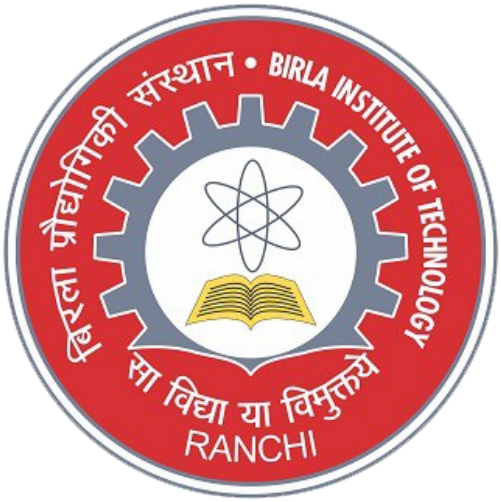

TOPIC : CHAT BOT

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Abstraction

Artificial intelligence, which brings into play machine learning and Natural language Processing (NLP) for building bot or chatbot, is specifically designed to unravel the smooth interaction between humans and computers. Chatbots are everywhere, be it a banking website, pizza store, to e-commerce shopping stores, you will find chatbots left, right, and center. Chatbots provide real-time customer service assistance on a range of pre-defined questions related to the domain it is built on. It adapts natural human language and converses with humans in a human-like manner.

A **chatbot** is a software application used to conduct an on-line **chat conversation** via text or text-to-speech, in lieu of providing direct contact with a live human agent.[1] Designed to convincingly simulate the way a human would behave as a conversational partner, chatbot systems typically require continuous tuning and testing, and many in production remain unable to adequately converse or pass the industry standard Turing test. The term "ChatterBot" was originally coined by Michael Mauldin (creator of the first Verbot) in 1994 to describe these conversational programs.

Introduction

Chatbots are used in dialog systems for various purposes including customer service, request routing, or information gathering. While some chatbot applications use extensive word-classification processes, natural language processors, and sophisticated AI, others simply scan for general keywords and generate responses using common phrases obtained from an associated library or database.

Most chatbots are accessed on-line via website popups or through virtual assistants. They can be classified into usage categories that include: commerce (e-commerce via chat), education, entertainment, finance, health, news, and productivity.[

To simplify the chatbot's definition, we can say chatbots are the evolution of Question Answer systems employing natural language processing. As per sources by the year 2024, the global conversation market's size will grow to $15.7 billion, with 30.2% being the annual growth rate. For instance, amidst the Corona- Virus Pandemic, we have witnessed thousands of hoaxes circulating on WhatsApp, such as what can be used to treat COVID or what can be beneficial in increasing immunity, or whether the virus was developed in a lab. Putting an end to such hoaxes, Facebook launched a chatbot that works as a fact-checker.

What is a chatbot?

The term “chatterbot” came in existence in 1994 when Michael Mauldin created his first chatbot named “Julia”. As per the Oxford Dictionary, a chatbot is defined as “A computer program designed to simulate conversation with human users, especially over the internet.” It can be looked upon as a virtual assistant that communicates with users via text messages and helps businesses in getting close to their customers. It is a program designed to imitate the way humans communicate with each other. It can be done through a chat interface or by voice call. Developers usually design chatbots so that it is difficult to tell for users whether they are communicating with a person or a robot.

Chatbots helps any business/organization in accomplishing the following goals:

- Increases operational efficiency.
- Automating customer request fulfillment.
- Handling basic queries, which in turn free employees to work for complex & higher value inquiries.
- Offers Multi-language support.
- Saves time & effort by automating customer support.
- Improves the response rate as well as customer engagement.
- Personalization of communication

How Does a Chatbot Work?

Chatbots are nothing but software applications that have an application layer, a database, and APIs. To simplify the working of the chatbot, we can say it works on pattern matching to classify text and produce a suitable response for the questions/queries addressed by the user. The chatbot responds to the user as per the program that has been fed in it. Chatbots are of different types, depending on how they are used. Mainly there are three types of chatbots, and they are as follows:

- **Rule-Based Chatbot:** This is the basic chatbot made, the user interacts with this kind of bot by using predefined options. To get answers from these bots, users need to click on certain options. These kinds of bots collect the user's request, analyze it, and then offer results in the form of buttons. These bots are commonly used to replace frequently asked questions when it comes to complex queries; they aren't always the best solution.

- **Independent(Keyword) Chatbots:** These are machine learning bots, unlike rule-based chatbots, they analyze what the user wants and respond appropriately. These chatbots use customizable keywords and machine learning to determine how to respond to users' requests effectively and efficiently.

- **NLP (Contextual) Chatbots:** These are so far the most advanced chatbots. They are a combination of best from rule-based and keyword chatbots. These chatbots use NLP to understand the context and intent in users' requests and thus act accordingly. These chatbots can handle multiple requests from the same user at ease.

main.py

```
import random


hellow = ["hi","is anyone there?", "hello", "good day","hello there"]


bye = ["cya", "see you later","bye" ,"goodbye", "i am Leaving", "have a Good day"]


howare = ["how are you","whats up","how you doing"]


name = ["whats your name","what is your name","do you have any name","what should i call you","name"]


menu = ["i want to buy something", "what is on the menu", "what do you reccommend?", "could i get something to eat"]


 hours = ["when are you guys open", "what are your hours",
 "hours of operation","time","work time"
 ,"time period"]
```

```
print("**********************************************************\n")



while True:

a = input('User said -')


if a.lower() in hellow:
botans = ["Hello !","hi","hi there","welcome"]
print('Bot said - '+random.choice(botans)+'\n')


elif a.lower() in bye:
botans = ["sad to see you go :(","bye","miss you"]
print('Bot said - '+random.choice(botans)+'\n')


elif a.lower() in howare:
botans = ["I am fine ,thanks ","Happy","I am good"]
print('Bot said -'+ random.choice(botans)+'\n')


elif a.lower() in name:
botans = ["My name is TVC bot","You can call me TVC bot",
"TVC Bot in your service",
"My friends call me TVC Bot"]
print('Bot said -'+ random.choice(botans)+'\n')


elif a.lower() in bye:
botans = ["Sad to see you go :(", "Talk to you later",
"Goodbye!","Have a nice Day"]
print('Bot said - '+random.choice(botans)+'\n')
```

```
elif a.lower() in menu:
botans = ["We sell apples!", "Apples are on the menu!",
"Please take a look at Apples"]
print('Bot said - '+random.choice(botans)+'\n')


elif a.lower() in hours:
botans = ["We are open 7am-4pm Monday-Friday!"]
print('Bot said - '+random.choice(botans)+'\n')


else:


print('Bot said - Sorry What ?"\n')
```

Bibliography/reference

Www.datacamp.com
www.wikipedia.com
www.youtube.com
www.github.com