to make queries, see the responses, and enter lawyer suggestions. Flask will have an admin panel that could manage authentication, datasets, model training, advocate operations, and user accounts that will have role-based access. Testing, maintenance, updates, bug fixes and performance

tuning will be done continuously; improvement will be primarily based on user feedback.

EXPERIMENTAL RESULTS

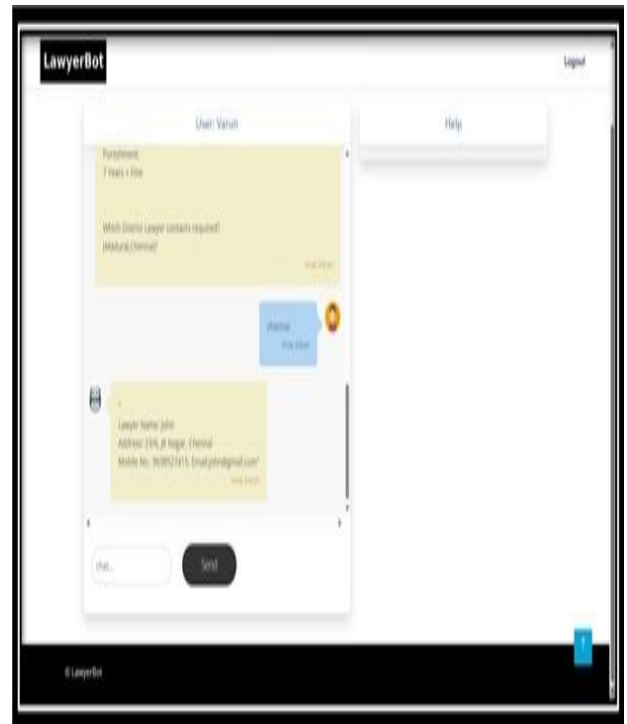


BID	TCID	Bug Description	Bug Status	Output
TB_001	LB_TC_003	System fails to prompt for Open clarification on ambiguous queries	Open	User receives inaccurate response without clarification prompt
TB_002	LB_TC_007	Incorrect formatting of response text	Closed	Response text appears garbled, affecting readability

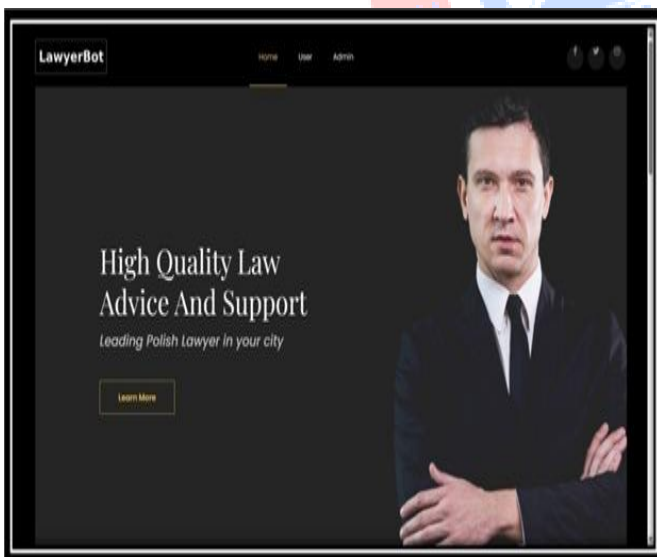
This report provides the overview of the testing process that was performed on the LawyerBot system the aim of which was to test the functionality, reliability and performance of the system against requirements and standards that were established. The primary aim of the testing was to determine accuracy of responses, responsiveness of the system and any bugs that might exist or arise. The modules, which were tested included key client interaction, query handling, response estimation, system loads in a high condition, and administration functions. The test set up included the web-application at LawyerBot hosted on Windows server, the Chrome and Firefox browsers running on Windows operating systems, and a Python development

environment. Overall the test results were positive as the system was performing well by making accurate predictions about the response during the testing, and during execution, no critical problems or serious bugs were discovered. In the bug report, it was revealed that though no serious bugs existed, minor bugs like, inconsistent user interface and error handling were detected but got cleared right way. To summarise it all, the entire testing process provided evidence that the LawyerBot system shows adequate standards of functionality, reliability, and performance that is expected of it. Positive assessment will guarantee its preparedness to be implemented and used efficiently by end-users in practice.

- Lawyer Details



- Home Page



CONCLUSION

In summary, LawyerBot initiative seeks to ensure that the legal assistance experience process is changed with users enjoying a site that is easy to go through in a bid to filter all the variations and distinctions of people in need of assistance and the specifics of the law systems. LawyerBot provides the means to utilize the most modern technologies in the Natural Language Processing (NLP) and Machine Learning to provide the user with an intuitive and user-friendly interface to seek legal assistance. With the aid of an easy to use web based interface, and the application of the NLP techniques, it is an easy task to enter with query which contains a set of issues in relation to matters of law, crime or the IPC sections. The machine learning model employed to develop the system (BERT architecture) is robust and has the capability of performing equally well in malt before crimes and can provide an additional fact about the choice of IPC sections, descriptions and the application of the punishment. It is also necessary to mention that LawyerBot incorporates such elements of classification as recommendation system that provides services of legal professionals based on queries issued by the user and his/her geographical location.

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