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import speech_recognition as sr
import pyttsx3
import pywhatkit
import datetime
import pyjokes
import requests
from bs4 import BeautifulSoup
from urllib.parse import quote
import webbrowser
from tkinter import *

a=Tk()
a.title("My Alexa")
a.geometry("1400x750")

f1=("timesnewroman",24,"bold","italic")
f2=("chiller",36,"bold")
f3=("algerian",30,"bold")
f4=("timesnewroman",14)

lb1=Label(a,bg="blue",width=280,height=15)
lb1.place(x=0,y=0)

img1=PhotoImage(file="alexa_norm.png")
li1=Label(image=img1)
li1.place(x=500,y=0)

l1=Label(a,height=2,width=30,text="I am your Alexa",font=f1,fg="dark
blue",relief=SUNKEN,anchor=CENTER)
l1.place(x=0,y=310)

l2=Label(a,height=2,width=35,text="What can I do for you
?",font=f2,fg="maroon",relief=SUNKEN,anchor=CENTER)
l2.place(x=700,y=310)

l3=Label(a,height=2,width=15,text="Click on Alexa\nto Play -->",font=f3,fg="dark
grey",anchor=CENTER)
l3.place(x=0,y=450)

l4=Label(a,height=1,width=15,text="-- Comments --",font=f3,fg="black",anchor=CENTER)
l4.place(x=800,y=450)

l5=Label(a,width=50,text="Designed By
Swagatam",font=f3,bg="black",fg="white",anchor=CENTER)
l5.place(x=0,y=680)

img2=PhotoImage(file="alexa_but.png")

t1=Text(a,height=6,width=52,font=f4)
t1.place(x=710,y=510)

def run():
    listener=sr.Recognizer()
    engine=pyttsx3.init()
    voices=engine.getProperty("voices")
    engine.setProperty("voice",voices[1].id)
    engine.say("I am your Alexa")
    engine.say("What can I do for you?")
    engine.runAndWait()

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    def talk(text):
        engine.say(text)
        engine.runAndWait()

    def alexa_command():
        max_attempts = 3
        attempt = 0
        command = ""

        while attempt < max_attempts:
            try:
                with sr.Microphone() as source:
                    voice = listener.listen(source)
                    command = listener.recognize_google(voice)
                    command = command.lower()
                    if "alexa" in command:
                        command = command.replace("alexa", "")
                        talk(command)
                        break
                    else:
                        t1.insert(END,"Unable to detect voice ! Please try again\n")
                        talk("Unable to detect voice, please try again")
                        attempt += 1
                        break
            except sr.UnknownValueError:
                attempt += 1
                t1.insert(END,"Unable to detect voice ! Please try again\n")
                talk("Unable to detect voice, please try again.")
                break
            except sr.RequestError:
                t1.insert(END,"Sorry, Speech recognition service is not available at the moment\n")
                talk("Sorry, my speech recognition service is not available at the moment.")
                break
        return command

    def google_search(query):
        encoded_query=quote(query)
        url = f"https://www.google.com/search?q={encoded_query}"
        headers = {"User-Agent": "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/91.0.4472.124 Safari/537.36"}
        response = requests.get(url, headers=headers)
        soup = BeautifulSoup(response.text, 'html.parser')
        search_results = soup.find_all('div', class_='tF2Cxc')
        if search_results:
            result = search_results[0].find('div', class_='yuRUbf').a
            title = result.text
            link = result['href']
            return title, link
        else:
            return "No results found", ""

    def run_alexa():
        command=alexa_command()
        if "play" in command:
            song = command.replace("play","")
            t1.insert(END,"Playing"+song+"\n")
            talk("Playing"+song)
            pywhatkit.playonyt(song)
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        elif "time" in command:
            time = datetime.datetime.now().strftime("%H:%M")
            t1.insert(END,"Current time is: "+time+"\n")
            talk("Current time is"+time)
        elif "joke" in command:
            jokes = pyjokes.get_joke()
            t1.insert(END,"Joke is: "+jokes+"\n")
            talk(jokes)
        elif "search" and "tell me about" and "what is the meaning" in command:
            if "search" in command:
                query = command.replace("search", "")
            elif "tell me about" in command:
                query = command.replace("tell me about", "")
            elif "what is the meaning" in command:
                query = command.replace("what is the meaning", "")
            t1.insert(END,"Searching On the Way ...\n")
            talk("Searching Google for " + query)
            title, link = google_search(query)
            if title != "No results found":
                talk("Top result: " + title)
                t1.insert(END,"Opening the top search result in your Web Browser\n")
                talk("Opening the top search result in your web browser.")
                webbrowser.open(link)
            else:
                t1.insert(END,"Sorry, No Result Found !!!\n")
                talk("Sorry, no results found for " + query)
        elif "love" in command:
            t1.insert(END,"You have much interest in Love !!! That's not fine\n")
            talk("You have much interest in Love That's not fine")
        elif "bf" or "boyfriend" or "relationship" in command:
            t1.insert(END,"Sorry , I don't disclose about my relationship !\n")
            talk("Sorry I don't disclose about my relationship")
        else:
            t1.insert(END,"Sorry, I am unable to find your query !!!\n")
            talk("Sorry, I am unable to find your query")

    run_alexa()

b1=Button(a,image=img2,command=run)
b1.place(x=446,y=410)

a.mainloop()

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