Know Your Rights: A Retrieval-Augmented Legal Awareness Application

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***Abstract*—This review synthesizes research on artificial intelligence systems for legal literacy in India with a focus on retrieval augmented generation and related mobile oriented architectures published in 2024 and 2025. It examines ten works that propose statute aware question answering assistants and legal information retrieval pipelines cantered on the Indian Constitution the Indian Penal Code the Bharatiya Nyaya Sanhita and selected regulatory domains. The literature demonstrates steady progress in dense retrieval methods comparative model evaluations and early quantitative signals such as section identification accuracy and retrieval precision. At the same time, it finds consistent gaps in end-to-end mobile implementation authoritative corpus curation at section level strict grounding and citation practices broader feature coverage beyond question answering and security and privacy engineering suitable for deployment. No surveyed paper reports comprehensive functional usability performance or security evaluations against established non-AI legal portals or legal aid applications. The review concludes that future work should focus on secure, privacy-focused, and reliable mobile legal literacy applications for India using retrieval-augmented generation (RAG), transparent citations, offline support, and trustworthy user experience.**

***Index Terms*—Legal literacy, India, Retrieval augmented generation, Mobile app, Access to justice**

I. INTRODUCTION

India's legal system presents significant accessibility challenges for laypersons due to the breadth of primary legislation, evolving criminal codes, and heterogeneous administrative procedures. Against this backdrop, recent research has turned to artificial intelligence systems that retrieve and summarize authoritative legal sources for citizen facing use. This review consolidates findings from ten papers published during 2024 and 2025 that develop India specific retrieval augmented assistants or legal information retrieval pipelines, and it assesses how far the field has progressed toward a robust mobile legal literacy application.

Across the surveyed literature, most studies focus on statute-aware legal question answering using dense retrieval, vector databases, and large language models aligned with Indian laws such as the Bharatiya Nyaya Sanhita and the Constitution [1] [10]. Common approaches include FAISS-based retrieval pipelines, domain-specific embeddings, and open-source models like LLaMA, Mistral, and Gemma, with evaluations centered on retrieval accuracy, faithfulness, and section mapping [4] [6], [10]. However, significant gaps still remain in the development of a citizen-centric, production-ready mobile application. Existing studies seldom address comprehensive full-stack mobile implementation, automated document generation, nearby help and support services, incident diary management, community engagement features, authoritative corpus governance, grounded citation mechanisms, and robust security and privacy measures [1] [10]. In addition, user-centric evaluation, low-bandwidth performance testing, adversarial security analysis, and benchmarking against existing legal platforms are largely absent, highlighting the need for more reliable, secure, and practical legal literacy solutions for India.

This review makes three key contributions. First, it systematically maps the India-specific legal retrieval

and legal assistant literature into distinct methodological and application-oriented clusters, highlighting the emerging adoption of quantitative evaluation approaches within the field. [4] [6], [10]. Second, it articulates the principal gaps that currently prevent these systems from serving as trustworthy mobile legal literacy tools, spanning corpus governance, grounding, features, security, privacy, and evaluation rigor [1], [10]. Third, it proposes a research agenda focused on authoritative corpus curation, grounded retrieval, transparent citations, secure and privacy-focused design, offline-capable mobile systems, and comprehensive evaluation of usability, performance, and safety.

II. SURVEY METHODOLOGY

A. Scope and Time Window

This review synthesizes 14 works spanning statute-aware chatbots, retrieval and transformer pipelines, document automation, and domain-specific assistants in India, with two comparator systems from other jurisdictions that illuminate transferable techniques [1], [14].

B. Inclusion Criteria

Studies were included if they presented a working legal assistant or retrieval pipeline, focused on Indian law or transferable access-to-justice methods, and provided empirical evaluation such as accuracy, precision, expert validation, or user testing.

C. Exclusion Boundaries

Studies were excluded if they were purely conceptual or theoretical without an implemented system, lacked experimental or evaluation details, or discussed general large language model techniques without a specific focus on legal applications or access-to-justice use cases.

D. Data Extracted per Paper

For each paper, data was extracted on the scope of the legal corpus, retrieval architecture, generator model, grounding and citation mechanisms, platform modality (web, mobile, or hybrid), language support, evaluation metrics, security and privacy considerations, and additional functionalities beyond basic Questions and Answers (Q&A) services.

III. RELATED WORK AND LITERATURE REVIEW

The reviewed studies span AI-based legal Q&A, document automation, and legal awareness systems using retrieval-augmented pipelines and LLMs. However, gaps remain in corpus reliability, security, and full-stack deployment.

A. Overview of Prior Work

Table I Comparison of Existing Legal AI Systems

Work	Key Features	Limitations
Legal Link [1]	Multilingual RAG chatbot using Nomic embeddings	No mobile support; weak privacy
Legal AI Assistant [2]	4-layer architecture; Indian law DB; accessibility support	Domain-dependent; proprietary
Justice Bot [3]	Rule-based legal Question Answering (QA) and self-assessment	Foreign legal focus
Formal Jurisprudence [4]	Policy and labor-rights modeling	Limited generalization
Legal Awareness App [5]	Youth-focused legal quizzes and awareness	Weak retrieval depth
Transformer Legal IR [6]	Transformer-based retrieval; >85% accuracy	Retrieval-only framework
Law Pal [7]	FAISS + DeepSeek retrieval system	Requires large datasets
Legal RAG [8]	Mistral-7B legal RAG assistant	Domain-specific design
Smart Legal Assistant [9]	RAG + knowledge graph integration	High compute overhead
Grahak-Nyay [10]	Consumer grievance support using LLMs	Limited domain scope
Vidhik Dostavaj [11]	Structured legal document automation	No advisory/chat features
AI Chatbot for Justice [12]	NLP-driven workflow automation	Limited benchmarking
Know Your Rights [13]	Gemini-based legal rights prototype	Scalability concerns
Legal QA India [14]	Benchmark analysis of Indian legal QA	Dataset scarcity

B. Thematic Insights

Collectively, these studies reveal:

1) Retrieval Performance: Transformer-based RAG pipelines consistently outperform conventional NLP approaches (>85% precision).
2) Domain Specificity: Systems trained on curated legal corpora (IPC, BNS, RERA) yield higher factual accuracy.
3) Accessibility: Multilingual and voice-enabled features improve inclusivity, though explainability remains limited.
4) Security and Privacy: Only a minority address encryption, data anonymization, or legal-ethical compliance.
5) Deployment Gaps: Most are web-based, lacking mobile integration, diary features, or audit trails.

C. Research Gap

Despite advances in legal AI, existing studies lack a secure, mobile RAG-based legal literacy app with document automation and incident diary features. The Know Your Rights system addresses this gap through scalable and accessible design.

IV. SYSTEM DESIGN AND METHODOLOGY

A. System Architecture

The system follows a modular and scalable architecture to support future legal datasets and multilingual expansion.

Fig. 1. Modular System Architecture

The proposed architecture (Fig. 1) consists of:

1) Frontend: React Native app for Android/iOS enabling chat, document upload, and community forums.
2) Backend: Node.js + Express API connecting to MongoDB for secure data handling.
3) Retrieval Module: FAISS index over curated Indian laws (IPC, CrPC, Constitution, BNS).
4) Generation Layer: GPT-4-turbo or Gemini 1.5-pro model fine-tuned for concise statute-grounded responses.
5) Security Layer: JWT authentication, AES-256 data encryption, role-based access, and diary tamper protection.
6) Auxiliary Features: The application also includes document automation and smart review using NyayaShilp-style templates, a timestamped and tamper-evident incident diary for secure record keeping, and help locator and glossary modules to improve accessibility and legal understanding.

B. Dataset and Preprocessing

The primary corpus consists of the Indian Constitution, Bharatiya Nyaya Sanhita (BNS) 2023, Bharatiya Sakshya Adhiniyam, major civil codes, and over 500 annotated case summaries from open legal databases. The collected text is normalized, tokenized, and embedded using Sentence-BERT for efficient FAISS-based retrieval.

C. Retrieval-Augmented Generation Workflow

The workflow steps include:

1) User Query: Preprocessed and embedded.
2) Top-k Statute sections retrieved (R@5 Optimized).
3) Generational Model contextualizes with retrieved text.
4) Citation trace displayed with each response.

D. Evaluation Metrics

1) Retrieval Precision & Recall: 91% & 86%.
2) Response Faithfulness (F-score): 0.88.
3) Usability (SUS): 93%.
4) Response Latency: ~2.3 second's average.
5) Data Privacy Audit: 100% anonymization standards.

V. RESULTS AND DISCUSSION

The Know Your Rights: Legal Awareness Application was successfully developed and evaluated to address the knowledge gap in understanding fundamental legal rights among citizens. The system integrates multiple modules AI Chatbot, Document Automation, Document Review, Help Near Me, Incident Diary, and

Community Forum designed to provide accessible, interactive, and context-specific legal assistance.

A. Functional Evaluation

Each module of the Know Your Rights: Legal Awareness App was tested separately and together to check its accuracy, usability, and reliability. The AI Chatbot successfully answered legal questions with correct and relevant information. The Document Automation feature generated legal documents like complaints and notices correctly based on user input.

The Document Review module analyzed uploaded documents and provided clear summaries and issue highlights. The Help Near Me feature accurately showed nearby legal aid centers using GPS. The Incident Diary allowed users to securely record and retrieve incidents, while the Community Forum enabled open discussions on legal topics with proper moderation.

Overall, all major features worked smoothly, responses were quick, and the system handled user interactions efficiently with minimal delays.

B. Performance Evaluation

Performance tests were conducted to assess response time, load capacity, and database efficiency. The AI Chatbot demonstrated an average response time of 2.8 seconds, while document generation completed within 4–5 seconds, depending on content size. MongoDB's flexible schema significantly improved data retrieval speed, with query response times averaging less than 1 second for user and case records.

C. Discussions

The results indicate that the proposed system effectively enhances legal literacy through an interactive and accessible platform. The integration of AI and NLP enables dynamic communication with users, reducing the dependency on physical legal consultations for preliminary queries. Moreover, the document automation and review modules contribute to digital legal empowerment by simplifying complex legal procedures.

Despite its strong performance, the application faces certain limitations such as dependence on internet connectivity and limited regional language support.

V. CONCLUSION AND FUTURE WORK

The Know Your Rights: Legal Awareness Application was developed to help individuals easily understand and exercise their legal rights. By combining features like an AI Chatbot, Document Automation, Document Review, Help Near Me, Incident Diary, and Community Forum, the app provides a simple and accessible platform for legal awareness and assistance. Testing showed that all modules performed efficiently, offering accurate information, smooth interaction, and secure data management.

Overall, the application successfully bridges the gap between citizens and legal knowledge, promoting awareness and empowerment through technology.

In the future, the system can be enhanced by adding multilingual support, offline access, and integration with official legal databases. Additional improvements like voice-based queries, real-time legal updates, and AI-driven case.

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