# CREATING CHATBOT USING PYTHON

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# Phase-1 Document Submission

Project:Creating Chatbot Using Python

## OBJECTIVE:

**The objective of this project 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.**

**Phase 1: Problem Definition and Design Thinking**

## Design Thinking:

Define the scope of the chatbot’s abilities, including: - Answering common questions related to diabetes. - Providing guidance on managing health and diabetes risk. - Directing users to appropriate resources for further information and support.

## User Interface:

**Determine integration points for the chatbot (website, app). - Design a user-friendly interface for seamless interactions with the chatbot**

## Natural Language Processing (NLP):

**Implement NLP techniques to understand and process user input in a conversational manner.**

### PYTHON PROGRAM:

import tensorflow as tf

from sklearn.model\_selection import train\_test\_split

**#nlp processing** import unicodedata import re

import numpy as np import warnings

warnings.filterwarnings('ignore')

**#load the given datatset** data=open('E:\project\dialogs.txt','r').read() **#print Dataset values**

head=[QA.split('\t') for QA in data.split('\n')] print(“Dataset:”)

print(head[:5])

questions=[row[0] for row in QA\_list] answers=[row[1] for row in QA\_list] print(questions[0:5]) print(answers[0:5])

def remove\_diacritic(word):

return ''.join(char for char in unicodedata.normalize('NFD',text) if unicodedata.category(char) !='Mn')

def preprocessing(word):

**#Case folding and removing extra whitespaces**

word=remove\_diacritic(word.lower().strip())

**#Ensuring punctuation marks to be treated as tokens**

word=re.sub(r"([?.!,¿])", r" \1 ", text)

**#Removing redundant spaces**

word= re.sub(r'[" "]+', " ", text) **#Removing non alphabetic characters** word=re.sub(r"[^a-zA-Z?.!,¿]+", " ", text) word=word.strip()

**#Indicating the start and end of each sentence**

word='<start> ' + text + ' <end>' return word

**#Tokenization**

def tokenize(lang):

lang\_tokenizer = tf.keras.preprocessing.text.Tokenizer( filters='')

**#build vocabulary on unique words** lang\_tokenizer.fit\_on\_texts(lang) return lang\_tokenizer

**#Creating Dataset**

X\_tokenizer=tokenize(X) y\_tokenizer=tokenize(y) X\_tensor=vectorization(X\_tokenizer,X) y\_tensor=vectorization(y\_tokenizer,y)

return X\_tensor,X\_tokenizer, y\_tensor, y\_tokenizer

X\_train, X\_val, y\_train, y\_val = train\_test\_split(X\_tensor, y\_tensor, test\_size=0.2)

**# Show length**

print(len(X\_train), len(y\_train), len(X\_val), len(y\_val))

**OUTPUT:**

**Dataset:**

**[['hi, how are you doing?', "i'm fine. how about yourself?"], ["i'm fine. how about yourself?", "i'm pretty good. thanks for asking."], ["i'm pretty good. thanks for asking.", 'no problem. so how have you been?'], ['no problem. so how have you been?', "i've been great. what about you?"], ["i've been great. what about you?", "i've been good. i'm in school right now."]]**

**Preporcessing:**

**<start> hi , how are you doing ? <end>**

**<start> i m fine . how about yourself ? <end>**

## Responses:

* + **Plan responses for the chatbot, including: - Accurate answers to diabetes-related queries. - Suggestions for lifestyle changes. - Assistance in accessing medical resources.**

## Integration:

* + **Decide how the chatbot will be integrated with the website or app, ensuring a smooth user experience.**

## Testing and Improvement:

* + **Continuously test the chatbot’s performance through real user interactions. - Gather user feedback and data to refine the chatbot’s responses and capabilities.**

## DATSOURCE:

**Dataset Link: <https://www.kaggle.com/datasets/grafstor/simple-dialogs-for-chatbot>**

### Phase 1 Deliverables:

1. **Natural Language Processing (NLP): Implement NLP techniques to understand and process user input in a conversational manner.**
2. **Integration: Decide how the chatbot will be integrated with the website or app.**
3. **Integration: Decide how the chatbot will be integrated with the website or app.**

### CONCLUSION:

In Phase 1, We have to summarizes the problem, design thinking considerations, and dataset information for developing the AI-powered diabetes prediction system. It provides a structured framework for the initial phase of the project.