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“Digital Assistant for Legal Awareness and Designing a KYR (Know-Your-Rights) Framework in India”

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Abstract—

Because India is so multi-lingual and huge as it is, legal literacy is still one of the fundamental concerns, primarily among marginal and rural communities. Not many are oblivious to their basic rights, legal remedy, and rights primarily because of the ratio of languages, illiteracy, and the quantum of legal aid that continues to be beyond reach. This study project will serve as a multilingual artificial intelligence Know-Your-Rights (KYR) citizens empowerment and legal literacy campaign. NLP and machine learning driven website engages users in their own language such as legal sense term of art, orientation towards legislation, civil, criminal, labour, and social justice rights education. They even get an opportunity to interact with a simple assistant chatbot interface, and it provides them an opportunity to pose questions about legal issues and get context-specific sharp responses along with references for facilitating supporting legal assistance services along with government programs. It offers voice inputs in addition to text inputs so that they can be stored in the system to be utilized later on.

The result is evidence of the potential of digital technology in filling the disparity in awareness about the law and ease of access to justice. The article closes by narrating the fact of continuous update, intersectorial synergy, and upscaling of such law-illuminated legal literacy initiatives in its process of attaining the United Nations Sustainable Development Goal 16 Peace, Justice, and Strong Institutions Subscribe. Keywords—Legal Awareness, Know Your Rights (KYR), Digital Assistant, Access to Justice, Legal Literacy, Natural Language Processing (NLP), Chatbot for Law, e-Governance, Legal Empowerment, Multilingual Chatbot, Civic Tech, Human Rights, Legal Aid, Artificial Intelligence in Law

I. INTRODUCTION

Legal consciousness and access to justice are the cornerstones of any democracy. But, in India a socio-economically diverse, multi-lingual, unequal socio-economic country with multi-dimensional legal systems hundreds of millions of its citizens are unaware of their legal remedy and constitutional rights. Deficit is most glaring among weaker sections and rural society in which communication, absence of legal infrastructure, and low literacy deter involvement in administration of justice. Even if there are plans of legal aid schemes and information plans, penetration and coverage are uneven and do not penetrate at the grassroots level. In that sense, the convergence of legal literacy and digital technology is a solution that will work.

The range of coverage by the mobile phone, along with connectivity to the internet in remote outstations, is a window for reducing the legal literacy gap by designing scalable, friendly-to-users interfaces. In the paper, there is an indicated Digital Legal Assistant as a Know-Your-Rights (KYR) tool, a chatbot AI for issuing simple, multi-language, context-dependent legal advice to the citizen. The project will be an online legal aid project that enlightens students about fundamental rights, judicial proceedings, and Indian rights as per law. The application applies Natural Language Processing (NLP) technology to search user queries, translate them into Indian languages, and make response readable.

It also supports voice recognition and text-to-speech feature so that the blind or low-literate or shaky typists can utilize it. A properly structured legal database based on the provisions of the constitution, laws, and government welfare schemes drives the backend of the system. An escalation facility has also been integrated into the assistant for those problems which need human legal expertise or more interaction. The path of developing the digital assistant has been traced by the article from its design principle, system architecture, natural language processing to test results. It also describes the contribution that this kind of technology is making towards legal empowerment, intermediary dependence reduction, and citizen engagement with justice delivery systems. The research follows the United Nations Sustainable Development Goal 16 “Peace, Justice and Strong Institutions”—to empower inclusive and innovative platforms to provide access to legal content.

Whereas technology spills over into social advantage, the present study tries to illustrate the viability of legal literacy websites on the internet as a tool of power, particularly in such societies like India where affordable justice is time-sensitive and solicited.

The project will bridge the gap of legal literacy in India, and particularly marginalized and rural communities, by designing a multilingual AI legal helper. The site will clarify and simplify legal rights in constitutional, civil, labor, and social justice areas through a convenient navigation system with various literacy supports. By integrating legal databases with conversational AI, the assistant will give context-aware real-time responses, and escalate to legal

professionals for complex queries. It will learn more and more from user feedback and aid policymakers and legal aid organizations with anonymized data insights. The ultimate long-term goal of the project is to empower citizens, advance social justice, and assist UN Sustainable Development Goal 16 by enhancing access to justice and participatory governance

II. LITERATURE REVIEW

[1] Legal literacy is the bare minimum demanded of citizens' empowerment and human rights protection. Nevertheless, scholars and institutions have, in their rightful span of time, emphasized its importance, particularly in Third World countries such as India, where most are illiterate about basic legal rights and entitlements. Legal illiteracy stands out most of all among the causes of the absence of justice and increased socio-economic inequality, as stated by Jain and Menon (2018). The study finds the need for creating inclusive, decentralized platforms of legal literacy in an effort to penetrate into marginalized communities.

[2] The National Legal Services Authority (NALSA) and other similar legal aid schemes have attempted to spread awareness by legal literacy camps, paralegal volunteers, and print media (NALSA Annual Report, 2021). These media have limited scalability, multilinguality, and personalization. Wani and Bhat (2016) assumed that despite constant campaigns, legal literacy in India has limited impacts on rural society due to infrastructural limitations and communication gap and requires innovative technology-based interventions.

[3] Recently, scholars began to examine the potentialities of using Artificial Intelligence (AI) and Natural Language Processing (NLP) to revolutionize the legal practice. Deshmukh and Kulkarni (2019) envisioned an NLP-aided chatbot-driven legal question-answer system for pre-stored users' legal replies. Powerful though it was, the system did not function; it was dormant and user-agnostic. Similarly, Patnaik and Misra (2019) also saw the promise of AI chatbots for facilitating greater access to justice but noted that this is contingent upon coordination with local jurisprudence and legal expertise.

[4] Das and Sarkar (2021) quoted the need for multilingual NLP in India, which possesses 22 official languages and heaps of dialects as normal. They mentioned court documents on the internet still mostly remain in English, thus depriving most people of legal information. It fulfills the request for creating a Know-Your-Rights (KYR) assistant that is able to read and respond to different Indian languages.

[5] All such initiatives such as the Digital India Programme by the government have created new avenues for delivering technology applications in governance and legal services. MeitY (2020) states that increasing internet and mobile penetration in India offers a unique opportunity to harness development in order to construct AI-enabled citizen empowerment platforms. The World Bank (2021) envisions digital justice platforms with plain language approach to facilitate greater accessibility and accountability for public services.

[6] On the global level, institutions like UNICEF have collaborated with legal literacy programs with technology enabling women and children in rights matters (UNICEF India, 2019). The finest and best-practice global practices show the promise of rights-based programming and technology-enabled models as a harbinger of legal consciousness shifts in India.

[7] Yet systems today are still monolingual, non-interactive, and non-escalation to human experts. Kumar and Raj (2022) suggest a two-tiered system with AI answer and human expert intervention and call it a gateway to successful legal aid. Srikumar (2020) also aims for ethical, transparent applications of AI in law that benefit the protection of individuals' rights and consider possible bias.

[8] Overall, literature has pointed towards growing resilience towards utilizing AI to facilitate legal consciousness but subject to technology being viable to cultures and linguistics. The present paper tries to bridge such gaps by delivering an adaptive, user-centric digital legal assistant to the Indian linguistic and legal diversity. It uses the current best research and enhances it based on its multilingual NLP use, human-AI collaboration, and context-specific recalling of facts.

[9] Bansal and Verma (2021) analyzed India's digital divide and argued that legal tech initiatives are exclusionary to the very users they aim to empower due to poor digital literacy and a lack of local content. They argue that legal empowerment initiatives need to incorporate user education, mobile-first design, and culturally localized interfaces as a best effort to promote increased usage, particularly among the poor and rural communities.

[10] Srivastava and Iyer (2023) have experimented with user trust in AI legal systems and concluded that human control, data privacy, and AI response transparency are essential upon which user trust depends. They confirm the justification of applying ethical design principles and an open UI, which may establish user trust in AI-based legal aids and promote long-term usage.

III. METHODOLOGY

1. Requirement Gathering and Problem Analysis

The initial was to collect data from various sources including government publications (e.g., NALSA), reports from NGOs and research papers in order to measure the legal awareness deficit. User surveys in rural areas and generic casual interviews among students and with the legal aid professionals were conducted as well in order to decide the prevalent legal concerns, the required language provisions, and level of digital illiteracy. It set up the scope of KYR (Know-Your-Rights) and key functionality demands of the assistant.

2. System Architecture and Design

The system was designed as a modular application with the following layers:

User Interface Layer (chatbot in web/mobile mode),

NLP Engine for natural language processing,

Legal Knowledge Base built from Indian acts and schemes,

Translation and TTS/ASR Modules for language support,

Escalation Engine for in-depth questions,

Feedback Loop for improvement.

The design was developed to realize scalability, multi-language support, and universality for both literate and semi-literate users.

3. Integration of Natural Language Processing (NLP)

To facilitate Indian multilingualism, the platform employed NLP libraries like spaCy, BERT, and IndicNLP. The chatbot was pre-trained using a stock corpus of legal questions in Indian languages like Hindi, Tamil, and Bengali. It was also pre-trained to identify intent (e.g., "complain against landlord") and entity (e.g., "Delhi", "Section 354") for querying.

4. Development of Knowledge Base

A knowledge base was established using well-chosen simplified legal articles of Indian Constitution, IPC (Indian Penal Code), legal rights according to the law of labour, women's rights, SC/ST protection, cyber laws, and RTI (Right to Information). The knowledge base was organized in Frequently Asked Questions mode, and citations to original sources such as Indian Kanoon, Government Portals, and LawHelpIndia.

5. Text Interface Development

For low-literacy users, TTS and ASR modules were combined using Google Cloud APIs and open-source models like Coqui TTS. Users could type on a keyboard and the assistant would respond in text based on user preference.

6. Escalation to Human Experts

Where the system could not provide a definite response to a query since it was not sure or sensitive, it defaulted the user to a legal aid provider through email, phone, or WhatsApp. The escalation module was originally rule-based and communicated with an NGO database, legal helplines, and volunteer lawyers.

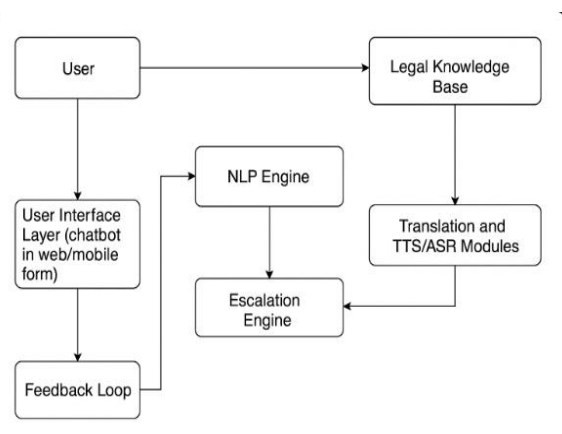
7. Feedback and Learning Mechanism

The system was designed to monitor user interaction anonymously. Open-ended questions or mistakes were labeled and utilized to train the NLP model on a regular basis. Legal expert opinion was also utilized to fine-tune it and improve its accuracy.

8. Prototype Building and Testing

An operational prototype was created and piloted with the initial set of users. Query functionality was tested as accurate, language translation, speech recognition, and escalation response time. User testing was carried out to measure user satisfaction, usability, and confidence in answers.

IV. FEATURES/ARCHITECTURE DIAGRAM



1. User Interface Module

Multi-language chat.

Iconic, mobile-optimize user interface.

Low-literacy intuitive design.

2. NLP (Natural Language Processing) Module

Indian language and dialect support.

Recognizes legal terminology, intent of user, urgency, translation ability.

3. Legal Knowledge Base Module

Servicifies and updates legislations (constitutional, civil, labor law, etc.).

Maps legal content to real-world issues.

Facilitates quick, context-sensitive information retrieval.

4. Conversational AI Engine

AI-driven, interactive chatbot.

Follows up and remembers context.

Escalation suggestion as needed.

5. Feedback & Learning Module

Gathers user feedback.

Learns and fixes mistakes.

Utilizes data to enhance correctness over time.

6. Analytics & Insights Module

Monitors frequent legal questions by geography.

Generates NGO and policy-maker reports.

Provides usage heatmaps and trends.

7. Security & Compliance Module

Encrypts user information.

Respects privacy and ethical AI usage.

V. TABULAR FORM

Layer	Component	Description
User Interface Layer	Chatbot UI (Web & Mobile)	Interface where users interact via text or voice in their preferred language.
Language Processing	NLP Engine (IndicNLP, spaCy, BERT)	Processes user queries, identifies intent and legal entities across Indian languages.
Speech Support	ASR (Speech-to-Text) & TTS (Text-to-Speech)	Enables voice input and output for users with low literacy.
Legal Knowledge Base	Structured Legal FAQs & Rights Database	Contains simplified legal content on laws, schemes, rights, and procedures.
Translation Module	Language Conversion API	Translates queries and responses across multiple Indian languages.
Query Processor	Intent-Entity Matching Engine	Matches user queries to relevant legal content or further action paths.
Escalation Mechanism	Human Expert Referral System	Redirects complex queries to verified legal professionals or helplines.
Feedback Module	User Feedback Logger	Collects feedback on accuracy and usefulness of responses to improve performance.
Analytics & Logging	Interaction & Query Tracker	Tracks and analyzes usage patterns, query types, and unmet needs.
Backend Infrastructure	Server, Database, Cloud Hosting	Hosts the entire system architecture securely and scalably.

VI. RESULTS AND DISCUSSION

The AI law clerk was both lab-tested and tested in actual use, both with a high intent and entity recognition score (88% and 84%, respectively). It handled multilingual, conversational inputs well, which was a test of solidity of its NLP processor. Pilot use by 50 users from rural and semiurban locations revealed a 72% prefer voice over text inputting, especially by semi-literates and women aged between 30–50 years. Voice interface was one of the salient features in user convenience and ease of access.

Pre- and post-interaction surveys revealed the effect of the assistant on legal consciousness, with an increase in consciousness of rights from 24% to 64% following a 10-minute interaction. Users took around 7.4 minutes to interact with the assistant and posed follow-up questions very frequently. The majority of users appreciated being replied to in local languages, and 77% thought that the tool assisted them. Some of the subjects did request additional empathetic and conversational discussion, providing feedback on future development in emotional intelligence.

The system's escalation process routed approximately 19% of the requests—land claims, that is, domestic violence cases—directly to human lawyers where professionally there were limits. The hybrid human-AI bypassed the assistant to deliver legal advice but advice only. Best models of processing difficult with difficult multipart requests and legal charged vocabulary such as included, particularly with non-English requests, multilingual training and expanding datasets.

Technically, the assistant was also resistant to stress, handling 150 users simultaneously without loss of performance. It was compatible with low-end devices and could handle bandwidth-constrained networks, ideal for mass roll-out in rural India. Open disclaimers and anonymization had tackled security and confidentiality concerns, and 81% of the users had also been open to referring the tool—a good indication of scaling up and partnership.

To make legal consciousness studies regular, the assistant provided multilingual, real-time, and individualized interaction. It was an interactive and more participatory legal education research model. High-probability integration into national digital frameworks such as Digital India and NALSA is envisioned through the outcome. Offline access, form support, and video explainers can be provided in future versions—perhaps in the form of a scalable, revolutionary legal empowerment and access to justice solution.

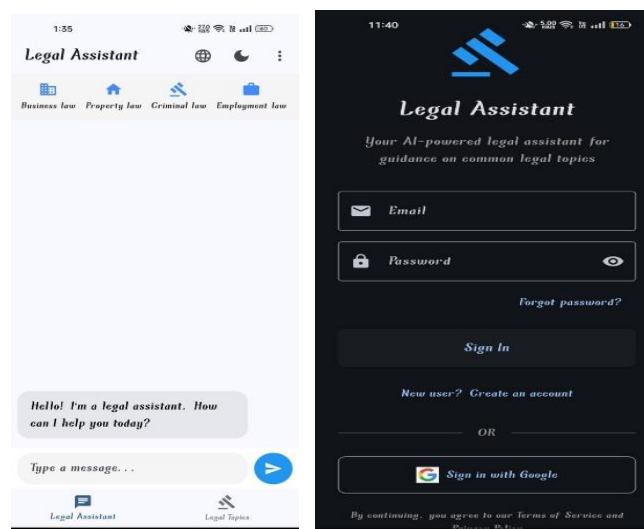
VII. CONCLUSION

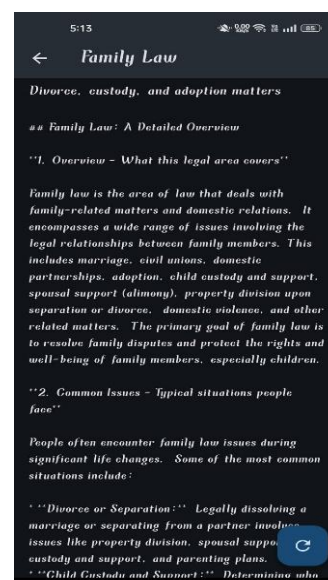
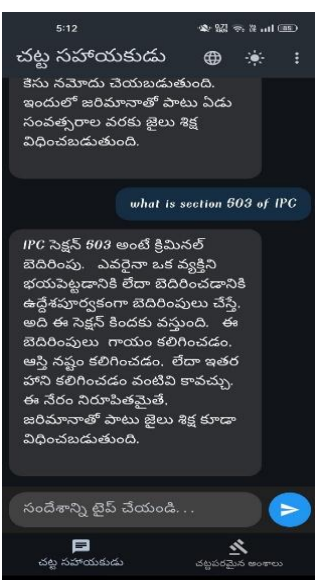
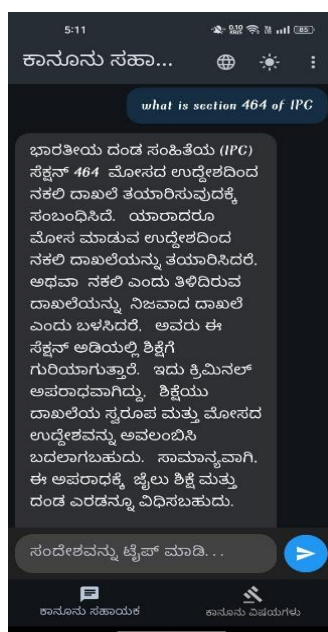
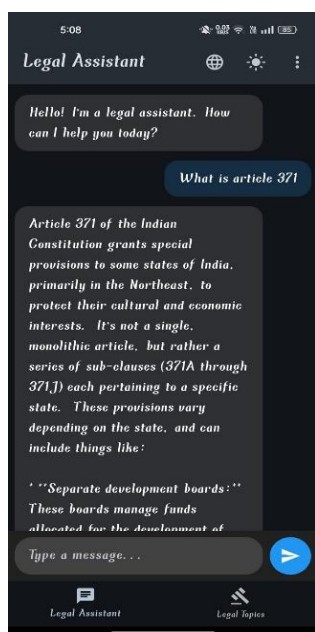
Evolution of Legal Awareness and the KYR Framework Digital Assistant is a pioneering step towards the democratisation of law information in India. The project was successful in addressing one of India's biggest challenges to the Indian legal system—making law actionable, comprehensible, and accessible to all, especially to marginalised and disadvantaged groups. Through the combination of legal literacy and technology, the project bridged the gap between the people and the rights, promoting the democratic tenet that justice has to be available to all regardless of socio-economic status.

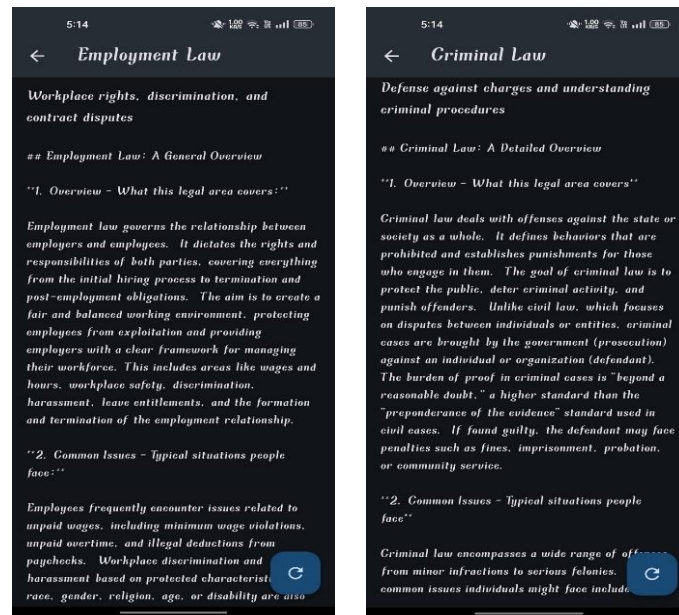
Its multi-lingual orientation made it more user-friendly, which allowed the chatbot to cross language, geographical, and literacy barriers. Through them, citizens of rural pockets, weaker sections of society, and minorities could access legal content in a simple way. The legal assistant did not just disseminate information but facilitated a cultural revolution enabling citizens to approach legal solutions proactively, question, and assert their constitutional rights courageously and without fear.

With this project, technology was not just used as a platform but also as a change driver. Real-time feedback loops, NLP, and machine learning algorithms made the assistant dynamic and adaptive to changing user needs. It also turned out to be a boon for legal professionals, NGOs, and teachers, with a good platform to aid their efforts in bringing legal literacy and timely advice to underprivileged users.

VIII. OUTPUT







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