Project Work-1

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Virtual assistance

A Synopsis

for

Project Work-1

BACHELOR OF TECHNOLOGY in COMPUTER SCIENCE &

ENGINEERING

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**Introduction**

Nowadays, the event of AI (AI) which may kind natural human-machine interactions (speech\voice communication, gestures recognition, facial expressions etc.) are becoming noted. the foremost studied and noted was the interaction of direction, primarily supported the understanding of the system. It not exists that a person's learns to speak with a system, however currently a computer system learns to speak with a person's, looking and traversing their actions, habits, behaviour, or nature and creating efforts to become his customized assistant. Virtual assistants square measure application code programs that facilitate the user to try and do their daily tasks simply, even as showing the weather data or reports, making reminders, creating lists for searching, etc. We know some of the virtual assistants, like Google's Google Assistant, Apple's Siri, Amazon's Alexa, and Microsoft's Cortana. this method is specifically designed to work effectively on desktops. Personal Assistant application code ameliorates users' productivity by organizing routine tasks and by dispensing data from an internet supply to the user.

This project started on the assumption that there is an adequate amount of openly obtainable information & data in the Internet that can be utilized to make a virtual assistant that has ability to building intelligent decisions for the regular user activities. In this modern world, almost everything is getting digitalized. We have smartphones with us and it is equal to having the world at your fingertip.

Nowadays we are not even using our fingers to type or touch. We just speak about the task and task gets done by virtual assistant. The virtual assistant must also support some specialized tasks such as translation, weather

reports, buzzing, searching, browsing, any task, etc. Voice searches have subordinates’ text-based web searches conducted through smartphone devices that just overtaken those carried out by using a computer system and

the analysts are foretelling that 70% of searches will be via speech\voice by 2023. Virtual assistants are getting out smarter than ever. Let your Virtual assistant work for you, pick out information and deliver a good response.

The main aim of this project is to make a program that will be able to service humans like a personal assistant.

This software aims at developing a virtual assistant for windows-based systems. The purpose of this application-software is to perform and execute the user's tasks for certain commands, given in either speech or text. It will ease the work of the user.

1. **Literature Review**

Speech recognition has several waves of major innovations. Speech recognition for dictation of voice, search, and voice commands has become a standard feature on smartphones and various other devices.

To this aim, a conversational assistant, capable of answering common questions, has been combined with a content discovery engine that is more suitable for finding the proper answers from a collection of heterogeneous sources. Many companies of voice assistants are trying to improve interaction and more features to the next level and many of the youth started using a voice assistant in daily life and from many sources the result showed very good feedback. Smart assistants are useful in many fields such as education, home appliances, etc. and the voice assistant is also useful for blind people. They can get any information just by telling the assistant, and this is possible because voice-based Smart assistants. We are using raspberry pi for SSH and different module connections. Raspberry pi is a low cost and small size computer that plugs into a computer or monitor with the help of connectors and standard keyboard and mouse. Raspberry pi having 40 GPIO pins on its window through the menu. After that go to Advanced Options to select enable SSH.

1. **Problem Definition**

Artificial Intelligence personal assistants have become plentiful over the last few years. Applications such as Siri, Bixby, Ok Google and Cortana make mobile device users’ daily routines that much easier. You may be asking yourself how these functions. Well, the assistants receive external data (such as movement, voice, light, GPS readings, visually defined markers, etc.) via the hardware’s sensors for further processing - and take it from there to function accordingly. Not too long ago, building an AI assistant was a small component of developers’ capacities; however, nowadays, it is quite a realistic objective even for novice programmers. To create a simple personal AI assistant, one simply needs dedicated software and around an hour of working time. It would take much more time, though, to create something more advanced and conceptually innovative. Nonetheless, well thought-out concepts can result in a great base for a profitable startup. Let us consider the six most renowned applications based on artificial intelligence concepts that can help create your virtual AI assistant app.

1. **Objectives**

* A virtual assistant is a self-employed worker who specializes in offering administrative services to clients from a remote location, usually a home office.
* Typical tasks a virtual assistant might perform include scheduling appointments, making phone calls, making travel arrangements, and managing email accounts.
* Some virtual assistants specialize in offering graphic design, blog writing, bookkeeping, social media, and marketing services.
* For an employer, one advantage of hiring a virtual assistant is the flexibility to contract for just the services they need.

1. **Methodology**

Through this voice assistant, we have automated various services using a single line command. It eases most of the tasks of the user like searching the web, retrieving weather forecast details, translating words from one language to another language, accessing youtube videos, sending mail through voice, and solving computational queries. We aim to make this project a complete User Interface based project and give the user all its queries on the very same User Interface.With the advancements in technology, particularly in Artificial Intelligence, we can extend the scope of the project with Home Automation The IDE used in this project is PyCharm. All the python files were created in PyCharm and all the necessary packages were easily installable in this IDE. For this project following modules and libraries were used i.e. pyttsx3, SpeechRecognition, Datetime, Wikipedia, Smtplib, pywhatkit, pyjokes, pyPDF2, pyautogui, pyQt etc. I have created a live GUI for interacting with the JARVIS as it gives a design and interesting look while having the conversation.

Functionalities of this project include, It can send emails, It can read PDF, It can send text on WhatsApp, It can open command prompt, your favorite IDE, notepad etc., It can play music, It can do Wikipedia searches for you, It can open websites like Google, YouTube, etc., in a web browser, It can give weather forecast, It can give desktop reminders of your choice. It can have some basic conversation.

1. **Resultant and conclusion**

Voice assistants can carry out even more complex tasks like Web Search, etc. At its core, this technology might have its own trials and tribulations, but it is still a boon for many who might have been kept in the dark with all spheres of technological developments. Apart from this, it is just too beneficial a technology to not go through continuous research and development. The functionality is seamless enough to replace the Server Administrator with Vecca.

Among the Various roles played by Vecca are:

1. Open Search Engine with voice interactions

2. Playing songs and videos on voice commands.

3. Reminder and To-Do application.

4. Sending emails and opening browsers.

5. Opening ANY Application.

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