

Assignment B2

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• **TITLE :** Chat Bot

• **Problem :** Develop a elementary chatbot for suggestion statement investment as per the customer need.

• **Objective :**

- To understand the concept of natural language processing.
- To understand nltk library.

• **Outcome :** Student will be able to

- learn concept of Natural language Processing.
- learn how to build elementary chat bot.

• **Software and Hardware Requirements :**

OS:	windows / Linux Distribution (64 bit)
Python Libraries,	Jupyter notebook.
4GB RAM,	500 GB HDD,
Core i3 above	Processor.

• **Theory :**

A chat bot is also known as talkbot, chatterbot Bot, imbot interactive agent or Artificial Conversational Entity). is a computer or an artificial intelligence which conducts a conversation via auditory or textual message. Such programs are often designed to convincingly simulate how a human would behave as a conversational pattern thereby passing the Turing test. Chatbots are typically used in dialog system for various

practical purposes including customer service or information acquisition. Some chatbots use sophisticated natural language processing system. but many simpler systems scan for keyword within the input, then pull a reply with the most matching keywords or the most similar wording pattern from a database. The term chatbot was originally coined by Michael Maludin (creator of the first Verbot Julia) in 1994 to describe his conversational programs. Today, most chatbots are either accessed via virtual assistant such as Google Assistant and Amazon Alexa. Via messaging apps such as Facebook messenger or Wechat. or via individual organization apps and website. Chatbots can be classified into usage categories. such as conversational commerce, analytics, communication, customer support, design, developers tool, education, entertainment, finance, game etc.

Chatbots work on pattern recognition & set of Algorithms:

Most chatbots work on a basic model of:

1. Entities : The thing the user is talking about.
2. Intents : The question the user asks the chatbot.
3. Response : The answer the chatbot provides.

Creating a chat bot that uses AI:

This system uses Machine learning and natural language processing to interpret text like

a person and find the answer. They can also use visual information such as facial recognition and images. Companies such as Amazon, IBM, Microsoft, offers Machine learning AI Platforms you can use to power your own AI-driven chatbot.

- Natural Language Processing:

Natural language processing involves breaking down sentences and other parts of languages into components. It processes the semantics of the content to identify the things like the entities of the user. This has been a hard problem for computer science to tackle, but recent advances in the field have made this feasible.

- Machine learning:

These systems use a corpus (a body of content) to retrieve the correct answer. Machine learning works best with massive repositories. So it will often include open source repository such as structured Wikipedia. It uses algorithms to manipulate the data particularly linguistic pattern matching to find and score the information in the correct corpus. It continues to improve its response based on its interactions with users. In other words the machine learns -

- Feeding the bots: To help machine learn subject matter expert train it by uploading pairs of

questions and answers.

- Steps - up steps :

- 1] Download the Program - ab file.
- 2] copy the bots folder into Project folder.
- 3] Add the Ab.jar file to the Project libraries.
- 4] Create the aiml file in bots/super/aiml folder.
- 5] Create the .aiml.csv file in bots/super/aiml folder.

- Program Execution :

Human : Hello

Robot : Hi nice to see you.

Human : I want to invest

Robot : There are many options to invest
1. Regional or Investments Banks
2. Stocks.

Human : 1. Regional

Robot : There are many SBI, HDFC, Kotak, etc.

Human : Kotak.

Robot : Kotak offers 10% interest.

Human : quit/bye

Robot : Bye.

- Conclusion : Thus we successfully completed the elementary chat bot using nltk library in Python.