



# Basic Details of the Team and Problem Statement

Ministry/Organization Name/Student Innovation: Ministry of Commerce and Industries

PS Code: SIH1356

Problem Statement Title: Sentiment Analysis of Incoming calls on helpdesk

Team Name: Abhipraya (अभिप्राय)

Team Leader Name: Karan Gandhi

Institute Code (AISHE): C-212

Institute Name: L. D. College of Engineering

Theme Name: Miscellaneous

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# Idea/Approach Details

## Source of problem :

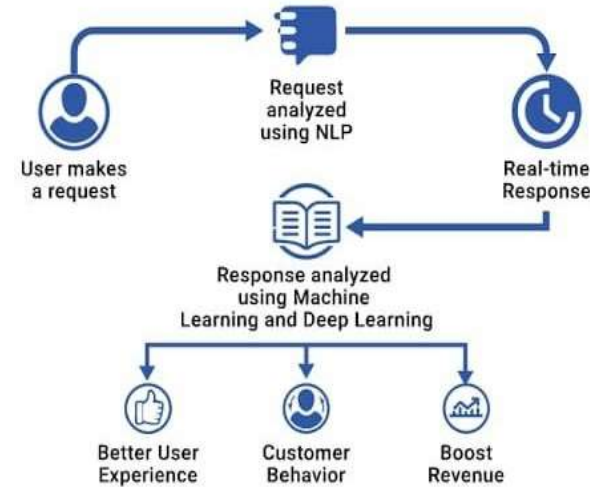
- The need for business to gain insights into the **sentiments expressed** by their customers during phone conversations
- The increasing volume of the customer interactions, it is crucial for business to understand the **emotional tone** conveyed by customers, here comes the role of **sentiment analyzer**

## Idea :

- **EmoAnalyzer** is a platform where you will be able to **analyze emotion** in an easy manner for your website
- The algorithm is so strong that it will analyze **multilingual speech** recording by it's own by providing data as an input in different ways

## Critical components :

- Input source will be in recording speech format in **any regional language** of the original
- We utilized **NLP** and **Librosa** techniques on an audio of **multilingual speeches** to ensure precise conversion of spoken language into **English text**, regardless of the language originally spoken
- The **T5 Transformer**, a neural network, was utilized to conduct sentiment analysis on the **transcribed text**, yielding valuable insights into emotions.
- Sentiment Analyzer has very **User friendly Interface** which can be accessed with JavaScript



## Our Technology stack :

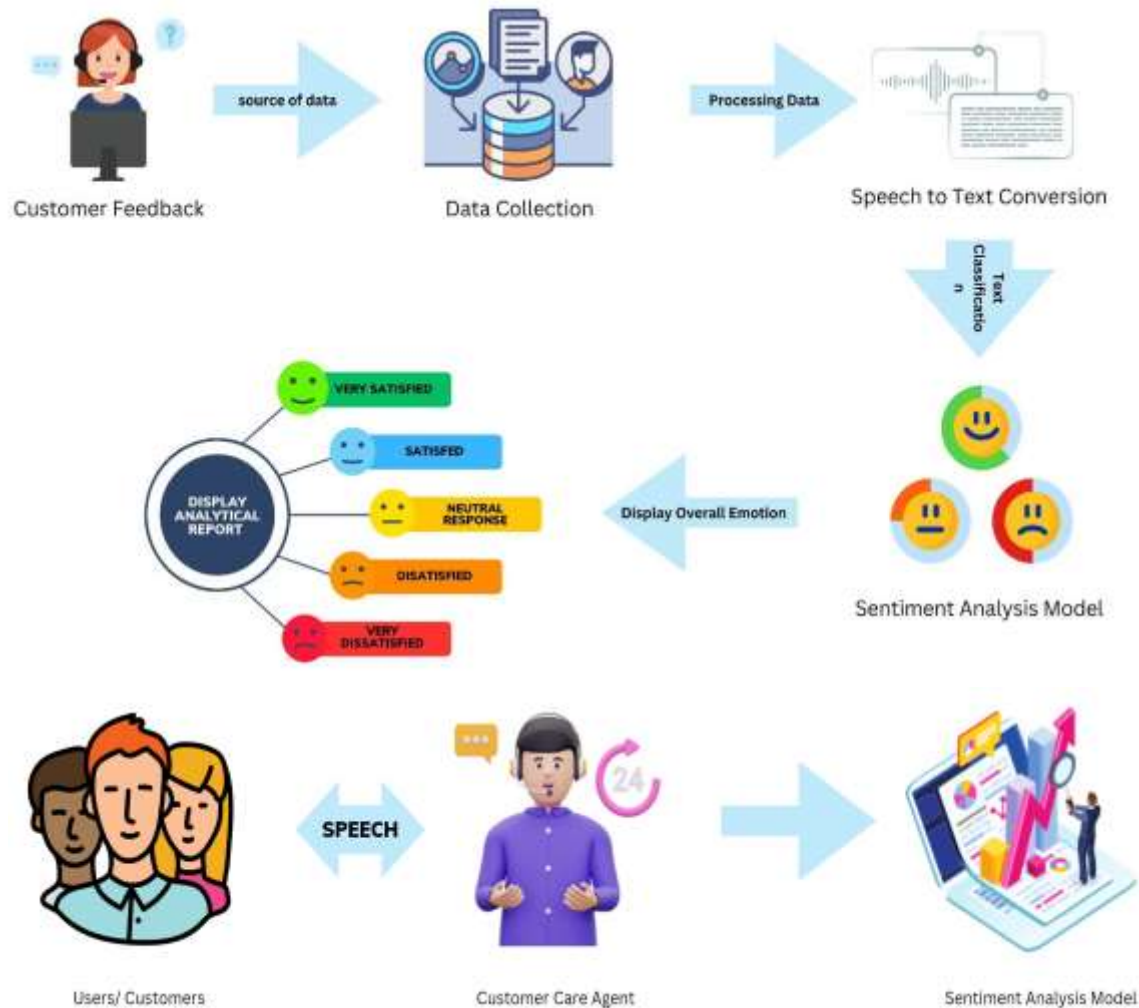
- **AI /ML Libraries :**
  - Transformer, Pytorch
  - Tensorflow, Keras
- **Web Scrapping :**
  - BeautifulSoup
- **Web Technology :**
  - Frontend – Bootstrap5, jQuery
  - Backend – ReactJs, Flask
- **Database :**
  - Database- MongoDB

## Prototype:



# Idea/Approach Details

## Workflow of EmoAnalyzer Platform:



## Use Cases:

- **Customer Support:** For better feedback, to improve the services
- **Technology and IT Services:** technical support calls to enhance troubleshooting and customer satisfaction.
- **Sales and Marketing:** Analyzing customer interactions during sales calls to refine sales strategies

## Our Dependencies:

- **Audio processing libraries** provide the tools and algorithms needed to process and analyze audio data, such as PyAudio, OpenSMILE, etc.
- **Cloud computing platforms** are used to store, process, and deploy machine learning models.

## Our Showstopper:

- **Background noise** can also interfere with the accuracy of sentiment analysis models.
- The meaning of words and phrases can be **ambiguous**, some words convey different meaning in different scenarios.
- **Newly coined words or phrases** may not be included in the training data, which can lead to misclassifications.

# Team Member Details

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## Team Leader Name:- Karan Gandhi

Branch :- Btech                      Stream:- CE                      Year III

## Team Member 1 Name:- Niyati Thakkar

Branch :- Btech                      Stream :- CE                      Year IV

## Team Member 2 Name:- Kunj Patel

Branch :- Btech                      Stream :- CE                      Year III

## Team Member 3 Name:- Dev Kapadia

Branch :- Btech                      Stream :- CE                      Year III

## Team Member 4 Name:- Hem Parikh

Branch:- Btech                      Stream :- CE                      Year III

## Team Member 5 Name:- Nisarg Patel

Branch:- Btech                      Stream :- CE                      Year III

## Team Mentor Name:- Prof (Dr) Hetal A. Joshiara

Category :- Academic                      Expertise: - AI, ML, Blockchain, Big Data                      Domain Experience :19 years