Lawyer Assistant Bot

A Generative AI-based Legal Assistance System

A PROJECT REPORT

Submitted by

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RAJALAKSHMI ENGINEERING COLLEGE

CHENNAI – 602105

BONAFIDE CERTIFICATE

Certified that this project report **"Lawyer Assistant Bot(**A Generative AI-based Legal Assistance System)**"** is the bonafidework of **"NIKHIL. P(2116210701179)"** who carried out the project work for the subject CS19P21-Advanced Robotic Process Automation under my supervision.

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INTERNAL EXAMINER **EXTERNAL EXAMINER**

ABSTRACT

The Lawyer Assistant Bot is an AI-powered system designed to streamline legal assistance by automating query handling and delivering actionable responses based on the Indian Constitution. Using UiPath for automation, Generative AI (GPT-35-turbo-0125) for content creation, and Twilio API for SMS delivery, the bot ensures efficient and accessible legal support. The process begins with user queries validated for legal relevance, which are then processed by the AI model to generate accurate responses. Real-time practicing lawyer details from an Excel database are dynamically integrated into the output, offering personalized recommendations. The final response is delivered via email using Gmail SMTP and SMS using Twilio API, ensuring accessibility across multiple channels. Twilio's integration provides instant, secure communication, Gets a new number it acts as trail number and uses it as sender, while the generative AI focuses strictly on law-related content, rejecting irrelevant prompts to maintain reliability. The system’s workflow includes query input, AI processing, data enrichment, and multi-channel delivery, ensuring seamless functionality. Future enhancements may include advanced content validation using NLP, dynamic lawyer profiles updated via APIs, and conversational AI for real-time interaction. This project demonstrates the potential of combining AI and automation to democratize legal services, bridging the gap between individuals and legal professionals efficiently.

ACKNOWLEDGEMENT

Initially we thank the Almighty for being with us through every walk of our life and showering his blessings through the endeavour to put forth this report. Our sincere thanks to our Chairman **Thiru.S.Meganathan, B.E., F.I.E.,** our Vice Chairman **Mr. M.Abhay Shankar, B.E., M.S.,** and our respected Chairperson **Dr. (Mrs.) Thangam Meganathan, M.A., M.Phil., Ph.D.,** for providing us with the requisite infrastructure and sincere endeavouring in educating us in their premier institution.

Our sincere thanks to **Dr. S.N.Murugesan, M.E., Ph.D.,** our beloved Principal for his kind support and facilities provided to complete our work in time. We express our sincere thanks to **Dr. P.Kumar, M.E., Ph.D.,** Professor and Head of the Department of Computer Science and Engineering for his guidance and encouragement throughout the project work. We convey our sincere and deepest gratitude to our internal guides, **Mr. B.Bhuvaneswaran, M.E.,** Assistant Professor (SG), and **Ms. J.Jinu Sophia, M.E.,** Assistant Professor (SG), Department of Computer Science and Engineering, Rajalakshmi Engineering College for their valuable guidance throughout the course of the project. We are very glad to thank our Project Coordinator, **Mr. B.Bhuvaneswaran, M.E.,** Assistant Professor (SG), Department of Computer Science and Engineering for his useful tips during our review to build our project.

NIKHIL P (210701179)

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LIST OF ABBREVIATIONS

ABBREVIATION	ACCRONYM
RPA	Robotic Process Automation
AI	Artificial Intelligence
Gen AI	Generative AI
SMTP	Simple Mail Transfer Protocol
DT	Data Table

CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

The "Lawyer Assistant Bot" is a pioneering project designed to transform how individuals and legal professionals access and utilize legal information. By leveraging UiPath's robust automation capabilities combined with generative AI, this bot provides a comprehensive and efficient solution for addressing law-related queries. Its primary focus is on generating precise, Constitution-based responses tailored to user inputs, ensuring relevance, accuracy, and adherence to legal standards. The bot operates by processing user inputs through an advanced generative AI model, capable of crafting detailed and contextually accurate legal content. A key feature of this project is its integration with an Excel database containing real-time details of practicing lawyers. This ensures that the AI-generated content is enriched with actionable insights, such as connecting users with appropriate legal professionals. By doing so, the bot bridges the gap between automated legal information and professional human expertise, making it a versatile tool for various legal scenarios. To enhance accessibility and convenience, the bot automates the delivery of its outputs using UiPath's SMTP Mail Activity for sending emails and Twilio Console integration for sending SMS notifications. These communication features ensure that users receive prompt and reliable information, whether they are seeking general legal guidance or specific contact details of practicing lawyers.

The "Lawyer Assistant Bot" is designed not only to save time and reduce manual effort but also to democratize access to legal resources. Its AI-driven automation fosters inclusivity by empowering users with little to no legal expertise to navigate complex legal queries confidently. Furthermore, the bot’s ability to handle multiple requests simultaneously ensures scalability, making it a valuable tool for individuals, legal professionals, and organizations alike. UiPath's SMTP Mail Activity for sending emails and Twilio Console integration for sending SMS notifications. These communication features ensure that users receive prompt

and reliable information, whether they are seeking general legal guidance or specific contact details of practicing lawyers. This project exemplifies the transformative potential of AI and RPA in the legal field. By automating research, integrating real-time data, and facilitating seamless communication, it addresses key challenges such as accessibility, accuracy, and efficiency. The "Lawyer Assistant Bot" not only enhances the user experience but also sets a new benchmark for technological innovation in the justice sector. This project exemplifies the transformative potential of AI and RPA in the legal field. By automating research, integrating real-time data, and facilitating seamless communication, it addresses key challenges such as accessibility, accuracy, and efficiency. The "Lawyer Assistant Bot" not only enhances the user experience but also sets a new benchmark for technological innovation in the justice sector.

In conclusion, this project demonstrates how the integration of AI and automation can revolutionize traditional sectors, empowering individuals and organizations with modern tools to navigate legal challenges. The "Lawyer Assistant Bot" is not just a step toward technological advancement but a leap toward making legal assistance more accessible, reliable, and efficient in today's fast-evolving digital landscape.

1.2 OBJECTIVE

The main objective of the "Lawyer Assistant Bot" is to streamline and modernize the legal assistance process by creating an AI-powered, automation-driven platform tailored to deliver precise and Constitution-compliant responses to law-related queries. The bot aims to bridge the gap between legal research and accessibility by utilizing UiPath's automation tools and generative AI to provide detailed legal insights and connect users with practicing lawyers in real-time. This project seeks to empower users—whether individuals or legal professionals—by automating tedious research processes and offering actionable legal content enhanced with relevant lawyer details. By integrating an Excel database of practicing lawyers and generative AI, the system ensures that users receive not only relevant legal advice but also professional guidance when required. A key objective is to enhance accessibility and convenience by automating communication through email and SMS, delivering personalized legal responses and contact details efficiently. By focusing on user-friendly automation, the project enables even those with limited legal expertise to navigate complex legal issues confidently. The project also aims to democratize access to legal resources, fostering inclusivity and scalability while maintaining accuracy and reliability. By addressing challenges such as the time-consuming nature of legal research and the limited accessibility of professional resources, the "Lawyer Assistant Bot" ensures that legal assistance is prompt, precise, and aligned with user needs. This innovative tool is a step toward transforming traditional legal workflows into agile, AI-driven processes that empower individuals and organizations alike.

1.3 EXISTING SYSTEM

In the current system, aspiring entrepreneurs manually utilize brainstorming sessions, basic market research, and generic productivity tools in order to refine and analyze startup ideas. Such methods and tools lack the ability to offer deeper insights or structured feedback. The existing systems fail to incorporate advanced technologies such as AI for creative enhancement and market trend analysis. Entrepreneurs must independently analyze trends, perform feasibility studies, and create presentations, which can be time-consuming and inefficient. Additionally, sentiment analysis and idea validation are rarely automated, leaving significant gaps in decision-making. This highlights the need for an integrated, AI-driven solution.

1.4 PROPOSED SYSTEM

The proposed system for the "Lawyer Assistant Bot" is an innovative platform designed to automate and optimize the legal assistance process using UiPath's advanced capabilities and generative AI. The workflow begins with collecting the user's legal query and email ID as input, forming the foundation for further processing. The system then connects to UiPath's Content Generation Activity, utilizing a generative AI model to process the user's query and generate detailed, accurate legal insights based on the Indian Constitution. The AI-generated content is then stored in a text file, such as Legal_Response.txt, for further reference. The system integrates UiPath's ML Skill Activity to perform sentiment analysis on the generated legal content, enabling the evaluation of the emotional tone and relevance of the response. By using UiPath Cloud's AI Center, it classifies the sentiment as positive, negative, or neutral, allowing users to assess the impact and alignment of the legal advice with their expectations. The sentiment analysis results are saved in an output file for user review. Additionally, the system integrates with an Excel database of practicing lawyers, linking relevant legal professionals to the generated content. This provides users with real-time contact details for the appropriate legal professionals, enhancing the practical applicability of the bot. To facilitate seamless communication, the system automates the distribution of generated reports and responses using UiPath's SMTP Mail Activity. This allows the user to receive not only the legal insights but also sentiment analysis results and lawyer information via email. The bot's functionality is extended by integrating SMS notifications through Twilio Console for real-time updates. By integrating generative AI, sentiment analysis, and real-time lawyer information, the proposed system ensures that users receive comprehensive, actionable, and personalized legal insights. The automation of the legal research and consultation process reduces manual effort, making legal information more accessible, accurate, and timely. This platform empowers users—regardless of their legal expertise—by offering a user-friendly interface to resolve legal queries and connect with professionals. Ultimately, the system enhances the efficiency and scalability of legal assistance, transforming the way individuals and organizations engage with legal services.

CHAPTER 2
LITERATURE REVIEW

A paper titled **"Empowering Business Transformation: The Positive Impact and Ethical Considerations of Generative AI in Software Product Management"**,from **Parikh.** The main research focused on how generative AI improves processes like idea generation, market research, and customer insights analysis. These tools can, however reduce development time and costs by automating tasks such as the analyses of customer feedback and generation of codes. Then again, they identify some limitations: accuracy, reliability, and ethical issues raise concerns about responsible implementation.The authors discuss how generative AI can be transformative in decision-making processes, highlighting that it can actually help to more effectively utilize resources and yield better results for end-users. By including generative AI in the management of software products, companies can actually simplify their workflows and thus become more efficient. The study demonstrates how such technologies enable businesses to keep up with changing market requirements while also transcending ethical and technological hurdles.

The paper also mentioned the limitations of generative AI is potential biases in AI-generated outputs and ethical dilemmas associated with its widespread adoption. They propose guidelines for the effective application of generative AI while maintaining a balance between innovation and ethical responsibility**.**The research emphasizes the potential of generative AI for effects of transformation in software product management and entrepreneurial ecosystems. It describes how these tools increase productivity by streamlining repetitive processes like market research, idea generation, customer feedback analysis, and even code generation. Paper also outlines some significant challenges:. A major concern mentioned in the paper is reliability and the confidentiality of Gen AI.

A paper, titled **"An Empirical Evaluation of a Generative Artificial Intelligence Technology Adoption Model from Entrepreneurs' Perspectives"**,from **Varun Gupta,** This study validates a technology adoption model by analyzing data collected from 482 diverse entrepreneurs. It investigates key factors influencing technology adoption, such as social influence, domain expertise, system quality, and training availability. Using Partial Least Squares Structural Equation Modeling (PLS-SEM), the research uncovers the relationships between these elements and their effects on technology adoption.

The findings indicate that, although demographic factors like age and gender have limited impact, entrepreneurial experience plays a crucial role in adoption decisions. The study highlights how these factors shape entrepreneurs' perceptions of technology's usefulness, ease of use, and emotional responses, which ultimately determine their readiness to adopt generative AI tools.The implications of this research are significant for technology providers and policymakers seeking to enhance the adoption of generative AI within entrepreneurial ecosystems. It advances the existing adoption framework by incorporating new variables pertinent to the entrepreneurial context.

Additionally, the study illustrates how generative AI can empower startups by driving innovation and providing a competitive edge. Entrepreneurs leveraging these tools report notable improvements in operational efficiency, including quicker decision-making and shorter time-to-market for new products. The paper underscores the capability of generative AI technologies to personalize business operations for individual customers by analyzing vast amounts of unstructured data—something traditional methods often struggle to achieve.However, the research also identifies potential adoption barriers such as concerns around data privacy, scalability issues, and ethical considerations.

CHAPTER 3

SYSTEM DESIGN

3.1 SYSTEM FLOW DIAGRAM

A flowchart is a type of diagram that represents an algorithm, workflow or process. The flowchart shows the steps as boxes of various kinds, and their order by connecting the boxes with arrows. This diagrammatic representation illustrates a solution model to a given problem. The flow chart for the Automated Law solution is shown in below Fig 3.1

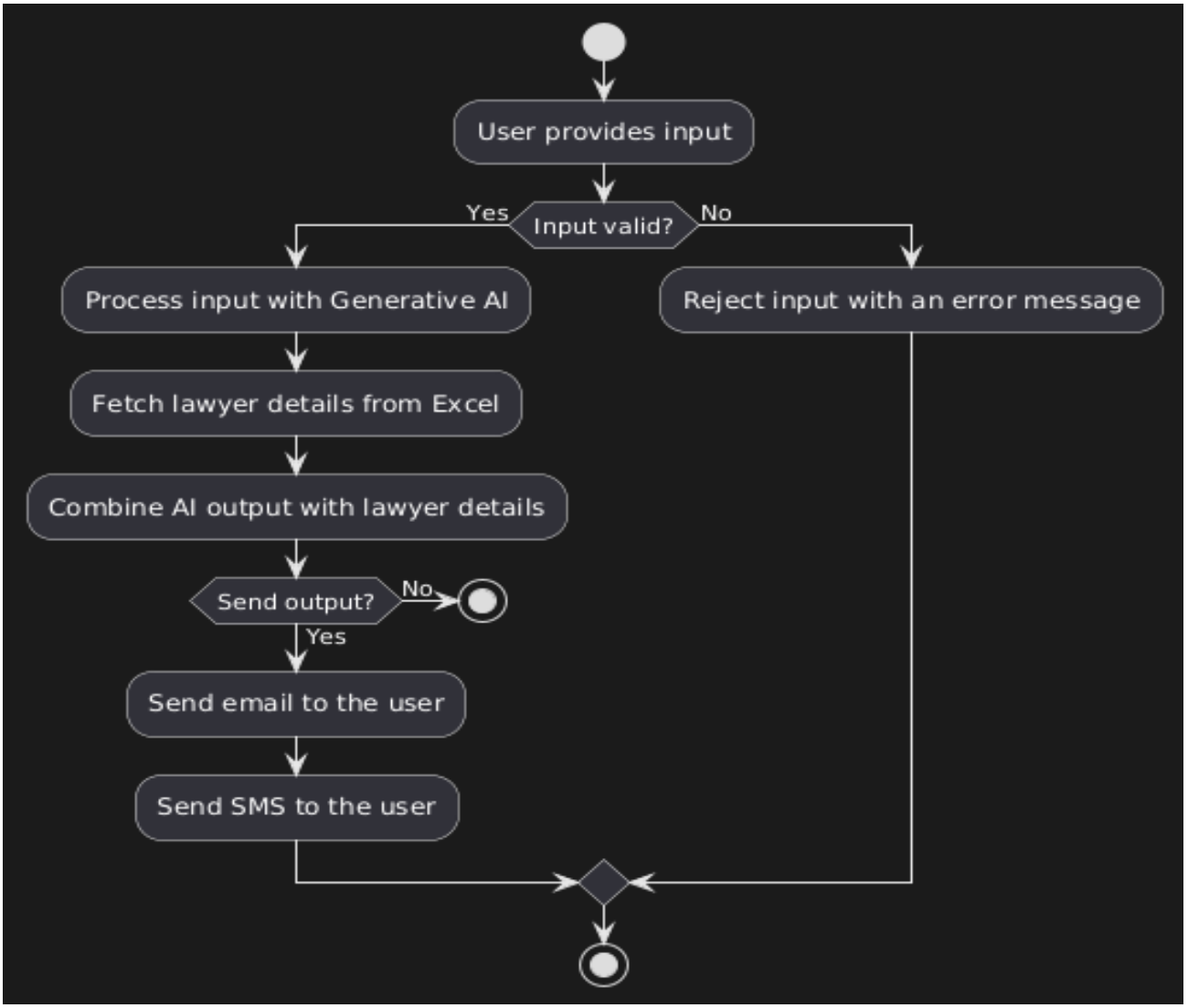


Fig 3.1 System Flow Diagram

3.2 ARCHITECTURE DIAGRAM

An architecture diagram is a graphical representation of a set of concepts, that are part of an architecture, including their principles, elements and components. The Architecture diagram for project is shown in below Fig 3.2

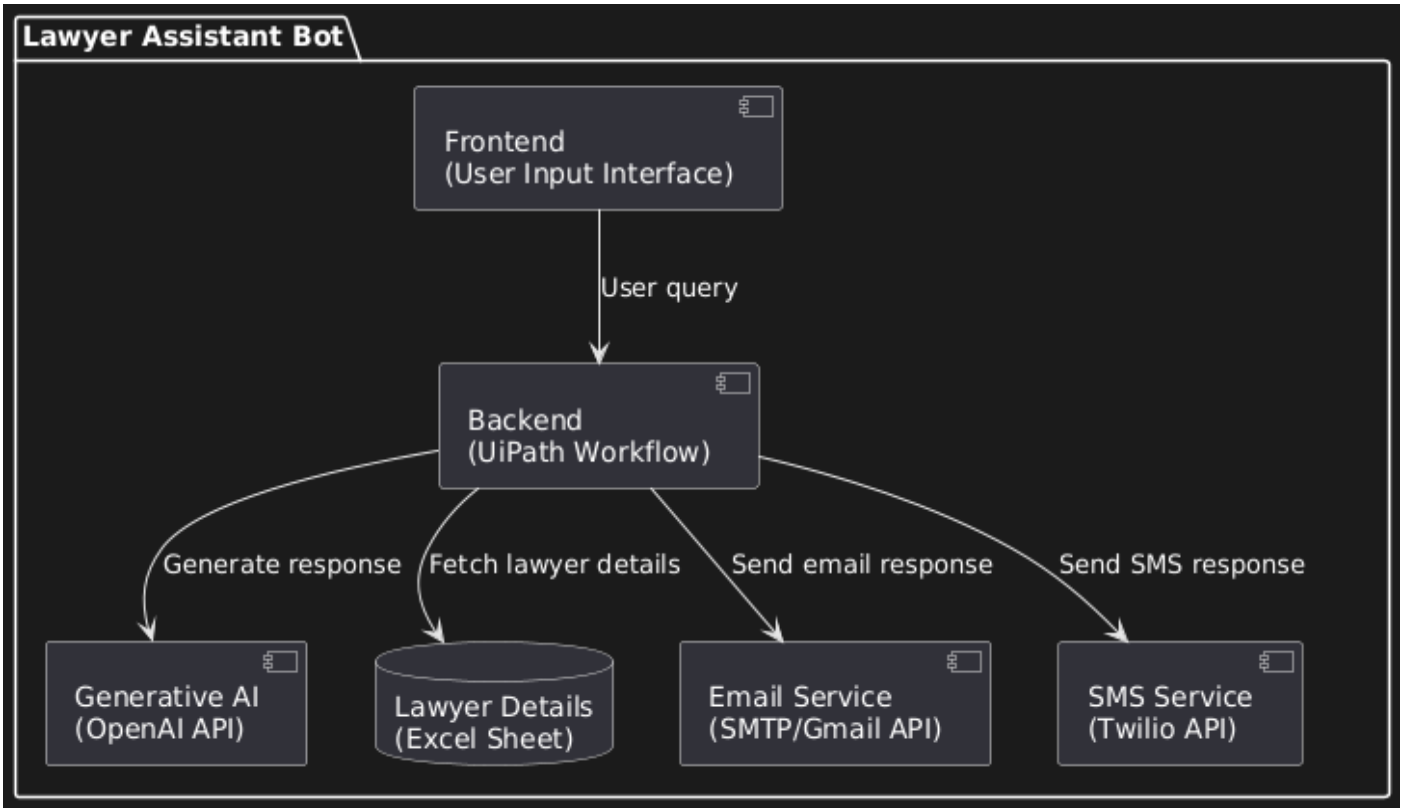


Fig 3.2 Architecture Diagram

3.3 SEQUENCE DIAGRAM

A sequence diagram is a type of interaction diagram because it describes how and in what order a group of objects works together. The Sequence diagram for the project in below Fig 3.3

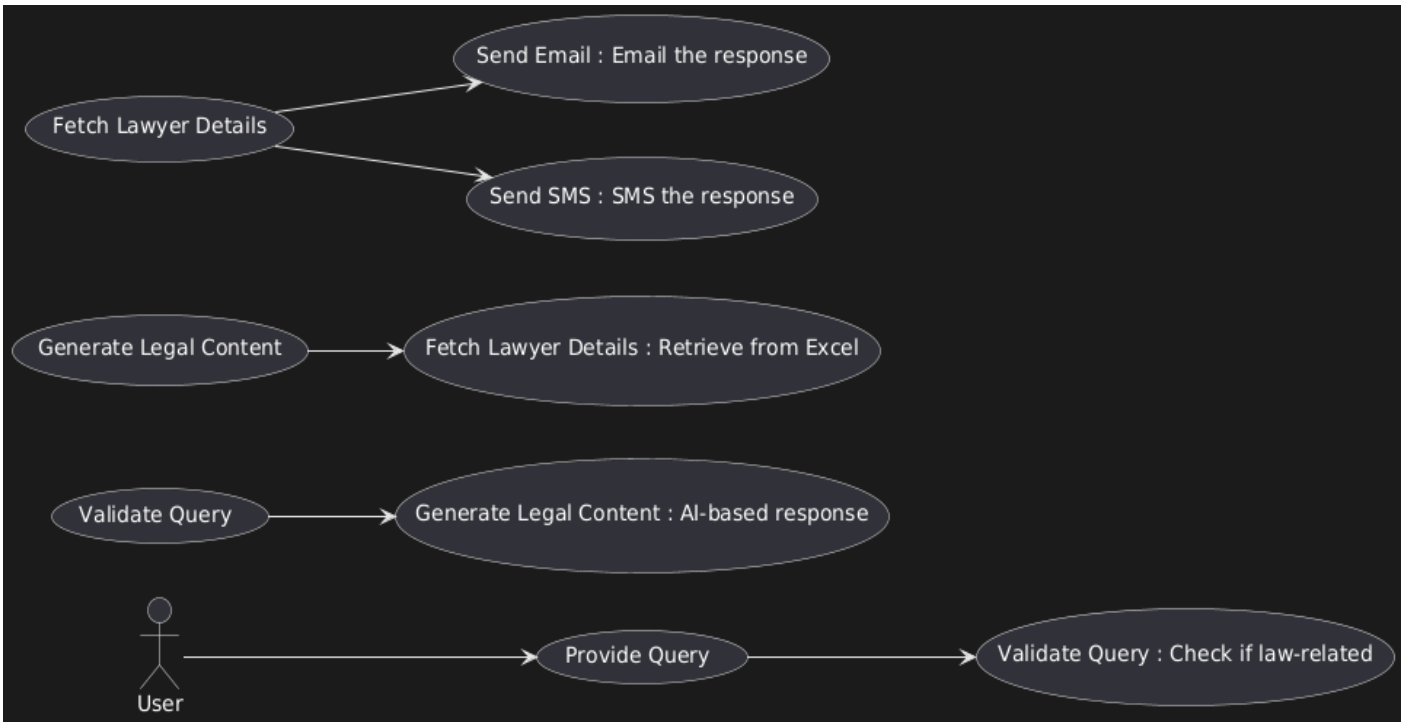


Fig 3.3 Sequence Diagram

CHAPTER 4
PROJECT DESCRIPTION

4.1 MODULES

4.1.1 CREATING PROJECT

The initial phase involves collecting user input, specifically their email address and business idea. This is achieved using UiPath's Input Dialog activity. The overall workflow integrates several key functionalities, including content generation, file writing, sentiment analysis, and SMTP email dispatch. Future considerations are taken into account for ongoing maintenance and possible enhancements. This includes leveraging UiPath for centralized management and monitoring, which supports a scalable and easily maintainable automation structure.

4.1.2 CONTENT GENERATION MODULE

The heart of the project lies the Content Generation Module, which transforms the user's startup concept into a detailed and refined proposal utilizing Generative AI techniques. This module employs the GPT-35-turbo-0125 model, integrating UiPath's Content Generation Activity to effectively process the user's idea. The AI model enriches the initial concept by offering valuable insights, suggestions, and avenues for enhancement. The resulting content is compiled into a file titled Analysis_report.txt, ensuring it is accessible for sharing and review. This module significantly enhances the project’s deliverables by embedding creative AI capabilities.

4.1.3 TWILIO SCOPE

Twilio is used to integrate SMS and messaging functionalities into automation workflows. The Twilio scope allows users to send and receive SMS messages, making it possible to automate communication with users or customers via text messages. By using the Twilio scope in UiPath, automation processes can trigger SMS notifications, alerts, and reminders based on specific conditions or events within a workflow. It leverages the Twilio API to facilitate seamless integration, enabling the delivery of personalized messages, including transactional updates, reminders, or confirmation alerts. This integration enhances the automation of customer communication, improving user engagement and response times.

4.1.4 EXCEL SHEET MANIPULATION AND INTEGRATION

Excel Sheets are commonly used to store, manipulate, and process data within automation workflows. The Excel scope enables users to interact with Excel files by reading data from cells, writing data to cells, updating existing information, or performing calculations. Through this integration, UiPath allows seamless automation of repetitive tasks such as extracting data from Excel reports, generating new reports, or updating databases with information stored in Excel sheets. The Excel activities can be used for tasks like filtering data, creating pivot tables, or iterating through rows and columns, making it a powerful tool for managing structured data within UiPath workflows. This functionality helps streamline data processing, reporting, and decision-making within automated systems For Each Row in DataTable activity allows you to iterate over each row in a DataTable, making it useful for processing data row by row. This activity is commonly used when you need to perform actions on each entry in a dataset, such as reading values, modifying them, or extracting information.

CHAPTER 5

OUTPUT SCREENSHOTS

The below Fig 5.1 specifies the output from mail as shown in below Fig 5.1.

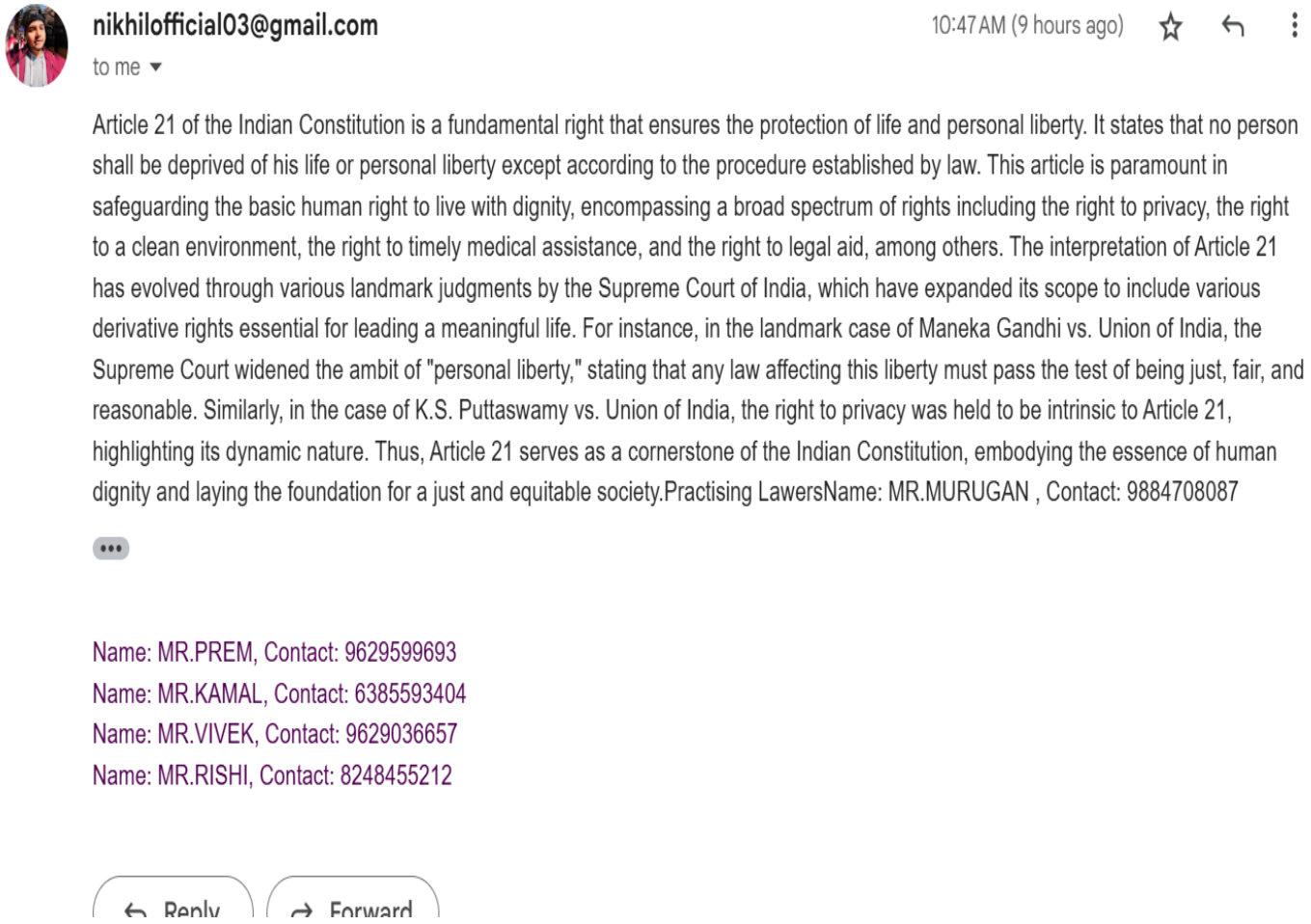


Fig 5.1 Mail output

The Twilio Scope is got from the user as shown in the fig5.2.

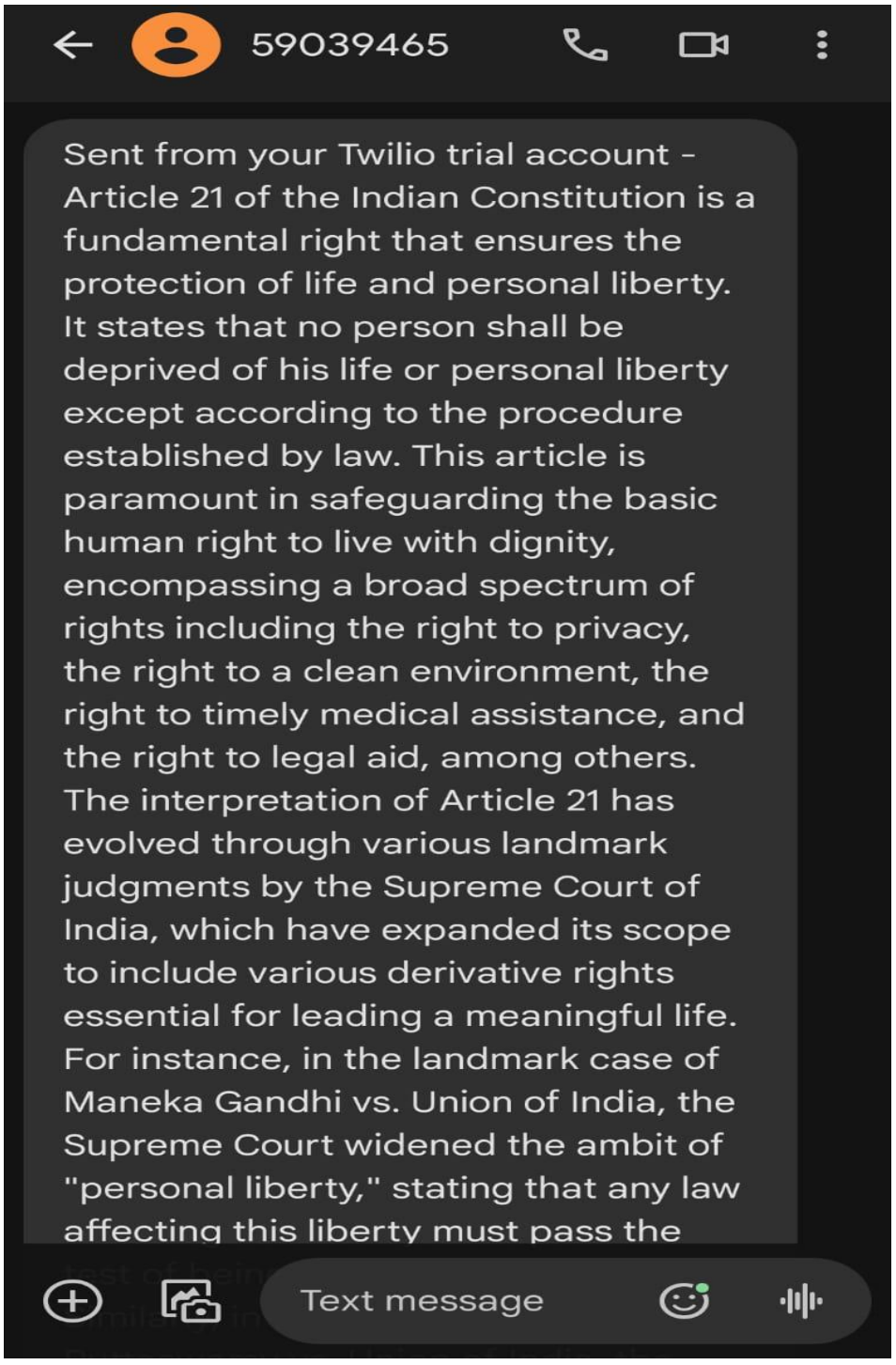
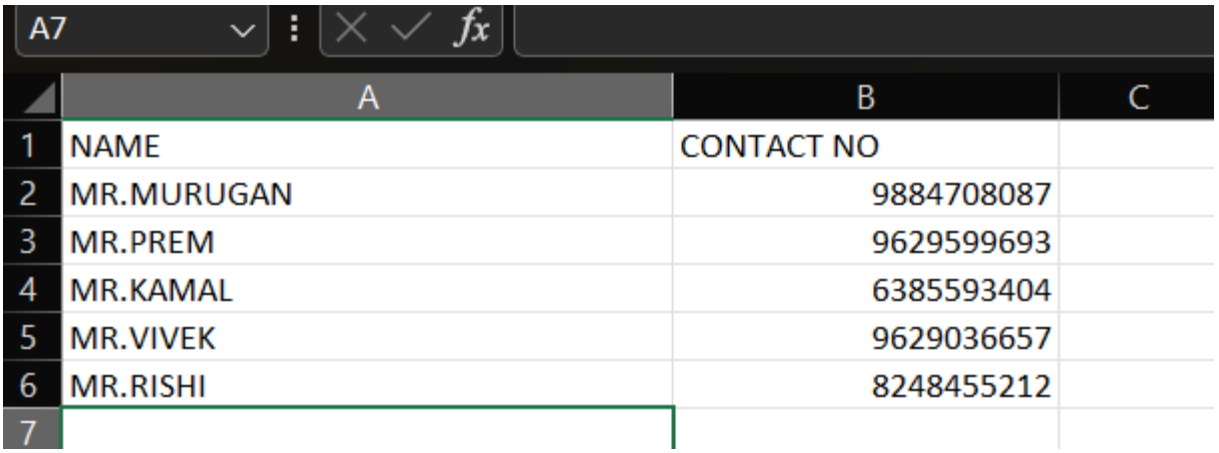


Fig 5.2 Twilio output



	A	B	C
1	NAME	CONTACT NO	
2	MR.MURUGAN	9884708087	
3	MR.PREM	9629599693	
4	MR.KAMAL	6385593404	
5	MR.VIVEK	9629036657	
6	MR.RISHI	8248455212	
7			

Figure 5.3 Excel data

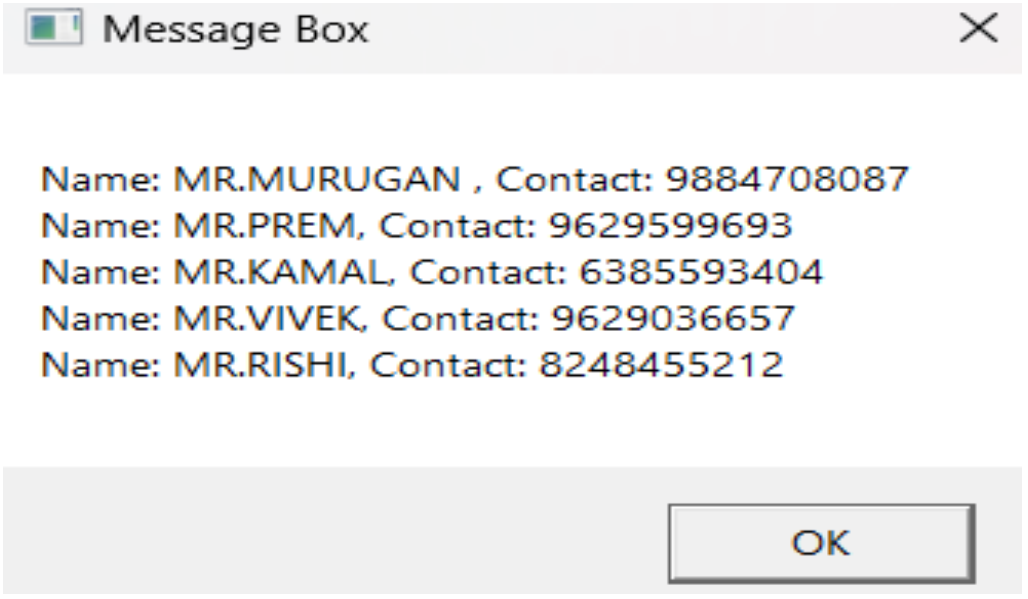


Fig 5.4 Response from for each row in Data table

The Content Generative AI generates the suggestions for the query shown in the below Fig.5.5

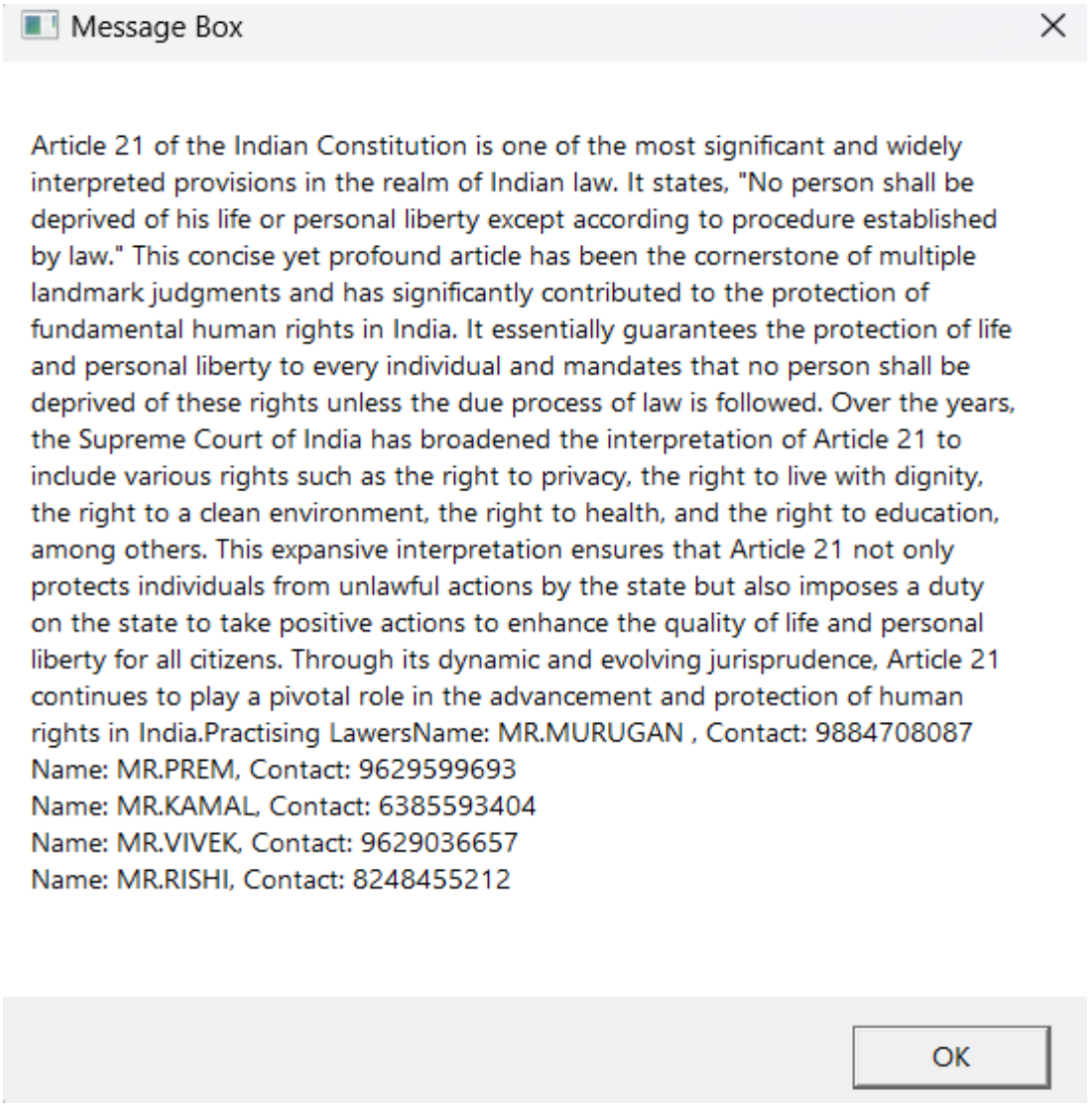


Fig 5.5 Response from Gen AI

CHAPTER 6

CONCLUSION

The project highlights the transformative potential of AI and automation in providing efficient and accessible legal assistance. By leveraging UiPath's workflow automation, Generative AI (GPT-35-turbo-0125), and real-time lawyer data, the **Lawyer Assistant Bot** streamlines the processing of legal queries based on the Indian Constitution. The system validates user inputs, generates contextually accurate responses, and integrates details of practicing lawyers, delivering the output via email and SMS.

This meticulous approach ensures that users receive personalized, actionable legal guidance promptly. Generative AI processes the user's legal queries, enriched with sentiment analysis to gauge user concerns and improve the response quality. Lawyer data is fetched from a structured database, offering practical recommendations alongside AI-generated content. The system is further enhanced by its multi-channel communication capabilities, ensuring that users are informed through their preferred medium.

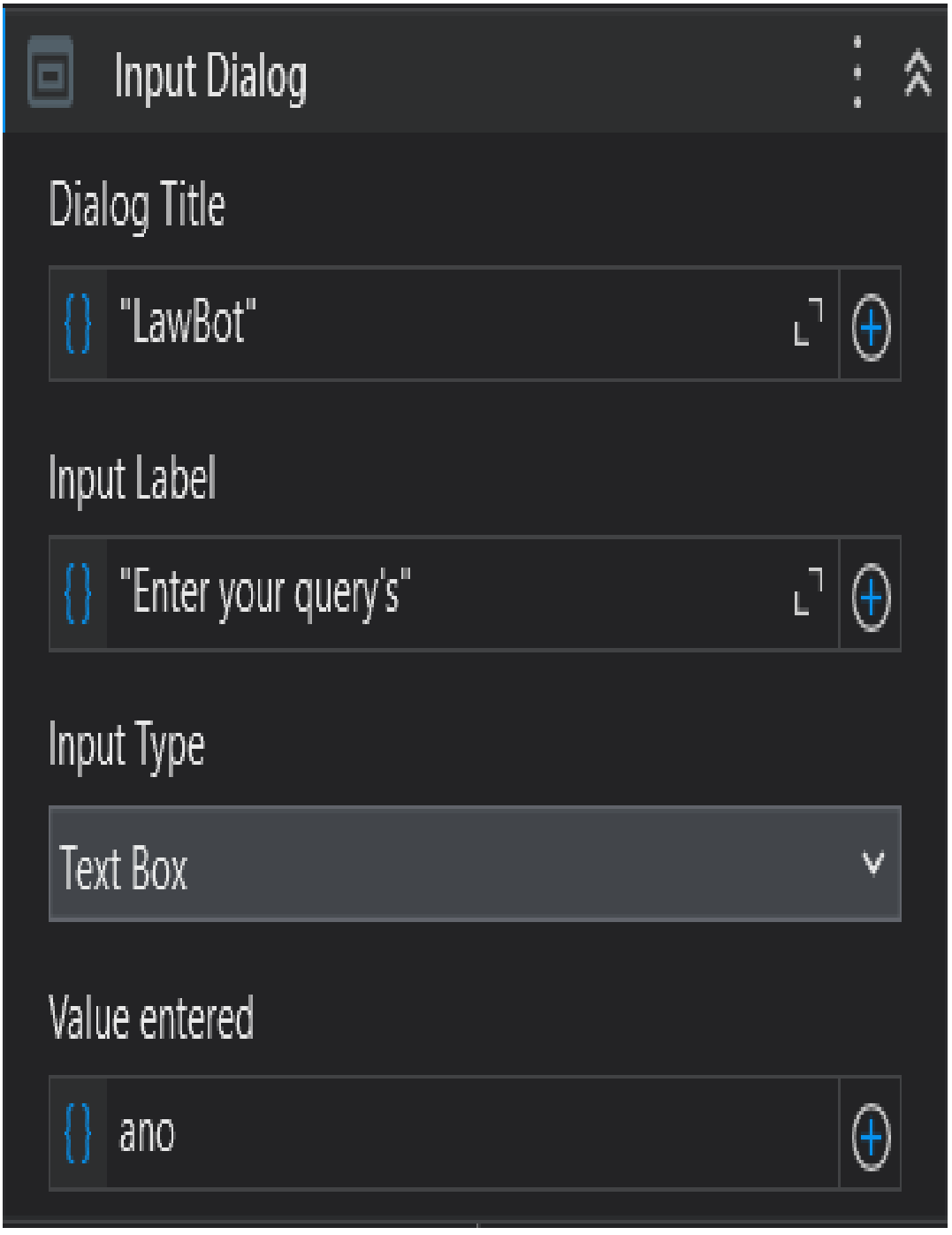
Future Enhancements:

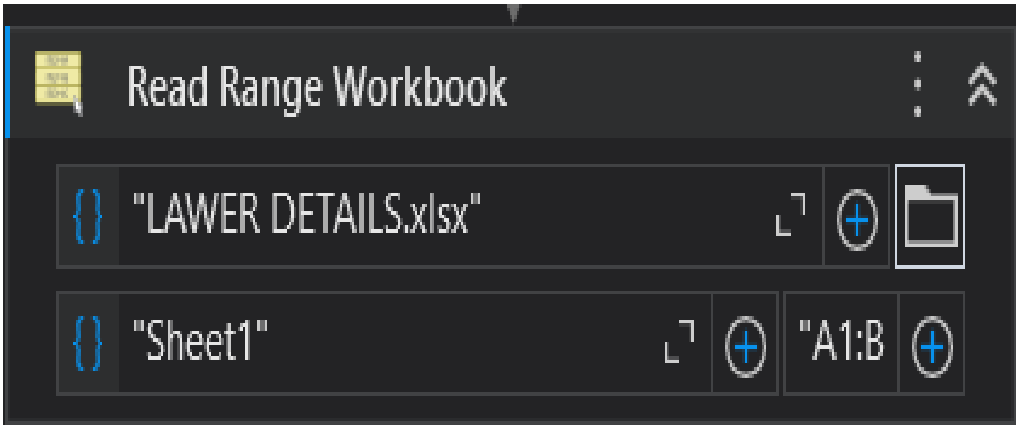
1. **Legal Context Feasibility Analysis:**
   Introduce a module to analyze the feasibility of legal cases based on current laws, past judgments, and societal trends. AI and ML tools could help assess case success probabilities or identify potential challenges.
2. **Real-Time Interaction and Iteration:**
   Enable dynamic feedback loops where users can iteratively refine their queries with real-time AI-driven recommendations. This could involve conversational interfaces powered by generative AI, allowing users to interact dynamically with the bot for enhanced query understanding and refinement.

This initiative underscores the empowering role of technology in enhancing legal accessibility, creating a reliable, solution. The Lawyer Assistant Bot is a robust system that bridges the gap between users and legal professionals, making it an indispensable resource in today's legal and technological landscape.

APPENDIX

SAMPLE PROCESS

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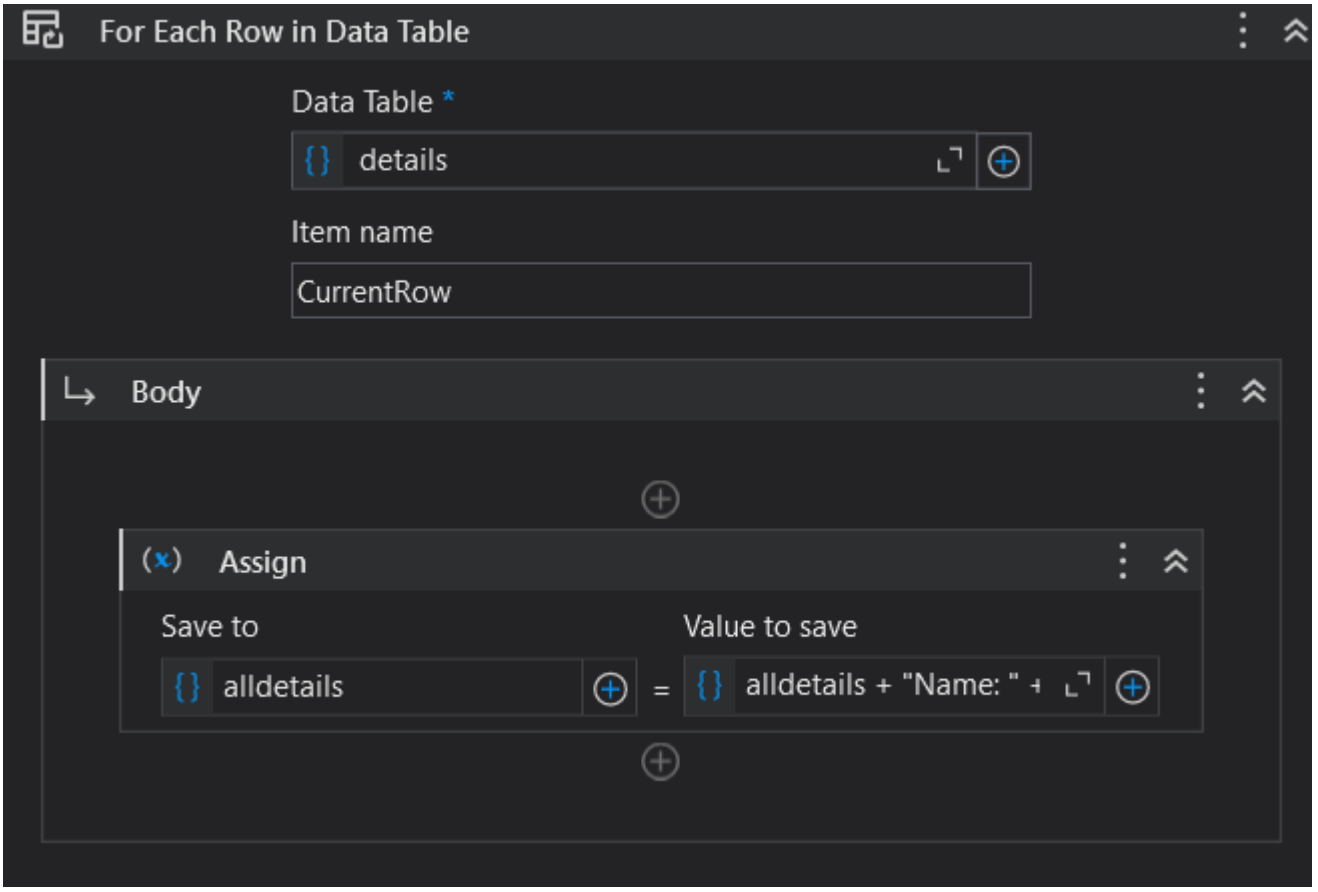
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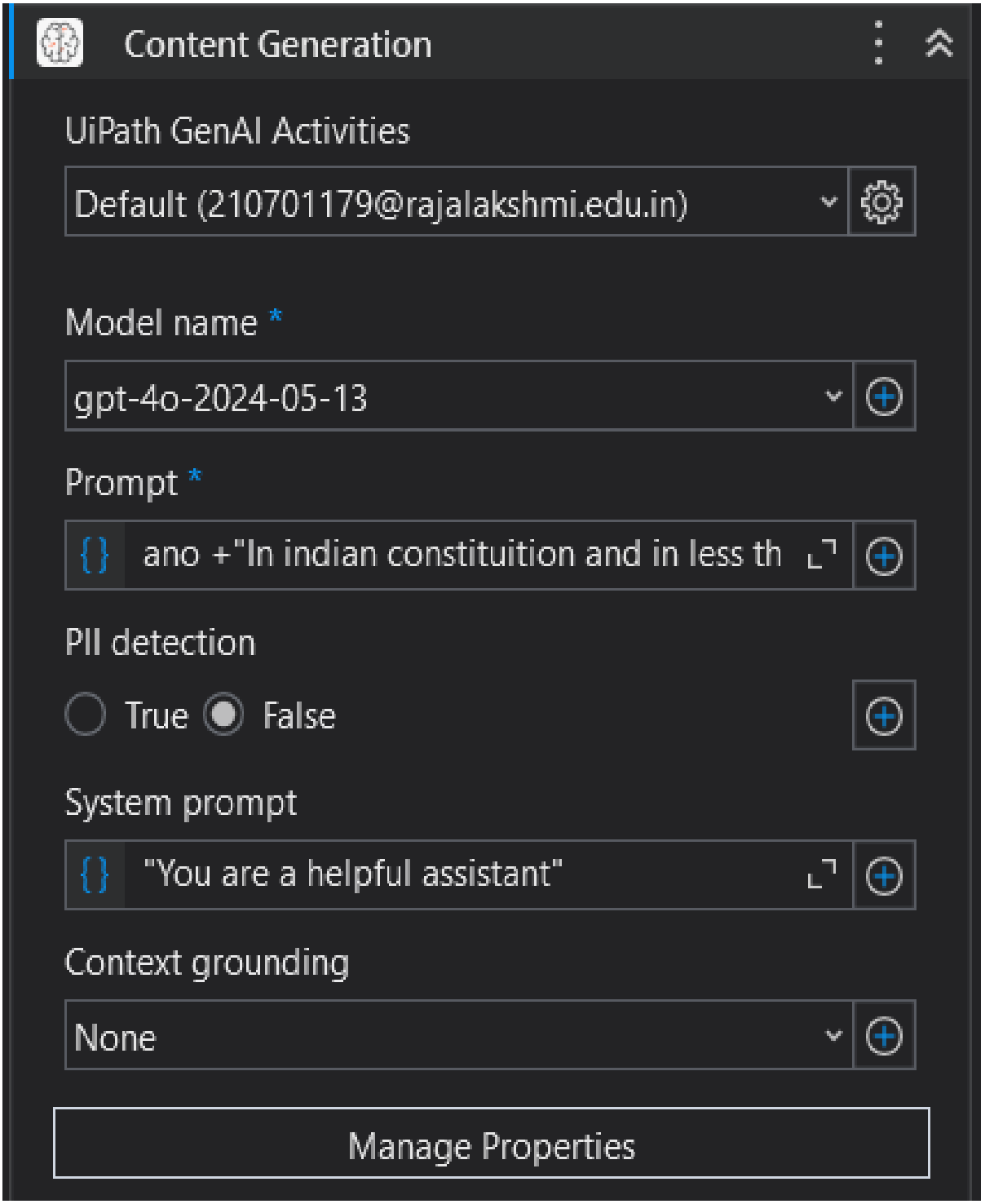
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UiPath GenAI Activities
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False
System prompt
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Context grounding
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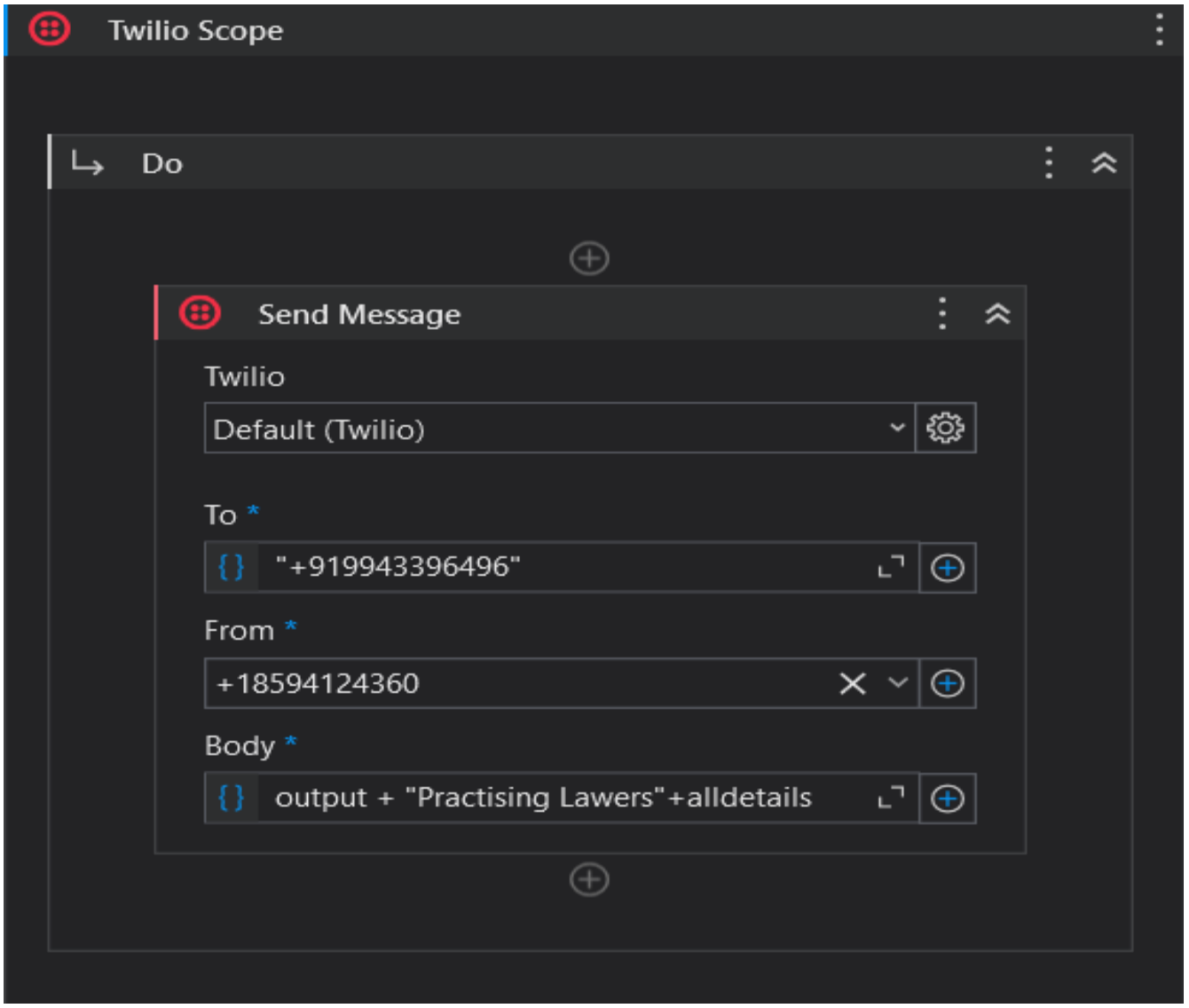
Manage Properties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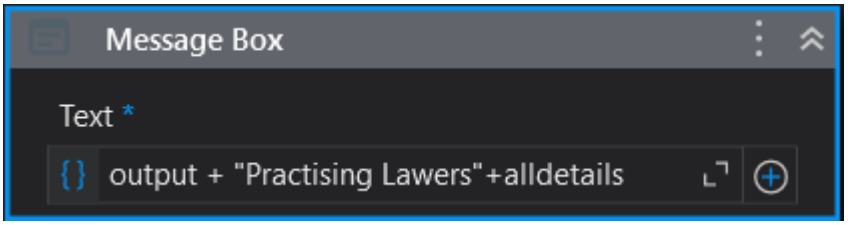
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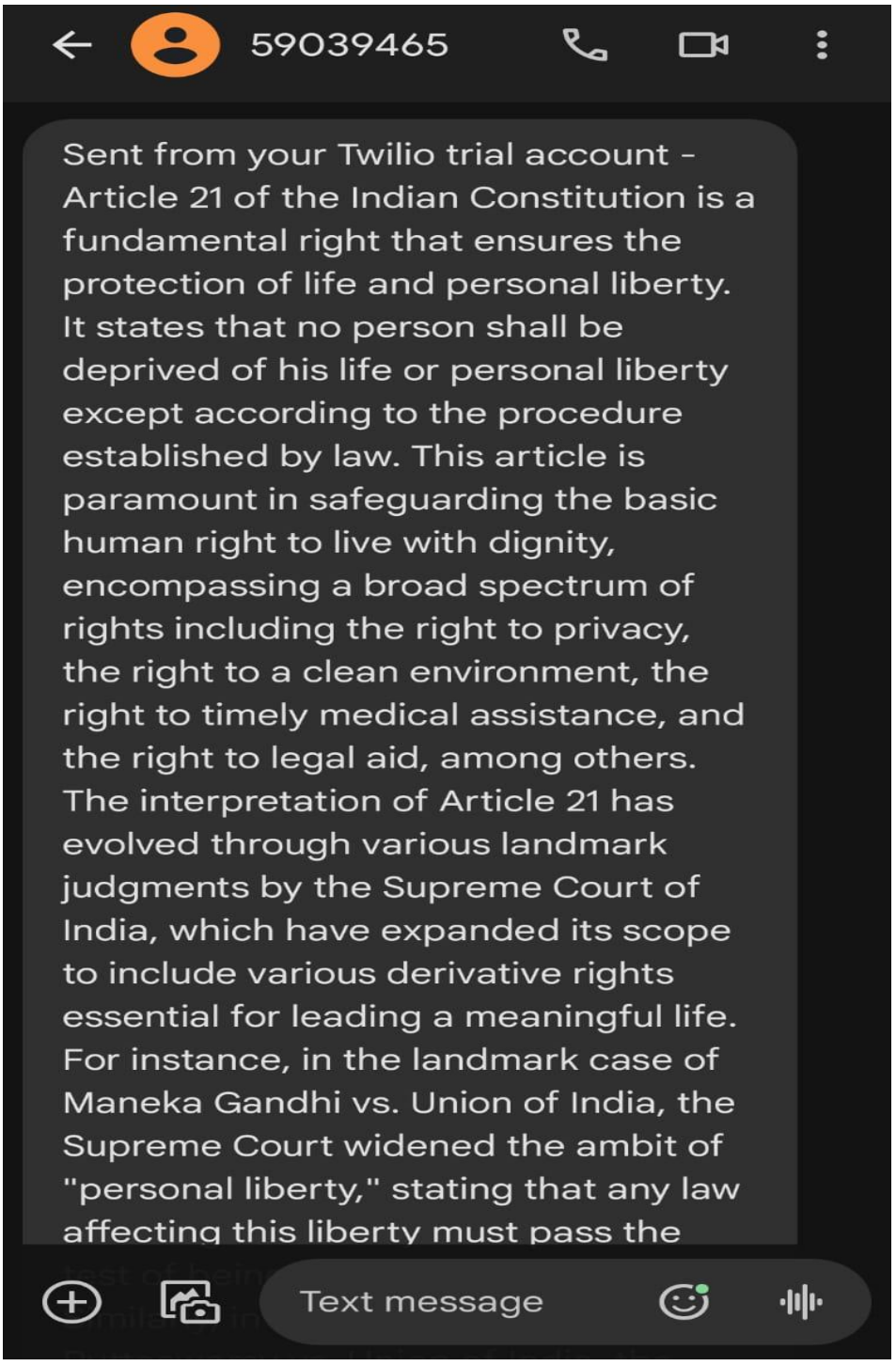
to me

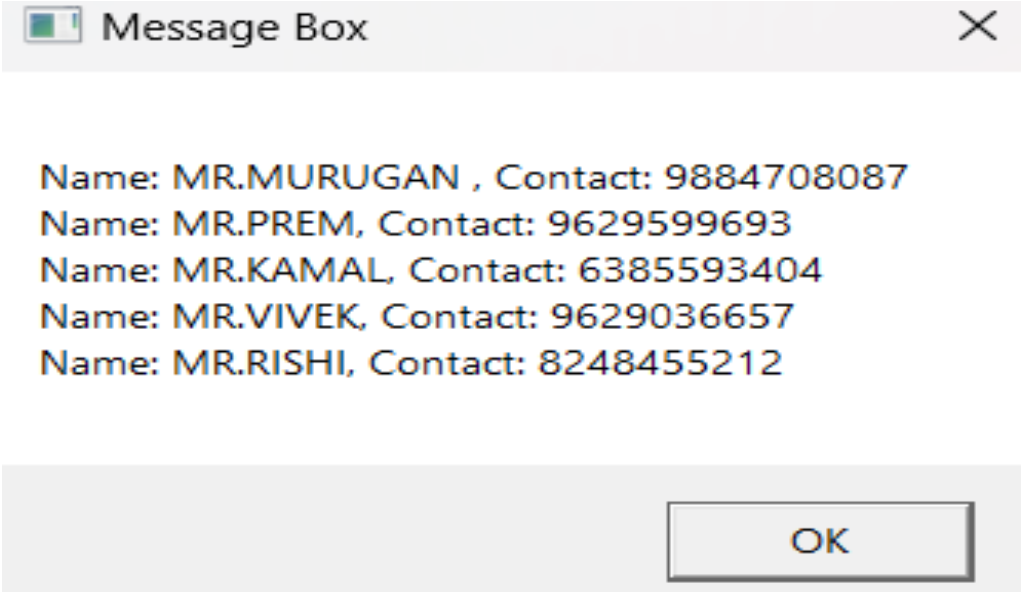
Article 21 of the Indian Constitution is a fundamental right that ensures the protection of life and personal liberty. It states that no person shall be deprived of his life or personal liberty except according to the procedure established by law. This article is paramount in safeguarding the basic human right to live with dignity, encompassing a broad spectrum of rights including the right to privacy, the right to a clean environment, the right to timely medical assistance, and the right to legal aid, among others. The interpretation of Article 21 has evolved through various landmark judgments by the Supreme Court of India, which have expanded its scope to include various derivative rights essential for leading a meaningful life. For instance, in the landmark case of Maneka Gandhi vs. Union of India, the Supreme Court widened the ambit of "personal liberty," stating that any law affecting this liberty must pass the test of being just, fair, and reasonable. Similarly, in the case of K.S. Puttaswamy vs. Union of India, the right to privacy was held to be intrinsic to Article 21, highlighting its dynamic nature. Thus, Article 21 serves as a cornerstone of the Indian Constitution, embodying the essence of human dignity and laying the foundation for a just and equitable society.Practising LawersName: MR.MURUGAN , Contact: 9884708087

•••

Name: MR.PREM, Contact: 9629599693
Name: MR.KAMAL, Contact: 6385593404
Name: MR.VIVEK, Contact: 9629036657
Name: MR.RISHI, Contact: 8248455212

Reply Forward


59039465
Sent from your Twilio trial account - Article 21 of the Indian Constitution is a fundamental right that ensures the protection of life and personal liberty. It states that no person shall be deprived of his life or personal liberty except according to the procedure established by law. This article is paramount in safeguarding the basic human right to live with dignity, encompassing a broad spectrum of rights including the right to privacy, the right to a clean environment, the right to timely medical assistance, and the right to legal aid, among others. The interpretation of Article 21 has evolved through various landmark judgments by the Supreme Court of India, which have expanded its scope to include various derivative rights essential for leading a meaningful life. For instance, in the landmark case of Maneka Gandhi vs. Union of India, the Supreme Court widened the ambit of "personal liberty," stating that any law affecting this liberty must pass the
Text message


Message Box
Name: MR.MURUGAN , Contact: 9884708087
Name: MR.PREM, Contact: 9629599693
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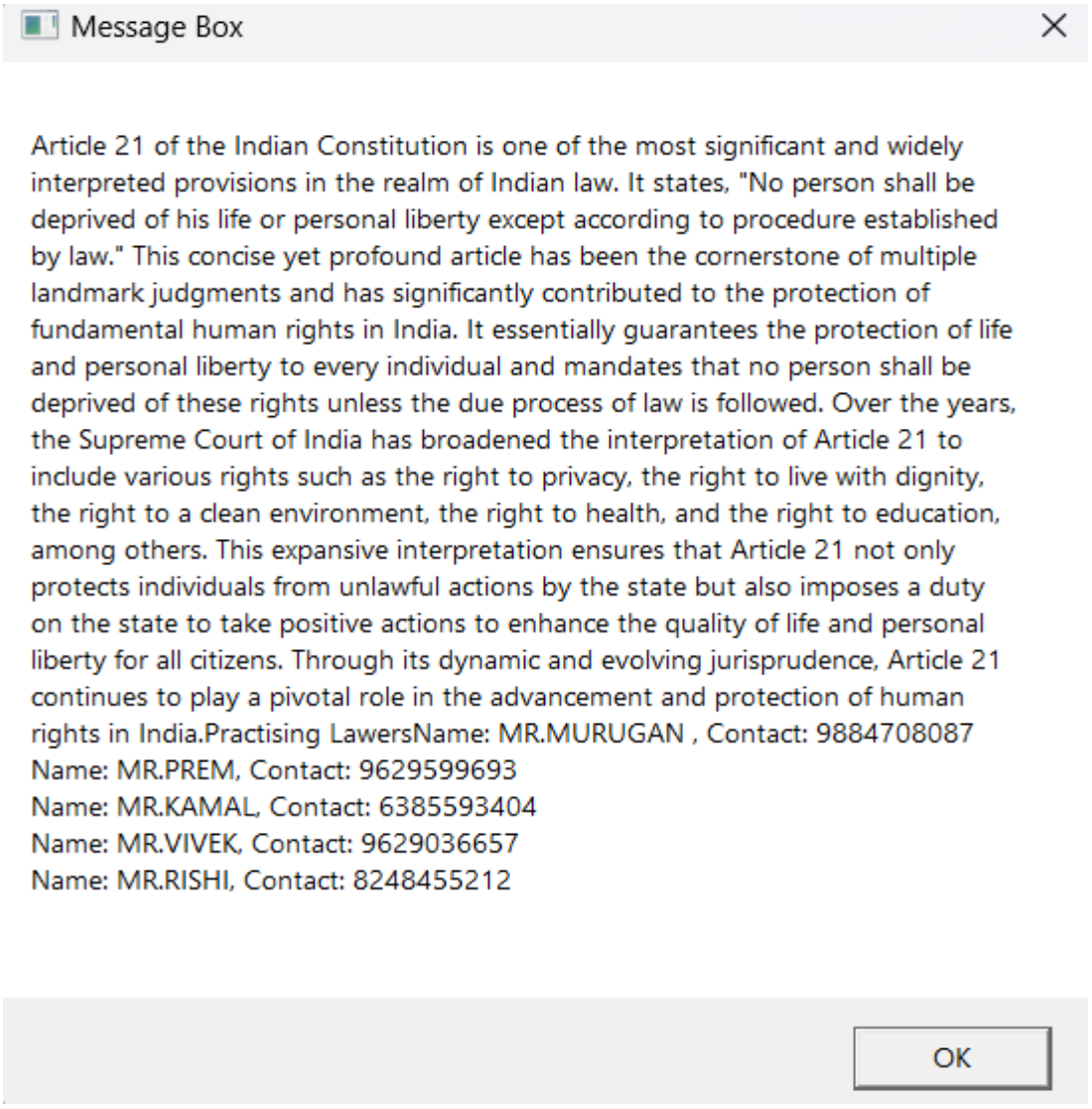
OK


Message Box
Article 21 of the Indian Constitution is one of the most significant and widely interpreted provisions in the realm of Indian law. It states, "No person shall be deprived of his life or personal liberty except according to procedure established by law." This concise yet profound article has been the cornerstone of multiple landmark judgments and has significantly contributed to the protection of fundamental human rights in India. It essentially guarantees the protection of life and personal liberty to every individual and mandates that no person shall be deprived of these rights unless the due process of law is followed. Over the years, the Supreme Court of India has broadened the interpretation of Article 21 to include various rights such as the right to privacy, the right to live with dignity, the right to a clean environment, the right to health, and the right to education, among others. This expansive interpretation ensures that Article 21 not only protects individuals from unlawful actions by the state but also imposes a duty on the state to take positive actions to enhance the quality of life and personal liberty for all citizens. Through its dynamic and evolving jurisprudence, Article 21 continues to play a pivotal role in the advancement and protection of human rights in India.Practising LawersName: MR.MURUGAN , Contact: 9884708087
Name: MR.PREM, Contact: 9629599693
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