STUDY OF PERSONAL ASSISTANT WITH VOICE CONTROL

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Abstract: In our research paper regarding Personal Assistant, it basically emphasizes on the Artificial Intelligence and it takes users input in the form of human voice and provides some output in regarding to the input provided. It is implemented in Python and it works on the basic knowledge of NLP i.e. Natural Language Processing. The system intended in such a way that all the devices can be coordinated to it as the User Machine Process.

Keyword:-Artificial intelligence, Natural language processing, Wikipedia, Web browser, Python and someit's inbuilt library.

I.INTRODUCTION

In this century, everything is possible with the help of Artificial Intelligence, you can control your home appliance and your car with the help of Artificial Intelligence. There is an unbelievable change in technology in last few years. In today modern era of technology you can directly interact with your machine. You can give some input to the machine in the form of voice and further machine will analyse your voice and give some output. What happen when machine will not giving you an answer it can just show the best result and also advising you a better alternative solution. With the help of Voice command it is very easy to interact a Human with Machine [7]. For continue interaction between Human and Machine we need to use speech to text API for understanding the Human voice because Machine cannot understand the Human voice, so speech to

text API convert Human voice to in the form of Text and machine can easily understand. Many company like Google, Amazon and Apple are launch its speech to text API. It is not only use for reminder in morning or set alarm to wake up at morning. We have decide to make a system that can be placed anywhere once you can ask it to do some task it will perform automatically [2]. You can also connect Personal Assistant through Wi-Fi and it can perform your task more easily with in certain time. Personal Assistant are very easy to use day by day. Personal Assistant is very important because your voice is best input device than other enter some key.

As we all familiar with J.A.R.V.I.S full form is Just A Rather Very Intelligence System these is used in Iron Man but our Personal Assistant work like J.A.R.V.I.S but at certain cases. The J.A.R.V.I.S is much broader than our Personal Assistant [1]. Our Personal Assistant can perform some particular task like open Google, open YouTube, It can play Music, Our Personal Assistant can send E-mail, It can open camera, and it can open Stack Overflow etc.

II. PERSONAL ASSISTANT RELATED WORK

The Personal Assistant system was developed for an android platform as well as ios platform with the use of natural language processing which helps to perform task by android in-built mobile application, it take Human voice as an input and perform the task according to

Human voice. This system is used to send mail and open camera on your laptop and mobile phones [4].

Personal Assistant based on Internet of Thing because with the help of IOT we can easily connect our home appliance to our personal assistant and it can easily control and run successfully. Personal assistant is not only control the temperature, motion detector and sensor it also execute the process according to the requirement. For example when it appears dark in room or home the light will automatically on. It also store the data of the temperature of outside of the room. It will help the user to analyse the various parameter and condition in the room anytime anywhere [6] [9].

Everyone known about the Siri, Google Assistant, Cortana, Samsung voice s, etc. there are large number of countless Personal Assistant. We all families with Iron man J.A.R.V.I.S but our Personal Assistant is not smart as J.A.R.V.I.S. But in some cases our Personal Assistant is same as J.A.R.V.I.S. We give some command to Personal Assistant and it will perform our task and give the result [2].

A company name Athom which is based in Netherland it is a start-up. It comes with many smartphone application which is used to control the Home Appliance, User can install these application in its smartphone and it can easily control his home appliance by his phone from anytime anywhere. Homey is a multi-language and understand English, Dutch, Spanish and French.

Amazon Alexa is a Virtual-Assistant which is built by company name Amazon, We all are familiar with Alexa, and it takes Human Voice as an input and provide some output. Alexa is always listening it is

connected with internet. There are some feature of Alexa Personal Assistant [5].

- **Music:** When user ask Alexa to play music and it will connected with YouTube and Amazon Prime Music and play songs from that library.

- **Read the news:** Alexa can also read out the news of your choice on that particular topic which you want to listen.

- **Traffic and Whether information:** Alexa will also give the information about traffic and which route is clear and safe for journey and it will give report on whether forecast.

- **Answer of your question:** Alexa listen the Human Voice and then further it will analyse the problem and give some particular solution.

Alexa and Homey are not the first home control system in 2012 CastleOS is the Home controller system which is operate only on the Windows computer and Laptops. After that there is further many Home controller system introduced in market[7].

Fig. 1.
(a) Apple's Home Pod (b)
Microsoft/Harman Kardon's
Cortana (c)Amazon's Echo
(d) Google Home.

III.METHODOLOGY

Personal Assistant Architecture:

The system mainly contain in four following phases:

(a) It collect Human voice as an input.

(b) It analyse the human voice.

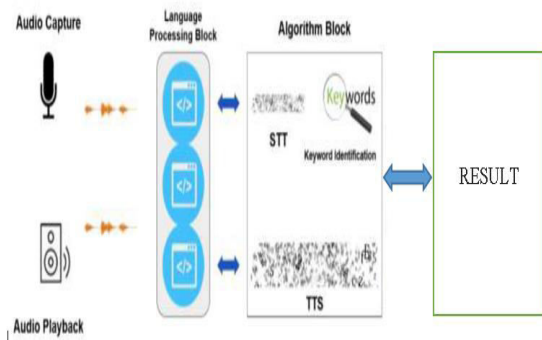(c) Algorithm Block.

(d) Result.

Fig.2. This figure show how our Personal Assistant working

In first phase, Personal Assistant is collected input data in the form of Human Voice for further processing. In second phase, It analyse the Human Voice personal assistant analyse the Voice with the help of API. And the third phase is Algorithm Block in which Personal Assistant convert the Human Voice into text with the help of python library SST (Speech to text) as it is clear with its name this SST API convert Human Voice in the

form of Text and this text machine will easily understand and it contain one more API known as TTS (Text to speech) with the help of this API machine can convert the result in the form of Text to Speech[3]. With the help of these API Personal Assistant complete its task very easy. And the last phase is the result phase in which Personal Assistant get the result to the User according to his/her input.
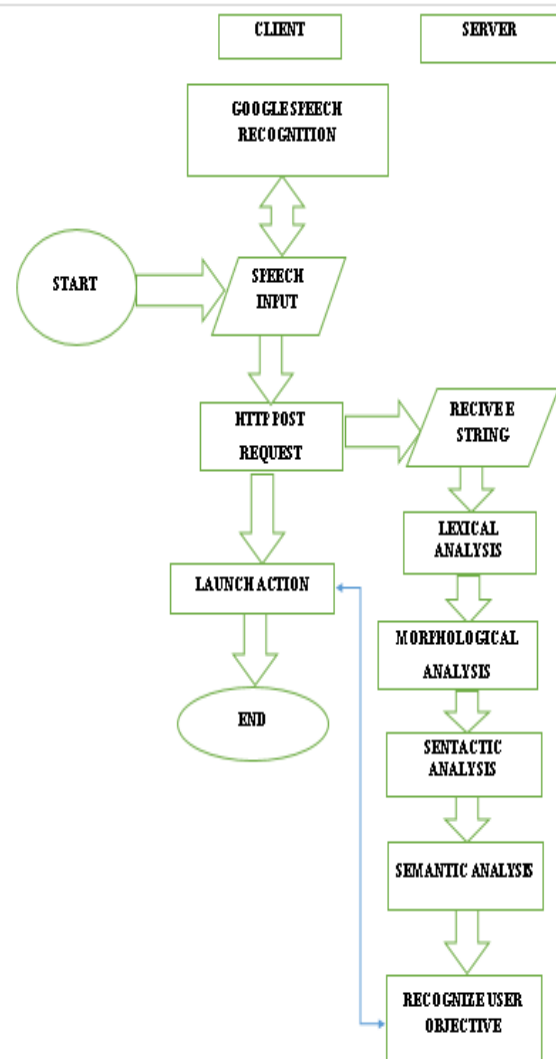

Fig.2.

Data Flow diagram of Personal Assistant

Personal Assistant mainly contain in two phase Client & Server phase it takes input as Human Voice and then it goes to hypertext transfer protocol post request and then further it goes to server site and

receive a input in E String format then it goes into Lexical analysis it convert e string into number of Tokens then the next stage is Morphological analysis, It provide many number of possible solution according to user input and then the next stage is Syntactic Analysis analysing a string of symbol or either it analyse the Natural language and then further it goes into Semantic Analysis it is verify that symbol are semantically correct or not and the next step is Recognize User Objective in which it find the objective of user and then goes into launch action and provide the output to the used [6].

IV. PROPOSED SYSTEM

The following feature in Proposed System are given below:

1) It is always ready to perform the task as the user call his name.
2) It open camera of your computer when the user ask for it.
3) These Personal Assistant searching the result from internet when user ask from it.
4) It always update itself through the Internet connectivity.
5) The other feature of Personal Assistant is it play music, open Google, open YouTube and it open many web browser according to the user requirements, it can also send Mail to the another person.

V.CONCLUSION

Personal Assistant is use the Natural language processing to understand the user input. Artificial Intelligence is used in personal Assistant, with the help of artificial intelligence the personal assistant will be smarter. Artificial intelligence is implemented with the help of Python language. Personal assistant is design to minimize the human efforts and it can interact with many system to perform manually. With the help of Personal Assistant human life is more comfortable. These is interact with many another sub-system and control them according to user need. This system provide many information like it reads news headline according to user requirements.

Personal Assistant contain number of phases like first of all it take Human voice from the user as an input and then further he will analyse the voice and then with the help of in-built API STT (speech to text) it convert Human Voice in the form of text which is machine can easily understand and then Personal Assistant will provide the result to the User in the form of voice with the help of TTS(Text to speech) text to speech converter API.

On analysing the many Personal Assistant we have come on conclusion and we can say that the this Personal Assistant have some extra module as compere to another Personal Assistant, This personal assistant can open the camera of your computer and send Mail from one user to another person and many more module that contain particular Personal Assistant.

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