#### Introduction

Voice assistants like Siri, Alexa, and Google Assistant have revolutionized the way we interact with technology. This project aims to create a basic voice assistant using Python that can recognize speech, process commands, and provide spoken responses.

## **Objective**

The objective of this project is to develop a simple voice-controlled assistant capable of performing basic tasks such as telling the time and searching the web.

### **System Requirements**

Hardware:

- Microphone
- Speaker

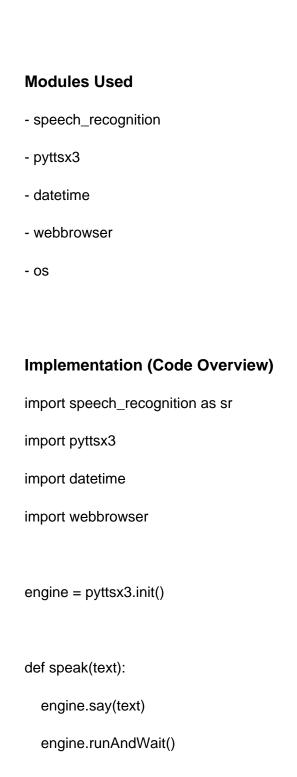
#### Software:

- Python
- Libraries: SpeechRecognition, pyttsx3, pyaudio

### **Project Architecture**

- 1. Voice Input
- 2. Speech-to-Text Processing
- 3. Command Interpretation
- 4. Action Execution

### 5. Voice Output



def take\_command():

r = sr.Recognizer()

with sr.Microphone() as source:

```
print("Listening...")
     audio = r.listen(source)
  try:
     command = r.recognize_google(audio)
     return command.lower()
  except:
     return "Sorry, I didn't catch that."
def run_assistant():
  command = take_command()
  if 'time' in command:
     time = datetime.datetime.now().strftime('%I:%M %p')
     speak(f"The time is {time}")
  elif 'search' in command:
     speak("What should I search?")
     query = take_command()
     webbrowser.open(f"https://www.google.com/search?q={query}")
```

### Results

The voice assistant was tested successfully. It was able to recognize commands, respond with the current time, and perform web searches based on voice input.

#### Conclusion

This project demonstrates the feasibility of building a basic voice assistant using Python. Future

improvements could include adding natural language processing and a graphical user interface.

# References

- Python documentation (https://docs.python.org/3/)
- SpeechRecognition library documentation
- pyttsx3 documentation