

DEPARTMENT

OF

COMPUTER SCIENCE AND ENGINEERING

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PROJECT – II

SYNOPSIS ON

“DESKTOP ASSISTANT”

SUBMITTED BY

T.Y.B.Tech Div – B

GROUP – I

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Abstract

* This project thesis looks at how new technologies can be used to develop an intelligent Desktop Assistant that focuses on user-based data. It will analyse the possible utility of one single piece of software as a Desktop Assistant by looking at examples of intelligent programs with natural language processing that are now available, with various categories of support. Natural Language Processing is used to activate the ability to communicate socially, storing (and evaluating) information in the context of the user. New technology, it is suggested, may soon make the concept of desktop assistants a reality. Experiments conducted on this system, combined with user testing, have provided evidence that a basic program with natural language processing algorithms in the form of a Desktop Assistant, with basic natural language processing and the ability to function without the need for other type of human input (or programming) may already be viable. Keywords: Voice Assistant, Desktop Voice Assistant, Python Project, Assistant Using Python.

Introduction

* Human interaction is rapidly being supplanted by.
* Performance is one of the key reasons behind this shift.
* Rather than progress, technology has undergone a significant transformation.
* In today's world, we use technologies like Machine Learning and Neural Networks to teach our machines to do their jobs on their own or to think like people.
* With the help of Desktop assistants, we may now communicate with our machines in the modern world.
* Companies such as Google, Apple, Microsoft, and others have Desktop assistants such as Google Now, Siri, and Alexa that allow users to operate their machines just by speaking to them.
* These types of virtual assistants are beneficial to the elderly, the visually and physically challenged, children, and others by ensuring that interacting with machines is no longer a challenge.
* Even blind persons who are unable to see the computer can communicate with it just through their voice

Problem Statement

To create a Desktop Assistant using python features like natural language processing (NLP) and voice and speech recognition.

Objectives

* + Our virtual assistant is a desktop assistant that uses speech recognition.
  + It can understand and carry out the audio instructions given by the user.
  + We don't have to worry about using input devices like the keyboard and mouse, so we'll use them less.
  + It also saves the user a lot of time.
  + People who are blind, elderly, or physically disabled can engage with equipment via the virtual assistant.
  + As a result, these impaired persons can now interact as well.
  + So, with the voice assistant, we're moving to the next stage of technological innovation, when we'll be able to converse with our machines.

Proposed System Architecture

* The system to be developed here is a Virtual Desktop Assistant.
* This system is based on Functional Programming.
* The main structure is linked with small modules containing specific task which is to be performed
* The keyword “import” is used to link all the small modules with main structure.
* This Virtual Assistant can be used to perform multiple tasks such as getting Aggregate Percentage (RTMNU), Random Password Generator, etc.
* Basically, it provides helping hand to all the students.

Voice Input

YouTube

Wikipedia

Google

Speech Recognition

Core Processing Module (CPM)

Email Module

Image processing

Speech Synthesis

Speaker Output

Speech Recognition

Voice Input

1. User Input (Voice Command): Initially, the assistant electro will greet the user with respect to time and then ask the user for task and then listen to it.
2. Assistant: Here the assistant consists of three sub blocks i.e. Convert The Voice Input into Text: Perform the Task: Display Output:

a. Convert the Voice Input into Text: Here with the help of speech recognition module the electro will convert the input command into text.

b. Perform the Task: Now according to the user input the electro will perform the task.

c. Display Output: The result of the given task is shown here.

d. Feedback: The assistant will run in a loop i.e., keep asking for the input and the performing the tasks until “turn off” command is given. The turn off command will break the loop

Modules

* **Pyttsx3:-** This module is used for the conversion of text to speech in a program it works offline. To install this module type the below command in the terminal.  
  **pip install pyttsx3**
* Speech Recognition:- Since we’re building an Application of voice assistant, one of the most important things in this is that your assistant recognizes your voice (means what you want to say/ ask). To install this module type the below command in the terminal.
* **Date time:-** Date and Time are used to showing Date and Time. This module comes built-in with Python.
* Wikipedia: It is inbuilt function in Python that is used for getting any information through Wikipedia.
* Web browser: Browsing websites like google, youtube, etc.

System Requirements

* 1-gigahertz (GHz) 32-bit (x86) processor or 1-GHz 64-bit (x64) processor Windows 10 or later 32 or 64 bit operating systems
* 4 GB of system memory
* 1 GB of free hard disk space (program files and blank database, plus 1 MB per client) Windows-compatible pointing device
* 16 bit True Colour display adapter
* Monitor capable of 800 x 600 or higher screen resolution Internet connection

Conclusion

* Now we can chat, question, and even give orders to complete the task. This technological innovation is propelling the planet forward.
* When we consider the future capabilities of voice recognition and facial detection, we can see how they can assist security services in verifying criminal details and so on.
* If we look back two decades, our remarks might not have carried as far as we could have expected.
* Desktop Assistant performs many of the same functions as a smartphone, such as managing several applications via voice commands.
* It allows you to access the system without having to type anything.
* An individual can access the system using facial recognition, and face detection helps to secure the data by ensuring that no other person can access the system.
* It employs machine learning algorithms and assists users in gaining secure access.

Reference

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