Sentiment Analysis of the Feedback from Airplane Passengers Project

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Abstract

Airlines provide a wide range of services to their passengers such as meal service on board, luggage service, online check-in, etc. These services are aimed to attract more passengers and put the airline in a better position to compete with other companies.

From passengers perspective however, not all services are at an acceptable level. They complain about the delays, quality of service, etc. For an airline understanding the nature of these complains or satisfactions is of primary importance.

In this project, the tweets written by passengers of American airlines will be used to classify the services as good, bad, neutral. In addition, the co-occurrence of the reactions to these services will be investigates.

Introduction

By analyzing emotionally the comments made by American airport passengers on Twitter, we classified these comments as positive, negative, and neutral. Our aim to carry out this project is to determine the satisfaction level of airport passengers and to enable airport companies to provide better service. As a result of the evaluations, we made this project with Machine Learning algorithms, to help airport companies to provide better service to passengers by improving their services in a more accurate direction. .

Solution

This project, it is aimed to analyze the feedback from passengers and customers, to solve the problems experienced, and to provide a better service during the process carried out by the airport management.
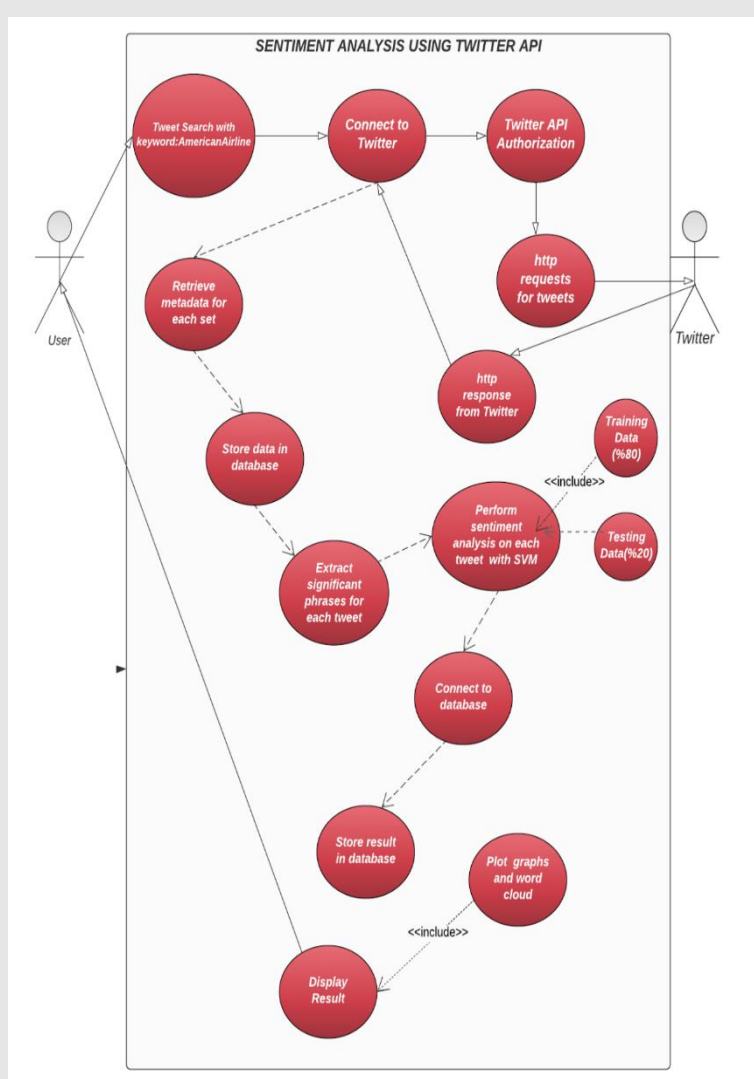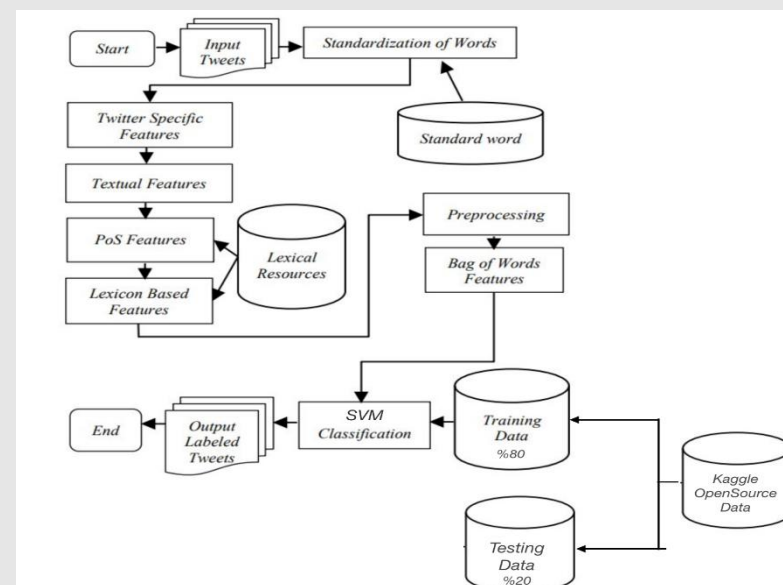

Figure 1 – Modularization of System
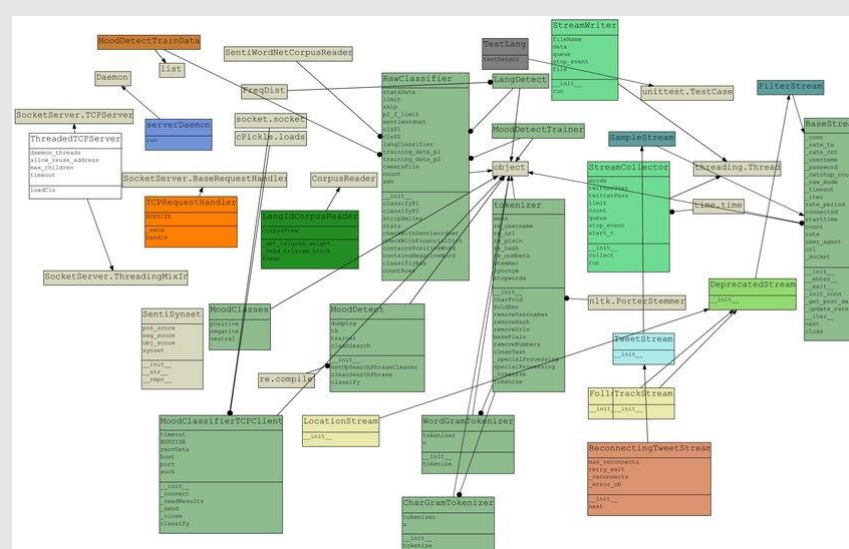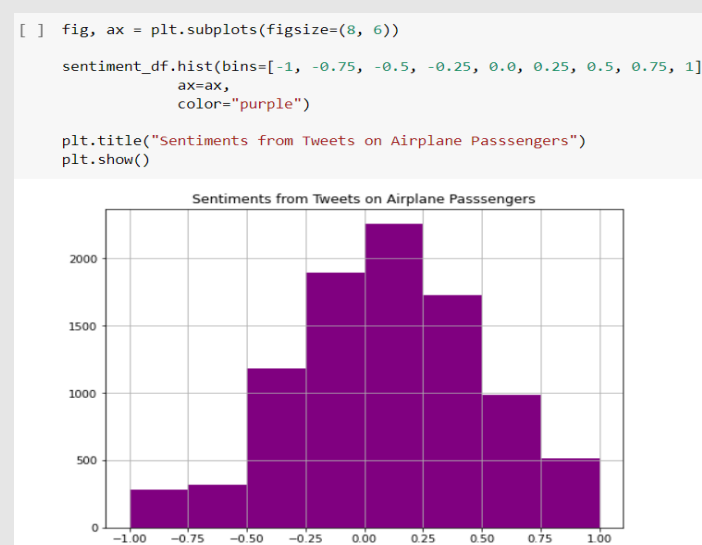

Figure 2 - Flowchart

Figure 3 – Class Diagram

Figure 4 – Finished Product

Figure 5 – Finished Product

Company Info

Our company determines the satisfaction levels by analyzing the comments made by customers or passengers to business institutions working in the service sector.


**Figure 6– Company Logo**

Results & Conclusion

Sentiment analysis is a field of study that analyzes the ideas, feelings, evaluations, attitudes and feelings of entities such as products, services, organizations, individuals, problems, events, issues and their characteristics. For our project, we used the SVM classifier, which we observed to give better accuracy than other methods. We performed Data Collection, Data Preparation, Text Preprocessing, Sentiment Annotation operations respectively. While doing Data Preparation, we performed the filtering process. While doing Text Preprocessing, we did the cleaning, normalizing, tokenizing, stop words removal, and stemming operations. While doing Sentiment Annotations, we divided the emotions into positive, negative, and neutral. In order to achieve a high rate of accuracy, we paid attention to the use of effective methods and to the correct order of the operations we do. As a result of all the tests and analyzes we have done, we have achieved an accuracy rate of 0.78.

Acknowledgement
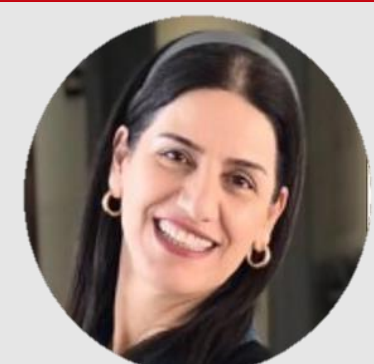
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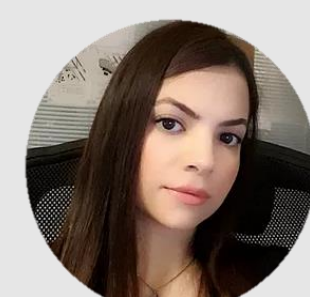
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Figure 7– Project Members