DESIGN AND IMPLEMENTATION OF VOICE BASED APPLICATION USING PYTHON

Team Details-

Project Guide : Mr. Manish Sharma

1)Mansi Joshi (CT15067)

2)Rishi Kumar (CT15113)

3)Bhupender Yadav (CT15115)

4)Aditya Gaurav (CT15117)

Problem Statement - Implementation of voice based application by using python

Problem Objectives -

a) Interact with system by using voice commands

b) To open browser using voice command

c) To play music and video

d) To open notepad

Introduction -

A Voice based intelligent Personal Assistant named which helps in Performing tasks written in Python.

It can help us to play music, play video, open notepad and open browser through our voice.

Literature Survey

Python is one of the most popular programming languages that people should consider learning and it comes with several choices to get started with Voice based project. There are many open libraries for speech recognition available in Python. One should choose them wisely as many of them don't function anymore with newer versions of Python. As the name suggests, Voice based project deals with

text-to-speech conversion process. While many Python libraries are available that offer voice recognition.

Research paper is as follow-

Study of Voice Controlled Personal Assistant Device by Abhay Dekate, Chaitanya Kulkarni, Rohan Killedar from Department of Computer Engineering, AISSMS College of Engineering, Pune, Maharashtra, India.

In the Modern Era of fast moving technology we can do things which we never thought we could do before but, to achieve and accomplish these thoughts there is a need for a platform which can automate all our tasks with ease and comfort .Thus we need to develop a Personal Assistant having brilliant powers of deduction and the ability to interact with the surroundings just by one of the materialistic form of human interaction i.e. HUMAN VOICE. The Hardware device captures the audio request through microphone and processes the request so that the device can respond to the individual using in-built speaker module. For example, if you ask the device 'what's the weather?'or 'how's traffic?' using its built-in skills, it looks up the weather and traffic status respectively and then returns the response to the customer through connected speaker.

Proposed approach and system architecture-

An easy access to machine with voice commands is the revolutionary way of human system interaction. To achieve this, we need to use speech to text API for understanding the input. The overall system design consists of following phases-

(a) Voice analysis and conversion to text

(b) Generating speech from the processed text output

In first phase, the data is collected in the form of speech and stored as an input for the next phase for processing. In second phase, the input voice is continuously processed and converted to text using gtts. In next phase the converted text is analysed and processed using Python Script to identify the response to be taken against the command.Finally once the response is identified, output is generated from simple text to speech conversion .

Plan of implementation –

1. Understanding the project - 13th DEC 2017 to 19th DEC 2017

2.Gathering information and learning about python API - 20th DEC 2017 to 26th DEC 2017

3.Getting Started and Birth ofthe Program- 27th DEC 2017 to 2nd JAN 2018

4.Making Intent and adding Entities- 3rd JAN 2018 to 16th JAN 2018

5.Building Program Functions- 17th JAN 2018 to 30th JAN 2018

6.Integration and otherstuff- 31st JAN 2018 to 13th FEB 2018

7.Updations and other stuff - 14th FEB 2018 to 27th FEB 2018

8.And That's a Wrap- 7th MARCH 2018

Tools and Libraries used –

1)Python 3.6.3
2) gtts
3)speech recognition
4)Command prompt

References-

Internet:

1. **en.wikipedia.org/wiki/Artificial_intelligence**
2. **docs.python.org/3/library/index.html**
3. **pypi.python.org**
4. **www.tutorialspoint.com/artificial_intelligence**

Books:

1.Learn Python the Hard Way (Author: Zed Shaw)
2.Artificial Intelligence A Modern Approach (Author:Stuart J. Russell and Peter Norvig)
3.Artificial Intelligence (Author: Patrick Henry Winston)