## Assignment 5
## Chatbot

⇒ **Objective :** Development of a chatbot

⇒ **Problem Statement :** Develop an elementary chatbot for any suitable customer interaction application.

⇒ **Software and Hardware requirements :**
  • Operating system : 64-bit open source linux or its derivative
  • Programming languages : Java /Python/ R/Scala

⇒ **Theory :**

A Chatbot system uses conversational artificial intelligence (AI) technology to simulate a discussion (or a chat) with a user in natural language via messaging applications, websites, mobile apps or the telephone.
It uses rule-based language applications to perform live chat functions in response to real-time user interactions.

  • **Types of AI chatbots:**
  Chatbots are a relatively recent concept and despite having a huge number of programs and NLP tools, we basically have just two different categories of chatbots based on the NLP technology that they utilize. These two types of chatbots are as follows :

1) **Scripted Chatbots :** Scripted chatbots are classified as chatbots that work on pre-determined scripts that are created and stored in their library.
Whenever a user types a query or speaks a query (in the case of chatbots equipped with speech to text conversion modules), the chatbot responds to this query according to the pre determined script, stored within

its library. One of the cons of such a chatbot is the fact that user needs to provide their query in a very structured manner with comma-separated commands or other forms of a regular expression that makes it easier for the bot to perform string analysis and understand the query.

2) **Artificially intelligent Chatbots**: Artificially intelligent chatbots as the name suggests, are created to mimic human-like traits and responses. NLP or Natural Language Processing is hugely responsible for enabling such chatbots to understand the dialects and undertones of human conversation. NLP combined with artificial intelligence creates a truly intelligent chatbot that can respond to nuanced questions and learn from every interaction to create better-suited responses the next time.

⇒ <u>Conclusion</u>: Developed an elementary chatbot for a suitable customer interaction application.