

SIMPLIFYING LEGAL ACCESS: BRIDGING AWARENESS AND ASSISTANCE FOR CITIZENS

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Keywords:

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Introduction:

Legal documentation in India remains complex, time-consuming, and difficult for many citizens due to legal jargon, language barriers, and low digital literacy, often leading to errors, delays, and dependence on intermediaries. Existing digital solutions offer limited assistance and lack adaptability, multilingual support, and real-time guidance. This project addresses these challenges by proposing a voice-enabled, multilingual legal assistance platform that uses speech recognition, Large Language Models (LLMs), and a legal knowledge graph to guide users step-by-step in completing forms accurately. The system provides contextual explanations, real-time validation, and supports low-connectivity environments through a hybrid on-device and cloud-based architecture. Its goal is not to replace legal professionals but to improve accessibility, understanding, and efficiency in legal form completion, ultimately empowering users to engage with legal processes independently.

Objectives:

1. To simplify the legal application process for citizens with little or no legal knowledge.
2. To enable voice-based legal form filling in regional languages.
3. To build a user-friendly, multilingual platform that guides users step-by-step.
4. To integrate a legal knowledge system that explains terms and requirements in simple language and also validates the form.
5. To support electronic form submission and application tracking for better user experience using e-Courts API.

Methodology:

The system uses a layered, modular architecture to ensure scalability, security, and easy maintenance. It is divided into five layers—User, Client Application, Application, Database, and External Services—each handling specific tasks and interacting through defined

interfaces. This separation improves flexibility, fault isolation, scalability, and overall system robustness.

1. **User Layer:** This layer represents users (citizens) interacting with the system through voice, text, or document uploads. It focuses on inclusivity and accessibility for users with different literacy and language levels.
2. **Client Application Layer:** This layer provides the user interface, captures inputs, communicates with backend services, and displays outputs like form previews, autofill suggestions, and validation feedback for a smooth user experience.
3. **Application Layer:** The core processing layer that handles speech-to-text, text processing, intent detection, and legal understanding using LLMs. It also manages autofill, validation, authentication, and logging.
4. **Database Layer:** Stores user data, legal form schemas, translations, and logs using a flexible NoSQL database, enabling support for varied legal document structures.
5. **External Services Layer:** Integrates third-party services like speech recognition, translation, LLMs, and cloud storage to enhance functionality, scalability, and performance without increasing system complexity.

Result and Conclusion:

Results: The system demonstrated strong performance across all modules, including speech recognition, LLM-based interpretation, and form validation. It achieved high accuracy in multilingual voice input, effective intent recognition, and significant reduction in user errors during form filling. The user interface proved intuitive and accessible, while response times remained low, ensuring smooth real-time interaction. Overall, the results confirm that the platform improves efficiency, accuracy, and user confidence in completing legal forms.

Conclusion: The project successfully shows how AI, multilingual speech processing, and automated validation can simplify legal documentation for citizens. By integrating voice interaction, LLM-based guidance, and secure architecture, the system enhances accessibility, especially for low-literacy and rural users. It reduces dependency on intermediaries and improves the overall legal form-filling experience, making it a scalable and practical solution for real-world deployment.

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Future Scope:

The future scope of the project includes:

1. Improve speech recognition for regional languages and dialects, and add text-to-speech for better accessibility.
2. Enhance validation with more government rules and provide step-by-step voice guidance to reduce errors.
3. Integrate with government platforms like eCourts India portal, Seva Sindhu portal, and DigiLocker for direct submission and tracking.
4. Add support for scanned PDFs and handwritten documents using AI-based data extraction.
5. Develop a mobile application to improve access in rural and semi-urban areas.
6. Implement privacy-focused learning methods and add predictive features for better legal assistance.