Tokyo The Voice Assistant

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Under the Guidance of:

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Topics Discussed

- Introduction
- Project Motivation
- Existing Systems
- Problem Statement
- Objectives
- Implementation
- Data Flow Diagram
- Result
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Introduction

- What is Voice Assistant ?
- Why Voice Assistant is needed ?
- Evolution of Assistance ?
- What is Speech Recognition ?
- What is OpenCV and it’s application ?

Project Motivation

- The main motivation of this project is to learn the python programming language. And, there are companies like Google, Apple, Microsoft, etc with virtual assistants like Google Now, Siri, Cortana, etc. which helps their users to control their machine by just giving input in the form of voice.

Existing Systems

- Google Now
- Siri
- Alexa
- Cartona

Problem Statement

- For Global usage and it works only for Registered users.
- It consumes more network data.

Propsed Systems

- Local Usage of the project.
- Non Registered Users.
- Offline Mode of network.
- Works on batteries.

Objectives

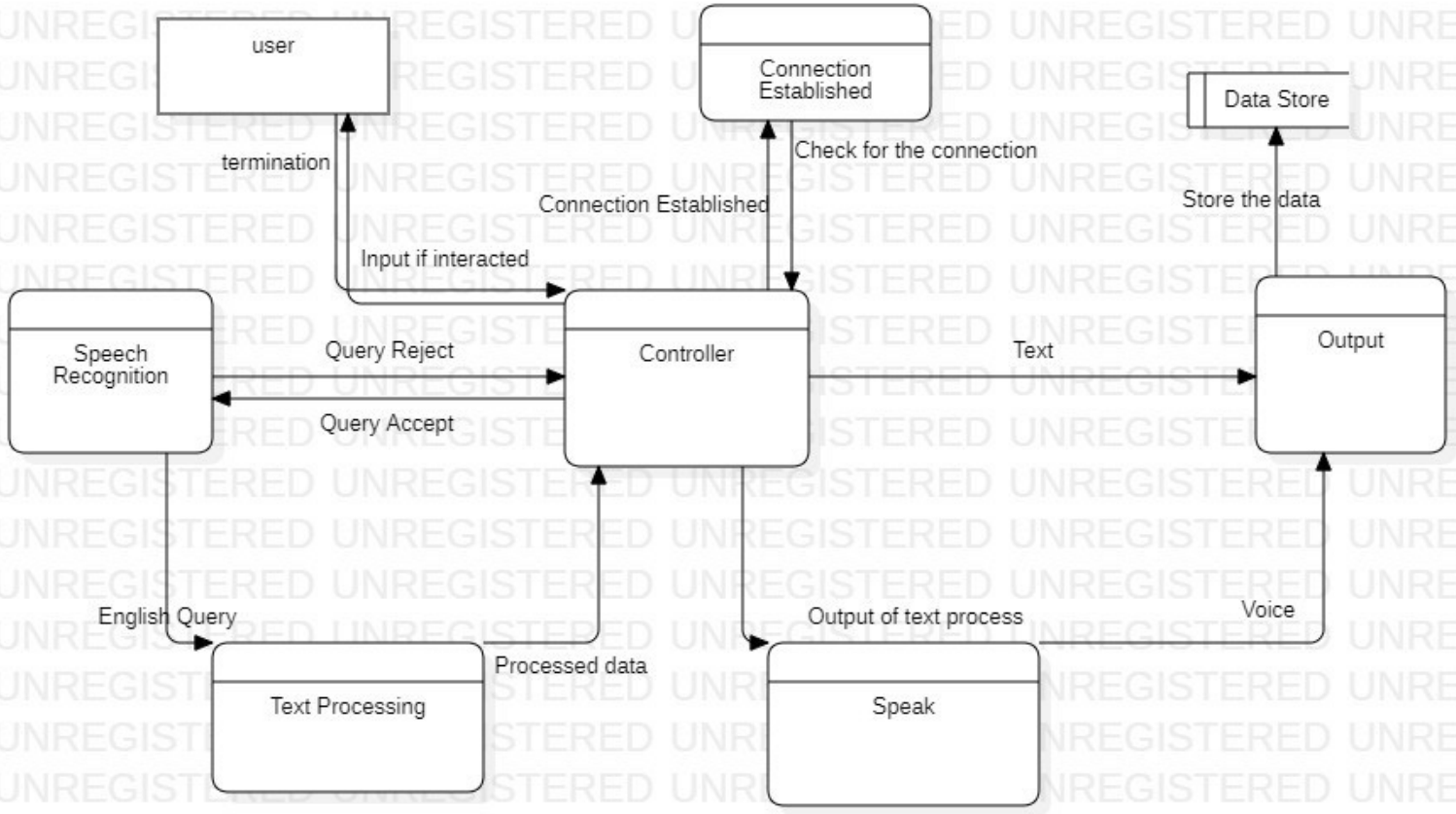
- To learn the the python programming language for the creation of the voice assistant.
- To make things simpler and easier with less time complexity of the project.

Implementation

The project is implemented in python programming language and modules used in our project are:

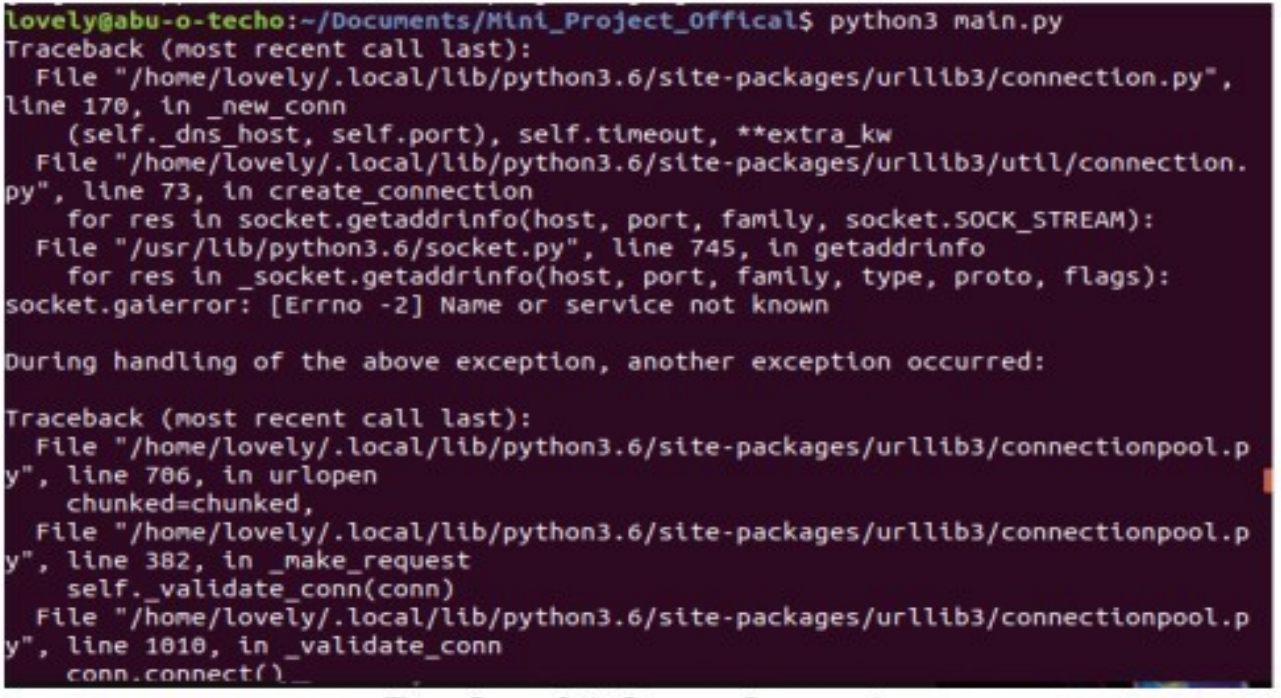
- Speech-Recognition
- Face-Recognition
- Google Text-To-Speech
- OpenCV
- Subprocess

Data Flow Diagram



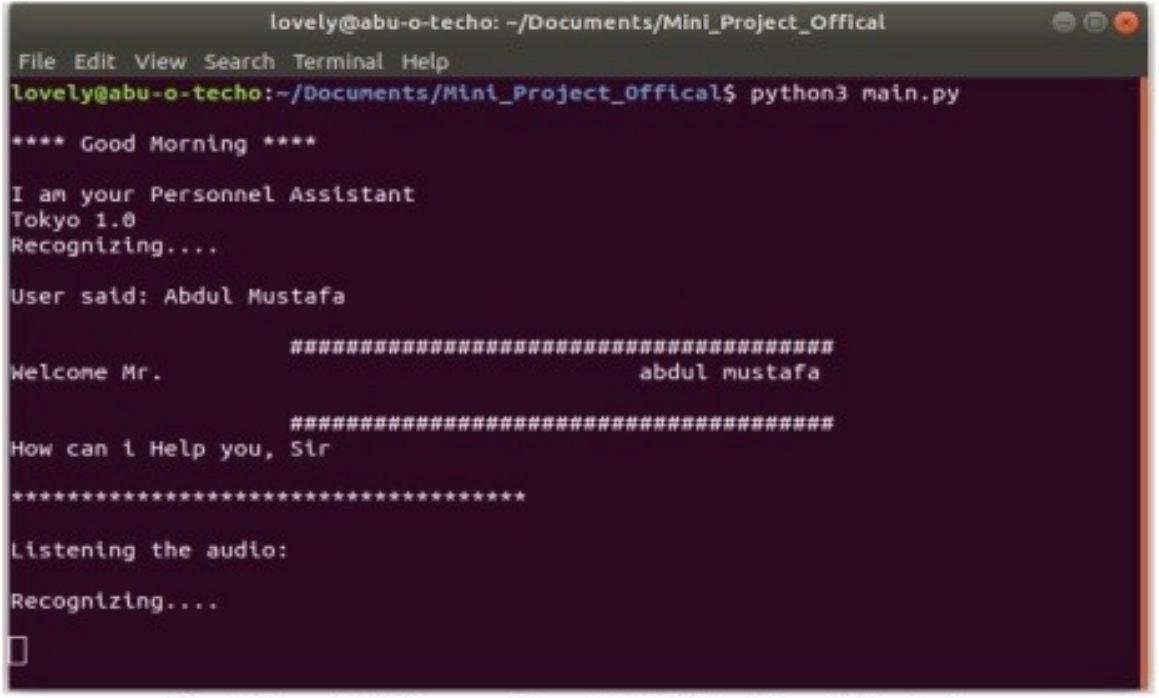
Sample Screens

TestCase 8.1: Create connection : Here, we run the program using the command “python3 main.py” then it will show the Connection Error and tells to create the connection to access the Internet.



Test Case 8.1 Create Connection

TestCase 8.2: Connection Established and Started: Connection has been successfully established and the program started by greetings. And take the name of the user before going into the actually execution.

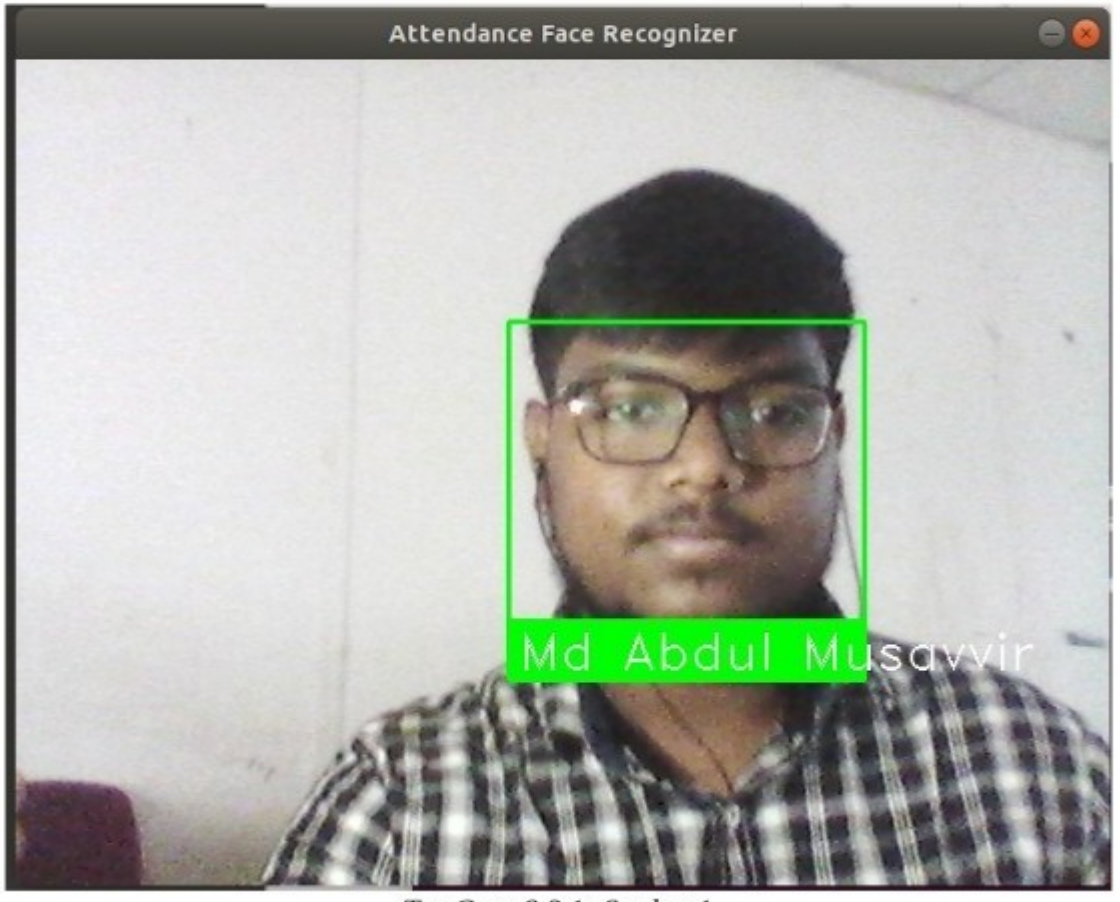


TestCase 8.2: Connection Established and Started

TestCase 8.3: Attendance: Here the user is going to say “take the attendance” then it will check the condition and it will redirect to the attendance.py where the attendance takes place by face recognition.

TestCase 8.3: Attendance

TestCase 8.3.1: Student1: Here, the student 1 (Md Abdul Musavvir) is on the screen which is being identified by the face recognizer.

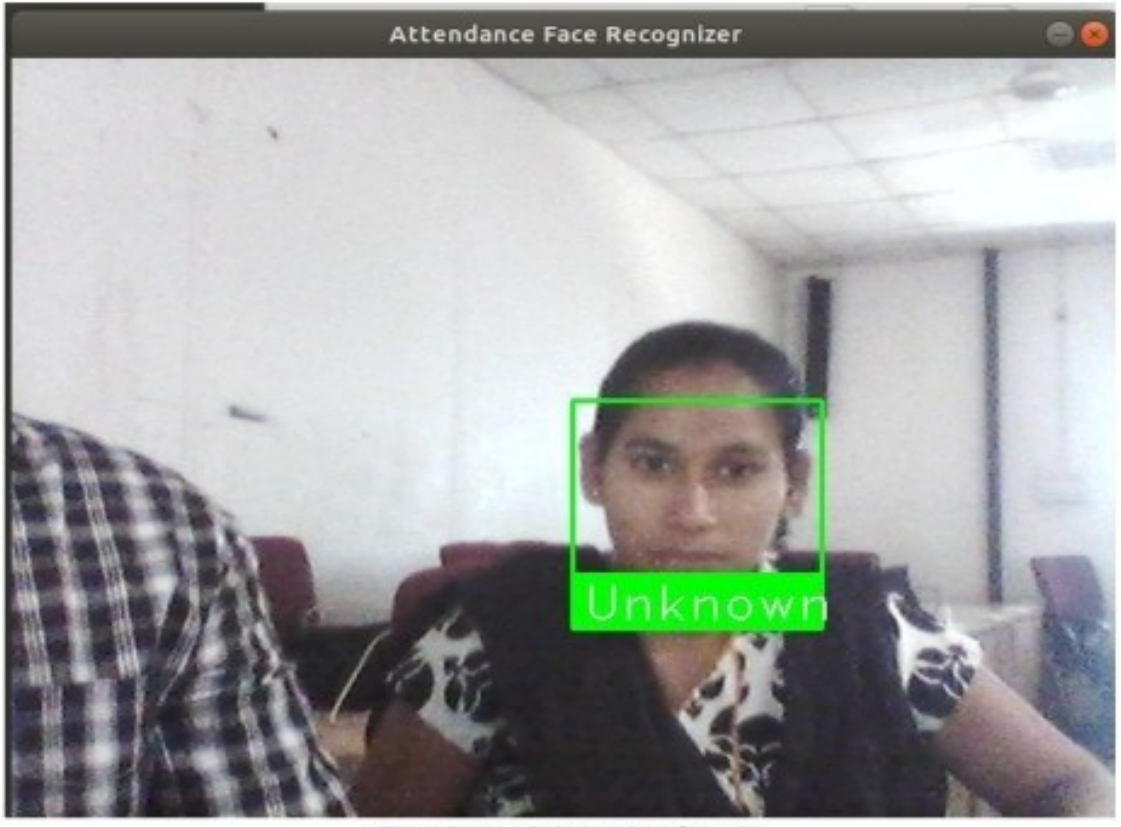


TestCase 8.3.1: Student1

TestCase 8.3.2: Student2: Here, the student 2 (Nossam Vignatha) is on the screen which is being identified by the face recognizer.

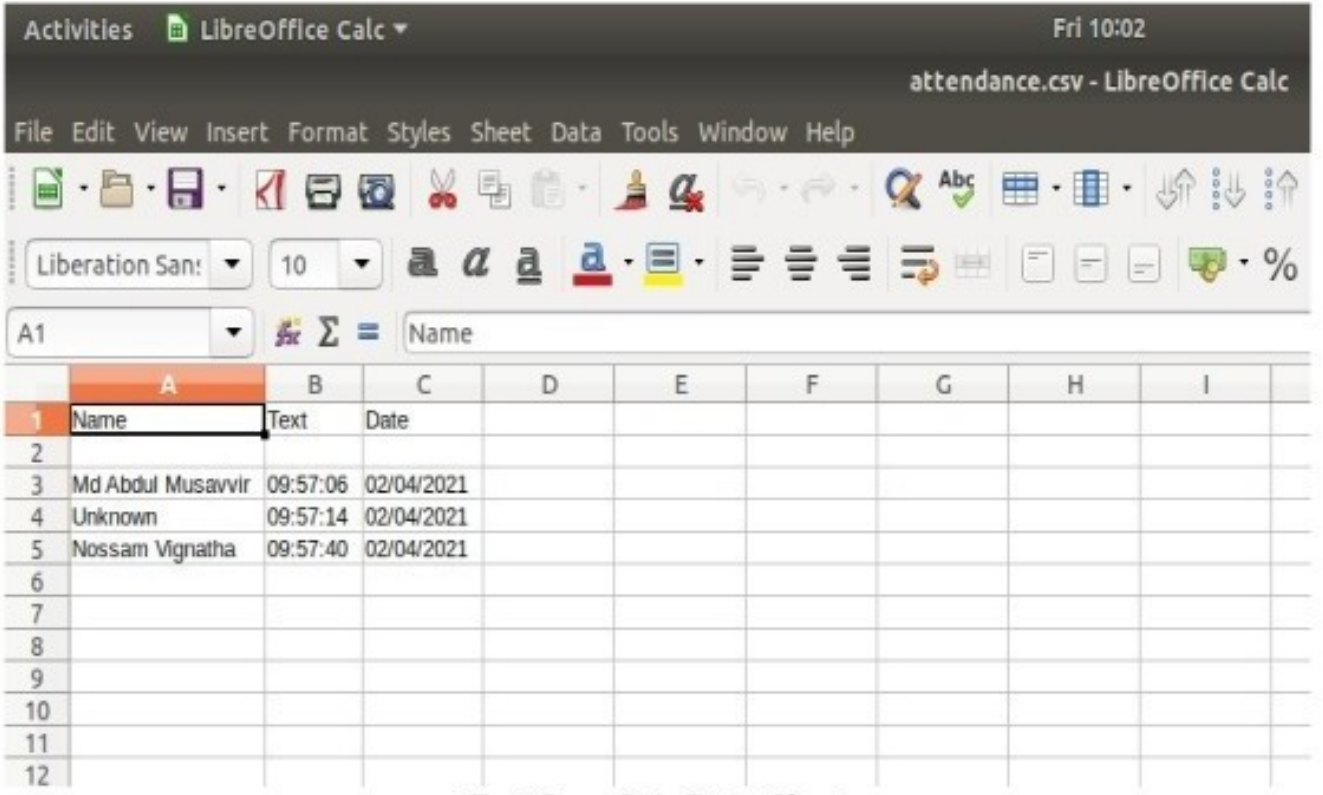
TestCase 8.3.2: Student2

TestCase 8.3.3: Unknown Person : Here, the Unknown person is on the screen which is not being identified by the face recognizer.



TestCase 8.3.3: Student3

Test Case 8.4: Data Sheet: The data of the attendance is being kept stored in the same directory of the program execution by “attendance.csv” file name.



Test Case 8.4: Data Sheet

Conclusion

In this project we have discussed about a Voice activated Personal Assistant developed using Python. This Assistant currently works online and performs basic tasks like Stream Music, Search Wikipedia,Open System installed Applications etc..

Future Scope

- The virtual assistants which are currently available are fast and responsive but we still have to go a long way. The understanding and reliability of the current systems need to be improved a lot. The assistants available nowadays are still not reliable in critical scenarios.
- Most of us have seen Jarvis, that is a virtual assistant developed by iron man which is although fictional but this has set new standards of what we can achieve using voice-activated virtual assistants.

References

- https://www.youtube.com/playlist?list=PLzMcBGfZo4-mBungzp4GO4fswxO8 wTEFx
- https://www.geeksforgeeks.org/voice-assistant-using-python
- https://pypi.org/
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- https://en.wikipedia.org/wiki/Amazon_Alexa

Thank You