# PROJECT REPORT

# ON

# HAAAC (AI Assistant)

REPORT SUBMITTED

TO

VISHWAKARMA INSTITUTE OF INFORMATION TECHNOLOGY, PUNE

FOR THE PBL OF **PYTHON FOR ENGINEERS**

IN

## ENGINEERING AND APPLIED SCIENCE DEPARTMENT

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# INDEX

| Sr. No. | Contents | Page No. |
|---|---|---|
| 1 | ABSTRACT | 3 |
| 2 | INTRODUCTION AND THEORY | 4 |
| 3 | FLOW OF PROGRAM | 5 |
| 4 | SOURCE CODE OF THE PROGRAM | 6-12 |
| 5 | OUTPUT | 13-14 |
| 6 | LIST OF THE TOPICS/ CONCEPT WHICH ARE COVERED FROM THE SYLLABUS | 15-16 |
| 7 | CONCLUSION | 17 |
| 8 | REFERENCES | 18 |

# ABSTRACT

An AI Assistant is a software that can perform tasks for a user based on verbal commands

- HAAAC can perform tasks like setting alarm, translating Marathi TO English.
- HAAAC takes speech commands from the user and works according to it.
- The main agenda of our assistant is to make people smart and give instant and computed results.
- HAAAC can do Wikipedia searches for you.
- HAAAC can open websites like google, youtube, stackoverflow, geeksforgeeks; applications like VS code, Microsoft word, etc.
- HAAAC is able to wake up on your command.
- HAAAC can also tell the time and the day.

# INTRODUCTION AND THEORY

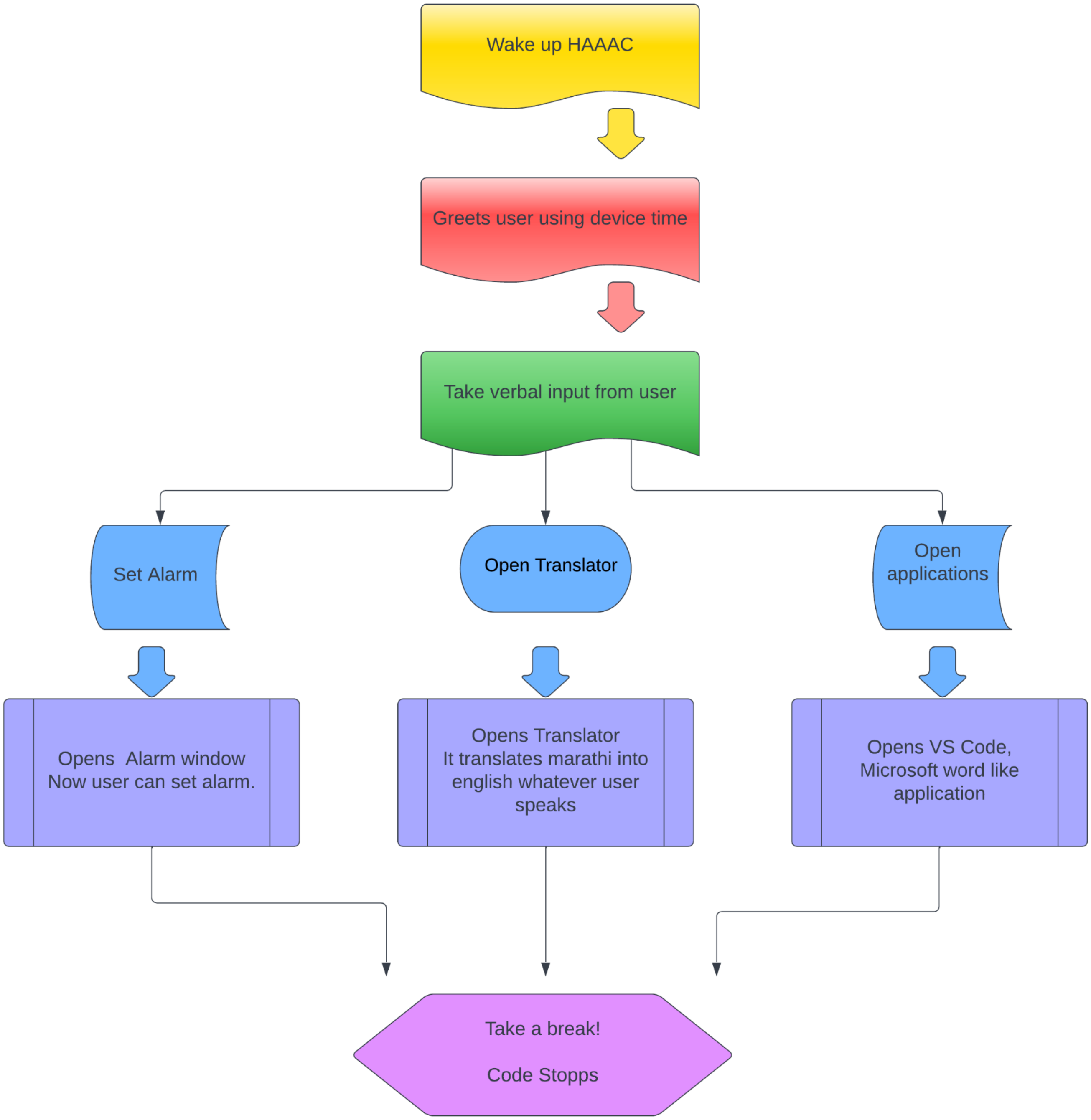
An AI personal assistant is a piece of software that understands verbal or written commands and completes tasks assigned by the client. It is an example of weak AI that can only execute and perform quests designed by the user.

With the python programming language, a script most commonly used by the developers can be used to build your personal AI assistant to perform tasks designed by the users.

The modules that we used in our program are:

1) pyttsx3: It is a Python library which will help us to convert text format into speech format.
2) datetime: This module supplies classes for manipulating dates and times.
3) speech_recognition: It is used to convert the spoken words into text, make a query or give a reply.
4) wikipedia: It is a python library which allows us access and parse data from wikipedia
5) webbrowser:The webbrowser module provides a high-level interface to allow displaying web-based documents to users.
6) os:The OS module in Python provides functions for interacting with the operating system
7) googletrans:Googletrans is a free and unlimited python library that implements Google Translate API. This uses the Google Translate Ajax API to make calls to such methods as detect and translate.
8) playsound:The playsound module is a cross platform module that can play audio files.

# FLOW OF PROGRAM



# SOURCE CODE OF THE PROGRAM

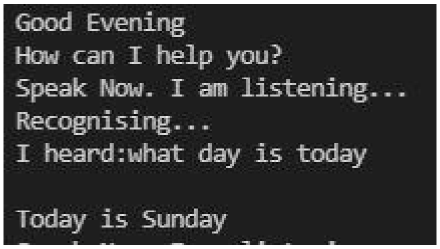
```
import pyttsx3

import datetime

import speech_recognition as sr

import wikipedia

import webbrowser

import os

from playsound import playsound

from googletrans import Translator


assistant =pyttsx3.init("sapi5") voices = assistant.getProperty("voices")
assistant.setProperty("voices", voices[0].id)


def speak(sound):

    assistant.say(sound)

    assistant.runAndWait()

def greeting():

    time = int(datetime.datetime.now().hour)

    if time>=0 and time<12:
        print("Good Morning")
        speak("Good Morning")
    elif time>=12 and time<18:
        print("Good Afternoon")
        speak("Good Afternoon")
    else:
        print("Good Evening")
        speak("Good Evening")

def order():
    read = sr.Recognizer()
    with sr.Microphone() as source:
        print("Speak Now. I am listening...")
        read.pause_threshold = 1
        sound = read.listen(source)
    try:
        print("Recognising...")
        problem = read.recognize_google(sound, language='en-in')
        print("I heard:" + problem + "\n")
    except Exception:
        print("I am unable to understand. Please speak again")
        return "None"
    return problem


def marathiOrder():
    read = sr.Recognizer()
    with sr.Microphone() as source:
        print("Speak Now. I am listening...")
        read.pause_threshold = 1
        sound = read.listen(source)


    try:
        print("Recognising...")
        problem = read.recognize_google(sound, language='mr')
        print("I heard:" + problem + "\n")


    except Exception:
        return "None"
    return problem


def Tran():
    print("Tell me!")
    speak("Tell me!")
    line = marathiOrder()
    translator = Translator()
    results =translator.translate(line)
    print(results.text)
    speak(results.text)



greeting()
print("How can I help you?")
speak("How can I help you?")

while True:
    problem = order().lower()
    if __name__ == "__main__":
        if "wikipedia" in problem:
            print("Searching on the web... ")
            speak("Searching on the web... ")
            result = wikipedia.summary(problem, sentences=2)
            print("Here's what I found:" + result)
            speak("Here's what I found:")
            speak(result)
        elif "open youtube" in problem:
            webbrowser.open("youtube.com")
```

```
elif "open email" in problem:
    webbrowser.open("mail.google.com")
elif "open google" in problem:
    webbrowser.open("google.com")
elif "open python documentation" in problem:
    webbrowser.open("pypi.org")
elif "open stack overflow" in problem:
    webbrowser.open("stackoverflow.com")
elif "open geeksforgeeks" in problem:
    webbrowser.open("geeksforgeeks.com")
elif "open classroom" in problem:
    webbrowser.open("https://classroom.google.com/h")
elif "open vs code" in problem:
    vsCode= "C:\\Users\\atharvtembhurnikar\\AppData\Local\\Programs\\Microsoft VS   Code\\Code.exe"
    os.startfile(vsCode)



elif "open word" in problem:
    word= "C:\\Program Files (x86)\Microsoft Office\\root\\Office16\\WINWORD.EXE"
    os.startfile(word)
elif "open game" in problem:
    game= "C:\\Atharv\\College Material\\Python For Engineers\\HAAAC\\RockPaperScissor.py"
```

```
        os.startfile(game)
    elif "what day is today" in problem:
        day = int(datetime.datetime.today().weekday())
        weekdays= ['Monday','Tuesday','Wednesday','Thursday','Friday','Saturday','Sunday']
        print("Today is", weekdays[day])
        speak("Today is"+ weekdays[day])
    elif "time" in problem:
        strTime = datetime.datetime.now().strftime("%H %M")
        speak("The time is :" + strTime)
    elif "open translator" in problem:
        Tran()
    elif "set alarm" in problem:
        print("What time sir?")
        time = input(":Enter Time:")
        print("Wake up.")
        playsound('C:\\Atharv\\College Material\\Python For Engineers\\HAAAC\\alarm.mp3')
        print("Alarm Stopped")
    elif "introduce yourself" in problem:
        print("My name is HAAAC. I am your AI Assistant.")
        speak("My name is HACK. I am your AI Assistant.")
    elif "where do you live" in problem:
        print("I live in your heart.")
    speak("I live in your heart.")
elif "tell me a joke" in problem:
    print("What is computer's favorite beat?")
    speak("What is computer's favorite beat?")
    print()
    print("An Algo-rythm ")
    speak("An Algo - rythm ")
    playsound("C:\\Atharv\\College Material\\Python For Engineers\\HAAAC\\laugh.wav")
elif "take a break" in problem:
    print("Ok sir. bye.")
    speak("Ok sir, bye. ")
    break
```

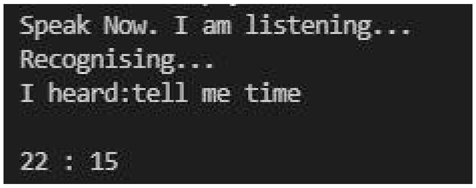
# OUTPUT

### What day is today?



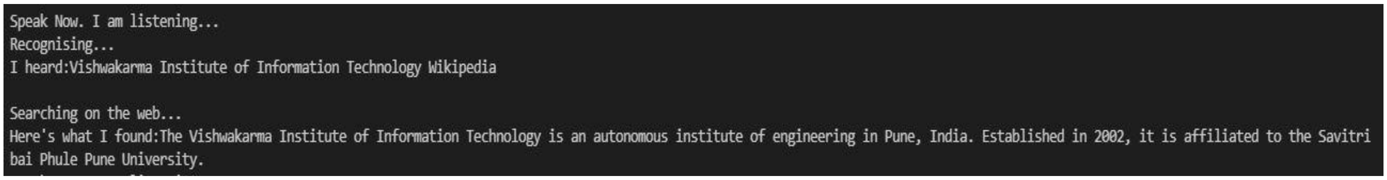
```
Good Evening
How can I help you?
Speak Now. I am listening...
Recognising...
I heard:what day is today

Today is Sunday
```

### What’s the time?



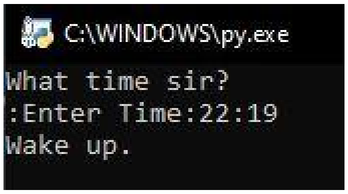
```
Speak Now. I am listening...
Recognising...
I heard:tell me time

22 : 15
```

### Vishwakarma Institute of Information Technology



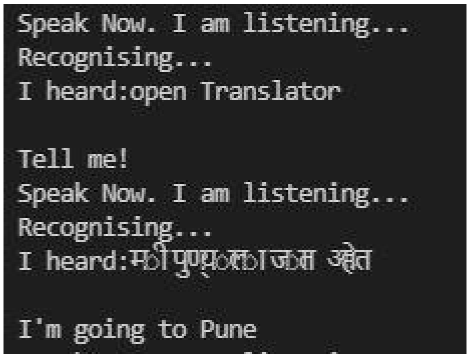
```
Speak Now. I am listening...
Recognising...
I heard:Vishwakarma Institute of Information Technology Wikipedia

Searching on the web...
Here's what I found:The Vishwakarma Institute of Information Technology is an autonomous institute of engineering in Pune, India. Established in 2002, it is affiliated to the Savitri
bai Phule Pune University.
```

### Alarm



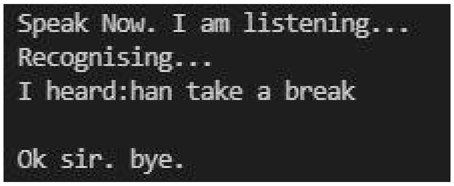
```
What time sir?
:Enter Time:22:19
Wake up.
```

**Translate:**



```
Speak Now. I am listening...
Recognising...
I heard:open Translator

Tell me!
Speak Now. I am listening...
Recognising...
I heard:मी पुण्याला जात आहेत

I'm going to Pune
```

**Take a break:**



```
Speak Now. I am listening...
Recognising...
I heard:han take a break

Ok sir. bye.
```

# LIST OF THE TOPICS/ CONCEPT WHICH ARE COVERED FROM THE SYLLABUS

- Module
- Python in built function print
- User defined function
- While loop
- If - elif - else loop
- String slicing

# LIST OF THE TOPICS/ CONCEPT WHICH ARE OUT OF THE SYLLABUS

- Modules like
    1. pyttsx3
    2. datetime
    3. speech_recognition
    4. wikipedia
    5. webbrowser
    6. os
    7. googletrans
    8. playsound
- Blocks like ‘try’ and ‘except’.
- Statement like ‘with’
- The ‘main’ function

# CONCLUSION

In this project ‘HAAAC-AI Assistant’ using python we tried to implement Artificial Intelligence . HAAAC is built using open source software modules with VS Code.

HAAAC not only works on human commands but also gives responses to the user based on the query being asked by the user such as opening applications and performing operations. It greets the user in such a way the user feels comfortable with the HAAAC. The entire system works on the verbal input. HAAAC can perform many tasks like setting an alarm, translating marathi language to english, etc. HAAAC also has a lot of information as it is connected with the internet.

# REFERENCES

1) pyttsx3 : ( https://pypi.org/project/pyttsx3/ )

2) datetime : ( https://pypi.org/project/DateTime/#class-datetime )

3) speech_recognition : (https://pypi.org/project/SpeechRecognition/ )

(https://www.geeksforgeeks.org/speech-recognition-in-python-using-google-speech-api/ )

4) with-try-except:(https://www.w3schools.com/python/python_try_except.asp )

5) wikipedia: ( https://pypi.org/project/wikipedia/ )