REPORT ON

DESKTOP DIGITAL ASSISTANT

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INTRODUCTION:

An **intelligent virtual assistant** (**IVA**) or **intelligent personal assistant** (**IPA**) is a software agent that can perform tasks or services for an individual based on commands or questions. Sometimes the term "chatbot" is used to refer to virtual assistants generally or specifically accessed by online chat.

In some cases, online chat programs are exclusively for entertainment purposes. Some virtual assistants are able to interpret human speech and respond via synthesized voices. Users can ask their assistants questions, control home automation devices and media playback via voice, and manage other basic tasks such as email, to-do lists, and calendars with verbal (spoken?) commands. A similar concept, however with differences, lays under the dialogue systems.

HISTORY:

The first PDA was released in 1984 by Psion, the Organizer Early PDA's were devices having full keyboard and touch screen, Which was also known as PALMs Which was also known as PALMs. The concept of virtual assistant was first developed by Joseph Weizenbaum of MIT in the late 60s.

The first chatterbot was "ELIZA".

"JULIA" is an example of the second-generation chatterbot.

"ALICE" is example of third generation chatterbot.

The first modern digital virtual assistant installed on a smartphone was Siri, which was introduced as a feature of the iPhone 4S on October 4, 2011. Apple Inc. developed Siri following the 2010 acquisition of Siri Inc., a spin-off of SRI International, which is a research institute financed by DARPA and the United States Department of Defense. Its aim was to aid in tasks such as sending a text message, making phone calls, checking the weather or setting up an alarm. Over time, it has developed to provide restaurant recommendations, search the internet, and provide driving directions.

In November 2014, Amazon announced Alexa alongside the Echo.

In April 2017 Amazon released a service for building conversational interfaces for any type of virtual assistant or interface.

BASIC CONCEPTS USED:

The combination of principles:

- Natural Language Processing
- Automatic speech recognition
- Artificial Intelligence
- Inter Process Communication

The working of virtual assistant uses following principles:

Natural Language Processing:

To Understand user's speech input.

Automatic Speech Recognition:

To understand command according to user's input.

Artificial Intelligence:

To learn things from user and to store all information about behaviour and relations of user.

Inter Process Communication:

To get important information from other software applications.

REQUIREMENTS:

SOFTWARE REQUIREMENTS:

- Visual Studio Code
- Python 3.8
- Programming Language: Python

HARDWARE REQUIREMENTS:

- Intel Pentium/i3/i5/i7 processor
- 512 MB Ram or above
- Microphone
- Speaker

ADDITIONAL REQUIREMENTS:

- Internet
- Installing Required Modules: pip install -module_name-
- Quite Environment

WORKING:

Any Virtual Assistant basically consists of three layers:

- Speech to text
- Text Analyzing
- Interpret commands

Speech to text:

1. A piece of software used that converts audio to text.
2. It does not understand just anything you might say.

Text Analyzing:

1. Converted text is just letters for computer.
2. A piece of software converts text to something that is understandable for computer.
3. Computer understands the command, so Virtual Assistant convert this text to computer command.
4. VPAs maps the words to functions and parameters to create a command that computer can understand.

Interpret commands:

1. In this layer, that mapped computer command, go to server through internet.
2. Simultaneously, your speech evaluated locally.

3. A local recognizer communicates with server to judge whether command will be best handle locally or not.
4. Example: Play music, etc.

AVAILABLE APPLICATIONS

PA	DEVELOPER
SIRI	APPLE
ALEXA	AMAZON
CORTANA	MICROSOFT
GOOGLE ASSISTANT	GOOGLE
XIAOWEI	TENCENT
SILVIA	COGNITIVE CODE
MYCROFT	MYCROFT AI

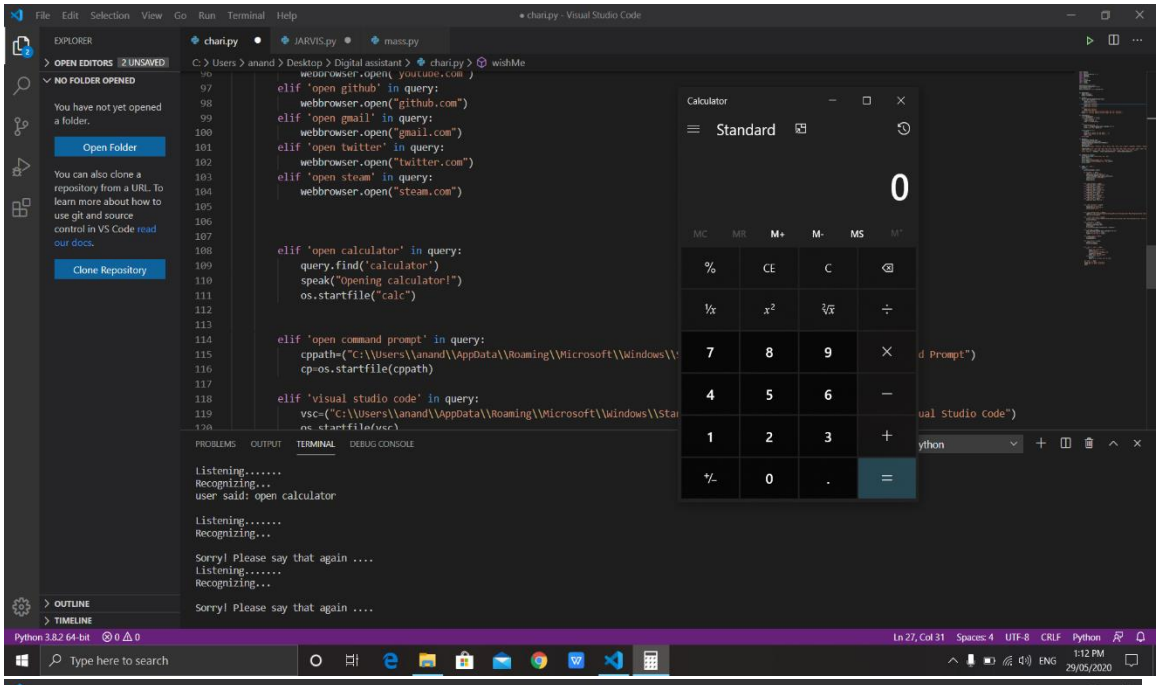
SAMPLE OUTPUT:

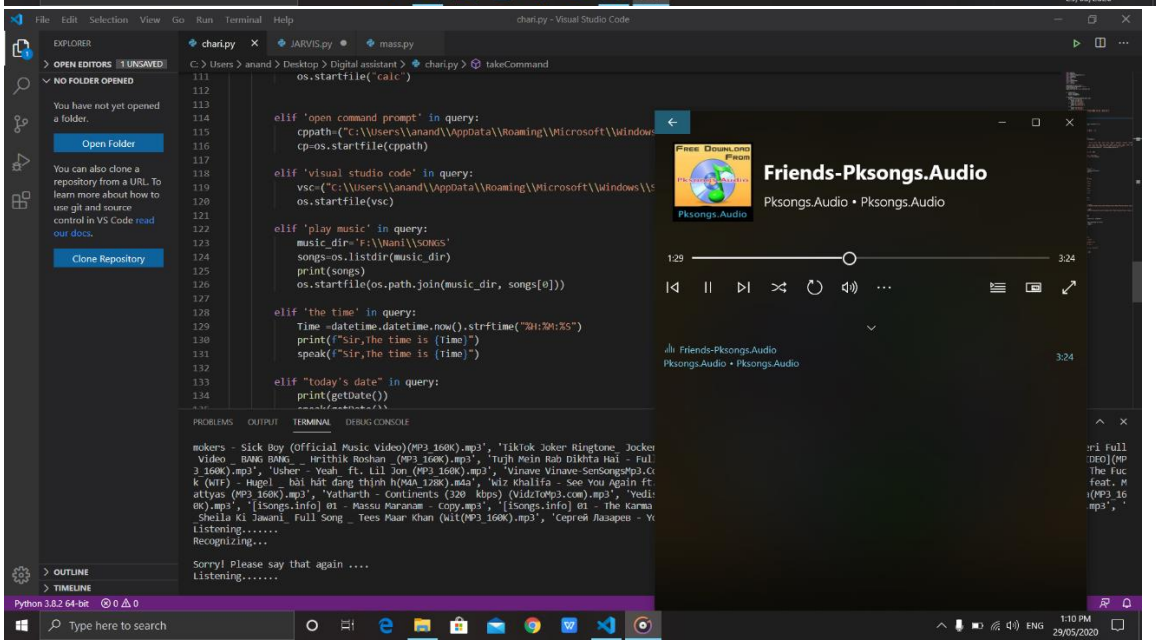
PERFORMING TASKS:

Playing music

Opening different files

Date and Time .etc





ADVANTAGES:

- Easy to use
- Can work with variety of commands
- Helpful for disabled
- Get immediate relief
- Manage using voice

DISADVANTAGES:

- Clear speech
- Limited language support
- It cannot work efficiently in noicy environments

  Not available to meet you in person; you may never meet them in person if they are a significant distance away.
- It is unlikely you will be able to train your assistant as such.

CONCLUSION:

- ❖ Digital Assistants are very effective way to perform your tasks.Now there are many smart digital assistants applications are available in market for various device platforms

- ❖ It is a Digital and virtual assistant with artificial intelligence. It is very flexible and useful technology. It provides a better interface to deal with it.

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