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Voice based intelligent virtual assistance for windows

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Abstract— *PDAs also known as virtual assistants enhances a user's productivity by proactively providing the information the user needs in the right context(i.e.,)PDA reactively answer a user's questions and completes the tasks through natural language. PDAs are now also deployed in tablets, laptops, desktop PCs, and headless devices (e.g., Amazon Echo), and some are also even integrated into operating systems. PDAs make use of some core set of technologies, such as machine learning, speech recognition, LU, question answering (QA) and personalization. The scenarios that the PDAs support can be divided into proactive and reactive assistance. Even though proactive and reactive parts of the current PDA architectures are built in isolation, in principle they can use a single architecture to enable both types of experiences. PDA are complex systems with many components in the system stack, spanning client and multiple cloud services, and it is hard to separate any one component from the rest.*

Keywords*— personal digital assistants.*

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I. INTRODUCTION

This system is voice based personal assistant has always seemed little out of place in the enterprise. It's a useful tools for search, for remainders and to write the note just by speaking it up, and taking photo, and login to system by voice recognition. Windows assistant is to create voice apps for the intelligent assistant. When user need to open any other application he/she can use the command open. E.g. Open paint, notepad, Google chrome, internet explorer, this will help to open application. When the user want to write the message can use command write. And to for search purpose search command can be use. When the user want to take a photo can use command click photo. And user can login to there laptop/PC by their voice recognition. It will also restart and shutdown on the command. It will detect the speech and save in the database, retrieve from database and executive the command and delete it from database. Interactions between a user and your windows assistant skill are mostly-freeform, so assistant must understand language naturally also in context. Windows assistant determines what a user wants to do by identifying the user intent from spoken or textual input by utterance. The intent maps utterances to actions that window assistant can take, such as invoking a dialog.

II. LITERATURE SURVEY

a. Interacting with Embodied Conversational Agents

Year: 2010

Authors: Elizabeth Andre ; Catherine Pelachaud

Advantages:

- Gesture recognition has gained.
- Considerable attention in emerging.
- Application to provide a better user experience for Human-computerinteraction.

Disadvantages:

- These solutions are either easily affected by the Environmental noise or incapable of sensing fine-gained gestures at the finger level.

b. *MMDAGET A Fully Open Source Tool Kit For Voice Interaction System*

Year: 2013

Authors: *Gokiso-cho ; Showa-ku ; Nagoya*

Advantages:

- On-line speaker interpolation is supported , so one can merge several speaker mode at runtime to produce speech of various speaking styles.

Disadvantages:

- Existing databases have been collected under controlled laboratory conditions and methods have been not evaluated across multiple databases.

c. The Technology Behind Personal Digital Assistants

Year: 2017

Authors: Ruhi Sarikaya

Advantages:

- Expand association .
- Broad Internet Connectivity.

Disadvantages:

- Operation error.
- Lack of competence.
- Peech recognition challenges.

d. **Web-based Environment for User Generation of Spoken Dialogue for Virtual Assistants**

Year: 2018

Authors: Ryota Nishimura; Daisuke Yamamoto; Takahiro Uchiya and Ichi Takumi

Advantages:

- Allows anyone to easily edit spoken dialog content .
- Other Virtual video assistant features such as tone of voice, facial expression, and body motion.

Disadvantages:

- Detailed information can be difficult to convey using.
- Users may be unware of what topics they can talk about.

e. Voice Based Intelligent Virtual Assistance for Windows

Year: 2020

Authors: *C.Selvarathi ; Dr. B. Padminidevi*

Advantages:

- It converts text to speech.
- It will assist you to find the applications easily.
- It can be used in windows7.

Disadvantages:

- Data need to be entered properly otherwise outcome may won't be accurate.
- The user who are deaf dumb can't able to access this.

III. METHODOLOGY

The voice is taken as taken as the input and is considered as the convenient and efficient mode of communication. Most of the people prefer to use speech rather than using text based. The basic overview of the proposed system is it get input signal in the form of voice. It passed on the feature extraction and gets into the decoder. In the decoder it consists of two main models, they are acoustic model and language model. The decoder will decode the input. After all the processing going in the decoder it gives the specified output. The classifications of speech recognition system are types of speech utterance, types of speaker model, and types of vocabulary.

The proposed system is divided into 3 phases and the phases are

- Speech to text User will ask the computer to run command by giving input as speech
- Command Execution: Based on command received from will execute the command .System accept various command such as opening of specific applications, writing a not and saving it, opening web URL Search for any query or details and shutdown & Restart command.
- Text to speech: One a command is received, application speaks the command which makes user experience more interactive with the system.

IV. IMPLEMENTATION

c. Module I- Speech to Text Module

- User will ask the computer to run command by giving input as speech
- The speech processing includes a speech recognizer residing on a first computing device and a speech model server residing on second computing device.
- The speech recognizer receives speech training speech training data and processes it into an intermediate representation of the speech training data.

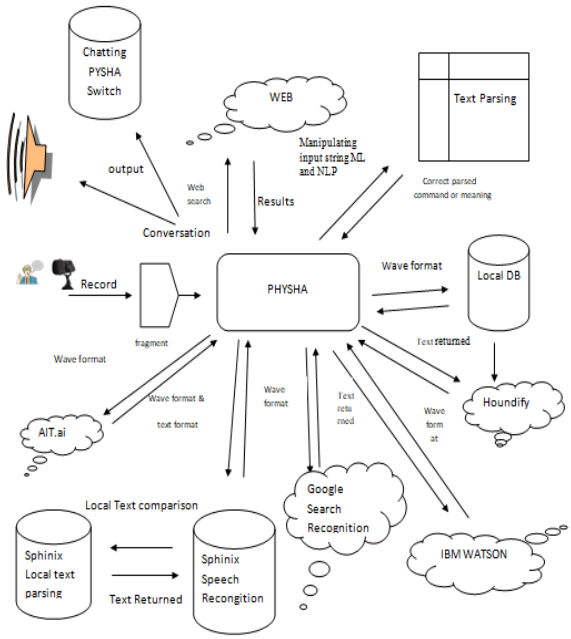
d. Module II- Command Execution

- Command execution: Based on command received from will executive the command.
- System accept various command such as opening of specific applications writing a not and saving it opening web URL Search for query or details and shutdown & Restart command.

e. Module III- Text to Speech

- Once Command is received, application speaks the command which makes user experience more interactive with system.
- The Converter has been complied in a liberal who provides an Application Programming Interfaces (API) to the application.

f. System Architecture Diagram



V. RESULTS

In this project we proposed a voice recognition system called personal Digital Assistance Here, We proposed a spoken dialog content generation system which relies on user-generated content personal Digital Assistant helpful for normal people and blind/visually impaired by having the natural dialogue with the system. The modules of this system makes it flexible, easy to use and easy to add additional features without disturbing current system functionality .In this research, a method to effectively collect user generated contents was proposed and also surveys were conducted on the number of contributors and the content type. As future work, we would like it investigate if recognition of the virtual assistant's speech by user in improved when the system simultaneously provides corresponding visual information.

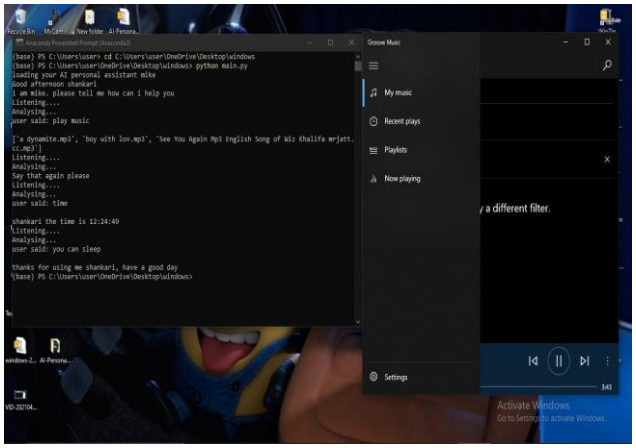


Fig.3 Personal assistant running.

VI. CONCLUSION

This was our project of system Design about "Windows Assistant "Developed as web application based on python and anaconda The development of this system takes a lot of efforts from us. We think this system gave a lot of satisfaction to all of us. Though every task is never said to be perfect in this development field even more improvement may be possible in this application. We learned so many things and gained a lot of knowledge about development field. We hope this will prove fruitful to us.

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