AI-POWERED LEGAL DOCUMENTATION SYSTEM

A PROJECT REPORT

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SCHOOL OF COMPUTER SCIENCE ENGINEERING

CERTIFICATE

This is to certify that the Project report **AI-powered legal documentation system** being submitted by Shamitha.R, Huzaifa Shariff and Sugunashree.M.K bearing roll number's 20211IST0020, 20211IST0003, 20211IST0002 in partial fulfillment of the requirement for the award of the degree of **Bachelor of Technology** in **Information Science and Technology** is a bonafide work carried out under my supervision.

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DECLARATION

We hereby declare that the work, which is being presented in the project report entitled **AI-powered legal documentation system** in partial fulfillment for the award of Degree of **Bachelor of Technology** in **Information Science and Technology**, is a record of our own investigations carried under the guidance of **Assistant professor Monisha Gupta, School of Computer Science Engineering & Information Science, Presidency University, Bangalore.**

We have not submitted the matter presented in this report anywhere for the award of any other Degree.

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ABSTRACT

In order to simplify the legal documentation process for Indian people and small businesses, this initiative creates a novel AI-powered solution. Its main goal is to make legal procedures more understandable for people who lack in-depth legal expertise by streamlining complicated legal jargon and guaranteeing adherence to regional laws. The technology uses sophisticated AI algorithms to automatically write documents in plain language and has an intuitive interface for entering contract data.It has a thorough compliance check system that makes sure all documents follow the most recent rules and laws. For increased accuracy and dependability, the system also connects with current legal databases and provides editable templates for a range of legal requirements. For complex matters, the option for expert legal counsel is offered, which adds a level of dependability and knowledge. In addition to making it simpler to create legal documents, this initiative seeks to increase legal literacy and empower the general people by educating users about legal terms and provisions. Due to the time-consuming nature of producing legal papers, the intricacy of legal language, and the restricted availability of legal experience, legal documentation frequently poses a substantial difficulty for both individuals and small businesses in India. By creating an AI-powered legal paperwork assistant that streamlines the procedure and improves accessibility, this hackathon seeks to address these issues. The suggested solution will have an easy-to-use interface that lets users enter pertinent data, including the parties involved, the conditions of the agreement, and other pertinent information. The system will produce legal documents in clear, understandable English by utilizing AI-driven natural language processing, which lowers the possibility of mistakes and misunderstandings. The solution's main features include the ability to customize document templates to users' unique requirements, integration with legal databases to guarantee the completeness and accuracy of documents produced, and the choice to consult a lawyer for more complicated matters. This technology has the potential to reduce expenses, save time, and improve access to justice for marginalized people by automating and streamlining legal documentation.

Keywords: AI-powered legal assistant, legal documentation, document automation, chatbot assistance, legal document editing, document downloading, user registration, user login, web-based platform.

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INTRODUCTION

1.1 AI-POWERED LEGAL DOCUMENTATION SYSTEM

Legal documentation is still an essential part of both personal and corporate matters in today's fast-paced world, but its intricacy frequently presents difficulties for Indian individuals and small enterprises. In light of this, our project presents a cutting-edge AI-powered solution designed to completely transform the legal documentation process. We hope to make the complex legal jargon easier to understand and guarantee local law compliance by utilizing cutting-edge AI algorithms like Decision Tree, Random Forest, Naïve Bayes, and XGBoost. With its user-friendly interface for entering contract details and automating the drafting process in plain language, this solution is designed to satisfy the needs of both individuals and small enterprises. The solution's main features include the ability to customize document templates to users' unique requirements, integration with legal databases to guarantee the completeness and accuracy of documents produced, and the choice to consult a lawyer for more complicated matters. This technology has the potential to reduce expenses, save time, and improve access to justice for marginalized people by automating and streamlining legal documentation. This project could have a revolutionary effect, improving the efficiency and inclusivity of legal procedures. When developing their ideas, participants are urged to give ethical, security, and data privacy top priority. A functional prototype showcasing the assistant's capabilities, a technical presentation detailing its architecture and data requirements, and thorough code documentation with deployment and maintenance guidelines are among the project's deliverables. By making legal documents more user-friendly, effective, and accessible, this solution has the potential to completely transform it and empower small enterprises and individuals throughout India.

Drafting contracts, agreements, compliance reports, and conducting legal research are all part of the legal industry's heavy reliance on documentation. Traditional legal documentation, however, is frequently costly, time-consuming, and prone to human error. By automating processes like document preparation, contract analysis, and legal research, an AI-powered legal documentation system seeks to transform this procedure and guarantee increased precision and effectiveness. Such systems can improve decision-making, reduce risks, and expedite legal workflows by utilizing artificial intelligence, machine learning, and natural language processing. Furthermore, organizations and individuals who might not have

the funds for pricey legal consultations can now more easily access legal services thanks to AI-driven solutions. As AI technology continues to progress.

The project titled "AI Powered Legal Documentation Assistant" aims to simplify the process of creating and managing legal documents by leveraging artificial intelligence. Drafting legal documents often requires legal expertise, understanding of complex terminology, and strict adherence to legal formats, which can be challenging for individuals and small businesses. Hiring legal professionals for every task is not always affordable or convenient. This project provides a web-based platform that uses AI and natural language processing to help users generate accurate and legally compliant documents by simply entering relevant information.The system includes an AI-powered chatbot that assists users in real-time by explaining legal terms and guiding them through the document creation process. Users can edit the drafts using built-in tools and download the final version securely. The platform also ensures data privacy through user authentication and secure storage. By automating routine legal documentation tasks, this assistant reduces dependency on legal professionals, saves time, lowers costs, and enhances the overall user experience in legal document preparation.

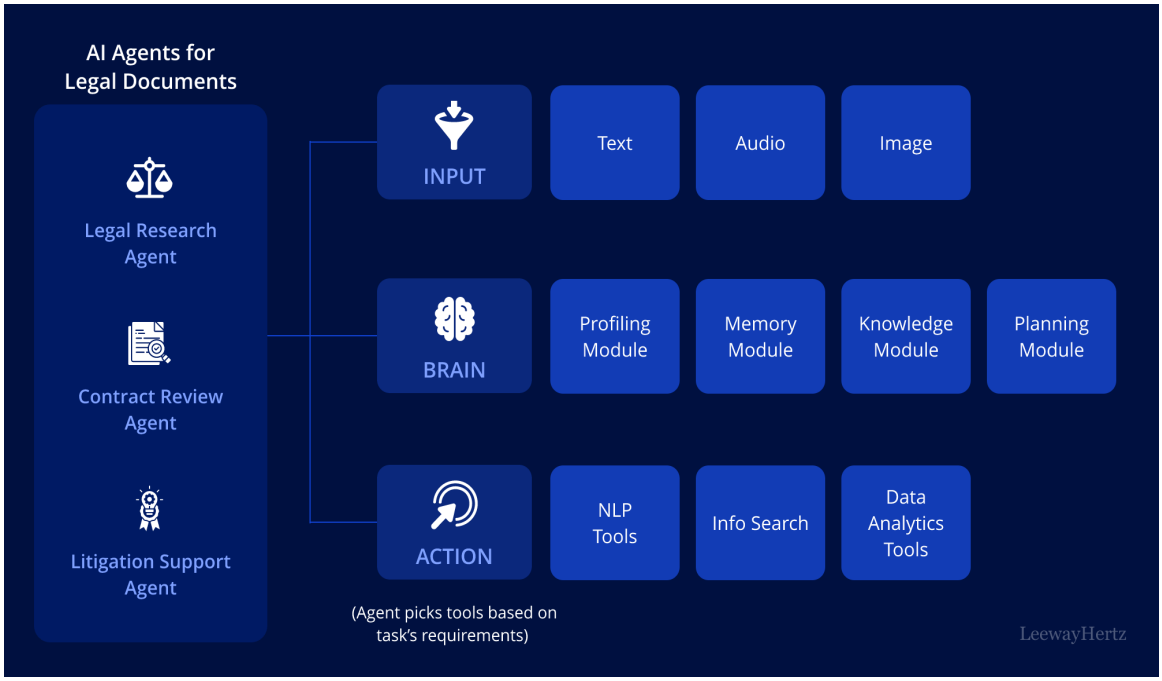

Fig 1.1 AI Agents for Legal Documents

Background

For individuals and small enterprises in India, obtaining legal paperwork is still a difficult and frequently inaccessible process. For people without legal experience, the legal system's emphasis on technical terms and elaborate processes poses a major obstacle. Understanding and creating crucial legal documents, such as contracts, agreements, and compliance forms, can be challenging for small businesses and individuals. This increases the possibility of mistakes, disagreements, and monetary losses. Furthermore, it might be difficult for marginalized communities to obtain high-quality legal assistance due to the high cost and duration of legal services. The terminology employed in legal documents is one of the main obstacles. Non-lawyers frequently find it challenging to understand the meaning and ramifications of legal papers due to codified language and legal jargon. Legal weaknesses, insufficient documentation, and misunderstandings might result from this ignorance. Due to their lack of resources and experience, small firms in particular have difficulty adhering to the law, which can lead to fines and legal issues that could have been prevented with the right paperwork. The strain is further increased by the lengthy nature of typical legal paperwork procedures. Important corporate and personal transactions may be delayed as a result of the numerous consultations, reviews, and modifications that are frequently required while preparing legal documentation. These delays are made worse by a lack of access to legal resources and professional guidance, particularly in impoverished and rural areas of India. A technology-driven solution that streamlines legal documentation and improves accessibility is obviously needed in light of these difficulties. This gap can be filled by an AI-powered legal documentation assistant, who offers a user-friendly compliance platform that helps users create documents while guaranteeing correctness, clarity, and with the law.

1.2 Research Motivation and Problem Statement

In order to ensure clarity, protection, and legal compliance, legal paperwork is essential to the efficient operation of both private and corporate operations. However, getting and comprehending legal documentation continues to be a major obstacle for Indian individuals and small businesses. People are frequently unable to properly manage their legal demands due to obstacles such as the time-consuming nature of legal documentation, the expense of legal assistance, and the complexity of legal jargon. The pressing need to empower users with AI-driven solutions that streamline legal documents and close the gap between accessibility and legal complexity is what drives this research.

The intricacy of legal terminology is one of the main obstacles in legal paperwork. The majority of legal documents are written in extremely technical jargon that is hard for those who aren't attorneys to understand. Clearer communication could have prevented the frequent misunderstandings, documentation errors, and legal issues that result from this. A lack of legal knowledge and resources frequently makes it difficult for individuals and small enterprises to form accurate agreements, contracts, and other legal documents.Another important consideration is time. Legal documentation frequently necessitates a great deal of work, numerous modifications, and legal expert contacts. It can be challenging for small firms and individuals to effectively navigate the legal processes because they may already be balancing a number of obligations. Decision-making and corporate operations are slowed down as a result, which hinders growth and productivity.By automating difficult operations, increasing productivity, and facilitating accessibility, artificial intelligence (AI) has proven its capacity to revolutionize a variety of industries. By streamlining the writing process, converting legalese into everyday English, and giving users precise, personalized documents in a fraction of the time. AI-powered solutions can be extremely helpful in the field of legal paperwork. By leveraging AI, individuals and small businesses can gain access to legal expertise without incurring high costs or spending excessive time on paperwork.It also significantlyreduce the cost of legal assistance by minimizing the need for lawyers in routine document drafting, the solution can improve legal literacy among users by presenting legal documents in plain language. By making legal terms easier to understand, individuals and small businesses can make more informed decisions and avoid potential legal pitfalls.

1.3 Summary

In conclusion, for Indian individuals and small enterprises, the suggested AI-powered legal documentation solution presents a revolutionary way to streamline legal procedures. The solution ensures compliance with local rules while streamlining document preparation through the use of sophisticated AI algorithms and an intuitive interface. While customized templates and expert consultation options address a range of legal demands, the incorporation of Decision Tree, Random Forest, Naïve Bayes, and XGBoost approaches improves accuracy and reliability. Additionally, the focus on legal education encourages users to become more knowledgeable and empowered. In the end, this project promotes efficiency, dependability, and legal literacy in India's legal ecosystem by making document preparation simpler and making the legal environment more approachable and

knowledgeable. The necessity to democratize access to legal documents and guarantee that Indian citizens and small enterprises may easily traverse legal processes is what motivates our research. The suggested method can solve current issues by utilizing AI to make legal documentation more easily available, reasonably priced, and user-friendly.

1.4 Problem Statement:

Creating and maintaining legal papers is frequently a difficult and time-consuming process that calls for accuracy, specialist legal knowledge, and adherence to jurisdiction-specific laws. People and organizations usually have trouble choosing the right document formats, comprehending legal jargon, and making sure that paperwork is accurate. This results in mistakes, delays, and a greater reliance on legal experts, who aren't always affordable or available. Legal management is further made inefficient by the absence of a centralized platform for the creation, editing, and storage of legal documents. In order to streamline and expedite the legal documentation process, an intelligent, automated solution is therefore required.

1.5 Motivation:

The difficulties that people and organizations encounter when trying to prepare legally compliant papers without professional knowledge are the driving force behind this effort. Since legal services are frequently costly and time-sensitive, it can be challenging for individuals, small enterprises, and startups to afford expert help for every legal task. There is a great chance to use technology to increase access to legal assistance as artificial intelligence and natural language processing grow in popularity. By automating repetitive legal activities, providing real-time coaching, and minimizing reliance on manual drafting, an AI-powered assistant can increase productivity, lower expenses, and improve the experience of legal documents in general.

In the legal industry, documentation plays a crucial role, but traditional methods are often time-consuming, costly, and prone to human errors. An AI-powered legal documentation system can significantly enhance efficiency by automating repetitive tasks such as contract drafting, legal research, and document review. This not only saves time but also ensures greater accuracy, reducing the risk of errors and inconsistencies in legal texts. Additionally, AI-driven systems help in maintaining compliance with ever-evolving laws and regulations, ensuring that all legal documents meet the required standards.

Cost-effectiveness is another major motivation, as law firms and businesses spend substantial resources on legal paperwork and manual reviews. AI can streamline these processes, reducing the dependency on human intervention and lowering operational costs. Moreover, such a system enhances accessibility by providing legal document generation and analysis tools to individuals and small businesses that may not have access to expensive legal services. AI can also offer data-driven insights by analyzing past legal cases, contracts, and rulings, helping legal professionals make informed decisions.

Scalability is another key advantage of AI-powered legal documentation, as it can handle vast amounts of legal data efficiently, making it suitable for large enterprises, law firms, and government institutions. Furthermore, security and confidentiality are critical in the legal domain, and AI systems can incorporate encryption and access controls to protect sensitive legal information. By integrating AI into legal documentation, organizations can improve accuracy, efficiency, compliance, and overall decision-making, transforming how legal services are delivered in the digital age.

- **Efficiency & Speed** – Traditional legal documentation is time-consuming. AI can automate repetitive tasks, reducing the time spent on drafting, reviewing, and analyzing legal documents.
- **Error Reduction** – Manual documentation increases the risk of human errors. AI can ensure accuracy by detecting inconsistencies, missing clauses, and compliance issues.
- **Cost-Effectiveness** – Law firms and businesses spend significant resources on legal paperwork. AI reduces labour costs by automating document generation and legal research.
- **Accessibility** – AI-powered systems can provide legal documentation assistance to individuals and businesses that lack access to expensive legal services.
- **Compliance & Standardization** – AI ensures that all legal documents adhere to updated laws, regulations, and industry standards, reducing legal risks.
- **Data-Driven Insights** – AI can analyze past legal cases, contracts, and rulings to provide insights and recommendations for better decision-making.
- **Scalability** – AI-driven solutions can handle vast amounts of legal documents, making them suitable for law firms, corporations, and government institutions.
- **Security & Confidentiality** – AI systems can integrate advanced encryption.

1.6 Objective of the Project:

The main goal of the AI-Powered Legal Documentation Assistant is to provide a web-based platform that integrates artificial intelligence to streamline the legal documentation process. By entering pertinent information into a user-friendly interface, the system seeks to enable users—whether individuals, startups, or corporate entities—to produce legally legitimate papers rapidly. The platform uses artificial intelligence (AI) algorithms to comprehend user input, produce document drafts, and guarantee adherence to legal requirements and formats. It also has an integrated AI chatbot that can offer procedural instructions, explain legal jargon, and offer real-time support. When necessary, users can download completed copies of documents after editing them with the built-in tools. The platform seeks to improve accuracy, save time, and lessen the need for legal involvement in everyday procedures by providing features including user identification, safe data processing, and configurable document preparation. The project's ultimate goal is to use technology-driven automation to democratize access to legal services.

1.7 Scope:

The AI-Powered Legal Documentation Assistant uses natural language processing (NLP) and artificial intelligence (AI) to expedite the production, modification, and validation of legal documents. Through an integrated AI chatbot, it helps users prepare legal papers, ensures adherence to legal norms, and offers real-time guidance. With its user-friendly interface, compliance checks, and safe document storage, the system caters to people, companies, and law firms. Although the technology improves accuracy and efficiency, it cannot take the place of expert legal counsel in complex legal cases.From document production to sophisticated legal analysis, an AI-powered legal documentation system may cover a wide range of legal procedures. AI can save legal practitioners time and effort by automating the drafting of legal documents including agreements, contracts, and compliance reports. It is also essential for contract review and risk assessment because it checks documents for legal compliance, missing clauses, and inconsistencies. Furthermore, by swiftly searching through enormous databases of statutes, case laws, and precedents, AI-powered systems improve legal research by giving attorneys pertinent information and bolstering their arguments.

Fig 1.2 Applications in Legal documents analysis

CHAPTER-2

LITERATURE SURVEY

Table 2.1.1

Title	"Artificial Intelligence and Law: An Effective and Efficient Instrument" [1]
Year	2019
Methodology	Mention of AI's potential in law, AI use in e-courts and software.
Key Findings	Introduction to AI and Law; Exploration of AI's impact on the legal field.
Applications	Introduction to the AI-law connection; Discussion of AI's influence on legal processes and practices.

Table 2.1.2

Title	“ Efficient Automated Processing of Unstructured Documents Using AI: A Systematic Literature Review and Future Directions” [2]
Year	2020
Methodology	Discussion on traditional information extraction techniques, Need for AI-based solutions for unstructured documents.
Key Findings	Analysis of existing information extraction techniques; Proposal for a high-quality dataset; Need for business-research collaboration.
Applications	Identification of AI's potential in extracting information from unstructured documents; Call for better datasets and industry-academic cooperation. .

Table 2.1.3

Title	" AI and Deep Learning-driven Chatbots: A Comprehensive Analysis and Application Trends"[3]
Year	2022
Methodology	Overview of chatbots in various industries.AI and deep learning-based chatbots.
Key Findings	Discussion on generative AI in various domains, Mention of ChatGPT by OpenAI.
Applications	Recognition of the transformative potential of GAI. Acknowledgment of opportunities and challenges in the AI text-writing tool ChatGPT.

Table 2.1.4

Title	" The Rise of Generative Artificial Intelligence and its Impact on Education" [4]
Year	2023
Methodology	Overview of chatbots in various industries; AI and deep learning-based chatbots.
Key Findings	In-depth analysis of chatbots, Comparison based on features and application areas.
Applications	Comprehensive analysis of chatbots, their trends, and technologies; Highlighting AI and deep learning-based chatbots as essential tools for customer interactions.

Table 2.1.5

Title	" Artificial Intelligence and the Future of Teaching and Learning" [5]
Year	2021
Methodology	General information about AI's potential impact on teaching and learning.
Key Findings	Information about AI's potential to learn
Applications	General information about AI's potential impact on teaching and learning. .

Table 2.1.6

Title	“ AI Powered Legal Documentation Assistant” [6]
Year	2024
Methodology	Traditional legal documentation relies on manual processes, which are time-consuming and prone to errors
Key Findings	The authors propose an AI-driven system that utilizes natural language processing and machine learning to analyze user input and provide context-aware recommendations for legal document creation.
Applications	Implementing this AI assistant is expected to enhance efficiency, improve accuracy, and increase accessibility in legal document management.

Table 2.1.7

Title	"A Deep Learning Approach to Legal Document Classification"[7]
Year	2020
Methodology	The paperused convolutional neural networks (CNNs) and recurrent neural networks (RNNs) to classify legal documents and dataset used was European Court of Human Rights cases. Preprocessing involved tokenization, stop-word removal, and embedding via Word2Vec.
Key Findings	Deep learning models outperformed traditional machine learning techniques like SVM and logistic regression. Achieved over 90% accuracy in document classification by legal domain (e.g., tax law, criminal law, civil law).
Applications	Legal document organization and classification for case management systems. Assists in identifying relevant cases and precedents automatically in large databases.

Table 2.1.8

Title	"Contract Understanding Atticus Dataset: A Corpus for Document-Level NLP in the Legal Domain" [8]
Year	2021
Methodology	The paper released a new labelled dataset (CUAD) for legal clause extraction from contracts and used BERT-based models to extract 41 types of legal clauses and conducted experiments with RoBERTa, Legal BERT, and other transformers
Key Findings	Legal BERT fine-tuned on CUAD significantly improved clause extraction performance (F1-score > 85% for many clause types).Demonstrated the potential of transformer-based models in domain-specific NLP tasks.
Applications	Clause extraction in contract review platforms. Powers smart search, legal risk detection, and auto-summarization tools.

Table 2.1.9

Title	"Automating Contract Analysis: A Natural Language Processing Perspective" [9]
Year	2019
Methodology	The paper conducteda comparative study of rule-based vs machine learning approaches for contract review. Employed TF-IDF, named entity recognition (NER), and classification trees for clause tagging and evaluated on a proprietary legal document dataset.
Key Findings	ML approaches generalize better to unseen documents than rule-based systems.NER was particularly useful for extracting entities like dates, party names, and amounts.
Applications	These insights Used in legal tech tools that help lawyers quickly review and redline contracts and enhanced due diligence processes in mergers and acquisitions.

Table 2.1.10

Title	"Legal Text Summarization Using Transformer-Based Architectures" [10]
Year	2022
Methodology	The paper implemented and compared summarization models: BART, T5, and PEGASUS on legal case data and Fine-tuned models on datasets from Indian and U.S. court decisions and evaluated summaries with ROUGE scores and expert human judgment.
Key Findings	BART and T5 produced high-quality summaries that retained critical legal information.Human evaluators preferred abstractive summaries over extractive ones in legal contexts.
Applications	Auto-generation of legal briefs and summaries. Improves productivity for paralegals, clients, and non-legal audiences.

CHAPTER-3

RESEARCH GAPS OF EXISTING METHODS

Existing Methods

1. **Rule-Based Document Automation**: These systems rely on predefined logic (if-then rules or decision trees) to guide users through legal forms and generate standardized documents. Tools like Contract Express use this method effectively for routine legal paperwork.
2. **Template-Based Form Filling**: Platforms like Legal Zoom and Rocket Lawyer provide fixed legal templates with fields that users fill in. The data is inserted into a pre-approved format to generate common documents such as NDAs or lease agreements.
3. **Chat bot-Based Legal Assistants**: AI chatbots collect user data conversationally and guide users through the legal document generation process. Do Not Pay is an example of this approach, simplifying legal interaction through dialogue.
4. **Clause Bank Retrieval Systems**: These systems retrieve appropriate clauses from a large repository based on context and user intent. Users can pick suitable clauses for contracts manually or semi-automatically.
5. **GPT-Based Generative Text Models**: Advanced models like GPT-3.5 or GPT-4 can create legal drafts based on natural language input. They offer flexibility and can write customized legal language.
6. **Legal Ontology-Based Drafting**: These systems use legal onto logies—structured representations of legal concepts and their relationships—to ensure that generated documents are semantically and legally coherent.
7. **Hybrid AI + Template Systems**: A combination of rule-based templates and generative AI allows systems to offer both structure and contextual clause generation. This approach is emerging in tools like Lexion.
8. **AI-Powered Contract Review Tools**: Tools like Klarity and Luminance review existing legal documents identify potential risks, and flag inconsistencies or missing elements using machine learning.
9. **Automated Legal Citation Systems**: These systems assist users in adding relevant legal citations, drawing from case law or statutes. Case text's Co Counsel is one example that integrates legal knowledge with AI.

10. **Multilingual Document Translators**: These tools use AI to translate legal documents into different languages while maintaining legal accuracy. DeepL and other LLMs are being adapted for legal translation.

Research Gaps

1. **Lack of Legal Reasoning in AI Models**: Most language models are good at producing fluent text but cannot perform legal reasoning or simulate legal logic based on case law or statutes.
2. **Jurisdiction-Specific Legal Knowledge**: AI tools often generate legally vague content because they are not fine-tuned for specific legal systems such as Indian law, US state laws, or EU regulations.
3. **Explain ability and Clause Traceability**: Users cannot see the source or justification behind generated clauses, making it hard to assess their validity or legal grounding.
4. **Dynamic Clause Adaptation**: Current systems are unable to fully personalize or adapt clauses based on a user's specific scenario or risk profile, limiting their usefulness in complex cases.
5. **Risk and Ambiguity Detection in Drafts**: There is limited capability in current systems to detect vague or risky language that could lead to future legal disputes.
6. **Ethical and Legal Accountability of AI Drafts**: There is no clear regulatory or ethical framework outlining who is responsible for errors in AI-generated legal documents.
7. **Limited Multilingual Support**: Most tools operate only in English or a few major languages, leaving out millions of potential users in regions like India where vernacular language support is essential.
8. **Insufficient Personalization for User Context**: AI systems often fail to account for nuanced personal or business contexts, leading to generic and potentially irrelevant documents.
9. **Non-compliance with Accessibility Standards**: Many platforms are not designed for users with low legal literacy, language barriers, or disabilities, limiting inclusiveness.

10. **Data Privacy and Confidentiality Concerns**: AI tools often require sensitive user data, but many lack secure data handling practices aligned with legal privacy regulations such as GDPR or India's PDPB.

CHAPTER-4
PROPOSED METHODOLOGY

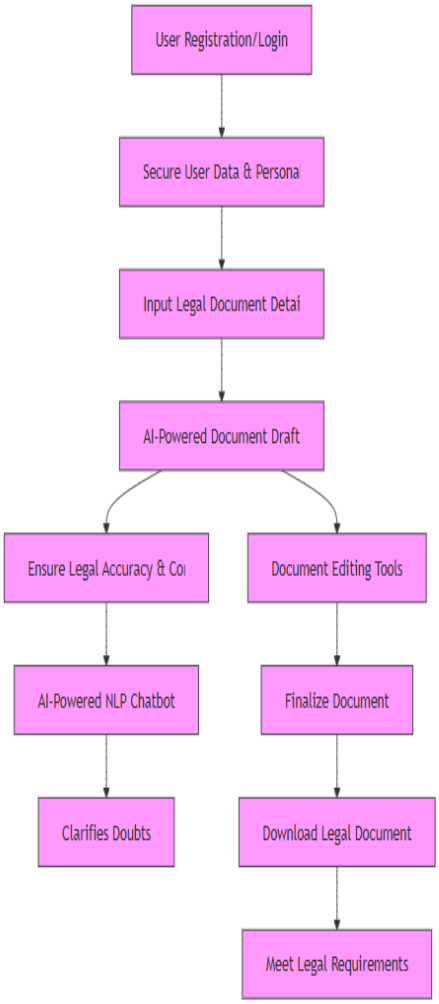

Fig 4.1 Workflow of Proposed Methodology

The workflow of an AI-powered legal documentation system that streamlines the production, modification, and verification of legal documents is depicted in this flowchart. The process begins with user registration and secure data handling, ensuring authentication and privacy. After users provide document information, AI creates a draft document using pre-established legal templates. While an AI-powered NLP chatbot helps to explain legal words and requirements, the system conducts legal checks to guarantee accuracy and compliance. After then, users can use the integrated tools to manually update the document before submitting it. When finished, the document is downloaded in the format of choice,

making sure it complies with all legal requirements. This system makes legal documentation more effective and user-friendly by automating legal operations, decreasing human labour, increasing accessibility, and improving accuracy.

This is a flowchart that represents an AI-powered legal document generation system. Here's a simple breakdown of the process:

- User Registration/Login – The user signs up or logs into the system.
- Secure User Data & Persona – The system ensures user data is protected.
- Input Legal Document Details – The user enters relevant legal information.
- AI-Powered Document Draft – The AI generates an initial draft of the document.
- Two Parallel Processes:

  Ensure Legal Accuracy & Co**.** – The system checks legal accuracy.

  - AI-Powered NLP Chatbot – Helps clarify user doubts.

  Document Editing Tools – The user can refine the document.

  - Finalize Document – The document is completed.
    - Download Legal Document – The user downloads the finalized document.
    - Meet Legal Requirements – Ensures the document follows legal standards.

This system streamlines legal document creation with AI assistance, accuracy checks, and editing tools.

CHAPTER-5

OBJECTIVES

An AI-powered legal documentation system automates the creation, editing, and validation of legal documents using AI and NLP. It helps users generate legally compliant documents quickly while reducing errors and manual effort. Features like AI chatbots, clause suggestions, fraud detection, and digital signatures improve accuracy and security. This system enhances accessibility, making legal documentation easier for individuals, businesses, and law firms. By streamlining the process, it saves time, lowers costs, and ensures compliance with legal standards.

- Simplify Legal Documentation: Develop an AI-powered solution to automate the drafting of legal documents in plain, easy-to-understand language for individuals and small businesses in India.
- Enhance Accessibility to Legal Resources: Provide a user-friendly interface and customizable document templates, reducing dependency on expensive legal services and minimizing errors.
- Ensure Accuracy and Completeness: Integrate with existing legal databases and resources to validate the correctness and comprehensiveness of the generated documents.
- Support Customization and Flexibility: Allow users to tailor legal documents to their specific needs while maintaining legal validity and clarity.
- Promote Legal Awareness and Education: Help users better understand their rights and obligations by presenting legal terms and clauses in simple, easy-to-grasp language.

Automate Legal Document Drafting

To enable individuals and small businesses to generate legally valid documents (e.g., contracts, agreements, affidavits) with minimal manual input through AI-driven automation.

Reduce Dependency on Legal Professionals

To minimize the need for expensive legal consultation for routine or standardized documentation, thereby making legal services more accessible and affordable.

Leverage Natural Language Processing (NLP)

To utilize NLP for interpreting user inputs, understanding legal intent, and extracting relevant data entities for accurate document generation.

Enable Clause Customization Using AI

To allow dynamic generation and editing of contract clauses based on the user's specific context using large language models like GPT-4.

Ensure Legal Accuracy and Compliance

To incorporate jurisdiction-specific legal templates and rules to maintain compliance with applicable laws and reduce legal risks.

Improve Access to Legal Services

To provide an intuitive, multilingual, and user-friendly platform that supports individuals from diverse linguistic and socio-economic backgrounds.

Enhance Document Validation and Risk Detection

To include AI or rule-based tools that can flag missing clauses, inconsistencies, or potentially risky language before final document generation.

Support Template Management and Scalability

To develop a modular system that allows easy updating, addition, and customization of legal templates based on document type or legal category.

Maintain Data Privacy and Ethical Standards

To ensure user data is handled securely and ethically, complying with data protection laws such as GDPR and India's Personal Data Protection Bill (PDPB).

Enable Seamless Export and Integration

To provide downloadable, printable formats (e.g., PDF, DOCX) and potential integrations with third-party platforms like email, cloud storage, or e-signature tools.

Legal Requirement Analysis and Template Curation

Study common legal document needs of target users (e.g., NDAs, contracts), collect jurisdiction-specific requirements, and curate legally vetted templates with dynamic fields for personalization.

User Input Processing and NLP Integration

Implement Natural Language Processing (NLP) to extract entities (names, dates, locations) and identify user intent from form inputs or chat bot queries using models like spaCy or BERT.

Clause Generation Using LLMs

Utilize large language models (e.g., GPT-4) to generate or modify specific legal clauses based on user input, context, and document type, ensuring customization and flexibility.

Document Assembly and Validation

Combine templates, user data, and AI-generated content to create structured legal documents. A rule-based validates checks for missing clauses, legal ambiguity, or compliance issues.

Export, Security, and Feedback Loop

Final documents are exported in formats like DOCX or PDF. User data is secured with encryption and privacy compliance. Feedback from users and legal experts is used to iteratively improve system accuracy and usability.

CHAPTER-6

SYSTEM DESIGN & IMPLEMENTATION

The development of natural language processing (NLP) and artificial intelligence (AI) has created new opportunities to revolutionize conventional legal procedures. Numerous facets of document creation, analysis, and administration are automated by an AI-powered legal documentation system. A thorough rundown of the system's architecture, technology stack, artificial intelligence models, data pipelines, and integration tactics is given in this part.

Introduction of Input Design:

In an information system, input is the raw data that is processed to produce output. During the input design, the developers must consider the input devices such as PC, MICR, OMR, etc.

Therefore, the quality of system input determines the quality of system output. Well-designed input forms and screens have following properties −

- It should serve specific purpose effectively such as storing, recording, and retrieving the information.
- It ensures proper completion with accuracy.
- It should be easy to fill and straightforward.
- It should focus on user's attention, consistency, and simplicity.
- All these objectives are obtained using the knowledge of basic design principles regarding −
    - What are the inputs needed for the system?
    - How end users respond to different elements of forms and screens.

Objectives for Input Design:

The objectives of input design are −

- To design data entry and input procedures
- To reduce input volume
- To design source documents for data capture or devise other data capture methods

- To design input data records, data entry screens, user interface screens, etc.
- To use validation checks and develop effective input controls.

Output Design:

The design of output is the most important task of any system. During output design, developers identify the type of outputs needed, and consider the necessary output controls and prototype report layouts.

Objectives of Output Design:

The objectives of input design are:

- To develop output design that serves the intended purpose and eliminates the production of unwanted output.
- To develop the output design that meets the end user's requirements.
- To deliver the appropriate quantity of output.
- To form the output in appropriate format and direct it to the right person.
- To make the output available on time for making good decisions.

- User Interface (UI): Users interact with the system through a chat bot or dynamic form-based web interface. They input key details such as parties involved, document type (e.g., NDA, rental agreement), and contextual information describing the agreement.
- Intent Recognition: Using NLP models (like spaCy or a fine-tuned BERT), the system identifies the user's intent (e.g., "create employment agreement") and extracts entities (names, dates, clauses) for document generation.
- Template Selection & Slot Filling: The system selects a relevant legal template from a database based on the intent and jurisdiction. These templates are parameterized with placeholders (e.g., {{tenants name}}, {{date}}), which are filled with user input and AI-generated content.

- Clause Generation with AI: Generative AI models (like GPT-4) create or refine contract clauses based on the context. The prompt includes user-provided information and legal requirements, ensuring the generated text adheres to formal legal language. Document Generation Process Input Parsing: User inputs are validated and pre processed.
- Template Rendering: Tools like Jinja2 or Docx Template replace placeholders with actual values.
- AI Drafting: GPT-4 or similar models are used to create custom clauses or explanations.
- 4. Legal Considerations Disclaimer: All documents should include a legal disclaimer noting that they are AI-generated and require professional review.
- Data Security: All personal data should be encrypted and stored securely to ensure confidentiality and compliance with data protection laws.

1. System Overview

The AI-powered legal documentation system is designed to assist individuals, start ups, and small businesses in drafting legally compliant documents with minimal human intervention. The system combines rule-based logic, generative AI, and document automation techniques to ensure that the generated outputs are accurate, adaptable, and legally meaningful. Its architecture focuses on scalability, legal domain adaptability, and user accessibility.

2. Architectural Design

The system is based on a modular, service-oriented architecture (SOA), with the following key components:

a. User Interface (Frontend Module)

A web-based or chat bot-driven interface allows users to input relevant data such as names of parties, type of agreement, jurisdiction, and contract specifics. This layer includes validation checks to ensure completeness of information.

b. Input Processing and Intent Recognition (NLP Engine)

The user input is parsed using natural language processing to extract named entities (e.g., names, dates, locations) and detect intent (e.g., drafting an NDA vs. a service agreement). This is achieved using libraries like spaCy or transformers such as BERT or RoBERTa.

c. Template Management System

The system maintains a repository of legally vetted templates for various document types. Each template contains placeholders for dynamic data (e.g., {{party_name}}, {{agreement_date}}). Templates can be jurisdiction-specific and tagged by law type (e.g., civil, commercial).

d. AI Clause Generator (LLM Integration)

For customized clauses, the system queries a generative AI model (e.g., GPT-4) using prompts tailored to the user's context. The LLM generates text for sections such as indemnity, confidentiality, or dispute resolution, based on natural language input and predefined conditions.

e. Document Synthesizer

Using libraries like Docx Template or Jinja2 (for text-to-Word conversion), the system renders the final legal document by combining template content, user input, and AI-generated clauses.

f. Validation and Risk Flagging Engine

A rule-based checker or ML classifier flags potential legal risks, missing clauses, or ambiguous language. It also checks compliance with jurisdiction-specific requirements where possible.

g. Export and Storage Module

The completed document is offered to the user in downloadable formats such as .Docx or .pdf, and optionally stored in a secure cloud database for user access. The system uses secure file encryption and access control mechanisms.

3. Implementation Theory

a. Technology Stack

Frontend: React.js / Vue.js (UI), Bot Press (for chat bot interface)

Backend: Python with Fast API or Flask

AI/NLP: OpenAI GPT-4 API, HuggingFace Transformers, spaCy

Templating: Docx Template, Jinja2, HTML-to-PDF (e.g., Weasy Print)

Database: PostgreSQL or Mongo DB (user data and templates)

Authentication: Firebase Auth / OAuth2

Deployment: Docker + AWS/GCP/Render

b. AI Integration

The AI model is used for:

Interpreting natural language queries

Generating contract clauses or full documents

Providing plain-language explanations of legal terms

AI prompts are dynamically constructed based on form inputs and context to maintain relevance and control output style and tone.

c. Template and Clause Management

Templates are modular and version-controlled, allowing legal experts to update them without altering the code. Clauses are stored in a database or JSON files and tagged by legal function, risk level, and jurisdiction.

d. Security and Compliance

User data is encrypted at rest and in transit. The system logs all document generation actions for audit ability. Legal disclaimers are appended to all AI-generated documents to emphasize the need for professional review.

4. Deployment Considerations

Scalable API architecture for handling multiple requests

Load balancing and caching for LLM responses

Local fallback models for clause generation if cloud APIs is inaccessible

Continuous monitoring for output quality and legal accuracy

5. Benefits and Limitations

Benefits include rapid document creation, accessibility to underserved populations, and reduced legal costs.

Limitations include dependence on LLM output quality, need for post-generation legal review, and lack of deep jurisdictional logic in most AI models.

CHAPTER-7
TIMELINE FOR EXECUTION OF PROJECT
(GANTT CHART)

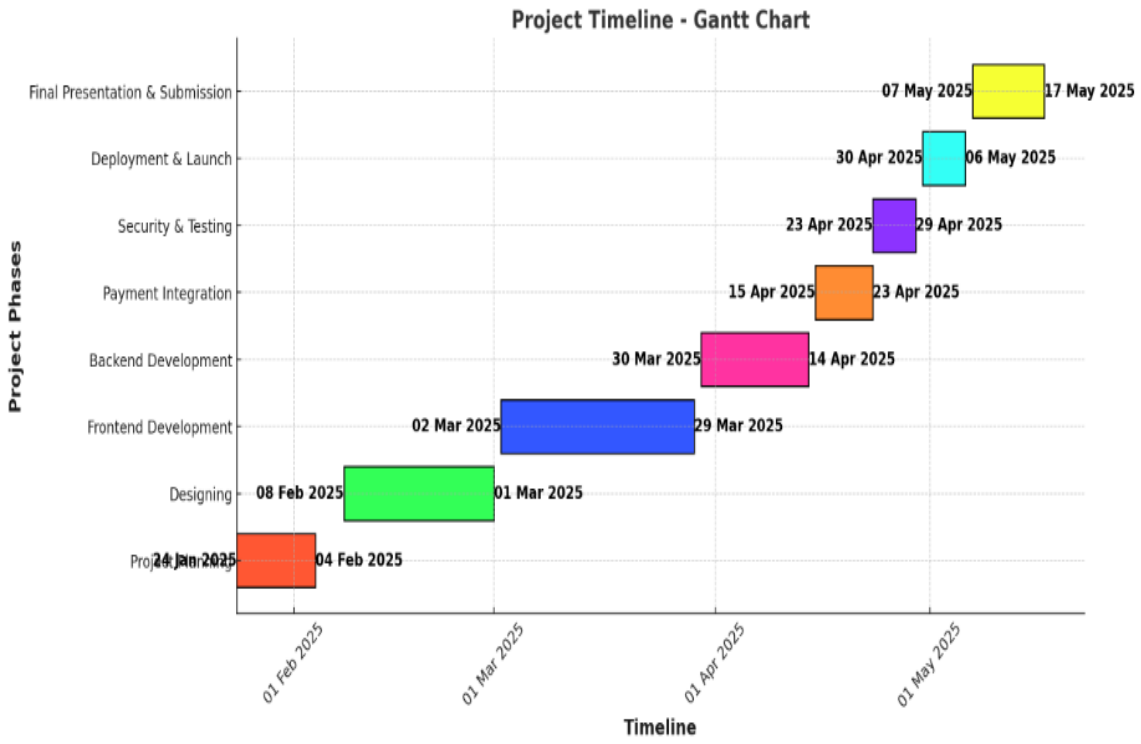

Fig 7.1 Gantt Chart

In the Gantt chart for the AI-powered legal documentation system, the X-axis represents the timeline from January 24, 2025, to May 17, 2025, showing when each phase starts and ends. The Y-axis represents the different project phases, including Project Planning, Designing, Frontend & Backend Development, Payment Integration, Security & Testing, Deployment & Launch, and Final Submission. Each phase is marked by a coloured bar, indicating its duration and dependencies. The project starts with Planning (Jan 24 - Feb 4, 2025) and progresses through development and testing, ending with the Final Submission (May 7 - May 17, 2025). This chart helps visualize task scheduling, ensuring smooth project execution.

CHAPTER-8
OUTCOMES

- **Faster Legal Approvals:**AI automates document validation, reducing the time required for legal approvals and contract processing.
- **Automated Legal Clause Suggestions**: AI recommends legally compliant clauses based on jurisdiction, reducing manual research efforts.
- **Seamless Integration with Legal Databases**: The system connects to legal databases to fetch real-time updates on laws and regulations.
- **Reduction in Legal Errors**: AI-driven proofreading detects missing clauses, incorrect terms, and inconsistencies, improving accuracy.
- **AI-Powered Legal Risk Assessment**: AI scans contracts for high-risk terms and potential legal loopholes, ensuring risk-free documentation.
- **Enhanced Workflow Automation**: Automates repetitive tasks like contract generation, approvals, and revisions, increasing efficiency.
- **Remote Access to Legal Documents:** Cloud-based storage allows users to access, edit, and share legal documents from any device.
- **Automated Legal Document Summarization:** AI extracts key points from lengthy legal documents, simplifying comprehension for users.
- **Regulatory Updates and Compliance Alerts:** AI continuously monitors legal changes and alerts users to keep documents compliant.
- **Intelligent Contract Comparison:** AI highlights key differences between multiple contract versions to streamline negotiations.
- **Efficient Litigation Preparation:** AI assists lawyers by organizing case-relevant documents, improving case preparation speed.
- **Fraud Detection in Legal Agreements:** AI analyzes contracts for fraudulent clauses, unauthorized changes, and risky terms.
- **Scalability for Large Enterprises**:The system handles high volumes of contracts, making it ideal for corporations and law firms.
- **Personalized Legal Document Templates**:AI adapts templates to industry standards, reducing the need for manual customization

CHAPTER-9
RESULTS AND DISCUSSIONS

9.1 Introduction

An **AI-powered legal documentation system** is a revolutionary solution designed to simplify and automate the process of creating, editing, and managing legal documents. Traditional legal documentation is often complex, time-consuming, and costly, requiring extensive legal expertise. This system enables users to create contracts, affidavits, and other legal papers with minimal effort, reducing dependency on legal professionals for routine documentation.

9.1.1 User Registration Module

The User Registration Module allows new users to create an account by providing essential details such as name, email, and password. To ensure security and validity, it implements several key features:

- **Input Validation:** Checks for required fields, proper email format, and strong password requirements (e.g., minimum length, special characters, etc.).
- **Data Security:** Encrypts user passwords using secure hashing algorithms before storing them in the database.
- **Email Confirmation**: Sends an automated confirmation email with a verification link to prevent fraudulent sign-ups.
- **User Role Assignment**: Determines user privileges, such as general users, legal professionals, or admin access.

This module ensures a secure and user-friendly onboarding experience, reducing unauthorized access and improving system integrity.

9.1.2 User Login Module

The **User Login Module** authenticates users by verifying their registered credentials and ensures secure access to their legal documents.

- **Authentication Process**: Validates the user's email and password, preventing unauthorized access.

- **Session Management**: Maintains user sessions securely, allowing smooth navigation without repeated logins.
- **Security Measures**: Implements features like CAPTCHA, rate-limiting, and multi-factor authentication (MFA) to prevent brute-force attacks.
- **User Dashboard Redirection**: After successful login, users are redirected to their personalized dashboard, where they can access saved documents, AI assistance, and legal tools.

This module ensures a **safe and smooth login experience**, preventing security breaches while enhancing accessibility.

9.1.3 Document Creation Module

This module enables users to **generate legal documents effortlessly** by inputting necessary details into predefined templates. It incorporates AI to enhance document accuracy and usability.

- **User-Friendly Form Input**: Users fill out structured forms to provide specific details required for legal documents.
- **AI-Powered Document Generation**: The system utilizes **Natural Language Processing (NLP) and Machine Learning (ML)** to draft complete legal documents based on user inputs.
- **Prebuilt Legal Templates**: Offers commonly used legal document formats, such as contracts, affidavits, agreements, and wills.
- **Auto-Fill Suggestions**: AI recommends relevant clauses and legal language based on user-provided data.

This module **simplifies legal document creation**, making it accessible even to users with little legal knowledge.

9.1.4 Document Edit Module

Once a document is generated, users may need to refine it to suit specific requirements. The **Document Edit Module** allows:

- **Inline Editing**: Users can modify any part of the AI-generated document using an integrated text editor.
- **Clause Modification**: AI highlights key sections and provides alternative wording suggestions.
- **Legal Compliance Check**: The system cross-checks edits to ensure the document

remains legally valid.

This module **empowers users to personalize their documents** while maintaining legal accuracy.

9.1.5 Document Download Module

Once the document is finalized, users may **export and save** their legal files in different formats.

- **File Export Options**: Supports multiple formats such as **DOCX, PDF, or TXT** for legal submissions.
- **Preview Before Download**: Displays the final document for review before saving it to avoid errors.
- **Version Control**: Maintains multiple versions of a document, allowing users to track edits and restore previous versions if needed.

This module ensures that users can **conveniently access, save, and share their legal documents** with confidence.

Discussions

There are several benefits to using an AI-powered legal documentation system, including increased productivity, cost savings, and accessibility. The system reduces human labour and error-proneness by automating the writing and modification of legal documents through the use of Artificial Intelligence (AI) technologies including Natural Language Processing (NLP) and Machine Learning (ML). This is especially helpful for people and companies who need legal paperwork but don't have the knowledge or funds to engage attorneys.

Overall, an **AI-powered legal documentation system** has the potential to transform the legal industry by making legal services more affordable, efficient, and accessible. However, a hybrid approach that integrates AI with human expertise is essential to maximize its benefits while maintaining legal accuracy and fairness. With continued technological advancements and proper regulatory measures, AI can significantly enhance the efficiency and inclusivity of legal documentation processes.

CHAPTER-10

CONCLUSION

The AI-Powered Legal Documentation Assistant project aims to transform the traditional process of legal document creation and management by leveraging the power of Artificial Intelligence (AI). By integrating AI with Natural Language Processing (NLP) capabilities, this system offers an intuitive platform that assists users in drafting, editing, and validating legal documents with high efficiency and accuracy. Throughout this project, the AI-powered document generation system helps users input necessary legal details, which are then processed to generate personalized legal documents. The system ensures compliance with legal requirements and assists users with document edits and legal queries through an integrated AI chatbot. This chatbot serves as a virtual assistant, clarifying legal terms and offering real-time guidance, significantly improving the user experience. One of the key strengths of the platform is its ability to perform compliance checks, ensuring that the generated documents meet legal standards and requirements. It offers a seamless and user-friendly experience, making the legal document creation process more accessible to individuals, businesses, and law firms, regardless of their legal expertise. The security and storage features of the system are also highly important, as the generated documents are securely stored and can be easily retrieved by users. The system ensures the confidentiality and integrity of sensitive legal data, meeting the privacy expectations of its users. In conclusion, the AI-Powered Legal Documentation Assistant is a highly innovative tool that modernizes the way legal documents are created, reviewed, and finalized. With its powerful features, it has the potential to revolutionize the legal industry by making legal documentation more efficient, accessible, and accurate.

Future developments for the AI-Powered Legal Documentation Assistant may concentrate on a few crucial areas to better both its usability and functionality. Adding multilingual support is one possible improvement that might make the platform available to users everywhere, especially in areas where English is not the primary language. All created documents might be guaranteed to adhere to the most recent legal requirements by integrating the system with current legal databases and libraries. Advanced customization tools that enable users to design templates that are relevant to different legal disciplines and offer choices for defining unique legal criteria would also be beneficial to the system. Additionally, enhancing the AI-powered chatbot's natural language processing (NLP) skills

may boost its capacity to respond to intricate legal questions and provide recommendations for document enhancement.Workflows would be streamlined and legal compliance would be improved by implementing real-time team collaboration tools and intelligent legal notifications that would inform users of significant deadlines or revisions. Furthermore, by guaranteeing the integrity and legitimacy of completed documents, using blockchain technology for document verification may provide an extra degree of protection. Finally, to improve the entire document generation process, AI-powered legal analytics tools might be included to assist users in evaluating their documents and spotting possible legal issues. These improvements would strengthen the platform's position as an all-inclusive, safe, and clever solution for managing legal documents.

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APPENDIX-A

PSUEDOCODE

Here is a simplified pseudo-code to outline the structure and workflow for the AI Powered legal documentation system project. Its functionalities are to design to help generate, review, and manage legal documents using AI.

Client Side

Booking an appointment:

index.js

1. Import necessary libraries and components:
   - React for building the UI.
   - React DOM for rendering the application.
   - App component from the local project.
   - CSS file for styling.
   - Theme Provider from Material Tailwind for theming support.

2. Get the root DOM element from the HTML document where the React app will be rendered.

3. Create a root element using React DOM.

4. Render the application inside the root element:
   - Use React. Strict Mode for development mode checks.
   - Wrap the App component inside Theme Provider to provide theme support.
   - Render the App component as the main component of the application

about.jsx

FUNCTION About Component ():

SET background to gradient from teal to blue

SET text color to gray

```
// Navbar and Chat Section
CALL Navbar()
CALL Chat()

// Hero Section
DISPLAY centered container with:
   IMAGE of legal theme
   TITLE "About DocBuddy"
   SUBTITLE "Your AI-Powered Legal Document Generator"
   PARAGRAPH describing the purpose of DocBuddy

// Mission Section
DISPLAY centered container with:
   TITLE "Our Mission"
   PARAGRAPH explaining the goal of democratizing legal resources with AI

// How It Works Section
DISPLAY container with three steps:
   STEP 1: "Choose Your Document"
      DESCRIPTION: User selects a legal document type
   STEP 2: "Answer Simple Questions"
      DESCRIPTION: User fills out a questionnaire
   STEP 3: "Generate & Customize"
      DESCRIPTION: AI processes input and creates a document

// Why Choose Us Section
DISPLAY grid of four benefits:
   BENEFIT 1: "Fast & Efficient"
   BENEFIT 2: "Cost-Effective"
   BENEFIT 3: "Reliable & Secure"
   BENEFIT 4: "Accessible Anywhere"

// Footer Section
```

DISPLAY footer with:

COPYRIGHT info (current year)

LINKS to Privacy Policy, Terms of Service, and Contact Us

RETURN AboutComponent

app.jsx

FUNCTION AppComponent():

INITIALIZE ContextProvider for global state management

START Router for navigation

DEFINE Routes:

ROUTE "/" → Renders LandingPage

ROUTE "/home" → Renders Home component

ROUTE "/service/:id" → Renders Service component (with dynamic ID)

ROUTE "/form/:id" → Renders InputForm component (with dynamic ID)

ROUTE "/about" → Renders About component

ROUTE "/faq" → Renders Faq component

ROUTE "/chat" → Renders Chat component

DISPLAY ToastContainer for notifications

END Router

DISPLAY Footer component

RETURN AppComponent

chatbot.jsx

FUNCTION ChatbotComponent():

ON Component Mount (useEffect):

CREATE script element

SET script source to 'https://cdn.botpress.cloud/webchat/v1/inject.js'

SET script to load asynchronously

APPEND script to document body

WHEN script loads:

INITIALIZE botpressWebChat with:

- Placeholder text: "Ask your legal query"

- Bot ID: "42cc66eb-b6fb-44f8-9d2a-2b732298f460"

- Host URL: "https://cdn.botpress.cloud/webchat/v1"

- Messaging URL: "https://messaging.botpress.cloud"

- Client ID: "42cc66eb-b6fb-44f8-9d2a-2b732298f460"

- Lazy loading enabled for socket connection

- Bot Name: "LegalAdvisor"

- Custom stylesheet applied

- Frontend version set to "v1"

RETURN:

DISPLAY webchat container with id "webcast"

RETURN ChatbotComponent

footer.jsx

FUNCTION FooterComponent ():

RETURN:

DISPLAY <footer> element with empty

RETURN FooterComponent

home.jsx

FUNCTION HomeComponent:

IMPORT necessary libraries and components

DECLARE context FROM StepContext

DECLARE state variables:

openNav (BOOLEAN) ← false

data (ARRAY) ← []

DECLARE documentsRef AS reference (useRef)

USE EFFECT:

ADD event listener for window resize

SCROLL to top of page

RESET step states in context

FETCH data from API endpoint

```
        UPDATE data state with fetched results
    FUNCTION handleGetStarted:
        SCROLL to Available Documents section smoothly
    RETURN JSX:
        CONTAINER <div> with styling
        INCLUDE Navbar and Chat components
        SECTION Hero:
            DISPLAY heading, subheading, and call-to-action button
            IF data is available:
                SHOW "Get Started" button (onClick: handleGetStarted)
            ELSE:
                SHOW "Loading..." button (disabled)
            DISPLAY AI assistant prompt
    SECTION About:
        DISPLAY heading and description about Legal Doc AI
    SECTION Legal Pages:
        DISPLAY heading and description about essential legal documents
    SECTION Available Documents:
        IF data is available:
            DISPLAY list of available legal documents (using mapped data)
```

EACH document is a clickable card linking to service page

ELSE:

DISPLAY "Loading documents..." message

FOOTER:

DISPLAY copyright notice and footer links

EXPORT HomeComponent

inputform.jsx

FUNCTION InputForm():

GET form ID from URL parameters

INITIALIZE state variables:

- data (form questions and details)
- content (generated document content)
- display Form (to show/hide form)
- category (list of categories)
- active Category (currently selected category)
- form Data (answers to form questions)
- display Home (to show/hide home button)

INITIALIZE context using StepContext

```
FUNCTION handles Submit (event):
    PREVENT default form submission
    SET flag to 0
    FOR each question in data (excluding the first item):
        IF formData[ques.ques_id] is empty:
            SHOW error toast notification
            SET flag = 1
            BREAK loop
    IF flag is 0:
        SCROLL to top
        SET context.step2 = true
        CREATE JSON object with form data
        SEND form data to backend API
        IF response is successful:
            UPDATE content state with response data
            HIDE form display
FUNCTION save Text ():
    SCROLL to top
    SET context.step3 and context.step4 to true
    SHOW home button
```

GET editor content from Quill

CONVERT Quill content to Word document

CREATE a downloadable link for the document

TRIGGER file download

SHOW success toast notification

USE useEffect () TO FETCH form details:

REQUEST form data from backend API

IF successful:

FILTER categories from response

SET categories state

SET active Category to the first category

INITIALIZE formData with empty values

FUNCTION handleQuillChange (html):

UPDATE context.edit counter

IF edit count > 1:

SET context.step3 = true

UPDATE content state with Quill editor content

FUNCTION navHome ():

NAVIGATE to home page

FUNCTION handleClick (category):

SET activeCategory to clicked category

FUNCTION handleInputChange (event):

UPDATE formData state with user input

RETURN JSX:

- Navbar
- Floating chat button
- Progress steps
- FORM (if display Form is true)
  - Tabs for categories
  - Input fields for each question
  - Submit button (if on last category)
- TEXT EDITOR (if display Form is false)
  - Quill editor for document editing
  - Download and Home buttons

login.js

FUNCTION Login():

INITIALIZE navigate function using useNavigate ()

FUNCTION redirectTOsignup (event):

PREVENT default form submission

NAVIGATE to "/signup"

RETURN JSX:

- CONTAINER (min-height: screen, centered, gray background)
  - GRID (2 columns, gap)
    - COLUMN 1: IMAGE
      - DISPLAY login illustration image
    - COLUMN 2: LOGIN FORM
      - HEADING: "Sign in to your account"
      - FORM (on Submit = redirectTOsignup)
        - HIDDEN INPUT (remember user)
        - EMAIL INPUT FIELD
          - LABEL: "Email address"
          - INPUT (type: email, required, styled)
        - PASSWORD INPUT FIELD
          - LABEL: "Password"
          - INPUT (type: password, required, styled)
        - BUTTONS:
          - "Sign in" button (purple, styled)
          - "Create new account?" button (redirects but incorrectly set as submit)

EXPORT Login component

service.jsx

FUNCTION Service():

GET `id` from URL parameters

INITIALIZE state variables:

- `data` (empty list)

- `service Name` (empty string)

- `loading` (true)

GET `context` from StepContext

USE EFFECT (on `id` or `context` change):

- SCROLL window to top

- RESET step context (step1, step2, step3, step4 → false)

- DEFINE fetch Data () ASYNC FUNCTION:

- TRY:

- FETCH data from API using `id`

- IF response is NOT OKAY, THROW error

- PARSE response to JSON and UPDATE `data`

- IF `data` is available, SET `service Name`

- CATCH errors and LOG to console

- FINALLY: SET `loading` to false

- CALL fetches Data ()

FUNCTION handleClick():

- SET `step1` to true in context

RETURN JSX:

- CONTAINER (Full screen, gradient background)
  - NAVBAR component
  - FIXED CHAT component (bottom-right)
  - MAIN CONTENT (Centered, max-width)
    - PROGRESS STEPS:
      - "Select Document" (Highlight if `step1` is true)
      - "Fill Details" (Highlight if `step2` is true)
      - "Edit Document" (Highlight if `step3` is true)
      - "Download" (Highlight if `step4` is true)
    - SERVICE TITLE (Styled gradient text)
    - LOADING STATE:
      - IF `loading` → Show spinner
    - EMPTY STATE:
      - IF `data` is empty & NOT `loading` → Show "No Forms Available"
    - DOCUMENTS GRID:
      - IF `data` exists:
        - LOOP through `data`:

- DISPLAY each form as a clickable card

- OnClick → Navigate to `/form/{form_id}` and SET `step1` to true

EXPORT Service component

signup.jsx

FUNCTION Signup():

RETURN JSX:

- CONTAINER (Full screen, centered, gray background)

- GRID CONTAINER (2 columns)

- LEFT COLUMN:

- DISPLAY IMAGE (Illustration)

- RIGHT COLUMN:

- HEADER:

- "Create your account" (Styled heading)

- FORM:

- HIDDEN INPUT (for remembering user)

- INPUT FIELDS:

- Email (Required)

- Password (Required)

- SIGNUP BUTTON (Styled, submits form)

EXPORT Signup component

SERVER SIDE

app.py

INITIALIZE Flask app

LOAD environment variables from .env file

CONFIGURE CORS to allow requests from React frontend

CONNECT to Postgre SQL database using environment variables

DEFINE API ROUTES:

1. **/api/services (GET) **

- Connect to the database
- Execute query to fetch all services
- Convert result to JSON format
- Return JSON response

2. **/api/forms (GET) **

- Extract 'service_id' from request parameters
- Connect to the database
- Execute query to fetch forms related to 'service_id'
- Convert result to JSON format
- Return JSON response

3. **/api/form-details (GET)**

   - Extract 'form_id' from request parameters

   - Connect to the database

   - Fetch form details, category details, and input questions related to 'form_id'

   - Convert results to JSON format

   - Return JSON response

4. **/api/final-content (POST)**

   - Extract form details from request JSON

   - Fetch document link from the database

   - Download document file from the link

   - Replace placeholders (#ID) with user-provided values

   - Save modified document

   - Convert document content to HTML using Mammoth

   - Return JSON response with HTML content

5. **/api/final-form (POST) **

   - Extract document content from request JSON

   - Save content into a Word document

   - Return the saved document as a downloadable file

6. **/api/chat (POST) **

   - Extract user chat input from request JSON

- Process input using `get_response` (Bag of Words) or `get_document` (Cosine Similarity)

- Return AI-generated response

RUN Flask app in debug mode

createdatabase.py

Flask Backend (API)

Handles CORS to allow requests from a React frontend.

Connects to a PostgreSQL database using credentials stored in .env.

Defines API endpoints for retrieving services, forms, and queries.

Processes document templates by replacing placeholders with user inputs.

Integrates AI models for chatbot interactions.

Database Setup

Tables Created

Services: Stores legal service categories.

Forms: Associates services with document templates.

ques_categories: Groups related questions.

input_ques: Stores form-related questions.

Form queries: Links forms to their required questions.

Data Inserted

Sample services (e.g., contracts, trademarks, finance).

Sample legal forms with document links.

Questions related to different forms.

Workflow

Retrieve Services (/api/services)

Fetches all available legal services.

Fetch Forms (/api/forms)

Returns forms related to a selected service.

Get Form Details (/api/form-details)

Retrieves questions needed for a form.

Generate Final Document (/api/final-content)

Downloads a Word document, replaces placeholders with user input, and returns HTML content.

Download Completed Form (/api/final-form)

Sends the modified document back to the user.

AI Chat bot (/api/chat)

Uses NLP models to answer legal questions.

BACKEND CODE

serializer.py

From rest framework import serializes

From django.contrib.auth import get_user_model

```
User = get_user_model()

Class RegisterSerializer (serializers.ModelSerializer):

   class Meta:

      model = User

      fields = ['username', 'email', 'password', 'mobile', 'image']

extra_kwargs = {'password': {'write only': True}}  # Prevents password from being sent back



   Def create (self, validated data):

      User = User (

         Username=validated data ['username'],

         Email=validated data ['email'],

         mobile=validated_data.get('mobile'),

         image=validated_data.get('image')

      )

user.set_password (validated data ['password'])  # Ensures password is hashed

user.save()

      return user
```

```
Class LoginSerializer (serializers.Serializer):
    Email = serializers.EmailField ()
    Password = serializers.CharField (write only=True)
  Def validate (self, data):
        Email = data. Get ('email')
        Password = data. Get ('password')
Try:
            user = User.objects.get(email=email)
        except User.DoesNotExist:
            Raise serializers.ValidationError ("User with this email does not exist.")
   If not user.check_password (password):
            Raise serializers.ValidationError ("Incorrect password.")
Return {"user": user} # Return user object for further authentication
```

views.py

```
From rest_framework.views import APIView
From rest framework import status
From rest_framework.permissions import Allow Any
from rest_framework.response import Response
From rest_framework_simplejwt.tokens import RefreshToken # Import JWT Token Generator
```

```
from django.contrib.auth import authenticate

from .serializer import *

Class Register View (APIView):

Permission classes = [Allow Any]

  Def post (self, request):

      Serializer = Register Serializer (data=request data)

      If serializer is valid ():

Serializer. Save ()

          Return

Response ({"res": "Registered Successfully"}, status=status.HTTP_201_CREATED)

      Return Response (serializer. Errors, status=status.HTTP_400_BAD_REQUEST)



Class Login View (APIView):

Permission classes = [Allow Any]

 Def post (self, request):

      Serializer = Login Serializer (data= request. ata)

      If serializer.is_valid ():

         Email = serializer. Validated data ["email"]

         Password = serializer. Validated data ["password"]
```

```
        # Authenticate user
        User = authenticate (email=email, password=password)
        if user:
            Refresh = Refresh Token for user (user) Generate JWT tokens
            Return Response (
                {
                    "res": "Login Successfully",
                    "refresh": str(refresh),
                    "Access": STR (refresh.access_token),
                },
                status=status.HTTP_200_OK,
            )
        Return
Response ({"error": "Invalid credentials"}, status=status.HTTP_401_UNAUTHORIZED)

    Return
Response (serializer. Errors, status=status.HTTP_400_BAD_REQUEST)
```

manage.py

```
os.environ.setdefault ('DJANGO_SETTINGS_MODULE', 'backend.settings')
from django.core.management import execute_from_command_line
```

```
except ImportError as exc:
    Raise Import Error (
        "Couldn't import Django. Are you sure it's installed and "
        "Available on your PYTHONPATH environment variable? Did you "
        "forget to activate a virtual environment?"
    ) formic
execute_from_command_line (sys.argv)
```

Python manage.py run server

python manage.py migrate

Python manage.py create super user

APPENDIX-B

SCREENSHOTS

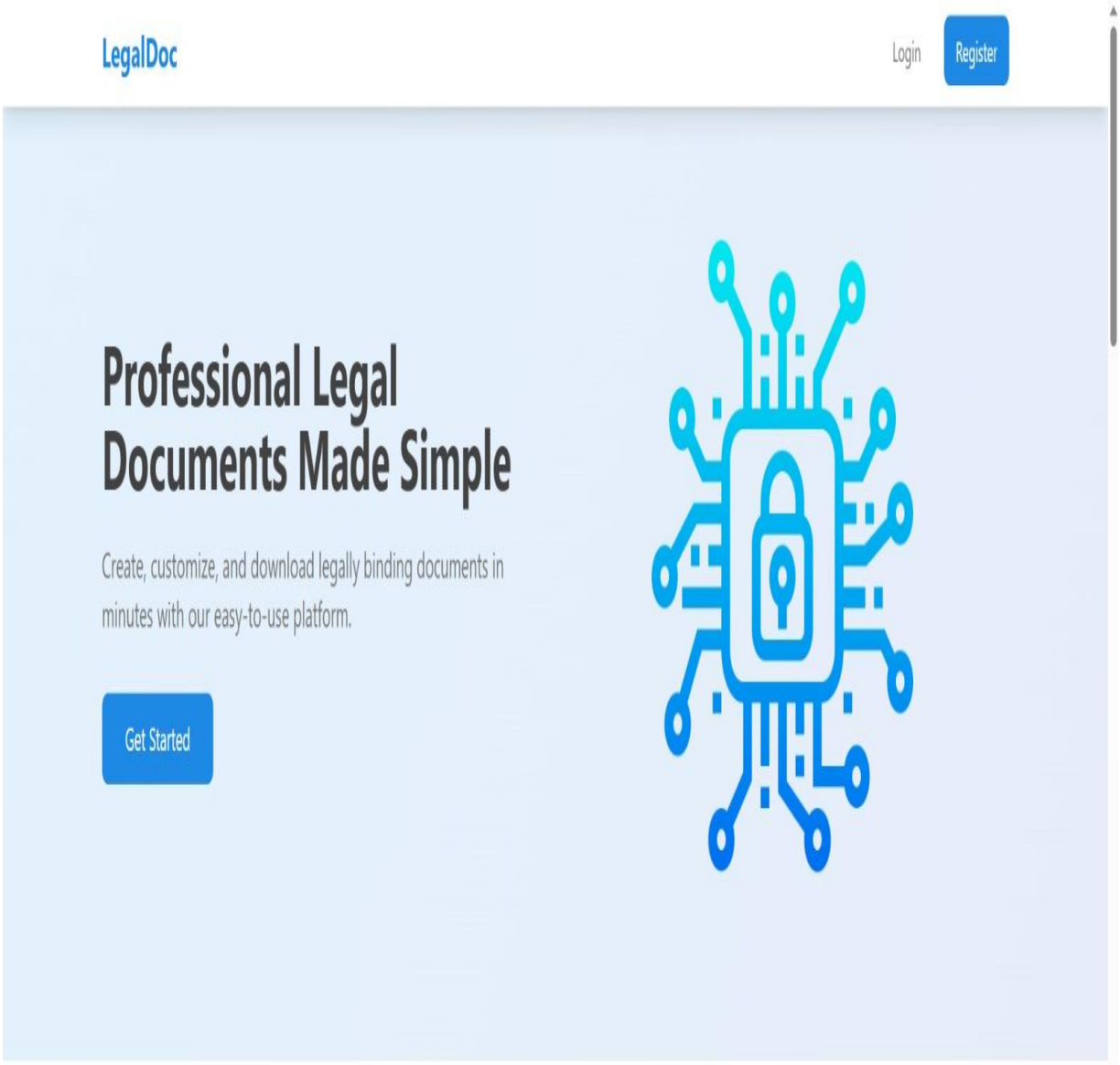


Fig A2.1

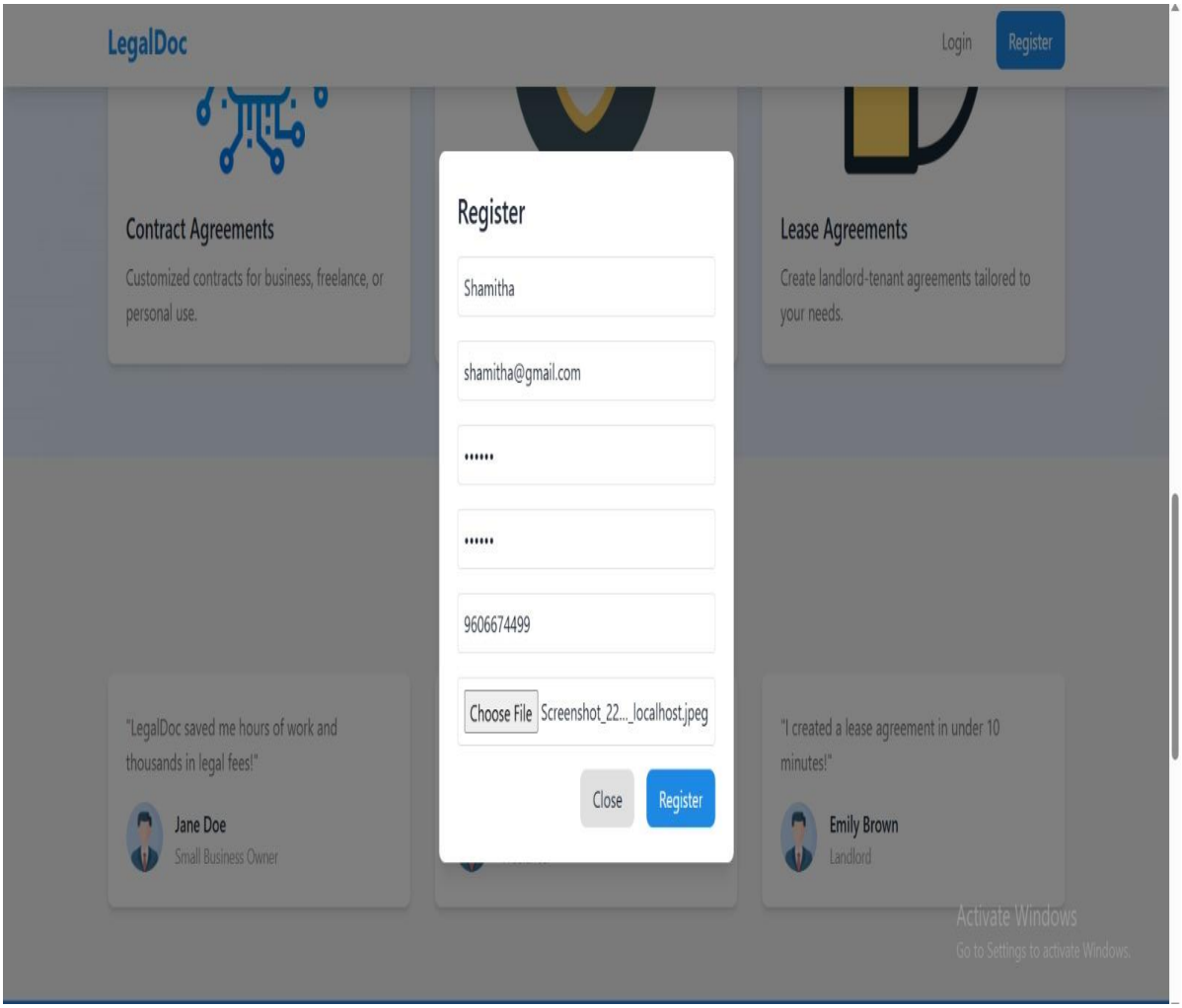

LegalDoc
Login
Register
Contract Agreements
Customized contracts for business, freelance, or personal use.
Register
Shamitha
shamitha@gmail.com
9606674499
Choose File
Screenshot_22..._localhost.jpeg
Close
Register
Lease Agreements
Create landlord-tenant agreements tailored to your needs.
"LegalDoc saved me hours of work and thousands in legal fees!"
Jane Doe
Small Business Owner
"I created a lease agreement in under 10 minutes!"
Emily Brown
Landlord
Activate Windows
Go to Settings to activate Windows.

Fig A2.2

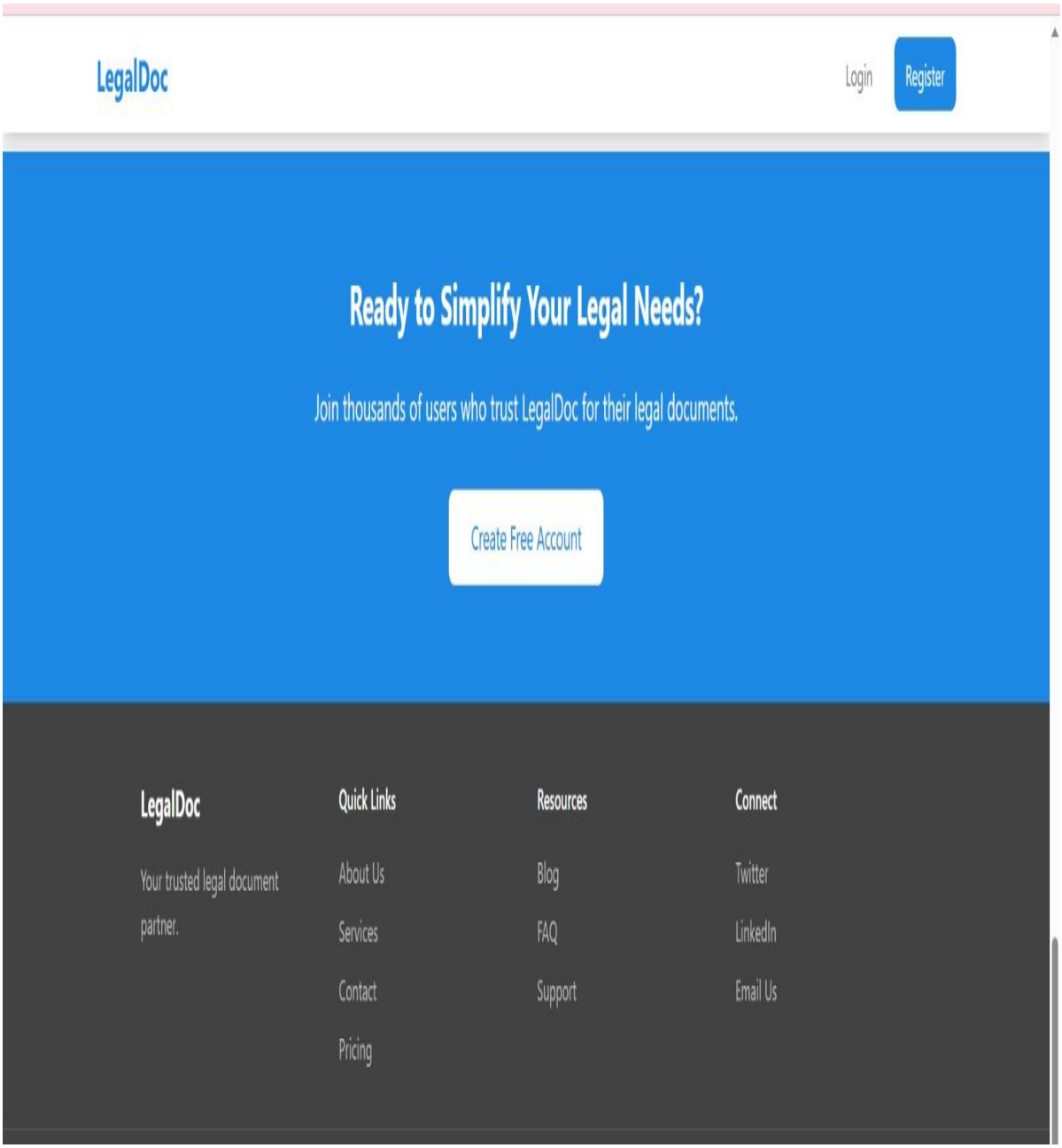

LegalDoc
Login
Register
Ready to Simplify Your Legal Needs?
Join thousands of users who trust LegalDoc for their legal documents.
Create Free Account
LegalDoc
Your trusted legal document partner.
Quick Links
About Us
Services
Contact
Pricing
Resources
Blog
FAQ
Support
Connect
Twitter
LinkedIn
Email Us

Fig A2.3


Legal Documents
Logged in successfully
Change your password
The password you just used was found in a data breach. Google Password Manager recommends changing your password now.
OK
Get Started
Need help? Chat with our AI assistant!
About LegalDoc AI
Activate Windows

Fig A2.4

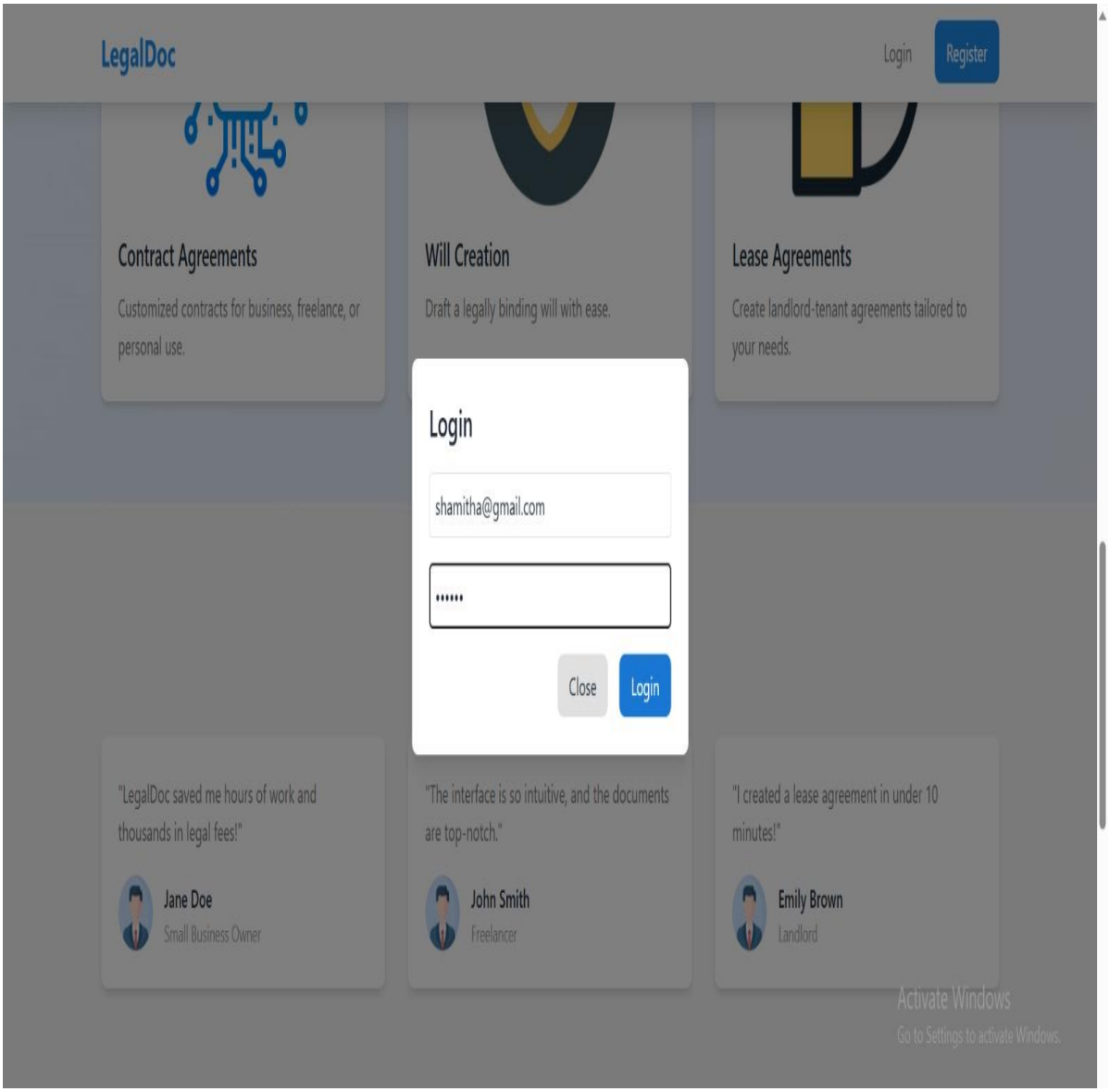

LegalDoc
Login
Register
Contract Agreements
Customized contracts for business, freelance, or personal use.
Will Creation
Draft a legally binding will with ease.
Lease Agreements
Create landlord-tenant agreements tailored to your needs.
Login
shamitha@gmail.com
Close
Login
"LegalDoc saved me hours of work and thousands in legal fees!"
Jane Doe
Small Business Owner
"The interface is so intuitive, and the documents are top-notch."
John Smith
Freelancer
"I created a lease agreement in under 10 minutes!"
Emily Brown
Landlord
Activate Windows
Go to Settings to activate Windows.

Fig A2.5

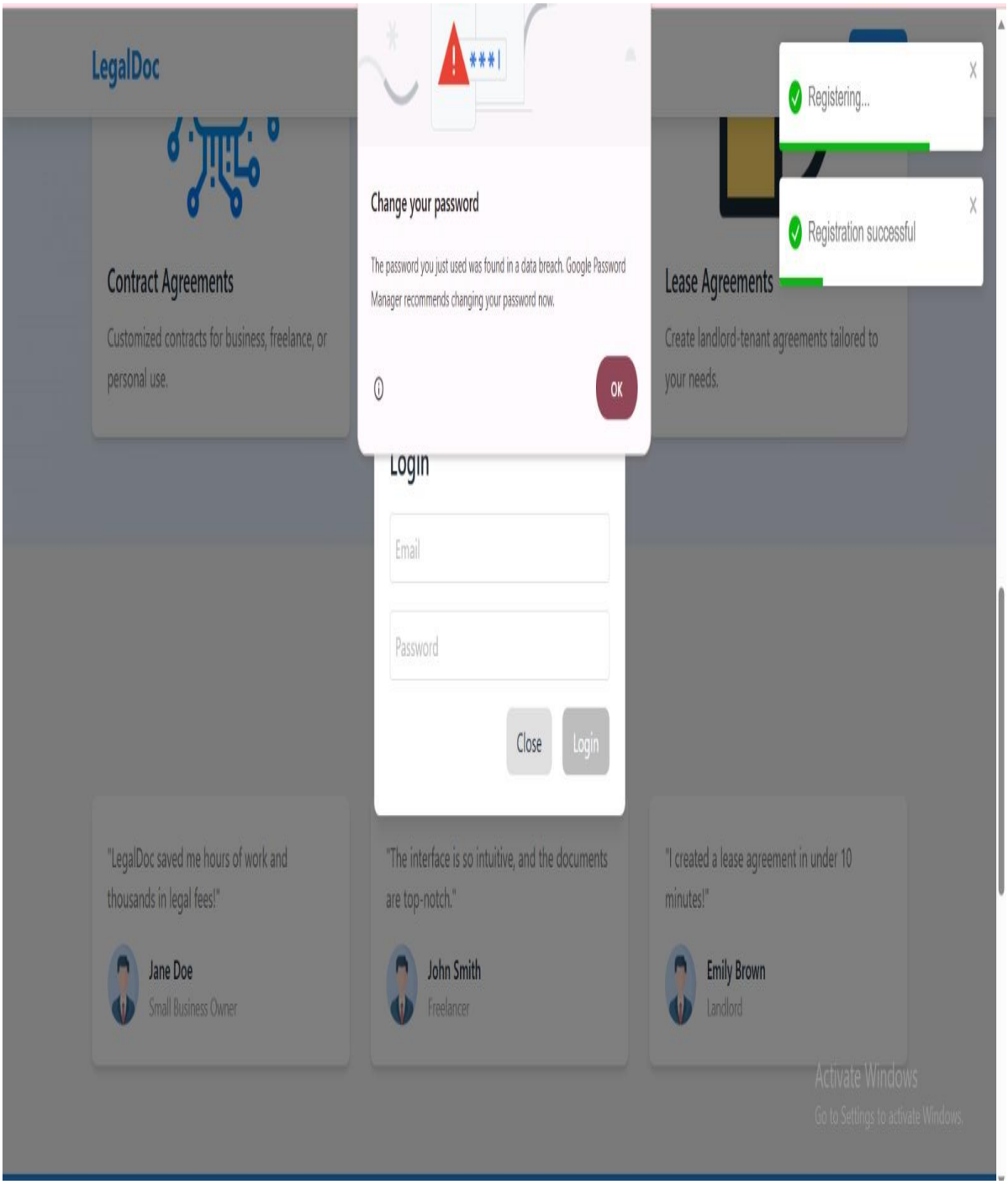

LegalDoc
Contract Agreements
Customized contracts for business, freelance, or personal use.
Change your password
The password you just used was found in a data breach. Google Password Manager recommends changing your password now.
OK
Registering...
Registration successful
Lease Agreements
Create landlord-tenant agreements tailored to your needs.
Login
Email
Password
Close
Login
"LegalDoc saved me hours of work and thousands in legal fees!"
Jane Doe
Small Business Owner
"The interface is so intuitive, and the documents are top-notch."
John Smith
Freelancer
"I created a lease agreement in under 10 minutes!"
Emily Brown
Landlord
Activate Windows
Go to Settings to activate Windows.

Fig A2.6


Legal Documents
Ai-Powered Legal Documents
LOGOUT
Available Documents
CONTRACT
PROPERTY
LAW
TRADEMARK
COPYRIGHT
BANK
Contract Documents
Legal contracts serve as the backbone of countless business and personal transactions, providing a formal framework for defining rights, obligations, and responsibilities between parties involved.
Trademark & Copyright Documents
A trademark is a word or a visual symbol used by a business to differentiate its goods or services from those of other businesses that offer similar goods or services.
Banking/Finance Documents
In India, the banking and finance sector operates under a comprehensive legal framework that governs various aspects of financial services, institutions, and transactions.
Activate Windows

Fig A2.7

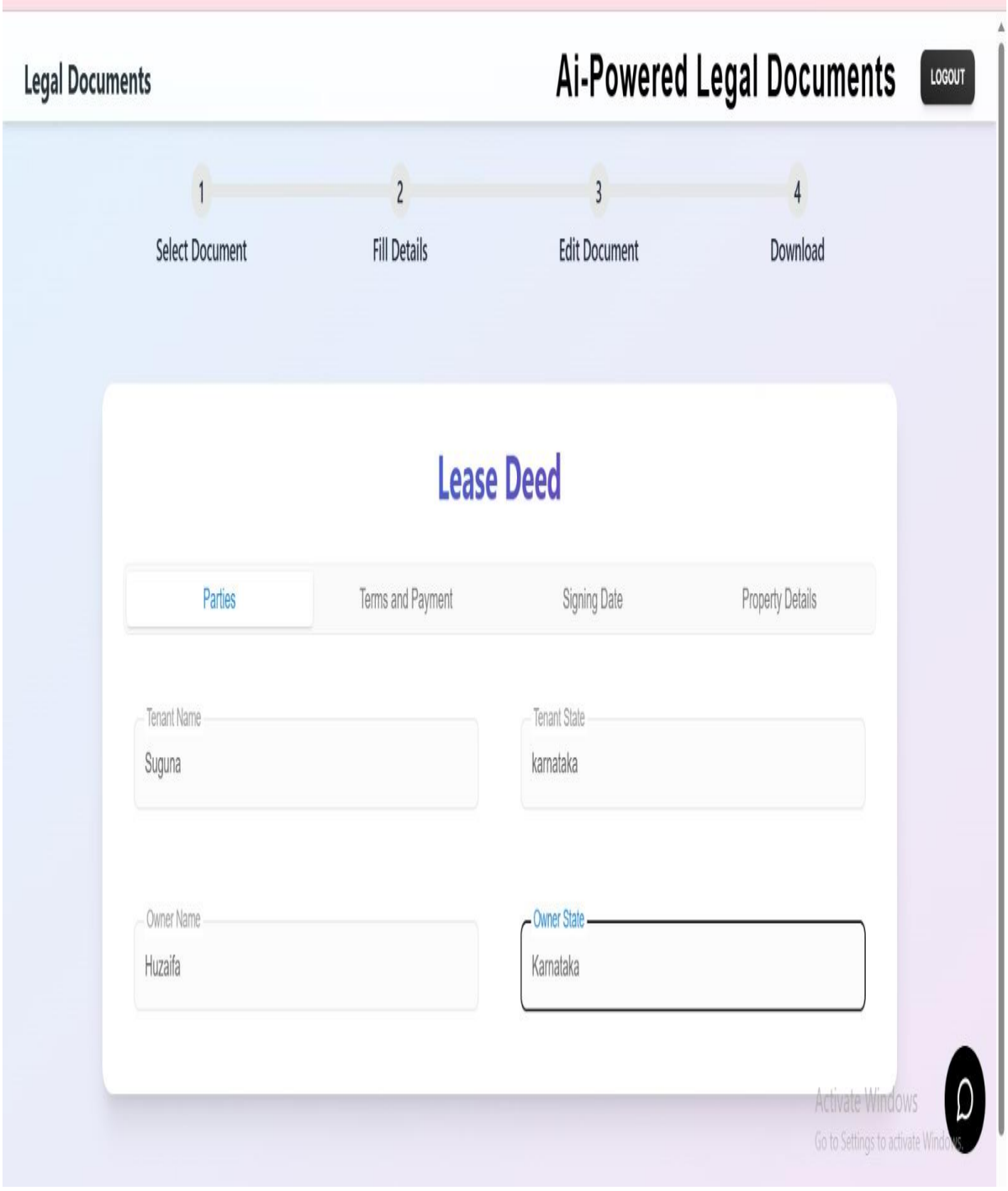

Legal Documents
Ai-Powered Legal Documents
LOGOUT
1
Select Document
2
Fill Details
3
Edit Document
4
Download
Lease Deed
Parties
Terms and Payment
Signing Date
Property Details
Tenant Name
Suguna
Tenant State
karnataka
Owner Name
Huzaifa
Owner State
Karnataka
Activate Windows
Go to Settings to activate Windows.

Fig A2.8

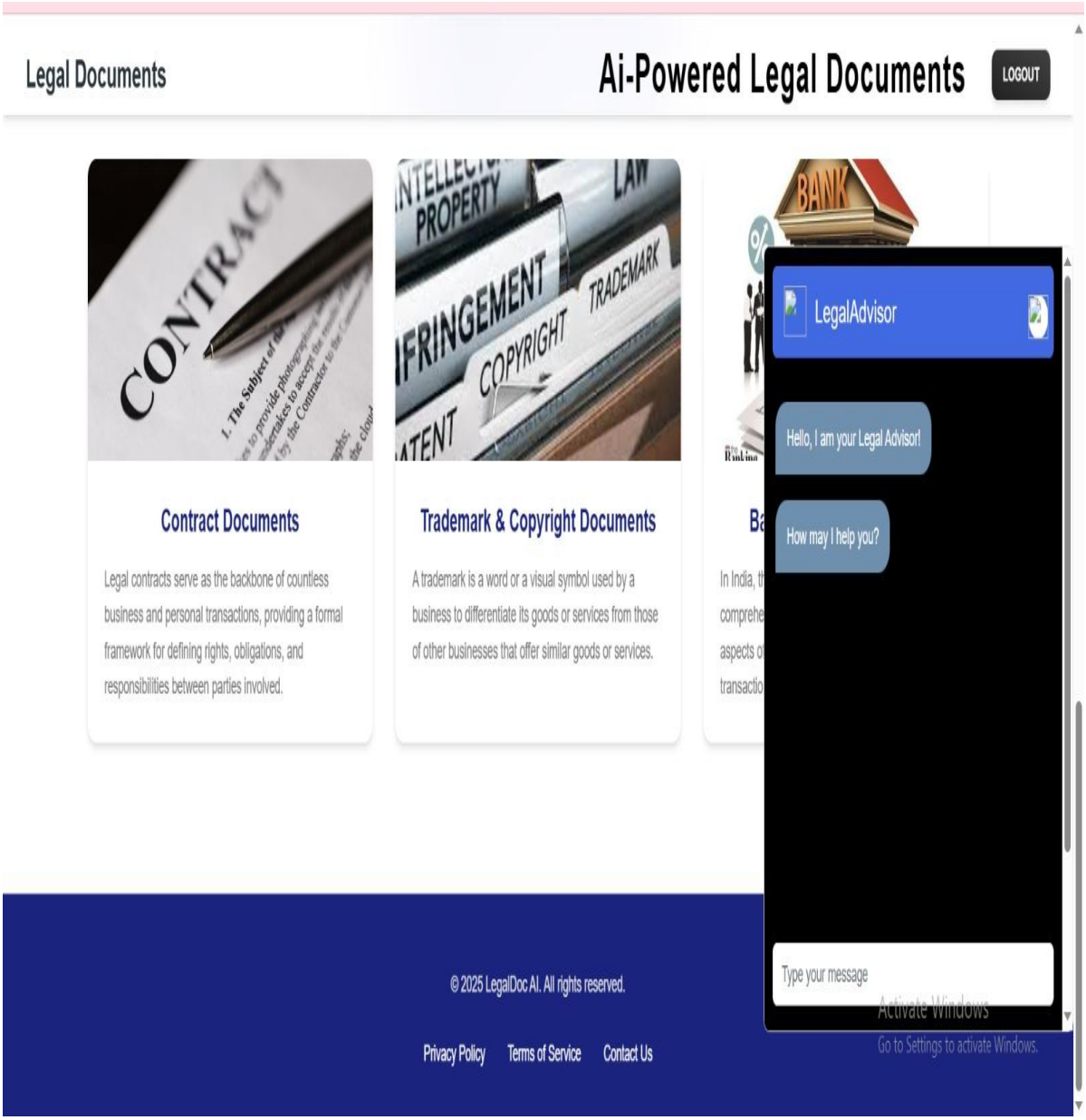

Legal Documents
Ai-Powered Legal Documents
LOGOUT
CONTRACT
Contract Documents
Legal contracts serve as the backbone of countless business and personal transactions, providing a formal framework for defining rights, obligations, and responsibilities between parties involved.
PROPERTY
LAW
TRADEMARK
COPYRIGHT
Trademark & Copyright Documents
A trademark is a word or a visual symbol used by a business to differentiate its goods or services from those of other businesses that offer similar goods or services.
BANK
LegalAdvisor
Hello, I am your Legal Advisor!
How may I help you?
Type your message
© 2025 LegalDoc AI. All rights reserved.
Privacy Policy
Terms of Service
Contact Us
Activate Windows
Go to Settings to activate Windows.

Fig A2.9

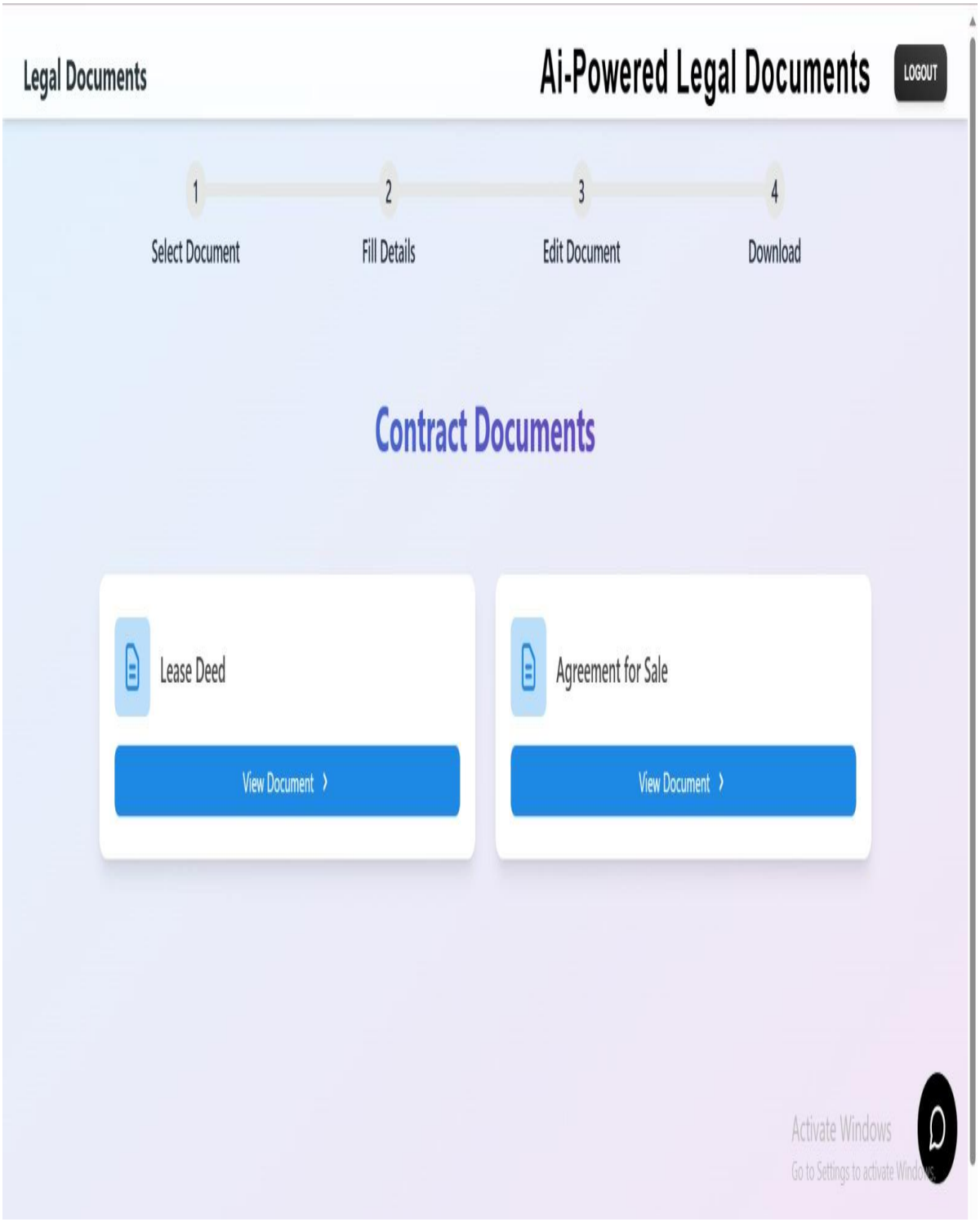
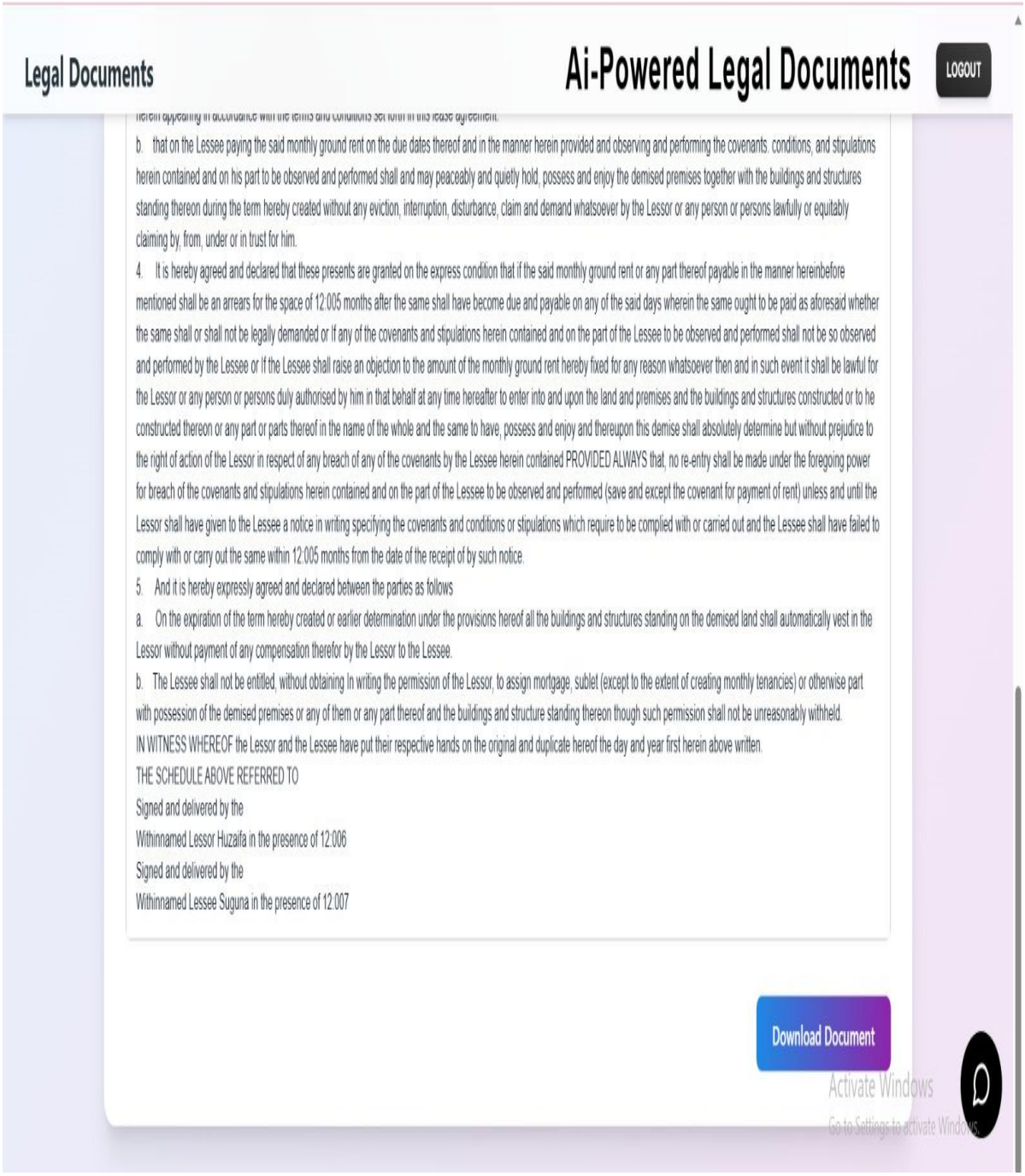

Legal Documents
Ai-Powered Legal Documents
LOGOUT
1
Select Document
2
Fill Details
3
Edit Document
4
Download
Contract Documents
Lease Deed
View Document
Agreement for Sale
View Document
Activate Windows
Go to Settings to activate Windows.

Fig A2.10


Legal Documents
Ai-Powered Legal Documents
LOGOUT
herein appearing in accordance with the terms and conditions set forth in this lease agreement.
b. that on the Lessee paying the said monthly ground rent on the due dates thereof and in the manner herein provided and observing and performing the covenants, conditions, and stipulations herein contained and on his part to be observed and performed shall and may peaceably and quietly hold, possess and enjoy the demised premises together with the buildings and structures standing thereon during the term hereby created without any eviction, interruption, disturbance, claim and demand whatsoever by the Lessor or any person or persons lawfully or equitably claiming by, from, under or in trust for him.
4. It is hereby agreed and declared that these presents are granted on the express condition that if the said monthly ground rent or any part thereof payable in the manner hereinbefore mentioned shall be an arrears for the space of 12.005 months after the same shall have become due and payable on any of the said days wherein the same ought to be paid as aforesaid whether the same shall or shall not be legally demanded or If any of the covenants and stipulations herein contained and on the part of the Lessee to be observed and performed shall not be so observed and performed by the Lessee or If the Lessee shall raise an objection to the amount of the monthly ground rent hereby fixed for any reason whatsoever then and in such event it shall be lawful for the Lessor or any person or persons duly authorised by him in that behalf at any time hereafter to enter into and upon the land and premises and the buildings and structures constructed or to he constructed thereon or any part or parts thereof in the name of the whole and the same to have, possess and enjoy and thereupon this demise shall absolutely determine but without prejudice to the right of action of the Lessor in respect of any breach of any of the covenants by the Lessee herein contained PROVIDED ALWAYS that, no re-entry shall be made under the foregoing power for breach of the covenants and stipulations herein contained and on the part of the Lessee to be observed and performed (save and except the covenant for payment of rent) unless and until the Lessor shall have given to the Lessee a notice in writing specifying the covenants and conditions or stipulations which require to be complied with or carried out and the Lessee shall have failed to comply with or carry out the same within 12.005 months from the date of the receipt of by such notice.
5. And it is hereby expressly agreed and declared between the parties as follows
a. On the expiration of the term hereby created or earlier determination under the provisions hereof all the buildings and structures standing on the demised land shall automatically vest in the Lessor without payment of any compensation therefor by the Lessor to the Lessee.
b. The Lessee shall not be entitled, without obtaining In writing the permission of the Lessor, to assign mortgage, sublet (except to the extent of creating monthly tenancies) or otherwise part with possession of the demised premises or any of them or any part thereof and the buildings and structure standing thereon though such permission shall not be unreasonably withheld.
IN WITNESS WHEREOF the Lessor and the Lessee have put their respective hands on the original and duplicate hereof the day and year first herein above written.
THE SCHEDULE ABOVE REFERRED TO
Signed and delivered by the
Withinnamed Lessor Huzaifa in the presence of 12.006
Signed and delivered by the
Withinnamed Lessee Suguna in the presence of 12.007
Download Document
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Go to Settings to activate Windows.

Fig A2.11


Legal Documents
Ai-Powered Legal Documents
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Normal
Deed of Lease (for a Term of Years) Rent Agreement
This Deed of Lease is made at 12:00 this 2 day of january, 12:008 between Suguna of karnataka hereinafter called 'The Lessor' of the One Part and Huzaifa also of Karnataka hereinafter called 'The Lessee' of the Other Part.
WHEREAS, the Lessor is absolutely seized and possessed of or otherwise well and sufficiently entitled to the land and premises described in the Schedule hereunder written.
AND WHEREAS, the Lessor has agreed to grant to the Lessee a lease in respect of the said land and premises for a term of 2 years in the manner hereinafter appearing.
Now This Deed Witnesseth as Follows:
1. In pursuance of the said agreement and in consideration of the rent hereby reserved and of the terms and conditions, covenants and agreements herein contained and on the part of the Lessee to be observed and performed the Lessor doth hereby demise unto the Lessee all that the said land and premises situated at Nagarbhavi and described in the Schedule hereunder written (hereinafter for the brevity's sake referred to as 'the demised premises') to hold the demised premises unto the Lessee (and his heirs, executors, administrators and assigns) for a term of 2 years commencing from the 1st day of 12:000, 12:001, but subject to the earlier determination of this demise as hereinafter provided and yielding and paying therefor during the said term the monthly ground rent of Rs 12:002 free and clear of all deductions and strictly in advance on or before the 5th day of each and every calendar month. The first of such monthly ground rent shall be paid on the 5th day of 12:000 and the subsequent rent to be paid on or before the 5th day of every succeeding month regularly.
2. The Lessee hereby for himself, his heirs, executors, administrators and assigns and to the intent that the obligations herein contained shall continue throughout the term hereby created covenants with the Lessor as follows:
a. To pay the ground rent hereby reserved on the days and in the manner aforesaid clears of all deductions. The first of such monthly rent as hereinbefore provided shall be paid on the 5th of 12:000 and the subsequent rent shall be paid on the 5th day of every succeeding month regularly and If the ground rent is not paid on the due dates the Lessee shall pay interest thereon at the rate of 12:003 % per annum from the due date till payment, though the payment of Interest shall not entitle the Lessee to make default in payment of rent on due dates.
b. To bear pay and discharge the existing and future rates, taxes and assessment duties, cess, impositions, outgoing and burdens whatsoever which may at any time or from time to time during the term hereby created be imposed or charged upon the demised land and the building or structures standing thereon and on the buildings or structures hereafter to be erected and for the time being standing on the demised land and payable either by the owners, occupiers or tenants thereof and to keep the Lessor and his estate and effects Indemnified against all such payment. The annual Municipal and other taxes at present are Rs.....
c. To keep the buildings and structures on the demised premises ,in good and tenantable repairs in the same way as the Lessor is liable to do under the law provided that if the Lessee so desires he shall have power to demolish any existing building or structure without being accountable to the Lessor for the building material of such building and structure and the Lessee shall have also power to construct any new buildings in their place.
d. The Lessee shall be at liberty to carry out any additions or alterations to the buildings or structures at present existing on the demised premises or to put up any additional structures or buildings on the demised premises In accordance with the plans approved by the authorities at any time or from time to time during the subsistence of the term hereby created.
e. Not to sell or dispose of any earth, gravel or sand from the demised land and not to excavate the same except so far as may be necessary for the execution of construction work.
f. To use or permit to be used the buildings and structures to be constructed on the demised premises for any and all lawful purposes as may be permitted by the authorities from time to time.
3. The Lessor doth hereby covenant with the Lessee that:
a. the Lessor now has in himself good right full power and absolute authority to demise unto the Lessee the demised premises and the buildings and structures standing thereon In the manner herein appearing in accordance with the terms and conditions set forth in this lease agreement.
Activate Windows
Go to Settings to activate Windows.

Fig A2.12

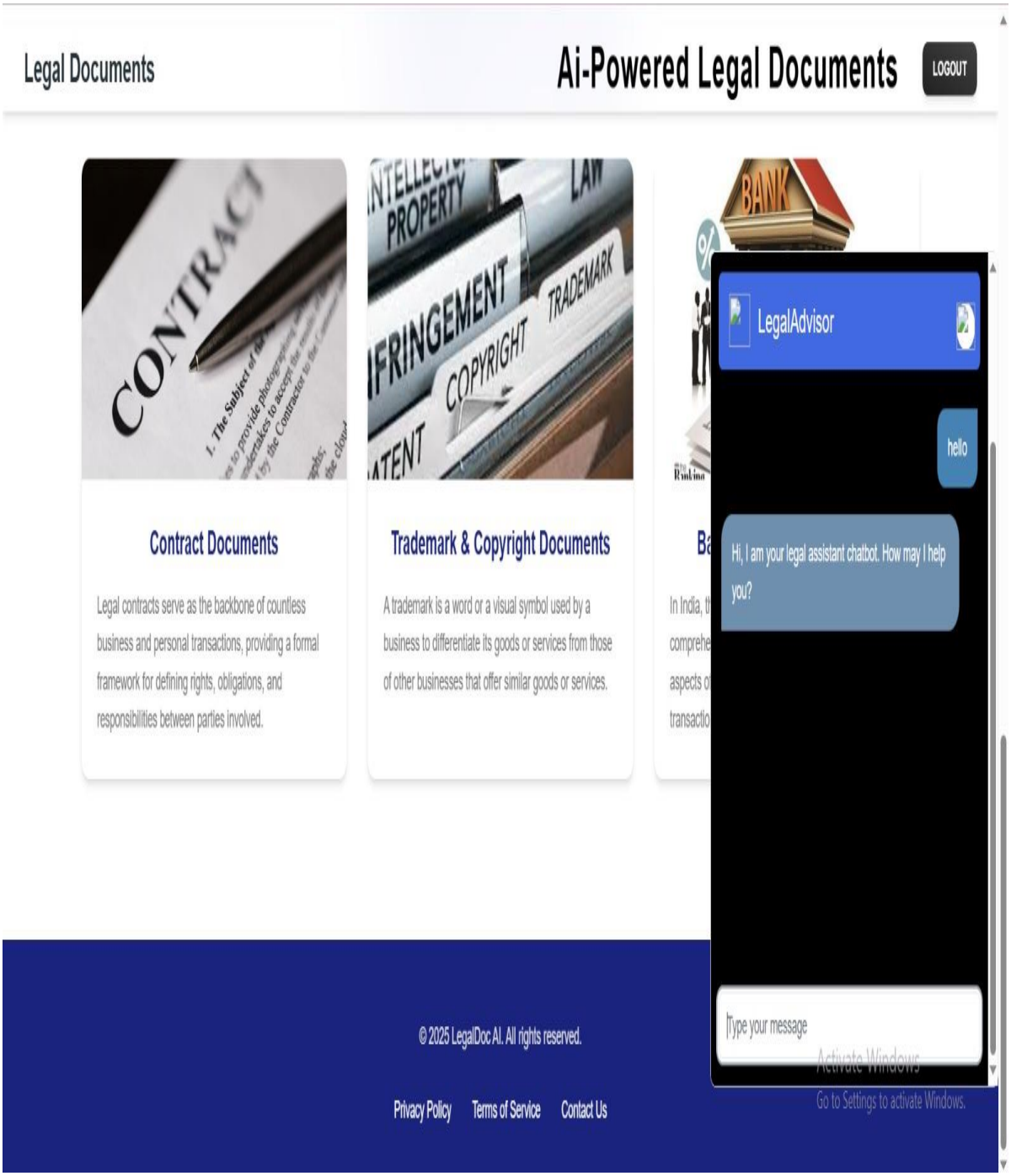
Legal Documents
Ai-Powered Legal Documents
LOGOUT
CONTRACT
PROPERTY
LAW
TRADEMARK
COPYRIGHT
BANK
Contract Documents
Legal contracts serve as the backbone of countless business and personal transactions, providing a formal framework for defining rights, obligations, and responsibilities between parties involved.
Trademark & Copyright Documents
A trademark is a word or a visual symbol used by a business to differentiate its goods or services from those of other businesses that offer similar goods or services.
LegalAdvisor
hello
Hi, I am your legal assistant chatbot. How may I help you?
Type your message
© 2025 LegalDoc AI. All rights reserved.
Privacy Policy
Terms of Service
Contact Us
Activate Windows
Go to Settings to activate Windows.

Fig A2.13

APPENDIX-C

ENCLOSURES

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An International Open Access Journal Peer-reviewed, Refereed Journal

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In recognition of the publication of the paper entitled

AI POWERED LEGAL DOCUMENTATION ASSISTANT

Published in IJIRT (www.ijirt.org) ISSN UGC Approved (Journal No: 47859) & 7.37 Impact Factor

Published in Volume 11 Issue 12, April 2025

Registration ID 176975 Research paper weblink:https://ijirt.org/Article?manuscript=176975

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Published in IJIRT (www.ijirt.org) ISSN UGC Approved (Journal No: 47859) & 7.37 Impact Factor

Published in Volume 11 Issue 12, April 2025

Registration ID 176975 Research paper weblink:https://ijirt.org/Article?manuscript=176975

EDITOR

EDITOR IN CHIEF

ISSN 2349-6002

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An International Open Access Journal Peer-reviewed, Refereed Journal

www.ijirt.org | editor@ijirt.org An International Scholarly Indexed Journal

Certificate of Publication

The Board of International Journal of Innovative Research in Technology (ISSN 2349-6002) is hereby awarding this certificate to

SUGUNASHREE MK

In recognition of the publication of the paper entitled

AI POWERED LEGAL DOCUMENTATION ASSISTANT

Published in IJIRT (www.ijirt.org) ISSN UGC Approved (Journal No: 47859) & 7.37 Impact Factor

Published in Volume 11 Issue 12, April 2025

Registration ID 176975 Research paper weblink:https://ijirt.org/Article?manuscript=176975

EDITOR

EDITOR IN CHIEF

ISSN 2349-6002

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9% Overall Similarity

The combined total of all matches, including overlapping sources, for each database.

Filtered from the Report

- Bibliography
- Cited Text

Match Groups

31 Not Cited or Quoted 8%
Matches with neither in-text citation nor quotation marks

0 Missing Quotations 0%
Matches that are still very similar to source material

6 Missing Citation 1%
Matches that have quotation marks, but no in-text citation

0 Cited and Quoted 0%
Matches with in-text citation present, but no quotation marks

Top Sources

7% Internet sources
5% Publications
6% Submitted works (Student Papers)

Integrity Flags

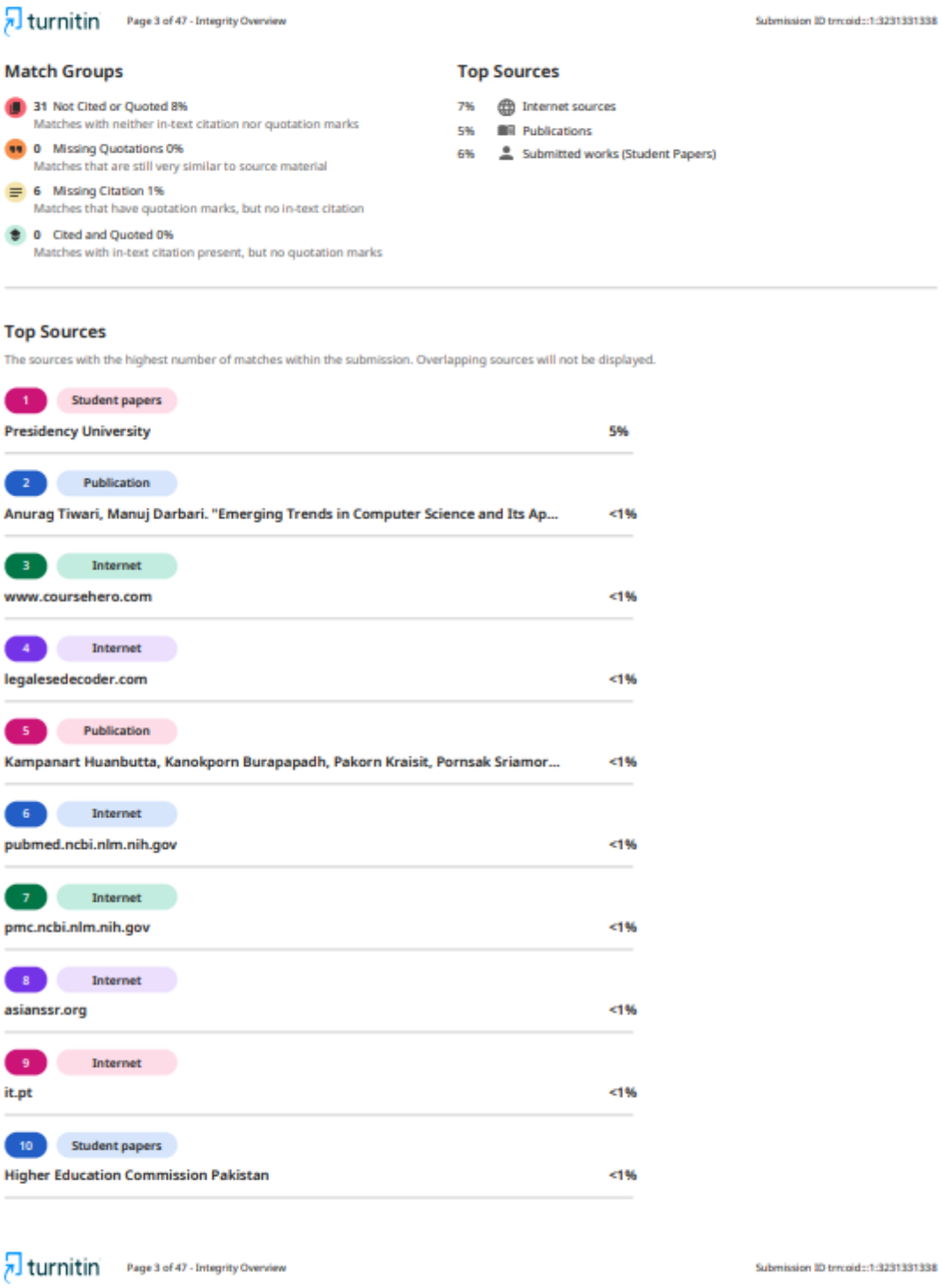
0 Integrity Flags for Review

No suspicious text manipulations found.

Our system's algorithms look deeply at a document for any inconsistencies that would set it apart from a normal submission. If we notice something strange, we flag it for you to review.

A flag is not necessarily an indicator of a problem. However, we'd recommend you focus your attention there for further review.

turnitin Page 2 of 47 - Integrity Overview Submission ID trn:oid:::1:3231331338



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Match Groups

- 31 Not Cited or Quoted 8%
  Matches with neither in-text citation nor quotation marks
- 0 Missing Quotations 0%
  Matches that are still very similar to source material
- 6 Missing Citation 1%
  Matches that have quotation marks, but no in-text citation
- 0 Cited and Quoted 0%
  Matches with in-text citation present, but no quotation marks

Top Sources

7% Internet sources
5% Publications
6% Submitted works (Student Papers)

Top Sources

The sources with the highest number of matches within the submission. Overlapping sources will not be displayed.

1	Student papers	
Presidency University		5%
2	Publication	
Anurag Tiwari, Manuj Darbari. "Emerging Trends in Computer Science and Its Ap...		<1%
3	Internet	
www.coursehero.com		<1%
4	Internet	
legalesedecoder.com		<1%
5	Publication	
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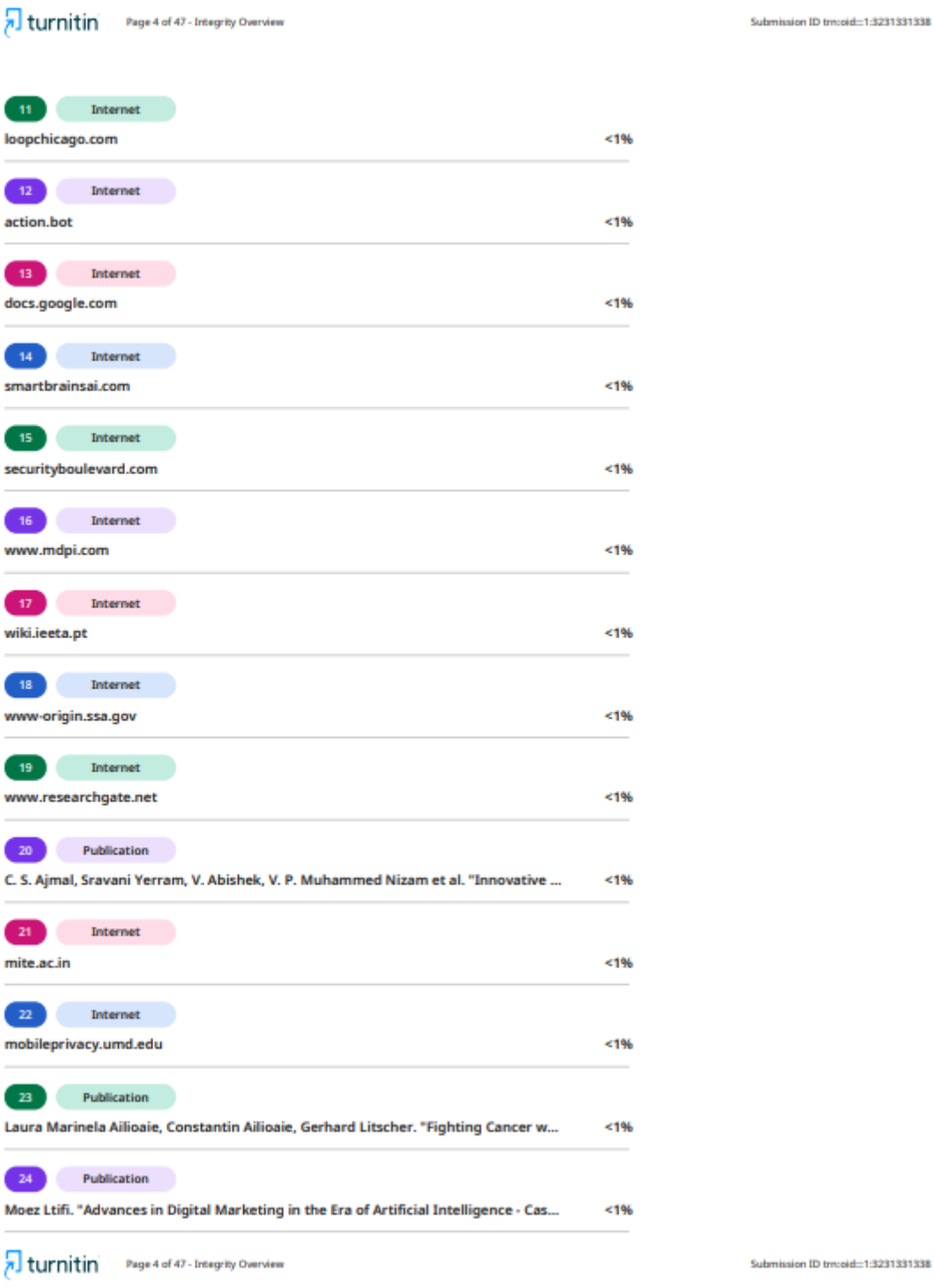

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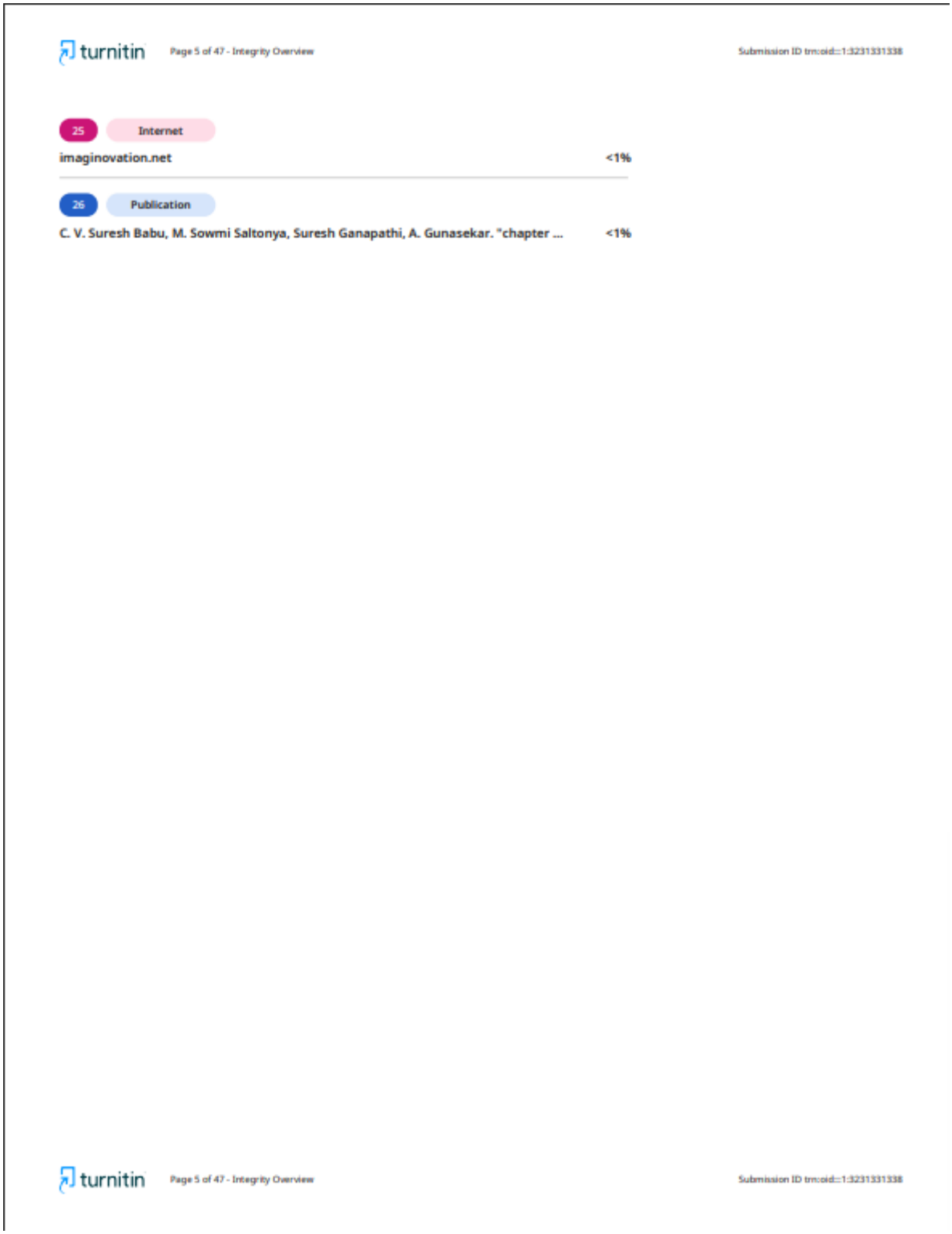

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SUSTAINABLE DEVELOPMENT GOALS(SDG)

Fig A3.1 SDG

The "AI -powered legal documentation system with three key United Nations Sustainable Development Goals (SDGs): SDG 16(Peace, Justice, and Strong Institutions), SDG 8(Decent Work and Economic Growth), SDG 4(Quality Education) and SDG 10 (Reduced Inequalities)

SDG 16: Peace, Justice, and Strong Institutions

An AI-powered legal documentation system can enhance access to justice by making legal services more affordable and efficient. By automating document drafting and review, it reduces delays and increases accuracy in legal processes. Additionally, it ensures transparency and fairness by minimizing human bias, making the legal system more accessible to all.

SDG 9: Industry, Innovation, and Infrastructure

The integration of AI in the legal sector drives technological innovation and strengthens digital infrastructure. AI-powered tools can streamline legal documentation, improving efficiency in law firms, businesses, and courts. This advancement fosters a modern, tech-driven legal ecosystem that supports economic and industrial growth.

SDG 4: Quality Education

AI-driven legal platforms can provide educational tools for law students, professionals, and the general public. Automated legal guidance can enhance legal literacy, ensuring that individuals understand their rights and responsibilities. This contributes to a well-informed society with better access to legal knowledge.

SDG 10: Reduced Inequalities

By making legal documentation more affordable and accessible, AI helps bridge the gap between privileged and underprivileged communities. AI-driven legal assistance can also provide support for people with disabilities by offering easy-to-use, accessible platforms that cater to their needs, promoting inclusivity in the legal system.