

ANDROID CHATBOT USING AI

Shravani Deshpande¹, Anuradha Gethe², Aditi Dhumal³, Ankit Bhamare⁴ Prof. Himanshi Agrawal⁵

^{1,2,3,4}UG Student, ⁵Assistant Professor, Information Technology, SKN Sinhgad Institute of Technology and Science, India.

shravanid36@gmail.com¹, anuradhagethe845@gmail.com², aditidhumal02@gmail.com³, ankitbhamare12@gmail.com⁴, hagrwal.sksnsits@sinhgad.edu⁵

Abstract: In this article, we present the development of an artificial intelligence chatbot for the Android platform that aims to improve user interaction and experience. Using natural language processing (NLP) techniques and machine learning algorithms, our chatbot is designed to understand and respond to user queries in a conversational manner. The bot is able to provide information, answer questions, and assist users with various tasks, making it a versatile and valuable tool for mobile users. The project uses modern AI technologies to create an intuitive and engaging user experience, which ultimately contributes to the development of AI-driven applications on mobile platforms.

I. INTRODUCTION

In today's fast-paced world, technology plays a vital role in simplifying our daily tasks. The emergence of artificial intelligence (AI) has revolutionized the way we work with technology, making it more intuitive and efficient. In line with this trend, we present "AI Chatbot: Your Virtual Assistant" - an innovative Android project that aims to provide users with a personalized and interactive experience.

Our AI chatbot uses state-of-the-art natural language processing (NLP) algorithms to understand and respond to user queries in real time. Whether it's answering questions, making recommendations, or helping with tasks, our chatbot is designed to adapt and learn from each interaction, constantly improving its responses.

With an intuitive user interface and seamless integration into the Android platform, our chatbot aims to increase user productivity and convenience. From accessing information on the go to automating routine tasks, the possibilities are endless with AI Chatbot: Your Virtual Assistant.

Join us on this journey and discover the limitless potential of artificial intelligence in reshaping the way we interact with technology. Let an AI Chatbot be your companion as you navigate the complexities of modern life, making every interaction smarter, simpler and more efficient.

II. AIM AND OBJECTIVES

Aim:

Android Chatbot is nothing but an Android app. The Trust chatbot application is built using Android Studio and Java, and using the OpenAI API is System is

An Android application that provides answers to user questions. Users just enter their question to the bot and start chatting. The system uses a built-in algorithm to answer the question. The system provides appropriate answers to users'

questions. The user can inquire about any activities related to the Trust through the application, the user does not need to personally go to the trust for inquiries.

Objective:

The main goal of a chatbot is to understand the user's requirements and respond with sufficient information required by the user.

India has the fastest growing telecom network in the world with many users switching to Smart and most students.

III. TECHNIQUE USED

Building an Android AI chatbot project with multiple modules such as AI image, AI chat, live messaging, and sending SMS involves integrating various technologies and APIs. Here's a breakdown of the potential techniques and tools you can use for each module:

Image AI:

Use machine learning libraries such as TensorFlow Lite or ML Kit to integrate recognition and image processing functions.

Train a model or use pre-trained models for tasks such as object detection, image classification or face recognition.

Leverage image processing techniques such as OpenCV for tasks such as image manipulation or feature extraction.

Chat AI:

Implement natural language processing (NLP) using libraries like NLTK, spaCy, or Hugging Face's Transformers for text understanding and generation.

Use conversational AI platforms like Dialogflow or Rasa to create chatbots with advanced dialog management.

Integrate with messaging platforms such as Firebase Cloud Messaging or WebSocket for real-time communication.

Live News:

Use APIs from news sources such as the News API or RSS feeds to retrieve current news updates.

Implement background jobs or services to periodically retrieve and update message content.

Display message content using a RecyclerView or ViewPager for a smooth user experience.

Send SMS:

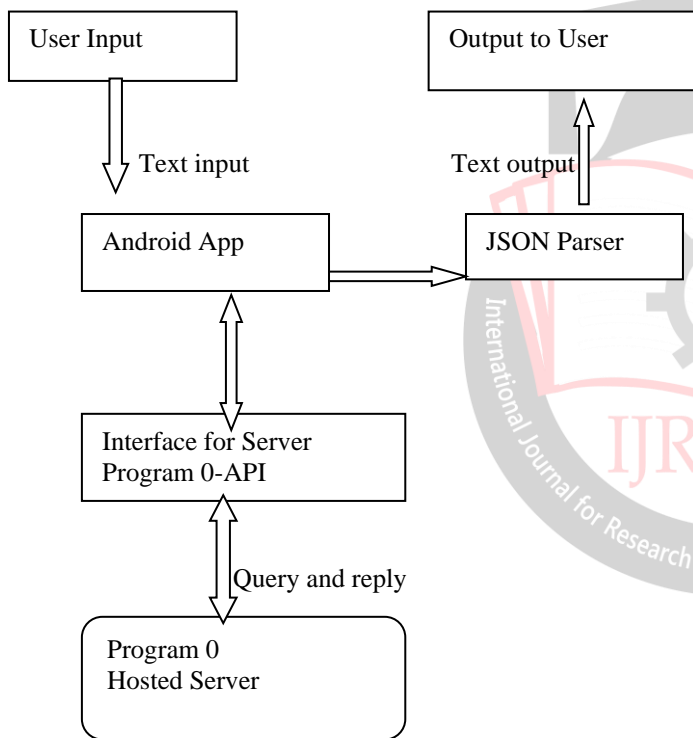
Use Android's built-in SMS Manager API to programmatically send SMS messages.

Request the necessary permissions in the AndroidManifest.xml file to send SMS.

Implement error handling and user feedback for successful or failed SMS delivery.

Overall, the project would require a combination of backend services, APIs, and Android client development to seamlessly integrate these modules and provide a cohesive user experience..

IV. ARCHITECTURE



V. METHODOLOGY

METHODOLOGY

A. Existing System

Over the past few years, many AI chatbots have been developed by various developers. To improve the user experience, all developers wanted to create a bot that could personally answer any user questions. Many chatbots were developed to find this kind of findings, but for some reason, they started to lag due to the research gap that was not filled in time, which made them obsolete. Most chatbots are available for websites and desktops. There are only a

limited number of chatbot apps where only a limited number of responses have been retrieved. If the user wanted more answers, he had to pay to get a subscription. Below are some chatbots that already exist

ELIZA: Instead of deep understanding, ELIZA just used basic pattern matching methods.

Cleverbot: Occasionally generates illogical and inconsistent results due to lack of methods and training data

B. Proposed System

The technology used in the natural learning process takes the keywords entered by the user, extracts the relevant results from the database and displays the result on the screen. The middleware API accepts user input and returns a response.

Natural Learning Processing (NLP): Natural Language Processing is a branch of artificial intelligence that focus on computer-human interaction through natural language. Our proposed methodology uses NLP (Natural Language Processing) and NLU (Natural Language Understanding) together with ML, which focuses on computer-human interaction through natural language.

Application Programming Interface (API): Several APIs like Sentiment Analysis API, Knowledge Base API are used in this methodology. Sentiment analysis APIs, such as Google Cloud Natural Language Processing, analyze text to determine the sentiment expressed and provide information on whether the content is positive, negative, or neutral. The Knowledge Base API provides seamless access to information repositories with remarkable capabilities including Microsoft Azure Cognitive Search, Amazon Kendra, and Elasticsearch.

BrainShop AI: BrainShop offers an easy-to-use API so you can quickly integrate a chatbot into your projects. Use our chat widget to quickly install a chatbot if you want to add it to your website. You can integrate a chatbot on your website in minutes.

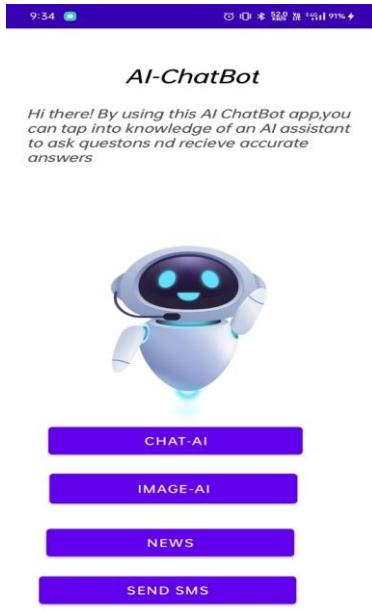
Continuous learning and improvement: By implementing systems for continuous learning and improvement, you can be sure that the chatbot will change over time, becoming more accurate and efficient in its response.

Dialog Management: Implementing a strong dialog management system ensures that the user and the chatbot interactions are consistent and help organize the flow of conversation..

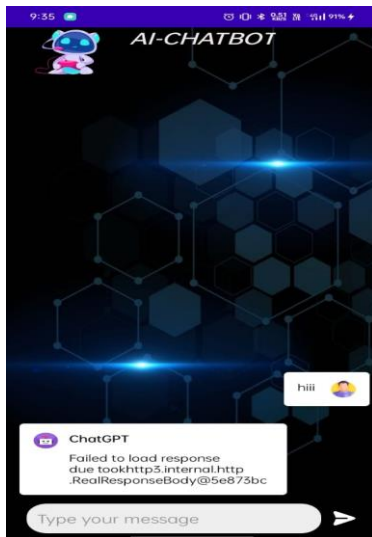
RESULT

1. CHATBOT IMPLEMENTATION

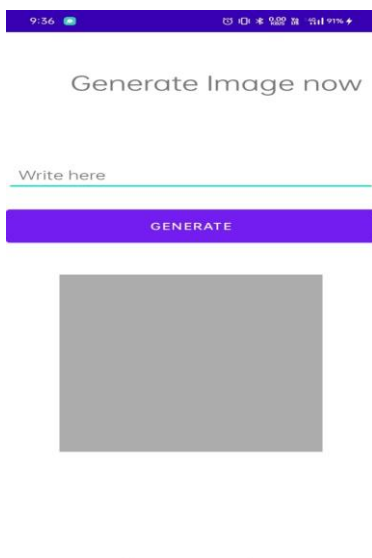
1.1.HOME PAGE



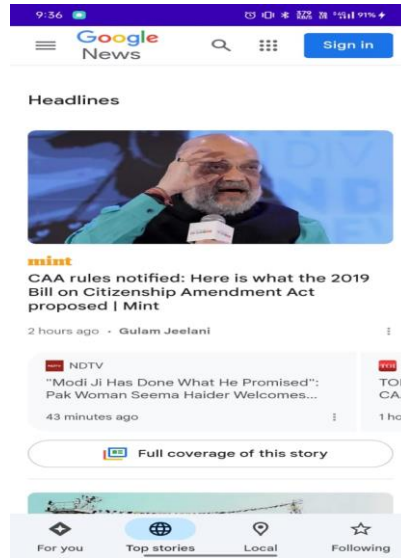
1.2.CHAT-AI MODULE



1.3.IMAGE-AI MODULE



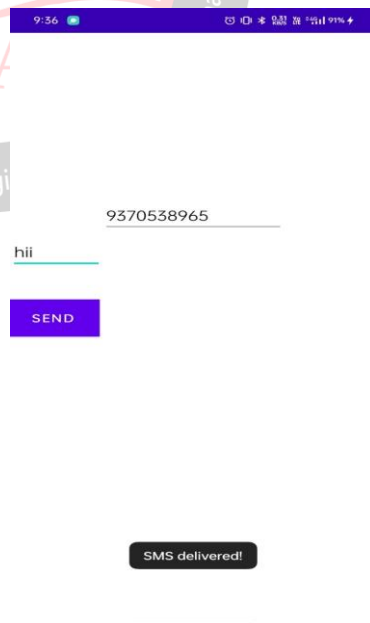
1.4.NEWS MODULE



1.5.SEND-SMS MODULE



1.6.OUTPUT OF TOAST MESSAGE DISPLAYED



VI. CONCLUSION

In conclusion, “AI Chatbot: Your Virtual Assistant” is a fusion of cutting-edge technology and user-centric design that aims to change the way users interact with their Android devices. Through the power of artificial

intelligence and natural language processing, our chatbot enables users to effortlessly access information, complete tasks, and streamline their daily routines.

As we embark on a journey towards a smarter and more intuitive future, we invite you to join us and harness the full potential of AI. With an AI Chatbot by your side, the possibilities are endless and the future of technology is within reach.

Let's embrace innovation, embrace efficiency and embrace the transformative power of AI. Together, we can redefine the boundaries of what is possible and create a world where technology truly enhances the human experience.

Thank you for coming on this journey with us. The future is bright and with AI Chatbot at the helm, the best is yet to come.

ACKNOWLEDGMENT

"We would like to express our gratitude to the developers whose tools greatly facilitated the development of this AI chatbot. Special thanks to Prof. Himanshi Agrawal for their invaluable guidance throughout the project. We also appreciate the contributions of our team members [name list if possible] for "

REFERENCES

- [1] [1] M. Young, *The Technical Writer's Handbook*. Mill Valley, CA: University Science, 1989.
- [2] [2] J. U. Duncombe, "Infrared Navigation – Part I: Feasibility Assessment (Periodical Style), *IJREAM Trans. Electron Devices*, Vol. ED-11, pp. 34–39, January 1959.
- [3] [3] S. Chen, B. Mulgrew, and P. M. Grant, "A clustering technique for equalizing digital communication channels using radial-base networks," *IJREAM Trans. Neural Networks*, Vol. 4, pp. 570–578, July 1993.
- [4] [4] R.W. Lucky, "Automatic Equalization for Digital Communications," *Bell Syst. Tech. J.*, St. 44, No. 4, pp. 547–588, April 1965.
- [5] [5] S.P. Bingulac, "On the compatibility of adaptive controllers (Published Conference Proceedings style)", in *Proc. 4th anniversary. Allerton Conf. Circuit and System Theory*, New York, 1994, pp. 8–16.
- [6] [6] G. R. Faulhaber, "Design of service systems with priority reservation", in *Conf. Speech. 1995 IJREAM Int. Conf. Communications*, pp. 3–8.
- [7] W. D. Doyle, "Magnetization reversal in films with biaxial anisotropy," in *1987 Proc. INTERMAG Conf.*, pp. 2.2-1–2.2-6.

[8] G. W. Juette and L. E. Zeffanella, "Radio noise currents n short section on bundle conductor (Presented Conference Paper style)", presented at the *IJREAM Summer power Meeting*, Dallas, TX, 22-27 June 1990, Paper 90 SM 690-0 PWRS.

[9] J. G. Kreifeldt, "Analysis of Surface-Detected EMG as Amplitude Modulated Noise," presented at the *1989 Int. Conf. Medicine and Biological Engineering*, Chicago, IL.

[10] J. Williams, "Narrow-band analyzer (thesis or dissertation style), Ph.D. dissertation, Department of Elect. Eng., Harvard University, Cambridge, MA, 1993.