ASSIGNMENT 1

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SMART ADVANCED VOICE ASSISTANT

PROJECT NAME – **RAPTOR**

I. INTRODUCTION

Upcoming trending technologies such as virtual reality, augmented reality, voice interaction, IOT etc are changing the way people engage with the world and transforming digital experiences. Voice control is one of important development of human-machine interaction, which was possible because of advancement in Artificial Intelligence. In recent time great appearance of voice assistants such as Apple's Siri, Google's Assistant, Microsoft's Cortana and Amazon's Alexa have been noticed due to heavy use of smartphones. Voice assistants uses technologies like voice recognition, speech synthesis, and Natural Language Processing (NLP) to provide various services which help users to perform their task using their machine by just giving commands in voice format and also with the help of Voice Assistant there will be no need to write the commands again and again for performing particular task.

The basic idea of our Project is that the user makes a request to voice assistant through the Microphone of the device to get their work done and then their command gets converted into text. Then the text request goes to processing gives text response along with work done by voice assistant. Along with basic day to day functionalities we are also trying to implement the concept of Face detection for security purpose in our voice assistant to make it more flexible and to it make it more personal. our program uses the least amount of system resources

II. Some Reasons why there is necessity of voice assistants:

There are lots of reason why this verbal voice command application is in need in real time situations. Some of them are given below.

- To enable a highly engaging user experience: Voice assistance engages users like no other interface. Users can speak to the applications naturally to ask for whatever they'd like.

- To make application frustration free: We have to touch, type and mouse in the existing machine system to getting our work done, which are makes user frustrated sometimes. By using voice assistant users can directly ask what they wanted to get done.
- To personalize your app experience for every user: Voice assistants are actually able to respond for every user based on their locality, language and preferences.
- To Remove Language Barriers: Voice Assistant technology are blended with Translation services which helps users to handle them in their own language without concerning about language barriers which allows them to interact more freely with voice assistant.

III. Several interesting services for their users such as:

- Answer to questions asked by users.
- Play music from streaming music services and Playing YouTube videos.
- Set timers or alarms.
- Send WhatsApp, email messages.
- Provide information about the weather.
- Control other smart devices (lights, locks, thermostats, vacuum cleaners, switches). The capabilities of voice assistants are continuously extending according to the users need.
- People express their emotions primarily through their facial expressions. Our system aims to capture a person's emotion through facial expressions. The emotion will be detected and the music player will start playing particular music. The person should be in the area containing light so that the detection is clear.
- Attendance tracking is the most difficult task in any organization. The facial recognition feature embedded in the attendance monitoring system not only ensures accurate attendance but also eliminates flaws. Using a system to overcome defects not only saves resources but also reduces human intervention in the overall process by delegating all complex tasks to the system.

IV. DISCUSSION

- In the communication between human and machine arrangement was done through analog signal that is remodeled by speech signal to digital wave. This technology is massively used, it has limitless uses and permit machines to reply appropriately and steadily to user voices, cojointly offers helpful and appreciated facilities. Speech Recognition System (SRS) is rising

more and more and has indefinite applications. The analysis has disclosed the outline of the procedure; it is a straightforward model.

- In coming days our planned system is applied in multilingual application in order that someone will use the application in their own language without any trouble. additionally, our planned system is organized with the IoT. In future our planned system will be able interpret the text description in a much better way. The Image recognition is used with way more details regarding the image took through the camera. Enhancement to the present system is done by adding the option of currency recognition.

V. CONCLUSION:

In this Paper we have discussed uses, methodology as well as implementation details of the personal Desktop based voice assistant using Python which is built using open-source software PyCharm as an implementation tool. This Project will be helpful for people of all generations as well as to people with some disabilities or people with some special cases. The personal voice assistant will be easy to use and will reduce the manual human efforts for performing various tasks. The functionality of the current voice assistant system is limited to working on Desktop based and working online (required to have internet connection to perform tasks) only. The voice assistant system is modular in nature so that addition of new features is possible without disturbing current system functionalities.