

Virtual Personal Assistant Using Python

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Abstract: *Artificial intelligence technology is spreading very fastly cause every one want to access their computer or search through just giving simple voice command Virtual personal Assistant (VPA) Allows User To Give Commands And Provides The Precise Output According to the User To Their Commands Due to Artificial intelligence, Basically it Controls all the Electronic activities on the system that we use. One of the relevant trends in artificial intelligence is the technology of recognizing the natural language of a human. New insights in this topic can lead to new means of natural human-machine interaction, in which the machine would learn how to understand human's language, adjusting and interacting in it. One of such tools is voice assistant, which can be integrated into many other intelligent systems. In this paper, the principles of the functioning of voice assistants are described, its main shortcomings and limitations are given. So hear we are creating virtual personal assistant to system to become intelligent system.*

Keywords: Artificial intelligence (AI), Shell command, Bash command, python

I. INTRODUCTION

In the modern era every human is pre-occupied with their work (Professional Life) because of that they don't get time for their personal life but their both lives is important, so they sacrifice their sleep in order to live both lives, but due to lack of sleep their behavior changes drastically and it affects their both personal as well as professional life, for solution of this problem the branch of computer science introduced virtual personal assistant (VPA) which can perform various tasks, basic as well as complex tasks precisely in the given time.

Virtual Personal Assistant (VPA) becomes the part of human life, it is in almost every electronic devices which is used by voice as well as written commands, now-a-days voice interface is most popular, for every virtual personal assistant coming in the market, their basic requirement is voice interface, because it's user friendly. If user wants some information from internet, he didn't have to open web browser and type manually, virtual personal assistant use voice search and all the work is done by vpa in an instant. VPA uses natural language processing so it understands any voice and language and gives the relevant results, it makes life more easier and comfortable in every possible way.

Artificial intelligence is also a branch of computer science and it is used in almost every new technologies. virtual personal assistant uses artificial intelligence.

II. RELATED WORK

Each company-developer of the intelligent assistant applies his own specific methods and approaches for development, which in turn affects the final product. One assistant can synthesize speech more qualitatively, another can more accurately and without additional explanations and corrections perform tasks, others are able to perform a narrower range of tasks, but most accurately and as the user wants. Obviously, there is no universal assistant who would perform all tasks equally well. The set of characteristics that an assistant has depends entirely on which area the developer has paid more attention. Since all systems are based on machine learning methods and use for their creation huge amounts of data collected from various sources and then trained on them, an important role is played by the source of this data, be it search systems, various information sources or social networks. The amount of information from different sources determines the nature of the assistant, which can result as a result. Despite the different approaches to learning, different algorithms and techniques, the principle of building such systems remains approximately the same. Figure 1 shows the technologies that are used to create intelligent systems of interaction with a human by his natural language. The main technologies are voice activation, automatic speech recognition, Teach-To-Speech, voice biometrics, dialog manager, natural language understanding and named entity recognition.

III. METHODOLOGY

First of all for running or using the assistant is to wake up the assistant by using the awake word, the awake word is whatever the user set. After hearing the wake up word then and only then voice assistant will wake up and ready for the further instructions but if awake word is not correct then the voice assistant will be in sleeping mode and didn't work. after waking up the next step is to greet the user and ready to take commands, if the user gives single command like "solve a mathematical equation" then first assistant hear the command and then verified the command to it's database and then process the command, find the most relevant output and provide to the user, this process takes some seconds. But if user gives multiple **commands** at a same time then it's a little problematic, assistant takes more time than usual but the accuracy of output will not be compromised, such as user gives "play songs" "open ms team" "open instagram" "solve mathematical equation". The assistant didn't get confused and process each and every command simultaneously according to the users sequence and gives the output according to the sequence like 1) play songs 2) open ms team 3) open instagram 4) solve mathematical Equation

IV. CONCLUSION

In this paper, we discussed the design and implementation of a Virtual Personal Assistant. The project is built using open source software modules with PyCharm community backing which can accommodate any updates in the near future. The modular nature of this project makes it more flexible and easy to add additional features without disturbing current system functionalities. It not only works on human commands but also give responses to the user on the basis of query being asked or the words spoken by the user such as opening tasks and operations. It is greeting the user the way user feels more comfortable and feels free to interact with the voice assistant. The application should also eliminate any kind of unnecessary manual work required in the user life of performing each and every task. The entire system works on the verbal input rather than the text one.

ACKNOWLEDGMENT

The possibility of added functionality required in making the assistant more accurate and fast while the interaction with the user. This project can be further improved by implementing the voice command in Google search queries. Better speech recognition so that the user can get prompt output and applications such as locking pc or opening pc on the commands of the user. Form Filling Functionality: Sometimes user are facing trouble while filling the form by their own each and every time so there might be chances of adding the feature like saving user's data and when in need the forms get automatically filled by simple commands. In coming days our proposed system can be applied in multilingual application so that a person can use the application in their own language without any trouble. In addition, our proposed system can be deployed with the IoT. In future our proposed system will be able interpret the textual description in a much better way. The Image recognition can be used with much more details about the image captured through the camera. Enhancement to this system can be done by adding the features of currency recognition.

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