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ARTIFICIAL INTELLIGENCE-BASED VOICE ASSISTANCE FOR COLLEGE

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ABSTRACT:

Voice control is a major growing feature that change the way people can live. The voice assistant is commonly being used in smartphones and laptops. AI-based Voice assistants are the operating systems that can recognize human voice and respond via integrated voices. This voice assistant will gather the audio from the microphone and then convert that into text, later it is sent through GTTS (Google text to speech). GTTS engine will convert text into audio file in English language, then that audio is played using play sound package of python programming Language..

Virtual Personal Assistant (VPA) is one of the most successful results of Artificial Intelligence, which has given a new way for the human to have its work done from a machine. This project gives a brief survey on the methodologies and concepts used in making of an Virtual Personal Assistant (VPA) and thereby going on to use it in different software applications. Speech Recognition Systems, also known as Automatic Speech Recognition (ASR), plays An important role in virtual assistants in order to help user have a conversation with the system.

In this project, we are trying to make a Virtual Personal Assistant ERAA which will include the important features that could help in assisting ones' needs. Keeping in mind the user experience, we will make it as appealing as possible, just like other VPAs. Various Natural Language Understanding Platforms like IBM Watson and Google Dialog flow were studied for the same.

I. INTRODUCTION:

An intelligent virtual assistant (IVA) or intelligent personal assistant (IPA) is a software that performs tasks or services for a user based on commands or questions. The term "chat bot" is sometimes used to refer to virtual assistants that are generally accessed by online chat. Some times online chat programs are just for entertainment purposes. Some virtual assistants are able to interpret human speech and respond via synthesized voices. Users can ask their assistants questions, control home automation devices and media playback via voice, and manage other basic tasks such as email, to do lists, and calendars with some verbal commands. A similar concept, however with differences, lies under the dialogue systems.

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FIG 1 INTELLIGENT VIRTUAL ASSISTANT

As of 2017, the capabilities and usage of Virtual Assistant are expanding rapidly with the launch of new products, with a focus on both email and voice user interfaces. Apple and Google have a large installation base for smartphone users. Microsoft has a large installation base for Windows-based PCs, smartphones, and smart speakers. Amazon has a large installation base of smart speakers. Conversica is an intelligent virtual assistant for businesses with over 100 million interactions via email and SMS interfaces. Today, virtual assistants are not just machines, but people whose primary task is to help employers virtually perform certain online tasks. Most of the time, this person lives in another part of the world.

II. EXISTING METHODOLOGY:

The existing method is the situation of a traditional student-to-lab assistant. Most educational labs are usually made up of knowledgeable people assigned to a group of students, clarifying questions and explaining how to use common lab equipment. A typical lab session consists of performing specific experiments related to a particular lab. The mission of the laboratory technician is to outline the experiment to be performed, explain how to use each item in the device and how to use it, and give a step-by-step demonstration to carry out the experiment. However, the demonstration part of the process may not be duplicated by the voice assistant, but the communication part is possible. Another major task of the lab assistant is to answer the student's doubts while working on the experiment. Frequently asked questions in a particular lab can be noted along with their answers and used in our way. Therefore, lab assistants do not have to repeatedly answer individual students in each lab session.

FIG 2TRADITIONAL LAB ASSISTANT.

Frequently asked and possible questions that may arise during the course of the experiment are collected in each lab and can be used in the application. With the existing method, if multiple students attend sessions at different times, the lab assistant will need to 6 explain the theory of the experiment in each session. However, with this application, you can

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always access your lab session if you want to attend a course. The additional repetitive work of the assistant is reduced. The overall point of automation is to reduce the amount of unconscious work and use machines instead. Our method is a simple, repetitive lab assistant task, automated for convenience. Prior to laboratory technicians had to manually record their presence. In our application, face recognition can detect the presence. In addition, students can avoid cheating while attending because they cannot cheat without actually attending the class. Each student has their own application and can be accessed individually at any time.

FIG 2.1 TRADITIONAL RECEPTIONIST

In the traditional way students ask questions, the group of students has only one teacher, so they had to wait their turn to clarify the question. This can take a long time to answer each student's question individually, and if two or more students have the same question, it is a waste of time to solve the same question over and over again. Will be. Automation is useful here. All we have to do is feed the request and its response accordingly. All students visiting the lab have access to these questions and answers.

III. PROPOSED METHODOLOGY:

The proposed method overcomes the shortcomings of existing methods by automating the work done manually. The proposed model contains many features. Each student has access to an application that consists of a language assistant. Students can access the application individually at any time. Students can ask subject-related or science-related questions and receive answers. All of these questions and answers are predefined in the database. Frequently asked or possible questions are provided with answers. If a student has a new or unique question, the database updates the question with an answer.

It is also necessary to have students who recognize their faces and participate in the class. The application can perform the following tasks:

- Answering student queries
- Helping in labs for errors and technical issues
- Personal assistance ex: sending mails , setting remainders etc.
- Certificates , exams , scholarships related information
- Class time tables , notice board information
- Image processing ex : reducing image/file sizes, converting images etc.

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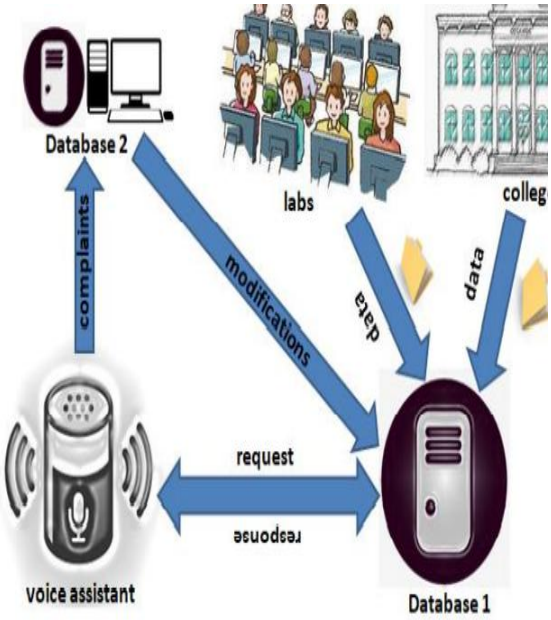
• taking attendance using face recognition .

FIG 3DATA FLOW



IV. RESULTS:

Hence, the following results are obtained when the code is executed:

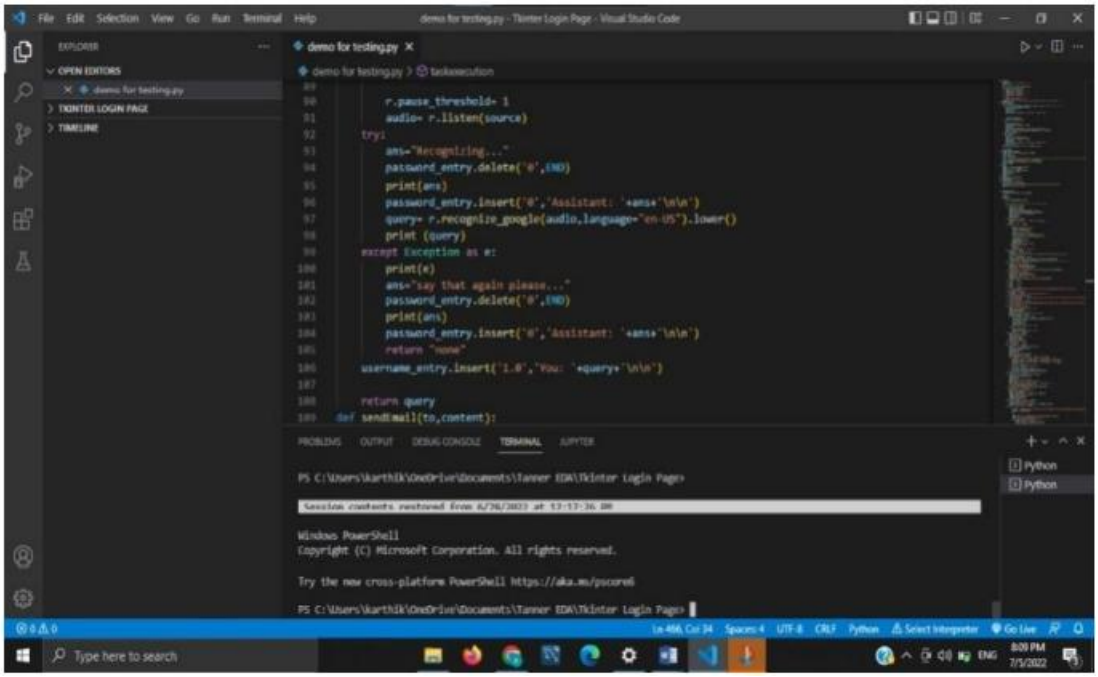


Fig 4.1.1 RESULT FOR CODE

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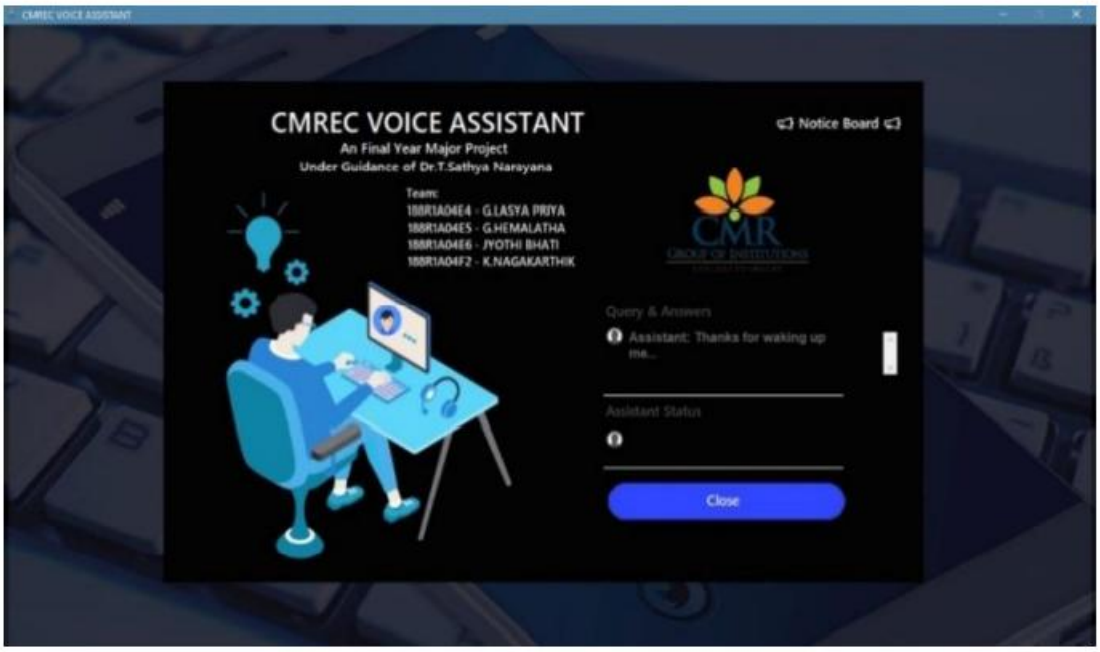

Fig 4.1.2 LOGIN PAGE

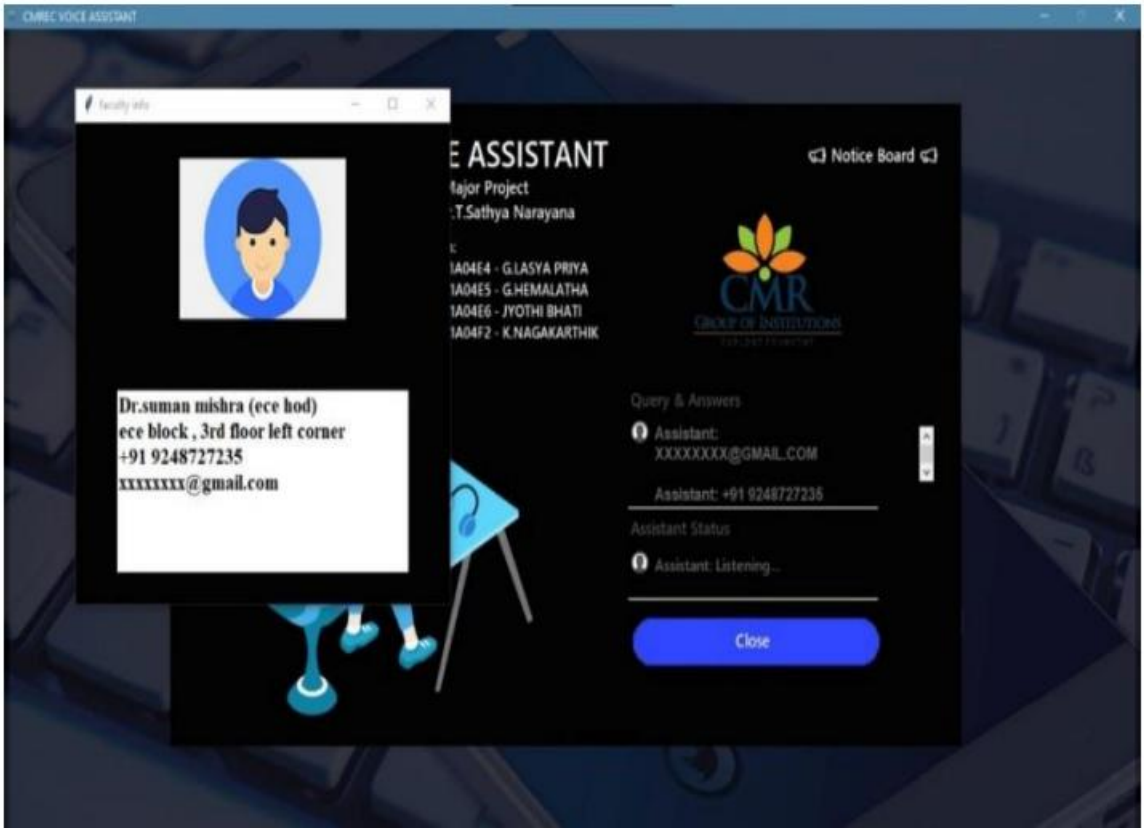

Fig 4.1.3 FACULTY INFORMATION

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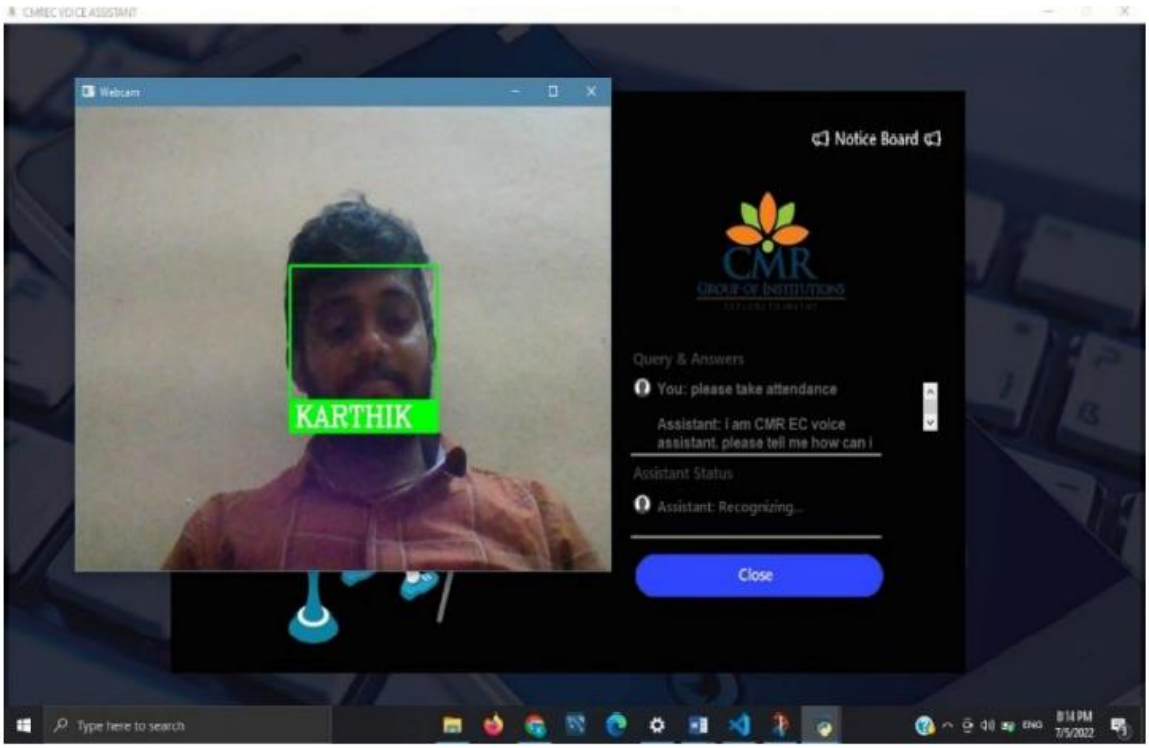

Fig 4.1.4 FACIAL RECIGNITION

V. CONCLUSION:

In conclusion, the main goal of this project is to provide requested information to students in educational institutions for laboratories and general information regarding their institutes. We were able to answer student queries, take attendance, connect faculty with students by providing cabin address, phone numbers etc.., provide access to college websites using web scraping, created a website containing general college information, provide personal assistance like fetching news, weather, music etc.,

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