ARTIFICIAL INTELLIGENCE

PHASE 5

Chatbot in Python:

The Development of the Chat bot is nothing by added or by attaching various and more question with answer from the datasets that were given previously.

The chatbot development may be developed by many other ways and by more interesting ways to give up an idea.The idea might be created by enrolling the user to the Chatbot to produce more user .If more users are experienced a Chatbot the cahtbot will experience more number of questions if the question is valid or useful the asked question is added/ uploaded to the main database such that the questions to be answered.

Bots are made for a specific reason. A store would most likely want chatbot services that assists you in placing an order, while a telecom company will want to create a bot that can address customer service questions.

There are two categories of chatbots: one that works by following a series of rules, and another that uses artificial intelligence.

1. Rule-based chatbots

A rule-based bot can only comprehend a limited range of choices that it has been programmed with. Predefined rules define the course of the bot's conversation. Rule-based chatbots are easier to build as they use a simple true-false algorithm to understand user queries and provide relevant answers.

2. AI-based chatbots

This bot is equipped with an artificial brain, also known as artificial intelligence. It is trained using machine-learning algorithms and can understand open-ended queries. Not only does it comprehend orders, but it also understands the language. As the bot learns from the interactions it has with users, it continues to improve. The AI chatbot identifies the language, context, and intent, which then reacts accordingly.

Chatbots are artificial intelligence human-computer dialog systems that are based on natural language processing and, therefore, can behave in a human-like manner. Nowadays, these interactive software platforms can reside in apps, live chat, email, and SMS. The first

conceptualization of chatbots goes back to the 1950s, but their adoption dramatically accelerated following the chatbot platforms' launch by Facebook, Skype, WeChat, and other prominent industry players.

Chatbots are a very tangible example where humans and machines work together to achieve a goal. A chatbot is a communication interface that helps individuals and organisations have conversations, and many organisations have developed a chatbot.

Chatbots are applications that businesses and other entities employ to facilitate automated conversations between AI and humans. These conversations can occur through text or speech. Chatbots must comprehend and imitate human conversation when engaging with people worldwide.Chatbots have made significant progress from ELIZA, the first-ever chatbot, to today's Amazon ALEXA.

Natural Language Processing, often abbreviated as NLP, is the cornerstone of any intelligent chatbot. NLP is a subfield of AI that focuses on the interaction between humans and computers using natural language. The ultimate objective of NLP is to read, decipher, understand, and make sense of human language in a valuable way.

Self-Learning Chatbots:

Powered by Machine Learning and Artificial Intelligence, these chatbots learn from their mistakes and the inputs they receive. The more data they are exposed to, the better their responses become.

Hybrid Chatbots:

As the name suggests, these chatbots combine the best of both worlds. They operate on pre-defined rules for simple queries and use machine learning capabilities for complex queries. Hybrid chatbots offer flexibility and can adapt to a wide array of situations, making them a popular choice.

Rule-Based Chatbots:

These chatbots operate based on pre-determined rules on which they are initially programmed. They are best for scenarios that require simple query-response conversations. Their downside is they can handle complex queries because their intelligence is limited to their

programmed rules.

AI-Powered Chatbots:

Artificial Intelligence (AI) is at the forefront of chatbot development. AI-powered chatbots are becoming smarter, capable of understanding context, and providing more personalized responses.

Voice-Enabled Chatbots:

Voice assistants like Siri and Alexa have paved the way for voice-enabled chatbots.

Multilingual Chatbots:
As businesses expand globally, multilingual chatbots are in demand. These chatbots can communicate in multiple languages, catering to a diverse customer base.

Omnichannel Chatbots:

Chatbots are no longer confined to a single platform. They are now integrated across various channels, including websites, mobile apps, social media,and messaging apps, providing a seamless customer experience.

Hyper-Personalization:

Chatbots are increasingly becoming more personalized. They analyze user data to offer tailored recommendations and responses, enhancing user engagement and satisfaction.

Chatbots in Healthcare:

The healthcare industry is adopting chatbots for appointment scheduling, answering medical queries, and providing remote patient care.

Chatbots for E-commerce:

Chatbots are transforming the e-commerce landscape by assisting with product recommendations, order tracking, and customer support.

Chatbots in Business functions :

For example, HR chatbots are streamlining recruitment, onboarding, and employee support processes, making HR operations more efficient. Chatbot developers are focusing on ensuring secure and compliant interactions.

Continuous Learning:

Chatbots are continuously learning from user interactions and feedback. Developers are leveraging this data to improve chatbot performance. Staying informed about these trends will be crucial for businesses looking to leverage chatbots effectively for improved customer service, streamlined processes, and enhanced user experiences.

PROGRAM FOR CHATBOT DEVELOPMENT

```
import random
# Define responses
responses = {
                    "hello": ["Hi there!", "Hello!", "Hey!"],
                    "how are you": ["I'm just a bot, but I'm doing fine.", "I don't have feelings, but I'm here to help!"],
                    "bye": ["Goodbye!", "See you later!", "Bye bye!"],
                    "default": ["I'm not sure how to respond to that.", "Could you please rephrase that?", "I'm still learning!"]
}
# Function to get a response
def get_response(message):
                    message = message.lower()
                    if message in responses:
                              return random.choice(responses[message])
                    else:
                              return random.choice(responses["default"])
# Main loop
print("Chatbot: Hi there! How can I assist you? (type 'bye' to exit)")
while True:
          user_input = input("You: ")
          if user_input.lower() == "bye":
                    print("Chatbot: Goodbye!")
                    break
          response = get_response(user_input)
print("Chatbot:", response)
```

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