

Date:-

## Assignment - B2

Title:- Elementary chatbot

Problem Statement:- Develop elementary chatbot for suggesting investments as per the customer needs.

Objective:-

To develop a basic chatbot to recommend investments.

Outcome:-

Develop chatbot for investment.

Software and Hardware Requirements:-

64 bit CPU, UNIX/LINUX OS, 8 GB RAM.

Theory:-

A chatbot is a software application used to conduct an online chat conversation via text or text to speech in lieu of providing direct contact with a live human agent.

They are designed to convincingly simulate the way a human would behave as a conversational partner.

In order to successfully do the above, the following things should be taken care of.

- 1) Understand the target audience.
- 2) Understand the natural language in which communication occurs.
- 3) Understand the intent of the user.
- 4) Come up with responses that can answer the user and give further cues.

NLTK (Natural Language Toolkit) is a platform for building Python programs to work with human language data.

It includes easy to use interfaces like text processing libraries (for classification, stemming, tokenization, tagging, semantic reasoning, parsing).

Most importantly, it has a module, `nltk.chat`, which simplifies building conversations engines (like the one that is our goal by providing a generic framework).

The libraries are imported from `nltk.chat.util` and include the `chat` class and the `Reflections` class.

The chat class processes the conversation between the user and the chatbot.

'Reflections' is a dictionary, that when a value in a regex group matches a key in the dictionary, it will output the value in the response.

Next we have a variable 'pairs' which is a list of tuples. The first item in the pair is the pattern, which can be a string or a regular expression.

The next item is a list of possible responses that will randomly select a response if the pattern (item 1) matches the user input.

The default response (when no pattern matches the user input) is 'None'.

When the chat class constructor is passed the custom-defined 'pairs' variable along with the predefined 'reflections' dictionary, on calling the 'converse' method of the chat class, the chatbot is automated.

Conclusion:-

Successfully implemented an elementary chatbot, that gives investment recommendations.