Detection of Mental Status (emotions) of Students using Text Mining and Machine Learning

ABV-Indian Institute of Information Technology and Management Gwalior

Group:6

Members:-

- Nishant Kumar(2016IPG-063)
- Prakash Gatiyala(2016IPG-069)
- Tulasi kumar gupta(2016IPG-112)

Mentors:-

Dr.Ajay Kumar

Dr.Vinay Singh

Table of Content

1.Background

- Mental health stands for the mental illness or psychological well being. It tells that someone is functioning at a satisfactory level of mental or emotional adjustment .
- Sentiment Analysis and Emotional Analysis
- WHO(About mental health)
- Local stats
- Reasons and Effects of Stress

Problem Statement:-

- In our project we are going to perform text mining and machine learning algorithms over chats of the people who belongs to 15-25 age group to detect their temporary mental state.we have dataset in which students talk in different manner during different mental state.then we will use this method in chat application so that parents can understand the mental state of their children.

Objective:

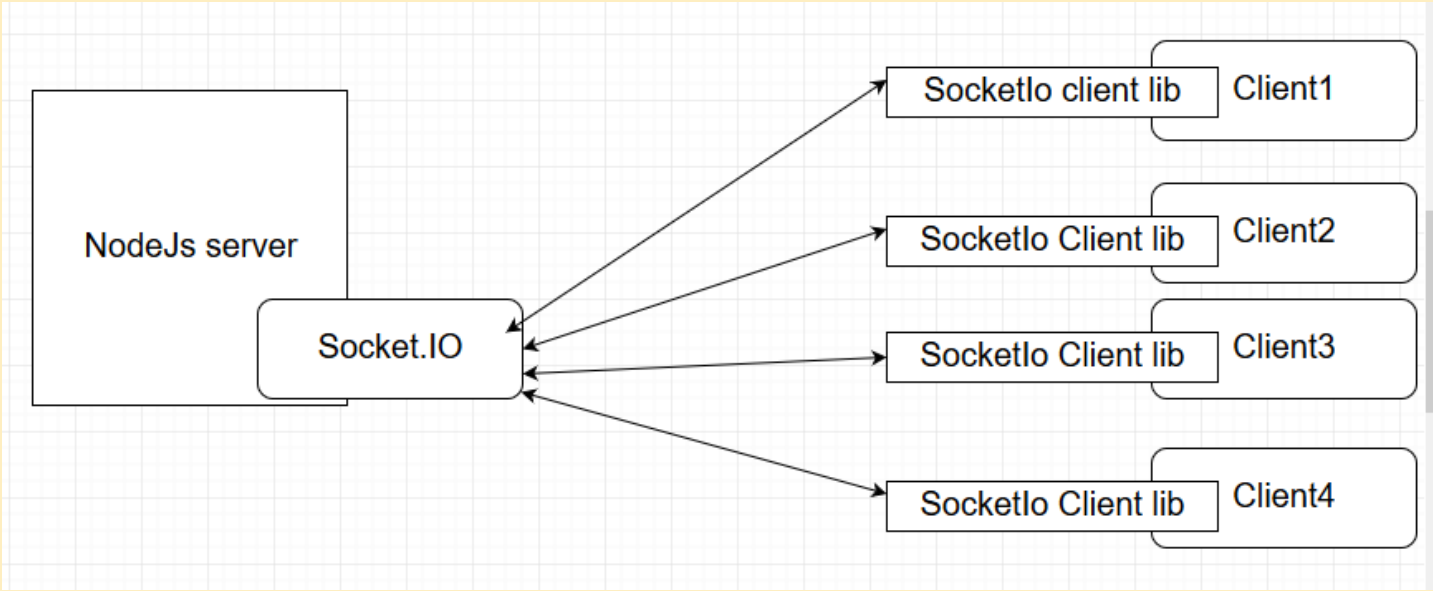
- The major objective of the study is to determine the emotion(temporary mental state) of students. A machine learning model will be developed to achieve the desired results.
  - The following are the objectives of the study:
    - To study the different emotions/temporary mental state of students and to represent them in a graphical format.
    - We will use different machine learning and deep learning models on the data set then we will compare their results.
    - Now we will show our result in different forms:anger,happiness,stressed,surprise,fear and disgust .

Design

- The Designing part is divided into three Modules:
  - chat application module
  - sentiment analysis module
  - integration phase

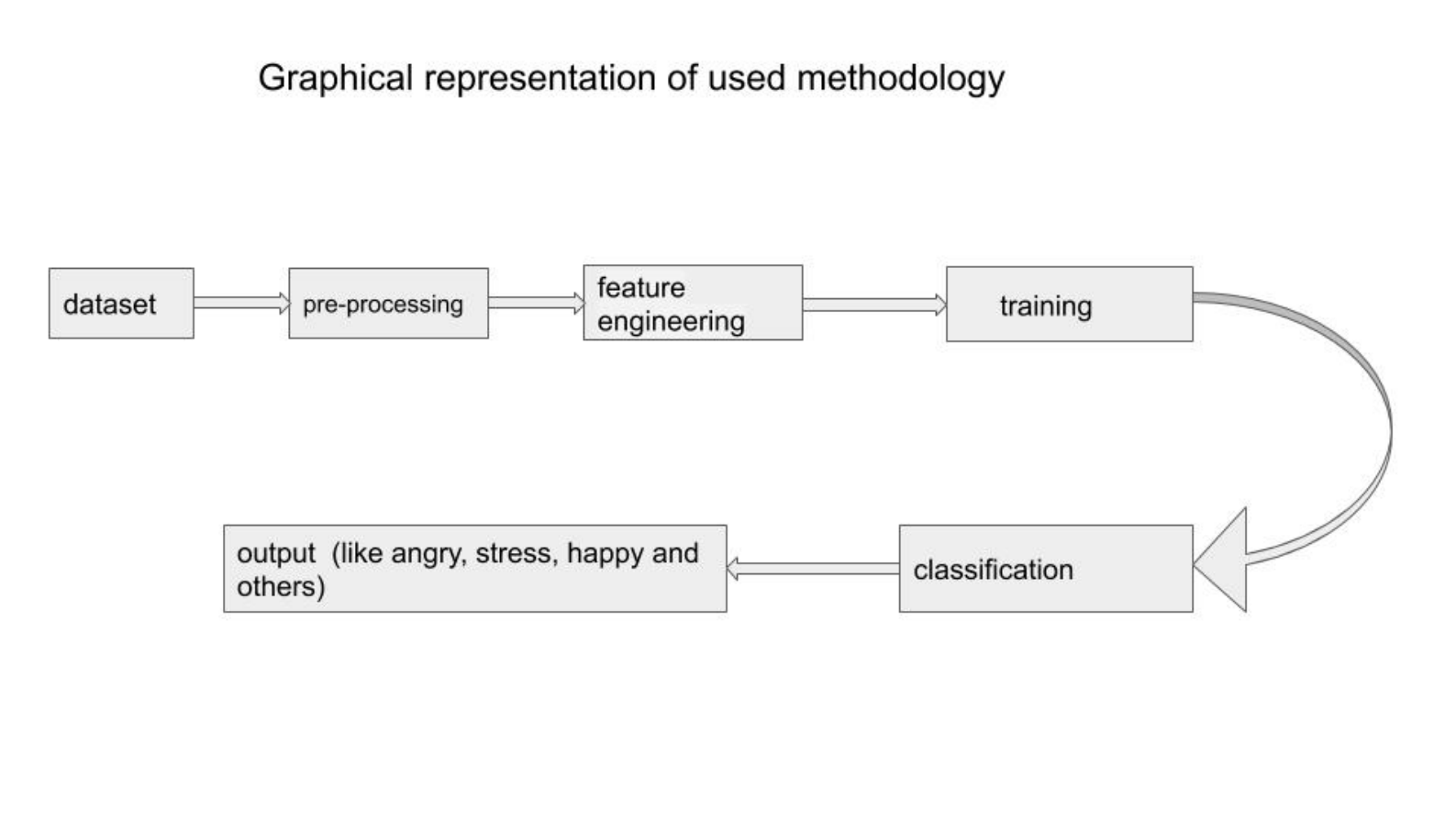
Implementation

- Working of chat application



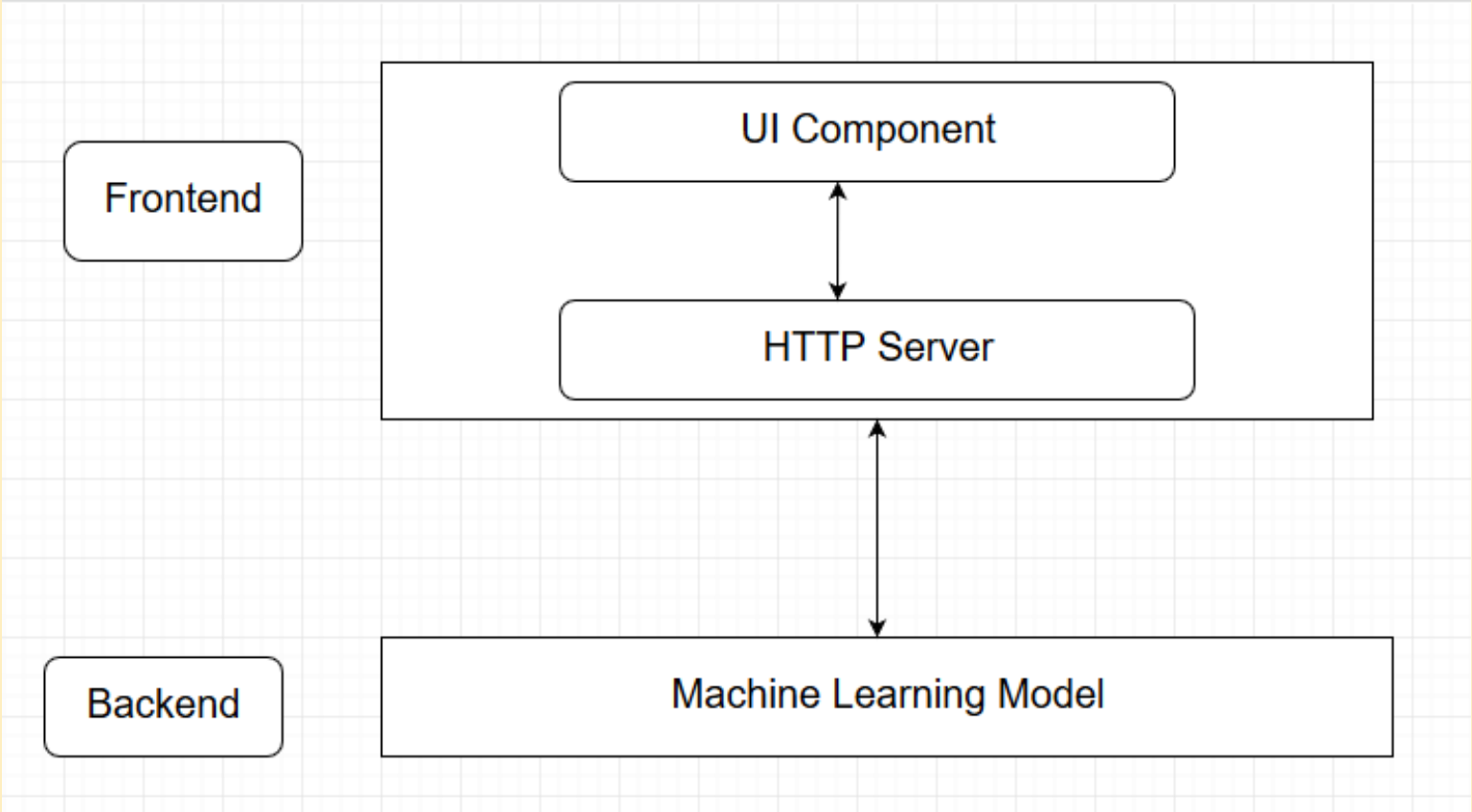
Cont...

- Working of sentiment analysis module



Cont...

- Integration of chat and sentiment analysis module



Results and Issued Faced

- The end product application developed was able to perform Real-Time Sentiment Analysis on the chat messages to determine the sentiments they contained which again reflected the mood of the message sender.
- The application was able to function correctly as per initial functionality requirements.
- To evaluate the performance of the Sentiment Analysis module,Naive Bayes and SVM Classifier model was used which was trained on the sentence polarity corpus sourced from NLTK library and tested with the dataset which was obtained by compiling the messages generated while using the chat application.
- Theoverall accuracy that the application exhibited was decent a 76 percent.

Issues Faced

- The first major issue that I faced at the start of the project was to find a dataset containing chat log.
- Integrating the frontend with the machine learning model.

Conclusion

- Finally, to conclude, a prototype chat application which demonstrates how real time sentiment analysis can be used to detect userâs mood by analyzing the chat messages has been developed.
- In its current form, it is a prototype of a chat application having Real-Time Sentiment Analysis capabilities.
- This can again be extended to work in evaluating the success of customer support service .

cont...

Thank You