DPS RUBY PARK

COMPUTER SCIENCE

PROJECT SYNOPSIS

Topic: AI Voice assistant

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OBJECTIVE OF THE PROJECT

The objective of this project is to code a voice assistant with AI. This voice assistant would be able to answer some normal daily life questions and interact with you .It will use your voice as an input and give you the output and give you the required output accordingly. This can ease life a lot as we won't have to type to search up something .It can just be done by a voice command.

Some common examples of AI voice assistants are Google assistant, amazon echo, Siri, Jarvis which is seen in marvel movies like Iron man 3.

What is an AI personal assistant?

An AI personal assistant is a piece of software that understands verbal or written commands and completes task assigned by the client. It is an example of weak AI that is it can only execute and perform quest designed by the user.

EXPECTED INPUTS AND OUTPUTS

A few inputs the code can process are as follows:-

- ‘What is the time?’-The code will reply with current time.
  Date can be asked similarly
- When a question is asked, the code can answer by searching up Google and replying with what was found on Google.
- It can extract information from Wikipedia and narrate it.
- It can solve arithmetic problems by using Wolfram alpha.
- It can get headlines from news.
- It can interact with your operating system, i.e. it can open up apps, manage tabs, etc.

Python modules being used:-

- [ ] Speech recognition
- [ ] pyttsx3
- [ ] Wikipedia
- [ ] Ecapture
- [ ] Datetime
- [ ] Os
- [ ] Time
- [ ] Web browser
- [ ] Subprocess
- [ ] Json
- [ ] Wolframalpha
- [ ] Request

The above programs will be learnt and implemented for coding the program.

Function of few of the modules-

- pyttxs3 is a text to speech conversion library in python.
- os module is a standard library in python and it provides the function to interact with operating system.
- The json module is used for storing and exchanging data.
- Wolfram alpha is an API hich can oerform high level maths problem solving.
- The request module is used to send all types of HTTP request.

SCOPES OF THIS CODE:

- The code can perform most of the things that can be done by a machine just by using voice recognition.
- It can perform high level math problems and also simple arithmetic problems.
- It helps in searching longer sentences without typing which can be painful in some scenarios.
- When run on pc it can open videos and images which can help in understanding the results of your research.
- Also on a pc it can help search for files and apps can be opened easily on a voice command.

LIMITATIONS OF THE PROJECT:

- The AI may listen to you without you wanting it to sometimes, which can lead to some security issues or some privacy problems. This is a general problem in most of the voice assistants.
- The voice recognition is not perfect as people talk in a vast range of accents and tones and sometimes the wording might just not be clear.
- Most of the times such voice assistants don’t have screens so they can’t be used to look up images when the device doesn’t have a screen.

HARDWARE AND SOFTWARE USED:

The project is done in jupyter notebook (anaconda 3). The python version used is 3.7 .

PC specs

Processor- Intel(R) Core(TM) i5-7200U CPU @ 2.50GHz 2.70 GHz

RAM- 8 GB

Windows specifications

Edition- Windows 10 Pro

Version- 20H2

OS build- 19042.1237

Experience- Windows Feature Experience Pack 120.2212.3530.0

Bibliography:

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https://www.youtube.com/watch?v=Lp9Ftuq2sVI&t=722s