**Batch: A1 Roll No.: 1911002, 1911007, 1911008**

**Experiment / assignment / tutorial No.**

**Grade: AA / AB / BB / BC / CC / CD /DD**

**Signature of the Staff In-charge with date**

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| **Title: Python Application Development** |

**AIM :** To develop a python application for a real world problem

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**Expected OUTCOME of Experiment:**

**CO :**

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**Books/ Journals/ Websites referred:**

* <https://docs.python.org/3/library/tkinter.html>
* <https://www.python-course.eu/>
* <https://stackoverflow.com/questions>
* <https://www.tutorialspoint.com/python/>
* <https://www.geeksforgeeks.org/python-gui-tkinter/>
* <https://www.javatpoint.com/sqlite-tutorial>
* <https://www.sqlite.org/index.html>

**Github Link of Project files :**

https://github.com/Darshil-Mehta/voice\_assistant\_python.git

**Problem definition:**

Artificial Intelligence, which was deemed as impossible to implement in the earlier times, has now become a lifestyle. Artificial intelligence forms the basis for all computer learning and is the future of all complex decision making. It is the basis for mimicking human intelligence processes through the creation and application of algorithms built into a dynamic computing environment. Earlier, humans had to adapt the way in which machines worked to understand machines in a better way. But, the progressing technology has given rise to AI by which machines can now perceive how humans think and perform activities. Due to the development and continuous updating technology in AI, the human and machine interaction has become very popular. It has been created with the intent to help humans by making their day-to-day life easier and enjoyable. One way in which AI can help humans is by processing and implementing the commands that the humans give. Nowadays, it is easier to implement a simple AI using an easy to understand programming language known as Python(along with some modules). This project – Voice Assistant – will help us in achieving this goal as it will process our voice commands and perform them in just a fraction of seconds.

**Scope:**

* General Search Engine using Voice commands
* API calls using Voice Commands – live Stock Market
* Daily helpful data – date, time, etc.
* Currency Convertor
* Implementation of Dictionary

**Component diagram:**

**Diagram

Description automatically generated**

**API or packages used:**

The Packages and API used in our project are:

* speech\_recognition
* google text to speech (gtts)
* playsound
* yfinance
* webbrowser
* os
* tkinter
* Pyaudio

Difficulties faced and measures taken to resolve:

1. Difficulties faced during importing the speech module:

We were facing an issue while importing the speech recognition module as it was not getting installed by basic pip install command.

2. Measure Taken to Resolve this difficulty faced:

To resolve this, we had to externally download the wheel file for the speech recognition module and the we ran the command pip install which then installed the module perfectly.

**Team work (Contribution of each member) :**

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| --- | --- |
| **Work** | **Student Name** |
| **Frontend using Tkinter** | **Yash Dedhia** |
| **Learning methods in modules like**   * + - 1. **yfinance**       2. **speech\_recognition**       3. **playsound**       4. **os**       5. **gtts** | **Darshil Mehta**  **Rohan Ajmera** |
| **UI design** | **Yash Dedhia** |
| **Handling API calls** | **Darshil Mehta** |
| **Integrating with the tkinter** | **Rohan Ajmera** |