# VOICE ASSISTANCE CHAT BOT USING PYTHON

# Abstract:

This is an advance chatbot. This helps us the human in a lot way. This can be used even for searching in the internet and sending mails. Also, we can use it for the stress out, as it may say some jokes. It is a really a use full project that can also help for the disabled people. It can also help you when you are lost somewhere as it can

navigate anywhere.

This chatbot can use screenshots to identify problem. A screenshot can not only help the support agent if the problem is escalated to a human, it can also be used by the AI to help identify the problem. This voice assistant bot allows users to ask queries in natural language and get results for your requests from Wikipedia. This bot can also read back the information that it finds based on your query. This chatbot also tells date and time.

Addition to this, this bot searches in YouTube as well as google. This bot sets remainder and also it restarts the system and log in/off for the safety purpose of the user. This bot searches in chrome. This bot plays songs for relaxation. This bot shows weather and also tells news, map for location and also tells news, map for location. This chatbot takes notes for the best satisfaction of the user.

# Introduction

A chatbot is software that simulates human conversations. It enables the communication between a human and a machine, which can take the form of messages or voice commands. A chatbot is designed to work without the assistance of a human operator. AI chatbot responds to questions posed to it in natural language as if it were a real person. It responds using a combination of pre-programmed scripts and machine learning algorithms.

The most important function of the chatbots lies in their ability to identify the user's intention. From this identification, the chatbot extracts relevant data from the request. However, if you are unable to understand the user's request, you will not be able to give the correct answer.

Once the intention is identified, the chatbot must provide the most appropriate response to the user's request, which can be:

• a generic and predefined text response

• a context using data that the user provides

• data stored in databases

• a specific action (the chatbot interacts with one or more applications)

The main advantages of using chatbots for companies or in other fields are:

• Reducing costs of personnel that provided customer service

• Immediate support and responses for users

• Better user experience

• Possibility of learning about preferences of the user when using artificial intelligence systems

• Ease of integration in different digital platforms, without the need to download applications or additional programs.

SOME OF THE MAIN APPLICATIONS OF CHATBOT

1. Content delivery

2. Order Food

3. Book Flights

4. Companionship

5. Market Research

6. Transportation

7. Health Care

8. E-commerce

9. Hospitality

10. Legal

# System Architecture

# Working Principle

Voice Assistants can perform various activities including answering questions, making calls sending messages and so on.

Communicating with the voice assistant is very easy and simple that it makes us to forget how impressive technology is behind it. when we pose a question or give command to voice assistant “Automatic Speech Recognition” (ASR) enables the device to recognize and translate it from speech to text. After that text interpretation is made using “NLP”. Using this the machine can identify the intention behind what we said, the meaning of the words as well as context. Now the machine knows what the meaning of the words and the intention behind it (presumably) it can search for a valid answer and respond accordingly. The Response id converted from written form to speech using Text - to - speech technology.

**PYTHON LIBRARY WE USED**

**Pyttsx3**

pyttsx3 is a text-to-speech conversion library in Python. Unlike

alternative libraries, it works offline and is compatible with both Python 2 and 3. To install the pyttsx3 module, first of all, you have to open the terminal and write

pip install pyttsx3 import pyttsx3

**datetime**

Python Datetime module supplies classes to work with date and time. These classes provide a number of functions to deal with dates, times and time intervals. Python Datetime module comes built into Python, so there is no need to install it externally.To import,we use

import datetime

**Speech \_recognition**

Speech Recognition incorporates computer science and linguistics to identify spoken words and converts them into text. It allows computers to understand human language. To install the speech recognition module, first of all, you have to open the terminal and write

pip install SpeechRecognition import speech\_recognition

**wikipedia**

Wikipedia is a Python library that makes it easy to access and parse data from Wikipedia. Wikipedia is a multilingual online encyclopedia created and maintained as an open collaboration project by a community of volunteer editors using a wiki-based editing system. To install the wikipedia module, first of all, you have to open the terminal and write

pip install Wikipedia import wikipedia

**smtplib**

The smtplib module provides a Simple Mail Transfer Protocol (SMTP) client implementation. This protocol is used to send mail through Unix mail servers. To read mail, use the poplib or imaplib modules. The smtplib is a built-in module; we do not need to install it. To import

import smtplib

**webbrowser**

The webbrowser module provides a high-level interface to allow displaying web-based documents to users. Under most circumstances, simply calling the open() function from this module will do the right thing. The webbrowser module is a part of the Python standard library. Thus, there is no requirement to install a separate package to utilize it.To import we use,

import webbrowser as wb

**os**

The OS module in Python provides functions for interacting with the operating system. OS comes under Python’s standard utility modules.To import we use,

import os

**PyAutoGUI**

PyAutoGUI is a cross-platform GUI automation Python module for human beings. It is specially used for capturing screenshot. Used to programmatically control the mouse & keyboard.To install the pyAutoGUI module, first of all, you have to open the terminal and write

pip install pyautogui import pyautogui

**psutil**

Psutil is a Python cross-platform library used to access system details and process utilities. It is used to keep track of various resources utilization in the system. Usage of resources like CPU, memory, disks, network, sensors can be monitored. Hence, this library is used for system monitoring, profiling, limiting process resources, and the management of running processes.To install the pyAutoGUI module, first of all, you have to open the terminal and write

pip install psutil import psutil

**pyjokes**

Pyjokes is a python library that is used to create one-line jokes for programmers. Informally, it can also be referred as a fun python library which is pretty simple to use.To install the pyjokes module, first of all, you have to open the terminal and write

pip install pyjokes import pyjokes

**random**

Python Random module is an in-built module of Python which is used to generate random numbers. These are pseudo-random numbers means these are not truly random. This module can be used to perform random actions such as generating random numbers, print random a value for a list or string, etc.To import,we use

import random

**operator**

The Python operator module is one of the inbuilt modules in Python, and it provides us with a lot of functions such as add(x, y), floordiv(x, y) etc., we can use to perform various

mathematical, relational, logical and bitwise operations on two input numbers. To import we use

import operator

**json**

The json package provides all the necessary tools for working with JSON Objects including parsing, serializing, deserializing, and many more.To import we use,

import json

**wolframalpha**

Wolfram Alpha is an API which can compute expert-level answers using Wolfram’s algorithms, knowledgebase and AI technology. It is made possible by the Wolfram Language.To Import we use,

import wolframalpha

**time**

The time module comes with Python’s standard utility module, so there is no need to install it externally. We can simply import it using the import statement.

import time

**urllib**

Urllib package is the URL handling module for python. It is used to fetch URLs (Uniform Resource Locators). It uses the urlopen function and is able to fetch URLs using a variety of different protocols.

from urllib.request import urlopen

**requests**

Requests library is one of the integral part of Python for making HTTP requests to a specified URL. Whether it be REST APIs or Web Scrapping, requests is must to be learned for proceeding further with these technologies. When one makes a request to a URI, it returns a response. Python requests provides inbuilt functionalities for managing both the request and response.To import we use,

import requests

**pywhatkit**

pywhatkit is a Python library for sending WhatsApp messages at a certain time, it has several other features too.In Python3 pywhatkit module will not come pre-installed, so you can install it by using the command:

pip install pywhatkit import pywhatkit as kit

**contacts**

The contacts module allows you to read and modify the iOS contacts (address book) database.To import we use,

from contacts import contact

# System Implementation

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Process flow

1. [Importing Libraries](https://www.kaggle.com/code/arunrk7/digit-recognition-using-cnn-99-accuracy/notebook#1).
2. Set the required conditions for the chatbot.
3. Train the chatbot for the same conditions.
4. [Building the model](https://www.kaggle.com/code/arunrk7/digit-recognition-using-cnn-99-accuracy/notebook#5).
5. [Training](https://www.kaggle.com/code/arunrk7/digit-recognition-using-cnn-99-accuracy/notebook#6) and evaluating the model.

