MINI PROJECT – II
(2021-22)

Voice Assistant in PC

SYNOPSIS

Institute of Engineering & Technology

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CONTENT:

About the Project:

Speech is the most basic means of adult human communication. The basic goal of speech processing is to provide an interaction between a human and a machine.

Speech recognition allows the machine to catch the words, phrases and sentences. Natural language processing is to allow the machine to understand what we speak, and speech synthesis to allow the machine to speak.

In this project we make use of the above feature to create an Automatic Speech Recognition System to make our systems make use of our voice commands to perform real life tasks. For example sending an E-mail, telling what time is it, searching for something on Wikipedia and opening files present on our Systems etc.

Motivation:

We were motivated to create this project through inbuilt AI like Microsoft Cortana, Google Assistant and we are quite interested in creating our own AI Voice Recognition System using Python as our primary language. We were also intrigued to work on this project because of its many future prospects and applications.

Speech recognition is also used in automatic dialogue systems. Such typically automated telephone answering systems hold information about a specific domain and can be interacted with in natural speech. A user's speech is detected, analysed, appropriate queries are made or activities performed, and an answer is generated, which is then once again converted into speech with the speech synthesizer. Apple's Siri and Google Now are examples of such dialogue systems.

Technology Used:

a) Hardware:

- Microphone
- Speaker
- 1 TB storge
- 8 GB RAM desktop

b) Software:

- Visual codes
- Python packages
- Operating System (windows,Linux)

c) Language Used:

- Python programming language

Future Prospects:

a. Voice to Speech Conversion over using text commands.

b. Interactions between Machines and Humans made easy.
Better AI system functionalities.

c. Voice recognition enables consumers to multitask by speaking directly to their Google Home, Amazon Alexa or other voice recognition technology. By using machine learning and sophisticated algorithms, voice recognition technology can quickly turn your spoken work into written text.

d. Speech recognition can allow students with learning disabilities to become better writers. By saying the words aloud, they can increase the fluidity of their writing, and be alleviated of concerns regarding spelling, punctuation, and other mechanics of writing

TARGET USER:

Basically the users targeted:

In-car systems

- Simple voice commands may be used to initiate phone calls, select radio stations or play music from a compatible smartphone, MP3 player or music-loaded flash drive.

Military

- In these programs, speech recognizers have been operated successfully in fighter aircraft, with applications including: setting radio frequencies, commanding an autopilot system, setting steer-point coordinates and weapons release parameters, and controlling flight display.

Usage in education and daily life User:

- Speech recognition can allow students with learning disabilities to become better writers. By saying the words aloud, they can increase the fluidity of their writing, and be alleviated of concerns regarding spelling, punctuation, and other mechanics of writing.

REFERENCE

https://www.tutorialspoint.com/artificial_intelligence_with_python/artificial_intelligence_with_python_speech_recognition.htm

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