iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 10 **Issue:** II **Month of publication:** February 2022

DOI: https://doi.org/10.22214/ijraset.2022.40418

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International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 10 Issue II Feb 2022- Available at www.ijraset.com

Genius – Personal Assistant

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Abstract: ***The Genius Personal Assistant is a Voice Assistant System for laptop or desktop. As some of the physically handicapped people cannot use a laptop or mouse, keyboard properly also old age people could have problem to see the laptop's screen. So, by using this system, the users can perform their tasks more efficiently. The user can tell to system what they want to do and that will be taken as voice input the system. After that the speech to text conversion will be performed and output according to that will be given to the user. We are implementing this project using different python libraries.***
Keywords: Voice Assistant System, Speech to text conversion, Python libraries.

I. INTRODUCTION

The main goal of our project is to make an intelligent personal assistant which can performs tasks of users with the help of voice user interface which is used to listen and process audio commands. We are continuously looking for ways to make working with computers easier and more convenient, one of such methods is controlling or operating the computers using voice commands, this process is known as speech recognition. In this system the user's command will be taken from user voice input and converted into text to fetch relevant information according to the user's command. Then output will be given to the user. This system will also be useful in many other fields such as education and daily life purpose.

II. LITERATURE REVIEW

As given in abstract that some of the physically handicapped people are not able to use a mouse and keyboard also old age group people are not able to see the mobile screen or laptop's desktop. So, for this problem there is an existing system which is Voice Assistant. The Artificial Intelligence-based Voice Assistant can be one of the useful solutions for above problems.

We refer a research paper "Artificial Intelligence-based Voice Assistant". That research paper was about the implementation of Artificial Intelligence-based Voice Assistant using python programming language. The features they implemented in their system was Google Search, Playing music on YouTube, Search Location and Current News. We are trying to add some extra features in it like sending messages on WhatsApp, opening applications etc.

III. PROPOSED SYSTEM

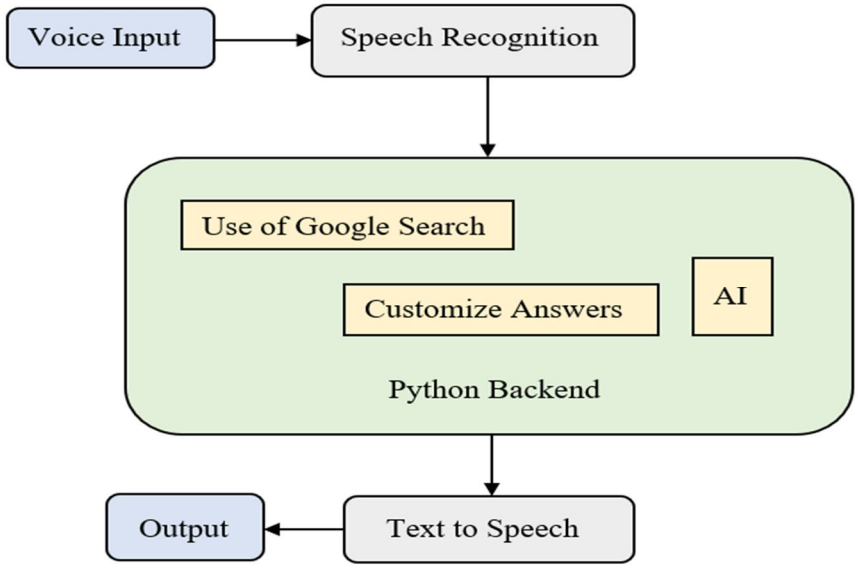


Figure 1: System Architecture

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A. System Architecture

As shown in figure, this system will work on the primary input of the user's voice. Using voices as an input it will convert it into text using speech recognition. The text which is produced by speech recognition will be used for query processing and fetching relevant information. The fetching of information will be done from different sources like by using Google Search, customize answers and AI which we are going to write while implementing this model. Once the information fetched then it will be converted to speech using text to speech and relevant output will be given to the user.

B. Module Description

The modules we are using to implement this system are as follows:

1) *Speech Recognition Module:* The speech recognition module is used to recognize voice pattern and to convert it into text. So, we will use it for converting the voice command of the user into the text which will be used for work of information fetching.
2) *Python Backend:* In the python back-end, we will code it for giving appropriate answers of the commands of users. First, we will implement the use of google search for the command which can be given the appropriate output using google search like search for information regarding anything or location etc. Second, we will implement the customize answers like if user asks today's date, then system will tell the today's date to the user. Third, we will implement AI like if user using system in the morning, then it will say good morning to user likewise good evening when evening.
3) *Text to Speech Module:* Text to speech module is used to convert the written text into speech or human audio. So, to give the final output in speech format to user we will use text to speech module.

IV. CONCLUSION

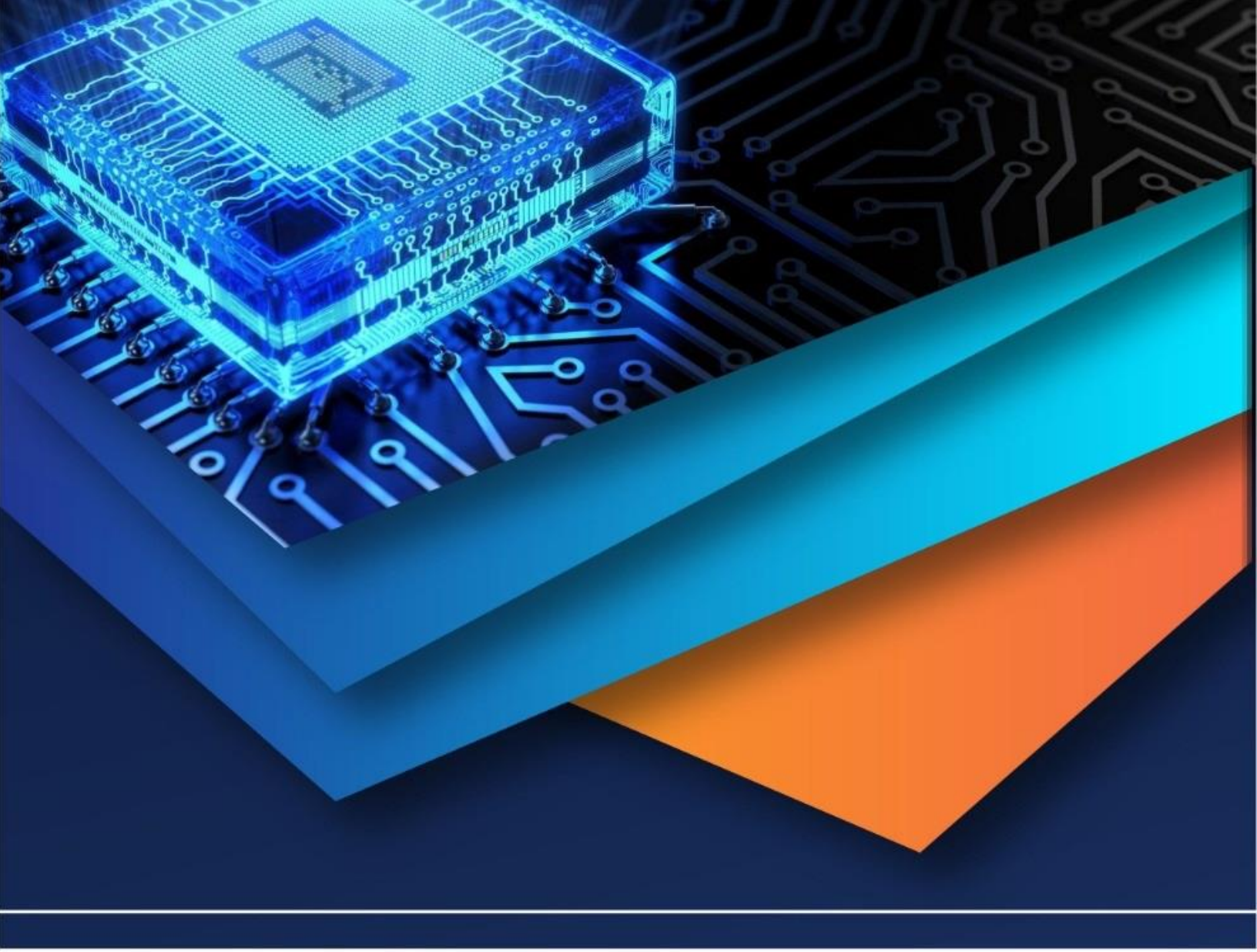
The purpose of this project is to provide efficient system to the users who are handicapped or old and have a problem with handling laptop. Also, it can be helpful for the kids who cannot type they can use this system as it works on voice inputs.

The Genius personal Assistant has huge scope in future:

1) Can make a system with Multilanguage Support.
2) Can provide a feature which can tell if system get hacked.

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10.22214/IJRASET

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