

Scarlett: Virtual Assistant & Browlett (Browser)

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Abstract—A personal voice assistant is the software that can perform task and provide different services to the individual as per the individual's dictated commands. In this modern era, day to day life became smarter and interlinked with technology. We already know some voice assistance like google, Siri. etc. This project works on voice input and give output through voice and displays the text on the screen. The main goal of our voice assistance makes people smart and give computed results instantly. The voice assistance takes the voice input through our microphone (such as Bluetooth and wired microphone) and it converts our voice into computer understandable language gives the required solutions and answers which are asked by the user. This assistance connects with the world wide web to provide results that the user has questioned. Natural Language Processing algorithm helps computer machines to engage in communication using natural human language in many forms. To achieve this we are using modules like web browser, speech recognition, python speech-to-text, and Natural Language Processing (NLP) algorithm.

Index Terms— voice assistance, Natural Language Processing(NLP), web browser, speech recognition, python speech-to-text.

I. INTRODUCTION

This Voice assistants are integrated into many daily devices, such as cell phones, computers, and smart speakers. Because of their vast array of integrations, several voice assistants offer a specific feature set. At the same time, some choose to be open-ended to help with almost any situation. Voice assistants use AI and Voice recognition to accurately and efficiently determine the result the user is looking for. While asking a computer to set a timer may seem simple, the technology behind it is fascinating. So today, we are here to introduce Scarlett. Scarlett is your virtual and personal voice assistant and is available on various devices, such as smartphones, computers, laptops etc. The job of the assistant is to help the user with tasks such as carrying out searches on the internet, opening different applications, setting reminders or alarms, making calls, playing music, sending emails or some simple text messages to someone and many other tasks just through the voice commands thrown by the user. Scarlett helps the user to reduce the efforts of typing through a keypad or a keyboard for searching or using a mouse for browsing or opening any applications or tabs because all of these can happen just by your voice commands and achieve the desired output most easily. Scarlett uses voice recognition, language processing algorithms, and voice synthesis to listen to specific voice commands and return relevant information or perform a particular function as requested by the user. Scarlett

can return relevant information by listening for specific keywords and filtering out the ambient noise based on particular commands, sometimes called intents, spoken by the user. Objective: We had to learn the language of Technology forever, be it a keyboard, mouse or touchscreen. Voice Assistants have turned this world around us. With voice, Technology has to learn from us to understand us and understand our language. And the best part is that Voice assistants are beneficial for visually impaired people to access critical phone functionalities and do daily tasks. The project's main objective is to make everyone around us adapt to the latest raging Technology of having a voice assistant at every house and reduce the efforts with such innovative Technology, which makes us and our home smart as well.

II. LITERATURE SURVEY

In 2012, Google announced its Knowledge Graph³ as a new tool to improve the identification and retrieval of entities in return to a search query. Most of the knowledge encoded in Google Knowledge Graph originally came from Freebase which was a crowd- sourced effort to create a base of facts in all possible knowledge domains. Alongside with the development of the above-mentioned initiatives, following the original idea of a Semantic Web , new technologies have been developed and released with the aim of embedding structured knowledge with unambiguous semantics into Web pages in order to allow software agents to consume and elaborate information in an automated way . The original idea has been modified over the years thus making possible the creation of a full stack of semantic technologies and, more remarkably, gave birth to the Linking Open Data initiative⁴ where a community of researchers and practitioners devoted an enormous effort to build publicly available knowledge bases of machine understandable data.

III. SYSTEM STUDY

- A. Input Design The input design is the link between the information system and the user. It comprises the developing specification and procedures for data preparation and those steps are necessary to put transaction data into a usable form for processing can be achieved by inspecting the computer to read data from a written or printed document or it can occur by having people keying the data directly into the system. We are using Natural Language Processing with the help of speech_recognition module to take the input, during this stage we have already defined some input commands inside the code such that scarlett can understand what it is that you are trying to ask.
- B. Output Design Quality output meets the end user's requirements and presents the information clearly. For the user to have a better experience, we have created this virtual assistant to run in the background while it always listens to what you say and comprehends what you would like to ask. You can open system applications with your customized commands, you can play music, and you can also do Wikipedia searches by just adding the word Wikipedia at the end of your sentence. While Scarlett is a virtual assistant, browlett is a browser representing Scarlett, where the homepage is a website hosted by us at the URL - <https://scarlettbrowlett.web.app>. It contains the basic features of a web browser, and Our applications do not store user information either in voice assistant or in the browser.

IV. SCREEN SHOTS

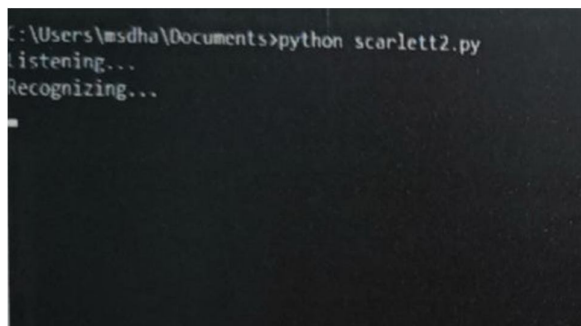


Figure 1. Scarlett User Interface (Voice Assistant)

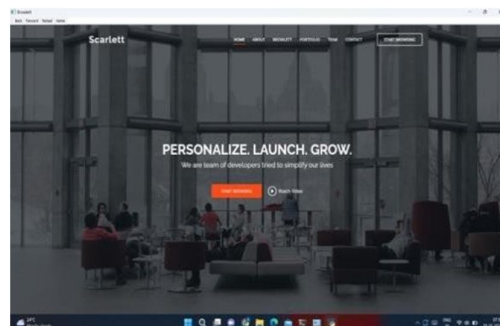


Figure 2. Browlett Homepage (Webpage)



Figure 3. Browlett UI (1)

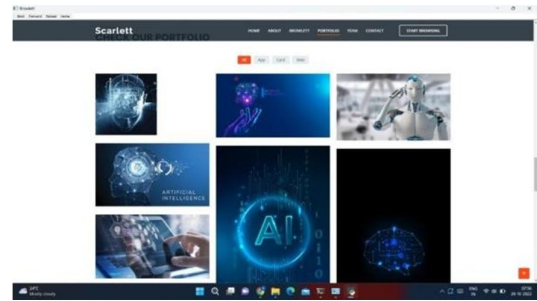


Figure 4. Browlett UI (2)

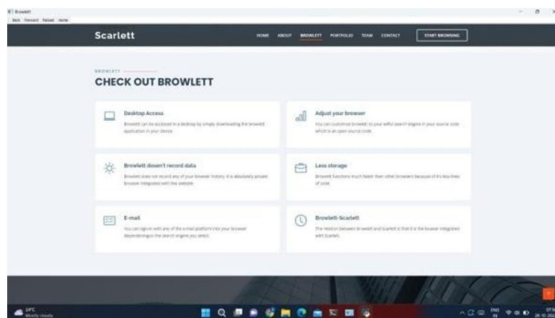


Figure 5. BrowlettUI (3)



Figure 6. Browlett Additional webpage

V. CONCLUSION

We have successfully built a user-friendly Voice Assistant “Scarlett”, using python, which helps the user to perform various activities on their laptops or personal computers just by the user’s voice commands, which sounds very simple and it can be easily understood by developers who can customize their applications according to their system’s preferences. As a result, personal voice assistants have spread with impressive speed.

FUTURE SCOPE

Scarlett can be modified into a complete virtual assistant by creating a GUI for this application. We can integrate Scarlett with browlett and create an icon in browlett so that users can access Scarlett inside browlett. We can also add language options by collecting data worldwide on different languages. There is always scope for Artificial Intelligence in the future.

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