**EXPERIMENTAL ANALYSIS:**

**CONVERSATIONAL MATURITY:**

A chat bot operations is not only working functionality and interacting conversationally, it has a specific function called Natural Language Processing (NLP) which helps in understanding the user queries in multiple languages. It also recognizes the context of the question and provides the best response, also displays different options of the same context to get grip on the user’s interests. The communication with the chat bot can be through voice or linear and performs advanced computations to seek out information.

**VOICE TRANSFERENCE:**

The main work of a chat bot is to receive the information from user thorough voice command and show case its capabilities. PyAudio can be used as a main source of the chat bot which plays and records audio on variety platforms. PyAudio is a cross-platform, open-source, and simple interface to deal with audio. Microphone acts as an essential input device where PyAudio module activates it so that user can conveniently interact with the chat bot.

Features of Chat Bot:

**MAIL BOX SIMULATION:**

Sending and Receiving emails can also be performed smoothly with a chatbot. Automation of the emails helps in reducing manual work and also performs actions without causing any ambiguity. Simple Mail Transfer Protocol (SMTP) is a communication protocol for electronic transmission. smtplib is the module that supports the chatbot in the transmission of the emails. The content of the email and receiver’s information can be disclosed with the chatbot with voice commands instead of typing.

**WHATSAPP CIRCULATION:**

Whatsapp is always the best interface for communicating with closed ones. Chatbot also makes this process simpler. Selenium is an open-source web-based automation tool. It uses this module and helps to transfer the messages to another user any number of times.

**ACCESSING OS:**

Sometimes it becomes difficult for the user to search for a particular file's location and access it. It requires a lot of manual work and needs to dig deeper. This chatbot will be able to locate any file and retrieve it for the user and it would take less time compared with searching every folder. It also has access to the user's playlist so when the user asks for any song or movie it instantly plays it.

**SEARCH ENGINE:**

When the chatbot is been asked with a query it gives an optimal result to user which will be very helpful at that point. It parses the query into pieces and searches for each and every word and gets the solution for it. Wolframalpha is the unique engine for computing answers and providing knowledge. It is an API which acts as a bridge between the chatbot and search engines and performs numerous computations.

**Attendance Management System:**

Irrespective to the features mentioned above, Attendance Management is the main backbone of the entire project and with the help of chatbot the organization will be able to record every students attendance without any confusion, errors and human involvement. The working of this feature is as follows:

**IMPORTING IMAGES:**

If the student is new to particular session or organization, the chatbot notes the details of the student and captures the images of students face. It takes 61 images of the particular student in different poses and all are stored in the database.

**FACE RECOGNITION:**

The training of the images is done in such a way that it takes the measurement of the face captured in those images and stores the values of these predicted measures. And if the student appears again it checks with the predicted measures stored in the xml file and after running the course it displays the information of the student instantly.

**MARKING ATTENDANCE**:  
Once the prediction of face is completed with help of the measurements stored, it takes the attendance for that particular student in an excel sheet storing the details of the student as well as the date and time of when the attendance is been taken. It segregates the attendance by the date and time so that it doesn’t gets mixed up.