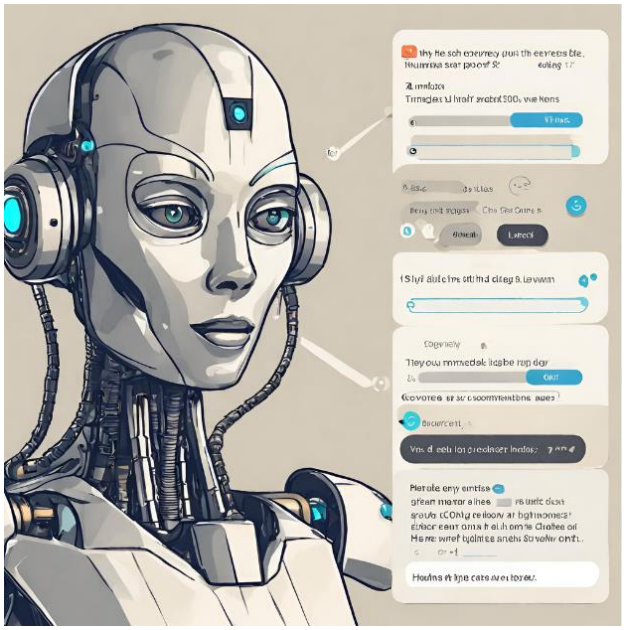
Phase 1: Problem Definition and Design Thinking

PROJECT-3 CREATE A CHATBOT USING PYTHON

PROBLEM DEFINITION:

"The challenge is to create a chatbot in Python that provides exceptional customer service, answering user queries on a website or application. The objective is to deliver high-quality support to users, ensuring a positive user experience and customer satisfaction."

Answering customer queries can be tedious and it involves a lot of skilled technicians working behind to provide high quality support. The customer care is always on top of a company's list of priorities.



Now in the era of automation, where AI has taken over most of the tedious tasks that previously required a lot of labour power, we are witnessing profound transformations. Now it is very much possible to construct a Chat-Bot, powered by NLP (natural language processing) & NLU (natural language understanding) to provide answers to customer queries.

The chatbot will try to interpret the customer's input, analyse it, and will look for a possible solution from the existing data set and provide answer to the query. The chatbot will provide customized answers to the user queries by analysing the customer data.

DESIGN THINKING:

Functionality:

Simply put, the chat bot will be able to answer basic customer queries. It will for sure politely greet and thank the customer. If the customer faces any issue and he/she seeks the help of the chatbot, it will provide them with guidance. It will help the user to efficiently manage his/her resources.

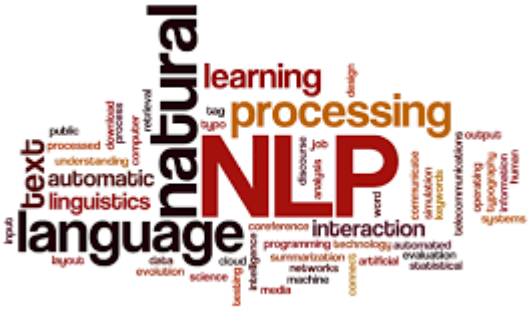
User Interface:

Our designed chatbot can be integrated to any application that provides service to customers. The chatbot will be a separate section in the app that can be used by the customers to seek guidance. This chatbot will be granted access to user's app data to help the customer with the issue

Natural Language Processing (NLP):

To train our chatbot understand/recognize various user inputs it is necessary to implement NLP&NLU techniques.

As the chatbot is created using python, python libraries like NLTK (natural language tool kit) and RASA-NLU can be used to analyse the user inputs. It will help the chatbot to process the output in a conversational manner.



Responses:

The response to user queries will be based on the dataset provided by Kaggle.com. The data set comprises simple dialogues that acts as a reference to the user inputs. The output of the chatbot will be directly based on the existing data set. The accuracy of the answers will be high, if the user query is related to the dialogues in the existing data set.

Integration:

The chatbot will be an essential part of the customer's app. The chatbot feature can be accessed by the user 24/7 to seek guidance. It will be a feature available to the user on a click.

Testing and Improvement:

The chatbot will learn to improve alongside its implementation. However serious monitoring of chatbot's responses is necessary. User feedback about the chatbot can be collected from the customers to improve it's efficiency.