

Mark-Virtual Friend using Python

G. Mamatha¹, L. Sravani², A. Ram Trivedh³, K. Kishore Babu⁴, Dr. V. Siva Parvathi⁵

B.Tech Students, Department of Information Technology^{1,2,3,4}

Assistant Professor, Department of Information Technology⁵

Prasad V. Potluri Siddhartha Institute of Technology, Vijayawada, Andhra Pradesh, India

Abstract: *In the present era life has become smarter and more advanced. We are already familiar with some voice services like Google assistant, Siri and Alexa etc. Now in our voice support system, it can work like automatic chrome, opens youtube from a web browser, and sign into the gmail account and helps in locking the window. Mark works by entering voice and rendering voice output and displaying text on the screen. Our project's main agenda is to make work easier by delivering faster results with a computer. It compares voice input with our microphones and processes the given commands and provides necessary solutions and answers that users ask the microphone and processes the given commands and provides necessary solutions and answers that users ask. Speech Recognition translates inputted voice into text enables communication with the computer.*

Keywords: Virtual Personal Assistant, Speech to text, Natural Human language, Speech Recognition

I. INTRODUCTION

As technology evolves, almost all jobs are done digitally. Smartphones in our hands made every work easy and feasible. We are just talking about the work and it is done. We don't even use our fingers physically for our work to be done. This is the work of the Virtual Assistant which makes our lives easy by doing the work just by taking the commands. It can also do some specialized work like opening Wikipedia ,setting remainder, opening Google, opening social media just by taking the commands. Several services including The weather, play music, movies, indicate the time and date of the day, open applications.

II. PROPOSED SYSTEMS

The idea is to analyze the commands using the python libraries. python code uses the pyttsx3, speech_recognition, wikipedia, webbrowser, sys, os, cv2, playsound, psutil, random, datetime, pynotify, pyautogui and win10toast libraries to execute various types of commands. The pyttsx3 contains a speak attribute which converts the text to speech. It uses the speech_recognition to recognize the user inputted voice. It uses the Wikipedia module to extract the content that the user specified from the wikipedia. It uses the webbrowser module to open the web based applications. It uses the psutil module for extracting the cpu and memory utilization of the system. It uses the os module for shutdown operations. It uses a cv2 module for capturing the images and videos. It uses the playsound module for playing the mp3 file. It uses the random module for choosing the files randomly.

III. TECHNOLOGIES USED

3.1 Python IDLE

Python idle is used for the execution of a single statement. It combines a program editor and a language environment as a convenience to the programmer. There are many existing varieties of methods like text-based programmer's editors that many programmers prefer to IDLEs. We are covering IDLE because it comes with Python, and because it is not too complex to use effectively. Using IDLE is not for using Python. We preferred IDLE for executing the python code.

3.2 Python

Python is a high-level, dynamically typed, general-purpose programming language. It emphasizes code readability with the use of significant indentation. Python language supports multiple programming paradigms, including structured, object oriented and functional programming. Python's formatting is visually uncluttered and often uses English keywords where other languages use punctuation. Python does not use curly brackets or keywords rather it uses white

space indentation. C and pascal has more syntactical exceptions than python. Indentation occurs after certain statements like if, for, etc; an indentation decreases at the end of the current block. Debugging python programs is easy: a bug or bad input will never cause a segmentation fault. Python’s versatility, along with its beginner-friendliness, has made it one of the most-used programming languages today. Python is often used to develop the back end of a website. Tail call optimization is not supported by Python. Python comes with an Integrated Development Environment (IDE) called IDLE, which is more beginner-oriented. It is the most popular language. It was selected Programming Language of the Year in 207, 2010, 2018 and 2020. Large organizations include Wikipedia, Google, Yahoo, NASA, Facebook, Amazon and Instagram.

Some of the most common uses of Python:

- Data Science
- Machine Learning
- Artificial Intelligence
- Data Analysis
- Deep Learning
- Automation
- Software and Web development

3.3 Python Libraries

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IV. RESULTS

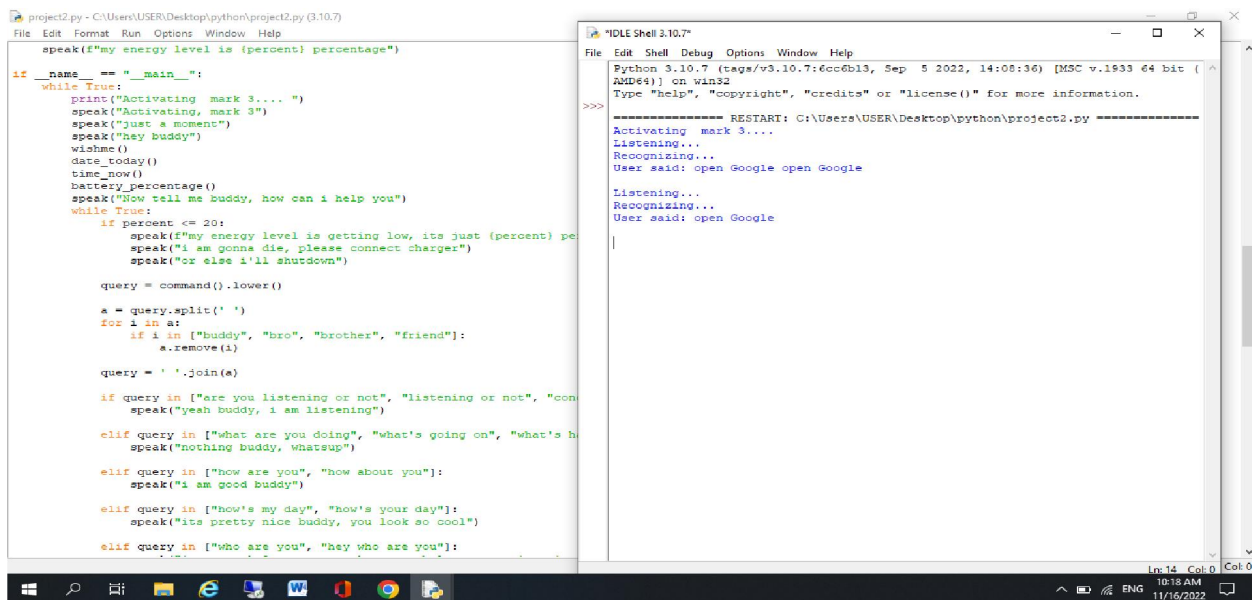


Figure 1: Giving command to open google

After running the file, it starts by displaying the activating mark and listening. Now we have to give the command to render the output through the microphone. It displays the command which is said by the user.

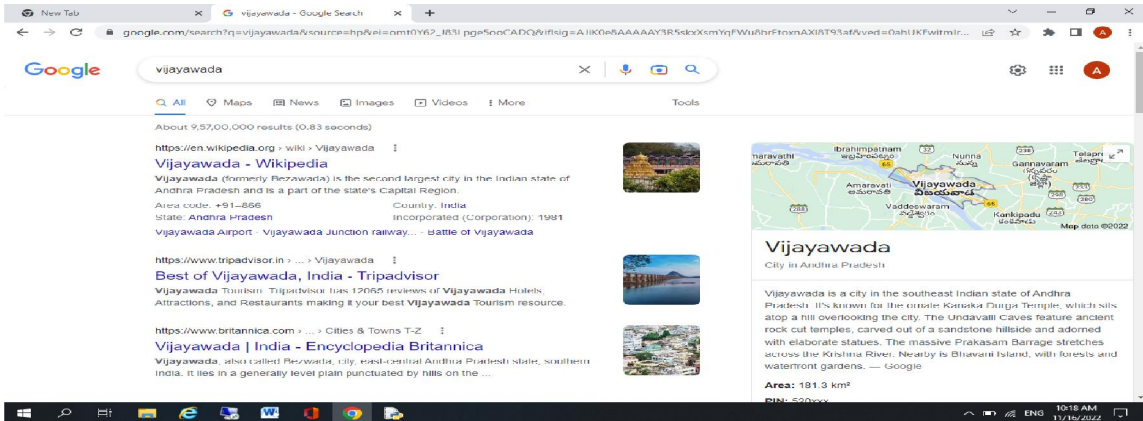


Figure 2: Displaying the required information in google

It takes you to the google screen and then asks about which information you want to check in google. The given command is to search about Vijayawada.

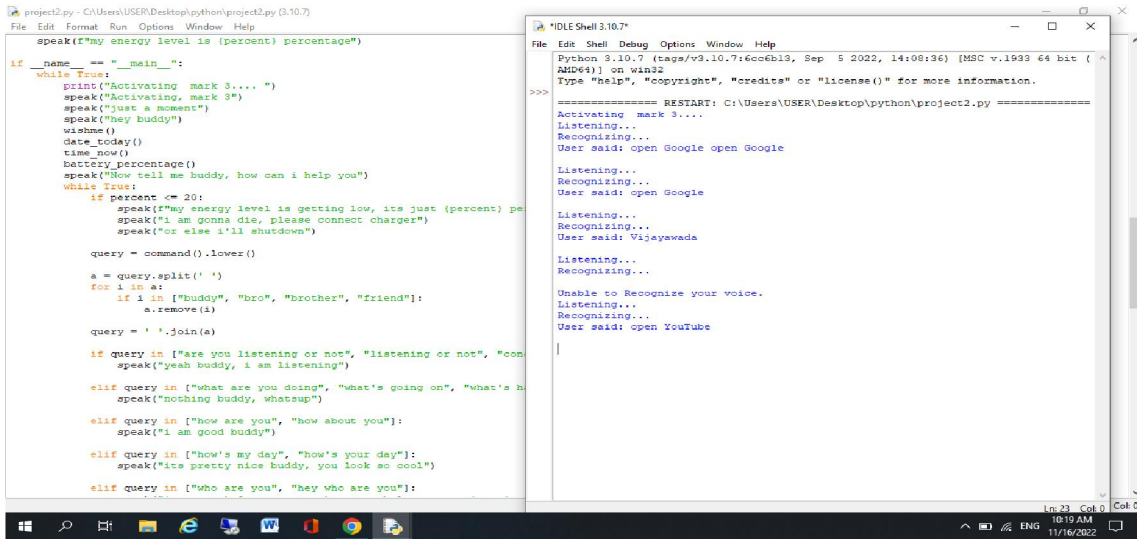


Figure 3: Command to open YouTube

In this screen, the user gave the command regarding the opening of you tube. It uses the module the web browser to open this command, as web browser module is imported by opening cmd and importing web browser.

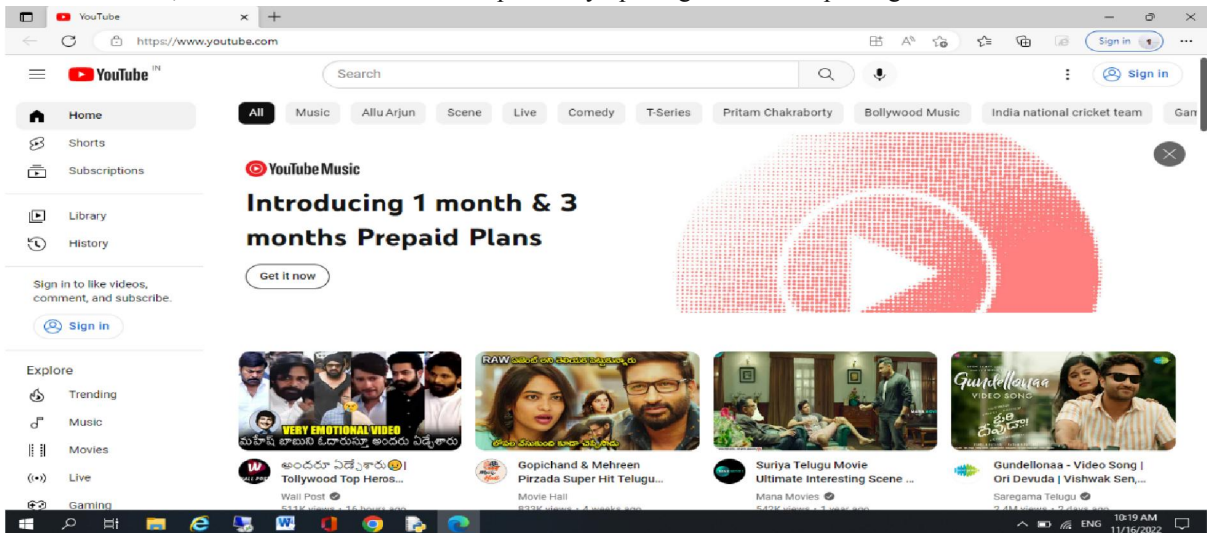


Figure 4: Opening you tube



After displaying the command which is said by the user on screen, it is brought to the youtube page and then the user can open the required songs and data.

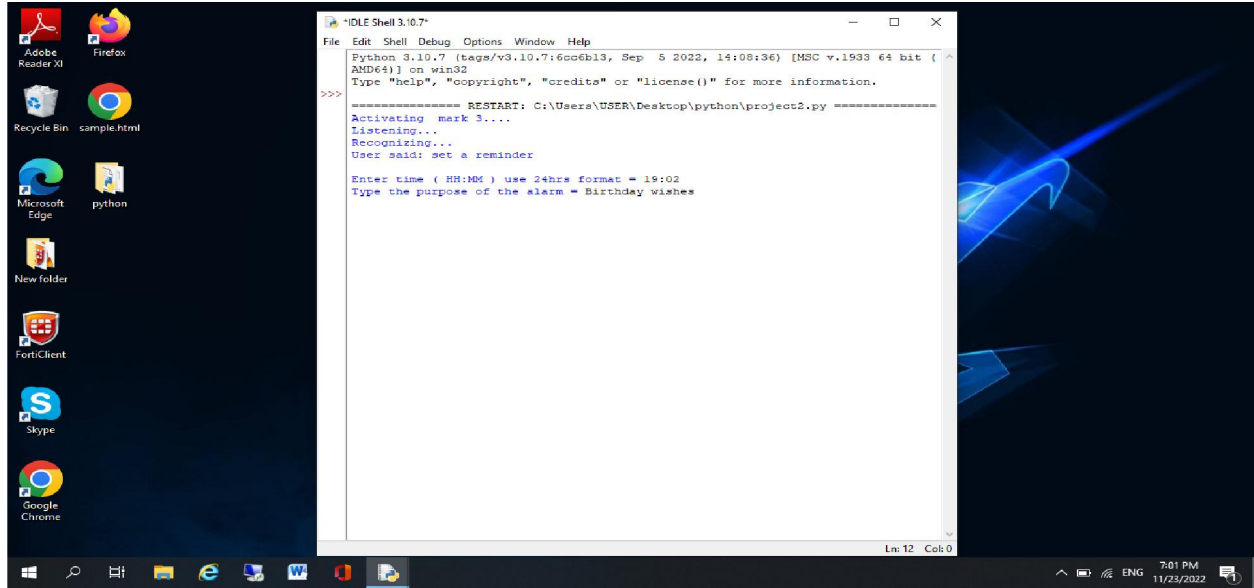


Figure 5: Setting the remainder for birthday wishes

In this screen we can set the remainder for give the intimation about certain things like birthday wishes, marriage anniversaries, important meeting and special dates. If the user sets the remainder, it will display the toast window notification to remain the user.



Figure 6: Display Toast window Notification

Toast Notification is at the corner of the screen. It does not force the user to give the reply and can also set the music while displaying the notification.

V. SCOPE OF FUTURE USE

The application can be developed further to include many applications such as selecting specific files. Also, it can be developed as an app that can serve many commands the user inputted. In the future the technology may evolve that reduces the use of manual typing as much as possible and the scope for this will increase rapidly. Also, we can extend this concept to be used in the other concepts like Google maps which may be used for the detection of user required routes.

VI. CONCLUSION

Virtual Assistants are very useful for making life more feasible. It performs the work very effectively without any human intervention. There are many Smart Personal Digital Assistance available on the market for various device platforms. This new Assistance called Mark works much better than any of the existing ones. As discussed, it has further improvements. Finally, this virtual assistant makes human life easier by doing the work accurately and effectively without human interventions.

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