# CREATING CHATBOT USING PYTHON

**TEAM MEMBER**

**911721104124:G.VIVEKANANDAN**

# Phase-2  Innovation

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:

[['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**](https://www.kaggle.com/datasets/grafstor/simple-dialogs-for-chatbot)

### 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.