WHATSAPP BOT FOR ENHANCED USER INTERACTION

Vaka Anusha, Thadiboina Sai Teja, Makke Venkata Sai Hemanth

ABSTRACT:

This project presents an innovative method of improving user experience on the widely used messaging service WhatsApp by integrating a conversational agent, that is driven by OpenAI's cutting-edge GPT-3 natural language processing model. The goal of the WhatsApp bot is to give consumers access to a contextually aware, intelligent virtual assistant that can comprehend and react to natural language inquiries instantly by using the capabilities of GPT-3. It enhances customers' communications experience by giving them access to a knowledgeable, contextually aware virtual assistant. The project's goal is to demonstrate how sophisticated models of natural language processing may improve conversational interfaces and make popular messaging services' interactions more logical and approachable.

KEYWORDS:

Bot, WhatsApp, Open-ai, Natural Language Processing, Virtual Assistant.

1.INTRODUCTION:

We've seen a transition in messaging platform advancement from text-based conversations to conversational interfaces. We now have the capacity to add intelligence to these interactions, making them more dynamic, interesting. GPT-3, with its unmatched language production and comprehension skills, is a wonder in the field of natural language processing. Through the use of GPT-3, our project will make WhatsApp into a platform where discussions go beyond the traditional, providing users with a virtual assistant who can understand context, reply organically.

Improving WhatsApp's user experience is at the centre of our goals. Our goal is to create a sophisticated, contextually aware virtual assistant that can not only respond to inquiries but also comprehend the subtleties of natural language exchanges. Privacy is very important, and our solution makes sure that user inputs are handled securely and in compliance with data protection laws.

The bot has been smoothly incorporated into the platform, providing consumers with an easy-to-use interface to communicate with the model. In order to facilitate a more organic and interesting dialogue, the bot comprehends natural language inquiries, produces contextually relevant replies, and adjusts dynamically.

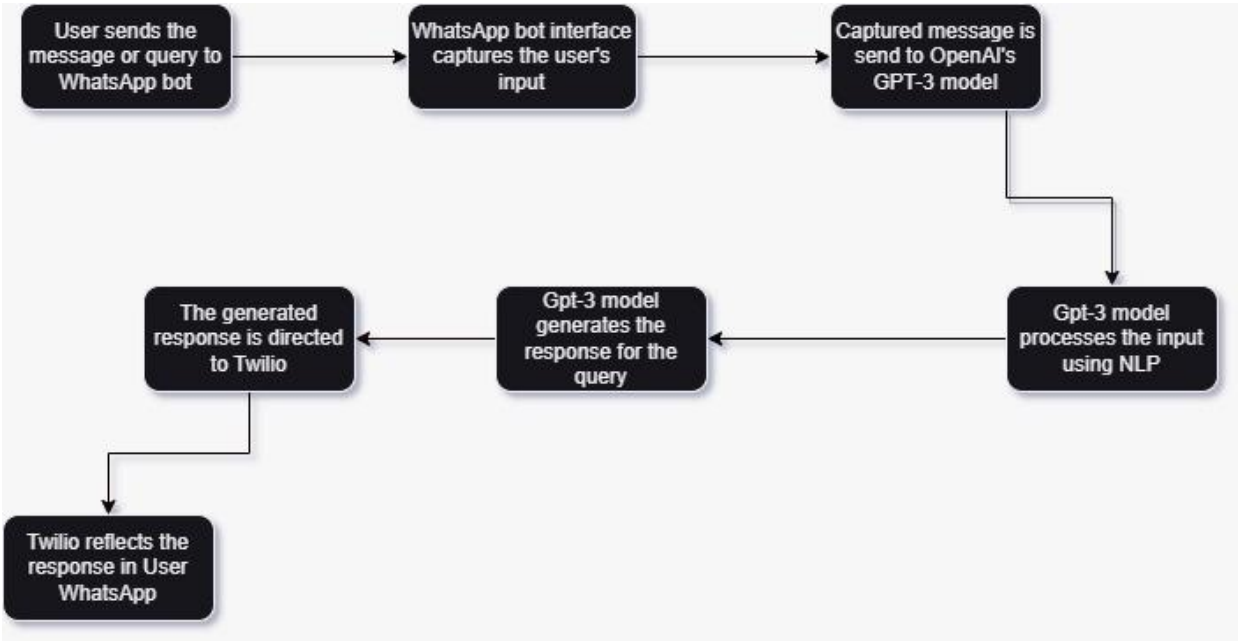

Figure 1: Message or query reply

2. LITERATURE SURVEY:

In[1], Hanggi Kurniawan et. al, and team used Waterfall method Code written by using AI in JavaScript for the development of the bot. It Provides a direct interactive channel for the students. It is Capable to answer some questions asked by students. It Dependent on the technology.

In[2], Cesar Castillo Lopez et. al, and team used Google analytics integrated with chatbot's view for the development of the bot. It provides a E-commerce bot for Coca cola company have ability to appeal to specific demographic segments. It gives relevant responses to the users. It have Limited generalization.

In[3], Nayyar Ahmed Khan et.al, and team used ML+NLP integrated with WhatsApp API for the development of the bot. Ability to provide immediate and personalized advice to individuals based on their symptoms. It provides Positive Feedback from the users & able to locate the nearest healthcare facility for the severe symptoms. It have Misinterpretation symptoms

In[4], Arjun Hari et.al, and team used ML+NLP integrated with WhatsApp API for the development of the bot . Improved user interaction. It provides the Positive feedback from the customers for quicker responses. It is having Limited understanding

In[5], RinkalD. Dharani et.al, and team used AIML+PHP(Scripting lang) integrated with whatsApp API for the development of the bot. chatbot allows users to receive the latest updates in desired categories 24/7 through WhatsApp application.. It provides Positive feedback from customers customers for news updates. Data retrieval process from database is difficult.

In[6], Y. Nagender et.al, and team used Chatterbot(python lib)+NLTK for the development of the bot . It Can respond in any language. It provides Effective responses most of the time. The bot doesn't have the knowledge on how to communicate, it only answers Q&As.

In[7], Malvin et.al, and team used Waterfall methodology with python libraries + Support vector classifier for the development of the bot. Ability to simplify and speed up the process f customer and seller interaction. It provides Good performance and 87.75% accuracy for SVC. System errors and failures in answering a question

In[8], AM Rahman et.al, and team used NLP+APIs for the development of the bot. Being able to handle complex conversations. It provides Neutral feedback. programming issues were found lately in the bot they made.

In[9], Dr.Saurabh Gupta Anuj Gupta et.al, and team used Twilio API + Pattern Matching + AI for the development of the bot. It provides the real-time data retrieval. It provides User- Friendly Interface.

In[10], Nafa Umma et.al, and team used Reviewed documents and used google chrome for the development of the bot. It provides a convenient and efficient way for users to interact with pharmacists and receive necessary guidance and support. WhatsApp Bot was perceived positively for its role in enhancing pharmacy services, simplifying patient interactions. It requires a stable internet connection for proper functionality.

S.No	Author name(s)	Title	Methodology(s) used	Merits	Demerits	Feedback
1.	1.Hanggi Kurniawan 2.Mulya Al Fazar 3.Nur Rahma Fauziah 4. Ibnu Rasyid 5.Munthe	Whatsapp Chatbot Implementation for New Students University of Labuhanbatu	Waterfall method Code written by using AI in JavaScript	1.Provides a direct interactive channel for the students	1.Dependent on the technology 2. Limited scope of response	Capable to answer some questions asked by students. **Accuracy:** 60%
2.	1. Cesar Castillo Lopez 2. .David Castillo Lopez	Redefining E-commerce Engagement with WhatsApp Chatbots in the Mexican Market	Google analytics integrated with chatbot's view	1. E-commerce bot for Coca cola company have ability to appeal to specific demographic segments	1.Limited generalization 2.Different preferences in age groups	Gave relevant responses **Accuracy:** 50%
3.	1.Nayyar Ahmed Khan 2.Jawad Albatein	COVIBOT - An intelligent WhatsApp based advising bot for Covid-19	ML+NLP integrated with Whatsapp API	Ability to provide immediate and personalized advice to individuals based on their symptoms	1.Misinterpretation symptoms 2.Dependent of user input	Positive Feedback from the users & able to locate the nearest healthcare facility for the severe symptoms. **Accuracy:** 60%
4.	1. Arjun Hari 2. Mohammed Shahid Abdulla	WhatsApp as a Superapp: Chatbots, Business API and the challenges ahead	ML+NLP integrated with Whatsapp API	1. Improved user interaction	1.Limited understanding	Positive feedback from the customers for quicker responses **Accuracy:** 62.0%
5.	1.RinkalD. Dharani 2. Dr. A.C. Suthar	Integration Of Aiml Chatter Bot For News Application On WhatsApp	AIML+PHP(Scripting lang) integrated with whatsApp	chatbot allows users to receive the latest updates in desired categories 24/7 through	Data retrieval process from database is difficult	Positive feedback from customers for news updates. **Accuracy:**

				WhatsApp application.		**67.**60%
6.	1.Y. Nagender 2.Kiran H Patil	Whatsapp Auto Responder Using Natural Language Processing And Ai	Chatterbot(python lib)+NLTK	Can respond in any language	No knowledge on how to communicate only Q&As	Effective responses most of the time **Accuracy:** 60%
7.	1.Malvin , 2.Constantine Dylan 3. Abdul Haris Rangkuti	WhatsApp Chatbot Customer Service Using Natural Language Processing and Support Vector Machine	Waterfall methodology with python libraries+Support vector classifier	Ability to simplify and speed up the process of customer and seller interaction	System errors and failures in answering a question	Good performance and 87.75% accuracy for SVC
8.	1.AM Rahman 2.Abdullah Al 3.Mamun1 Alma Islam2	Programming challenges of Chatbot: Current and Future Prospective	NLP+APIs	Being able to handle complex conversations	programming issues	Neutral feedback **Accuracy: 40**.0%
9.	1. Dr.Saurabh Gupta Anuj Gupta 2. Itish Negi 3. Shivam Goel4,	Vehicle Maintenace Index Implemented Using a Whatsapp Bot	Twilio API+Pattern Matching+AI	real-time data retrieval	Lack of Human Touch	User-Friendly Interface **Accuracy:** 50%
10.	1. Nafa Umma 2. Novita Putri .Dewita 3. Riza Nur Afifah 4. Maulana Yusuf Baharudin 5. Prasojo Pribadi 6. Setiyo Budi Santoso 7. Elmiawati Latifah	Drug Consultation Prototype Based WhatsApp Bot	Reviewed documents and used google chrome	It provides a convenient and efficient way for users to interact with pharmacists and receive necessary guidance and support.	It requires a stable internet connection for proper functionality.	WhatsApp Bot was perceived positively for its role in enhancing pharmacy services, simplifying patient interactions. **Accuracy:** 70%

3. PROPOSED METHODOLOGY:

3.1 Define Purpose and Goals:

We propose developing a WhatsApp bot for users to:

- Clarify doubts by providing explanations and relevant resources.
- Promote self-paced learning by providing users with the flexibility to accesssupport anytime on their mobile devices.

3.2 User Needs and Interactions:

Users can interact with the bot with a query or a message. It works as a virtual assistant.
Engaging in a guided conversation with the bot to further explore their doubts.
Providing feedback on the bot's responses to improve its accuracy and helpfulness.

3.3 Hybrid approach:

Machine learning: Utilize GPT-3 to understand user intent and generate morecomprehensive and natural language responses.

3.4 Architecture involves:

Backend:

Ngrok: Host the bot application for scalability and reliability.

API Integration:

Twilio API: Facilitate communication with WhatsApp and receive usermessages.

OpenAI API: Access GPT-3 for natural language processing and responsegeneration.

Frontend: Users interact with the bot through the familiar WhatsApp interface

3.5 Development:

Develop the bot using Python and integrate them required technologies.

4. RESULTE AND DISCUSSION:

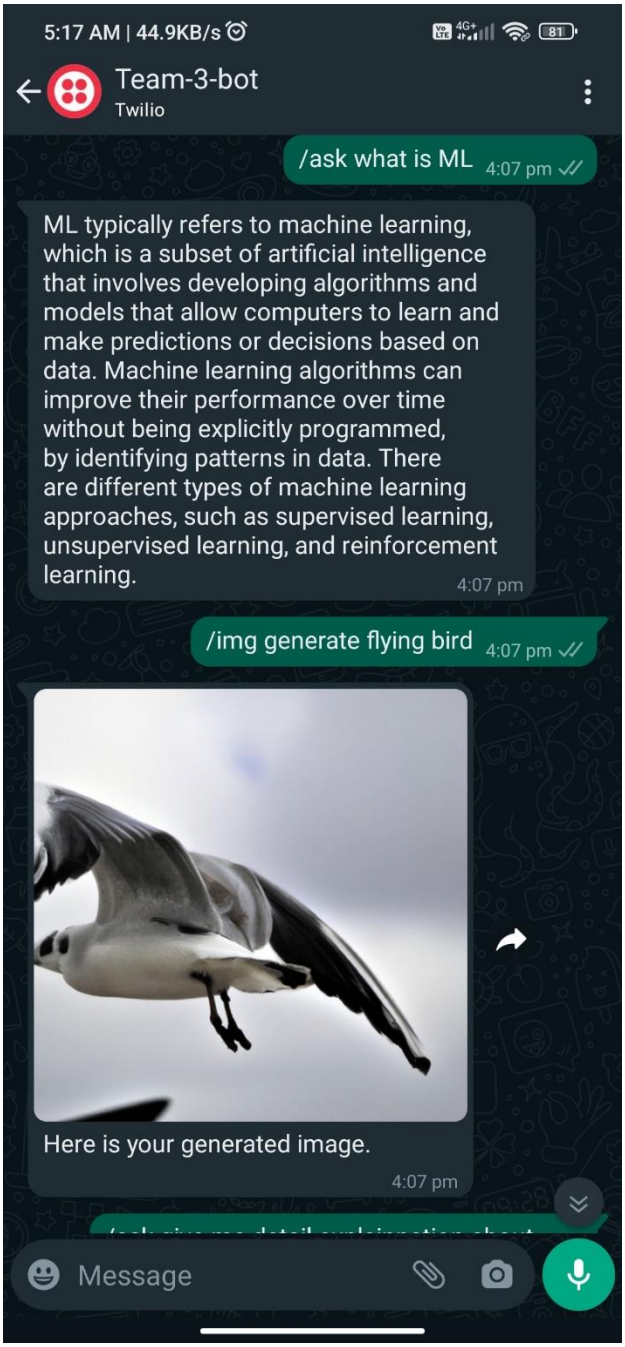

Figure 2: Screenshot of result-1

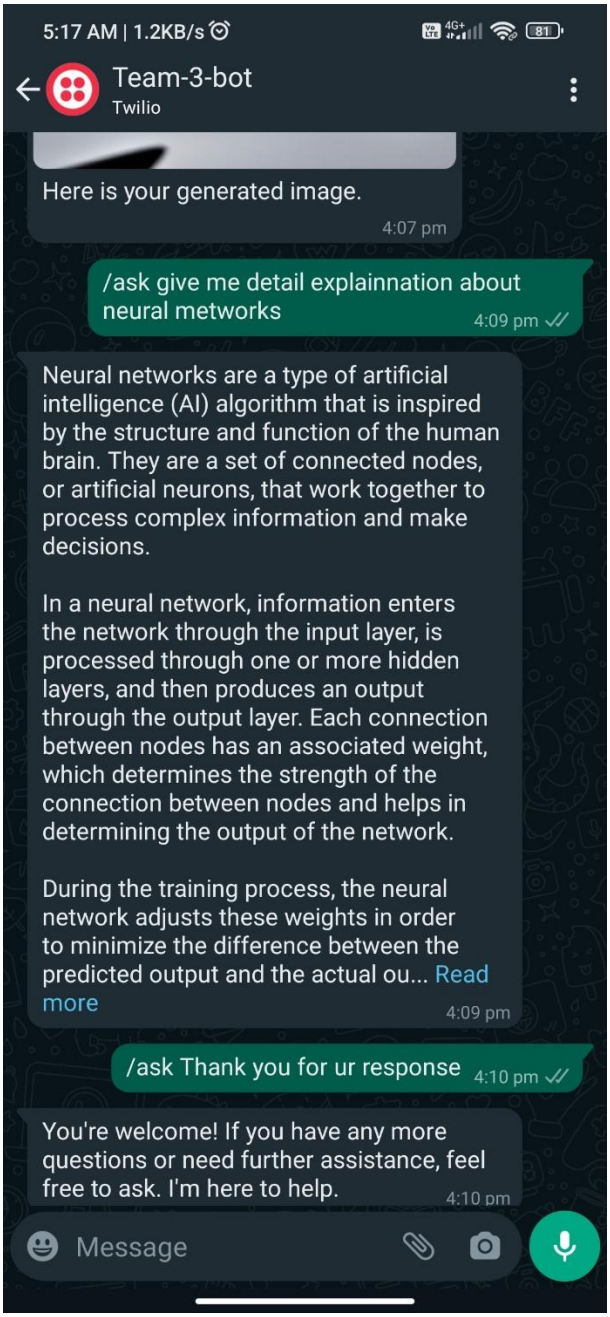

Figure 3: Screenshot of result-2

5. CONCLUSION:

To sum up, this suggested technique describes how to utilize GPT-3 to create and implement a WhatsApp bot. Beyond the constraints of a purely rule-based system, the bot may provide users dynamic learning help, pertinent resources, and personalized explanations by utilizing its natural language processing skills. With the use of this cutting-edge strategy, learning might become really customized, allowing users to get a better comprehension.

BIBLIOGRAPHY:

- http://iocscience.org/ejournal/index.php/mantik/article/view/1423https://www.proquest.com/openview/258a9dcc5937c7618f8cd3ce63997ec3/1?pq-origsite=gscholar&cbl=2042731

- https://dl.acm.org/doi/abs/10.1145/3630970.3631056
- https://ieeexplore.ieee.org/abstract/document/9410801
- https://iimk.ac.in/uploads/publications/IIMKWPS583ITS202306
- https://d1wqtxts1xzle7.cloudfront.net/54582356/IRJET-V3I5439-libre.pdf?1506770079=&response-content-disposition=inline%3B+filename%3DINTEGRATION_OF_AIML_CHATTER_BOT_FOR_NEWS
- https://www.atlantis-press.com/proceedings/bis-hss-22/125992710
- https://ijaem.net/issue_dcp/Vehicle%20Maintenace%20Index%20Implemented%20Using%20a%20Whatsapp%20Bot