AI Personal Assistant

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Abstract : This paper talks about using a Voice Intelligent Assistance tool, which basically means a program that responds to your voice commands. It can help you search for things, summarize information, and set reminders, all just by talking to it. With voice recognition technology, you can access any document or file by simply saying its name. If you say a word, it will type it out for you. The tool listens to what you say, finds the right information in its database, and shows it to you. It works by first turning your spoken words into written text. You need to make sure to speak in the right language so the assistant can understand you correctly. If there's any confusion, it will show messages on the screen to help you out. This assistant is like a software helper that does tasks based on what you tell it. It makes interacting with computer programs easier because you can just talk to them instead of typing. It can even read out summaries of reports and important information to you, making things simpler and more convenient.

INTRODUCTION

In today's fast-paced digital world, many people want an easier way to control their Windows computers without typing or clicking. This is especially true for those who have disabilities or who are busy with lots of tasks. While there are voice assistants available, they often don't do everything people need, and they might not always work well or keep information private. So, we're working on creating a better voice assistant just for Windows. It'll understand what user say and help user do things on its computer faster and easier. We're using smart technology that learns and improves over time to make sure it does what you need. Voice assistants are digital assistants that use human voice, and synthesis to respond to specific voice commands and provide relevant information or perform specific functions. They can be software systems or individually designed for specific device applications. Voice assistants are increasingly integrated into daily devices like cell phones, computers, and speakers. This project focuses on developing a static voice assistant using Python for physically challenged individuals. The project aims to perform tasks like copying and pasting files, sending messages, searching, opening application and using voice commands. The mass adoption of AI in users' daily lives is refueling the shift towards voice. Popular voice assistants include Siri from Apple, Amazon Echo, Cortana from Microsoft, Google Assistant from Google, and the recently introduced intelligent assistant AIVA. The project aims to address the growing need for voice assistants in everyday life.

LITERATURE SURVEY

[1] "Voice based intelligent virtual assistant for windows using python" Rose Thomas, Surya V S, Tincy A Mathew, Tinu Thomas Student, Virtual Assistant, Speech Recognition, Extractive summarization, BERT Voice based intelligent virtual assistant for windows using python

[2] Virtual personal assistance Aditya K, Biswadeep G, Kedar S and S Sundar Human computer communication has growing demand recent days. vector quantization, hidden Markov Model e -Virtual personal assistance.

[3] "AI based voice assistant" Shivam Singh Sikarwar. Voice assistant, artificial intelligence, python. Spoken assistants operate by listening for spoken commands and carrying them out. These assistants operate in a very straightforward and basic manner. We provide instructions to the helper in the form of auditory signals, which the program then interprets, analyze, and performs the necessary activities.

[4] "Virtual assistant using artificial intelligence" A. Sudhakar Reddy M, Vyshnavi, C. Raju Kumar, and Saumya. VPA, NLP, Speech to text, Text Analyzing, Artificial Intelligence Virtual personal assistants are now practically essential in all technological devices in order to solve necessary difficulties quickly. Beyond only functioning as a chatbot, VPA can facilitate the user's life in other ways. Among the relatively new integrations with the VPA is speech recognition.

[5] "A web based AI Personal Assistant" Ami Doshi, Ria Shah, Bhoomi Patel, Swati Mali AI, Personal Assistant, Task Manager, Chatbot Donna - A web based AI Personal Assistant [6] "The Role of Smart Personal Assistant for improving personal Healthcare" Arul Srinivasan, A. Neela Madheswari, Namakkal Cloud service, healthcare, machine learning, smart personal assistant The Role of Smart Personal Assistant for improving personal Healthcare

PROPOSED SYSTEM

It emphasizes the importance of importing necessary libraries like speech recognition, date time, Wikipedia, web browser, and smtplib. The configuration involves assigning the speech recognition module for receiving user instructions and processing them. Action handling is achieved by using the web browser module to open websites, run system commands, and search Wikipedia. The date time module is used for time and date functions. The smtplib module enables email integration for sending emails. Robust error handling is essential. User interaction should be intuitive, whether through a graphical or command-line interface. This process involves the software analyzing the audio signals to understand the instructions given. The underlying Python code responsible for this functionality is designed to be straightforward and efficient. These assistants are particularly beneficial for individuals with visual impairments, as they rely on spoken commands rather than visual cues. Python's use in this context facilitates fast and uncomplicated execution of commands, aided by installer packages such as speech recognition, pyttsx3 for text-to-speech conversion, python backend for backend operations, and system calls for interacting with the operating system. Privacy and security measures should be implemented, including data encryption. Finally, deployment should be done on the desired platform, be it web or desktop. Input Module: Receives user input through various channels (e.g., text, voice) and preprocesses it. Task Management Module: Handles task prioritization and scheduling based on predefined rules or user preferences. Action Module: Executes tasks by interfacing with relevant APIs and services to perform actions such as sending emails, fetching weather updates, etc.

TECHNOLOGIES USED

Python was chosen as the programming language for this project because of its adaptability and accessibility to a large number of libraries. Python programming language supporting Microsoft Visual Studio Code (IDE) is used to create the Virtual Assistant. Python has a speech recognition package that includes certain built-in functions. We will first define a function that will turn the text into speech. We employ the pyttsx3 library for that. The say() method is used to provide text as an argument and the result will be a voice reply. Another function is used to recognize the voice command. In order to transform the relevant analog voice command into a digital text format for our project, we select Google's Speech Recognition Engine. The Assistant will look for the keyword after receiving that text as input. The relevant function will be invoked and perform the actions like opening Google,

Wikipedia, generating reminders, accessing files etc., if the input command contains a word that matches the relevant term.
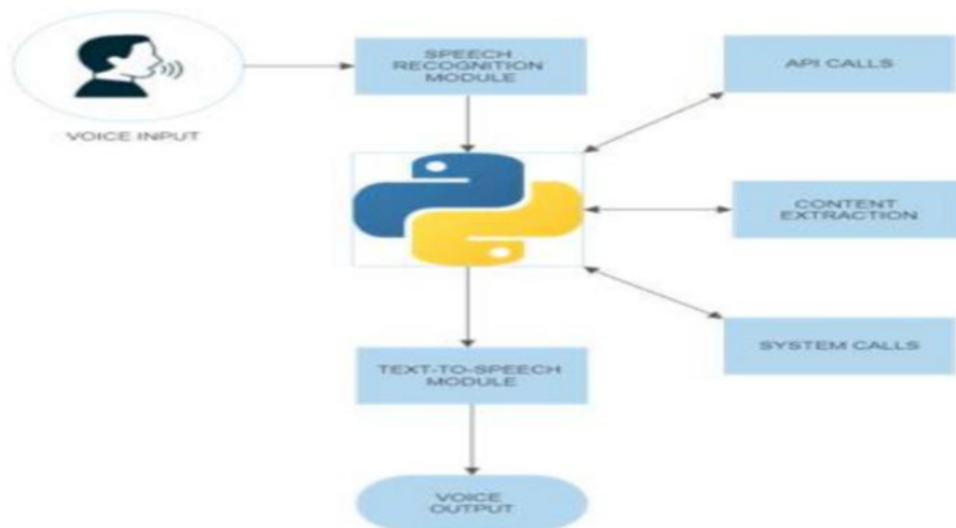
Input Module: Receives user input through various channels (e.g., text, voice) and preprocesses it. Task Management Module: Handles task prioritization and scheduling based on predefined rules oruser preferences. Action Module: Executes tasks by interfacing with relevant APIs and services toper form actions such as sending emails, fetching weather updates, etc.

Detailed Workflow

On our phones, voice assistants like Bixby, Google Voice, and Siri are already available. A recent NPR research estimates that about one in six Americans currently own a smart speaker, like an Amazon Echo or Google Home, and that sales of these devices are increasing at a pace comparable to that of smart phones ten years ago. However, in the workplace, the voice revolution can still seem far off. One deterrent is the trend toward open workspaces: no one wants to be that annoying moron who is always shouting at his virtual assistant. This Assistant consists of three modules. First is, assistant accepting voice input from user. Secondly, analyzing the input given by the user. And the third is, the assistant giving user the result all along with voice.

Methodology

The text outlines the steps to develop an AI assistant. It emphasizes the importance of importing necessary libraries like speech recognition, date time, Wikipedia, web browser, and smtplib. The configuration involves assigning the speech recognition module for receiving user instructions and processing them. Action handling is achieved by using the web browser module to open websites, run system commands, and search Wikipedia. The date time module is used for time and date functions. The smtplib module enables email integration for sending emails. Robust error handling is essential. User interaction should be intuitive, whether through a graphical or command-line interface. This process involves the software analyzing the audio signals to understand the instructions given. The underlying Python code responsible for this functionality is designed to be straightforward and efficient. These assistants are particularly beneficial for individuals with visual impairments, as they

rely on spoken commands rather than visual cues. Python's use in this context facilitates fast and uncomplicated execution of commands, aided by installer packages such as speech recognition, pyttsx3 for text-to-speech conversion, python backend for backend operations, and system calls for interacting with the operating system.

Privacy and security measures should be implemented, including data encryption. Finally, deployment should be done on the desired platform, be it web or desktop.

SYSTEM ARCHITECTURE
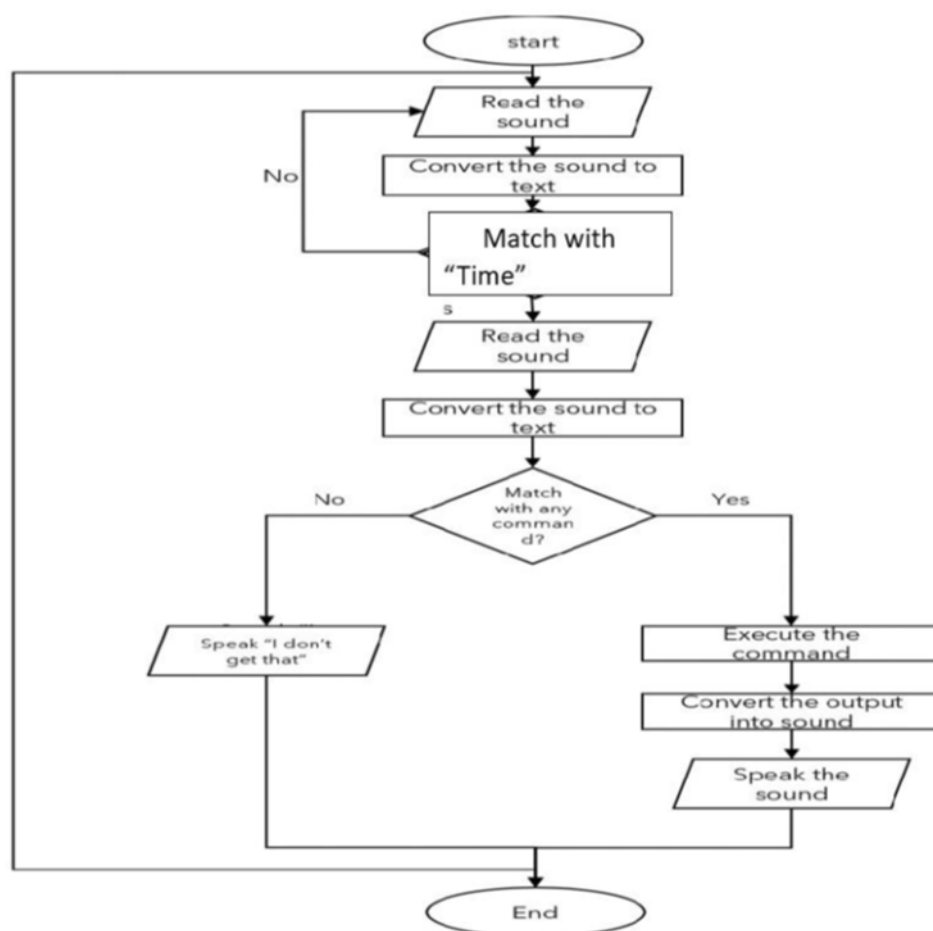
RESULTS

The Python programming language's essential packages have been installed, and the code was implemented using Microsoft Visual Studio code (IDE). The following are just some of the outputs produced by our voice assistant.
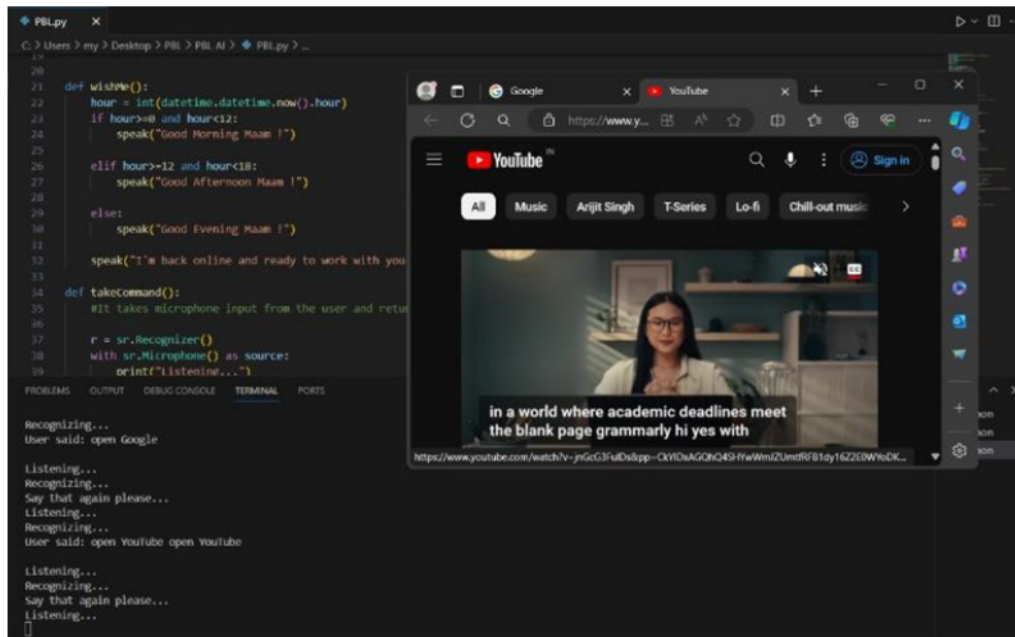
Opening Youtube

As illustrated in the figure 4, If the user wants to generate a summary of the text file, that file will be checked in the database, if it presents then summary will be generated.
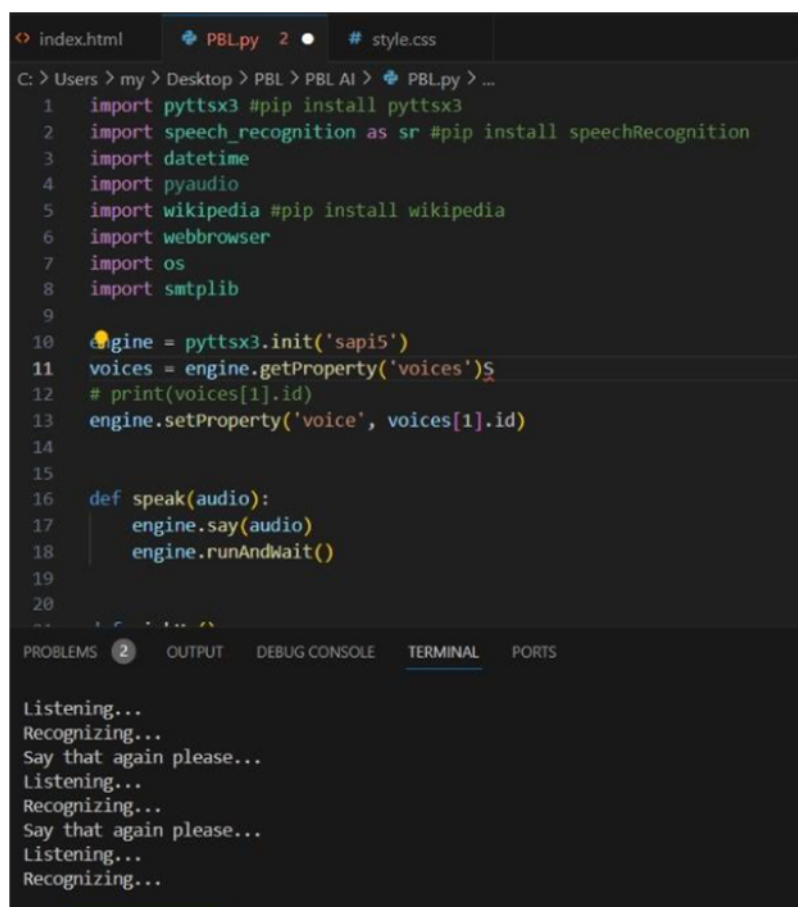
Recognization of the voice

Comparision	Alexa	Google Assistant	AI Personal Assistant
Working for Windows	no	yes	yes
For Blind Ones	yes	no	Can work on voice
Technology used			Artifical Emotional Intelligence
Accuracy	good	good	For personal use is good
Functionality	Wide range of Function	Integration with google services	Intergration with windows based for blind one's.
Customization	Not active in personal recommendations	Active in personal recommendations	Customizable for the personal use
Privacy	Faced scrunity over privacy concerns.	Faced scrunity over privacy concerns particularly due to extensive data	Cannot use by third Party,used only for the personal data to be collected

Result Table

CONCLUSION

This paper talks about making a voice-controlled helper for computers using Python. This kind of helper can save time and be super helpful for people who need extra assistance. Our helper can do lots of things like sending messages, finding

info on the internet, and even controlling YouTube, all with just your voice. It presents a comprehensive overview of the design and development of a Static Voice enabled personal assistant for pc using Python programming language. This Voice enabled personal assistant, in today's life style will be more effective in case of saving time and helpful to differently abled people, compared to that of previous days. This Assistant works properly to perform some tasks given by user. Furthermore, there are many things that this assistant is capable of doing, like sending message to user mobile, YouTube automation, gathering information from Wikipedia and Google, with just one voice command.

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