SentiMeter
An Android Application for Sentiment Analysis of Twitter Data Using KNN and NBayes Classifiers

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Introduction

- Sentiment analysis is also known as "opinion mining" or "emotion Artificial Intelligence".

- It alludes to the utilization of natural language processing (NLP), text mining, computational linguistics, and bio measurements to methodically recognize, extricate, evaluate, and examine emotional states and subjective information.

Problem Statement

- Decent amount of related prior work has been done in this field.

- Most of the work are based on the manual labelling which is expensive.

- There is need of proper comparison between these results in order to select best features.

Why Twitter?

- Limited tweet size

- Use of hashtags, user reference and URLs.

- Mass users expressing their opinions.
  - 134 million user [1]
  - 3.39 minutes per session [1].

- Use of repeated words or symbols to convey an emotion.

Similar Projects

- SocialMention | Web application

- NCSU Tweets Visualizer | Sentiment Viz

Project Objective

- Extract tweets and preprocess them.

- Estimate the sentiment of those tweets.

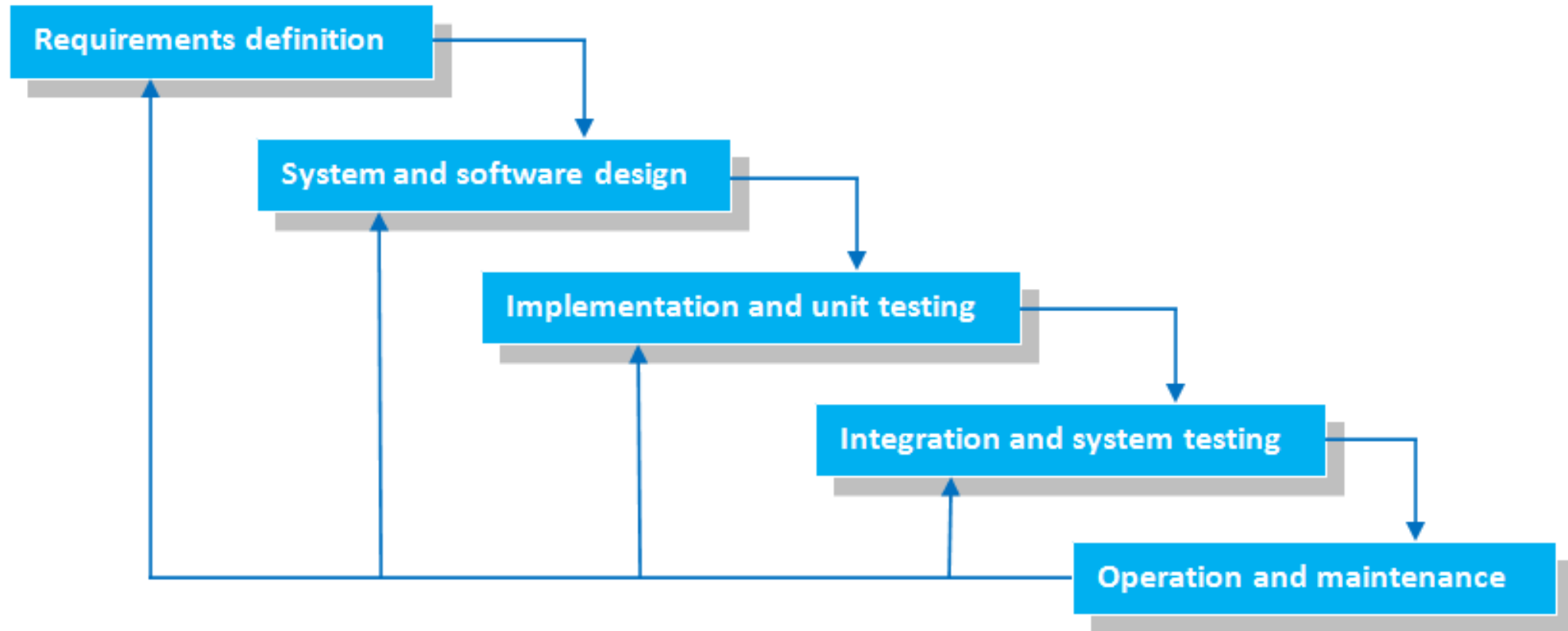# Scope and Limitation

Scope

- Classifies the sentiment's positiveness
- Can be applied during
  - Movie Premier
  - Election
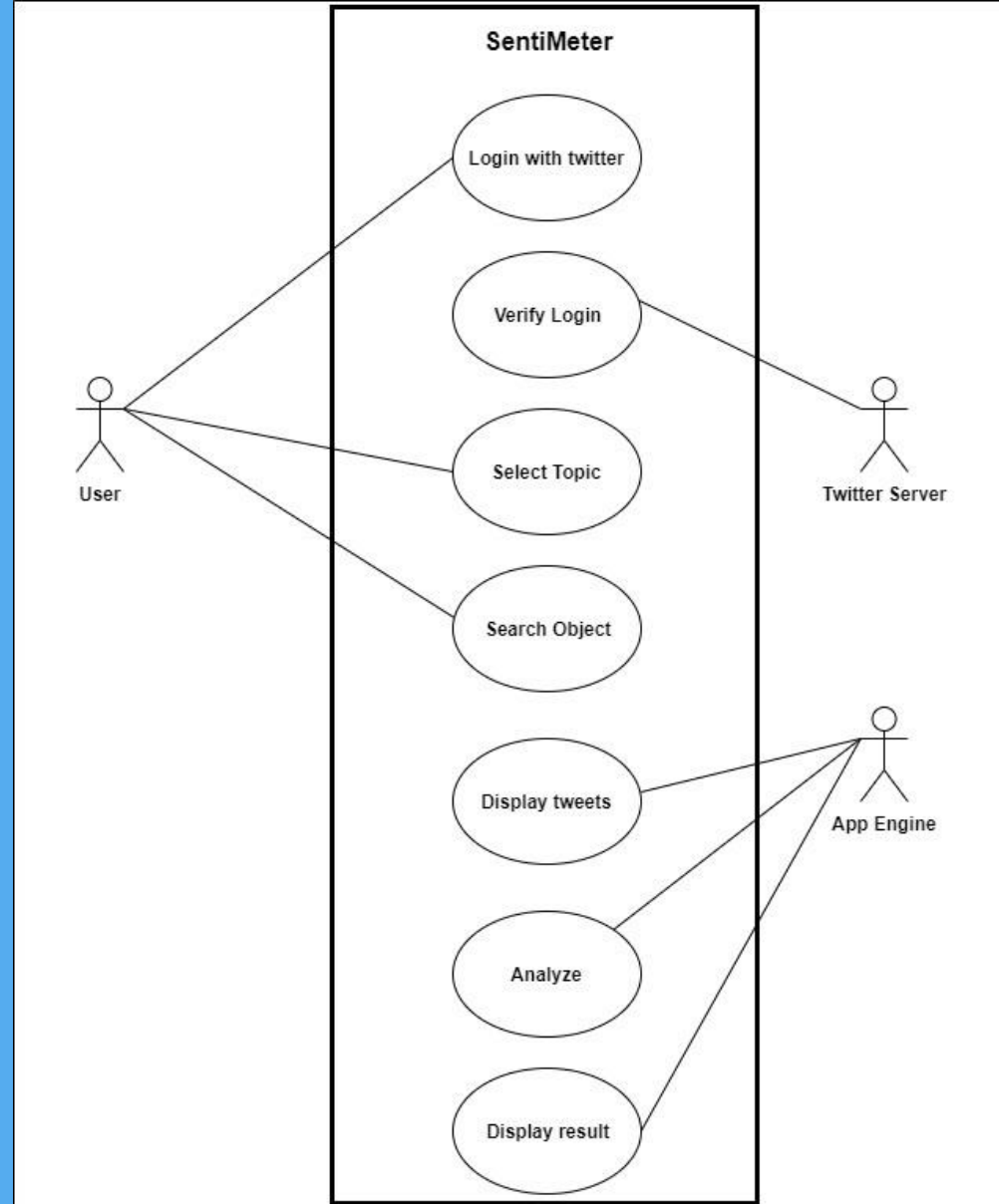 - Social Campaign, etc.

Limitation

- Cannot identify humor and sarcasm
- Does not consider the neutral sentiments.
- Does not consider the context of tweets.

Methodology

Waterfall Model

Use Case Diagram
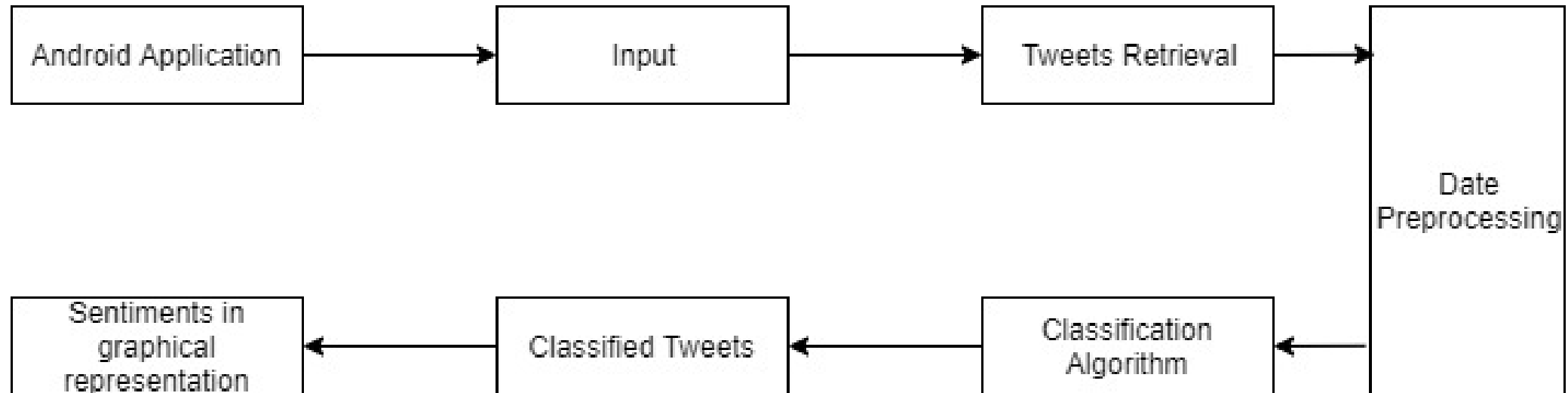
Classifiers Used

- Naïve Bayes
- KNN

Tools Used

- Android Emulator
- Android Studio
- Draw.io
- Figma
- GitHub
- Microsoft Visio

Technologies Used

- Java
- Twitter Developer API
- XML

System Implementation

Calculation Process

- Tweets are converted to lowercase
- Punctuations and additional white spaces are removed
- Removal of text that are not responsible
- Tokenization of sentiment texts
- Removal of text that are not responsible
- Testing with KNN and NBayes Classifiers

Result and Discussion

- The proposed android application is developed.

- Using the datasets of movie reviews from Kaggle the accuracy is calculated to be 61.8335%

Conclusion and Future Work

- Furnished mobile application obtained

- Bigrams can be analyzed in future.

- Multiple languages can be analyzed.

- Neutral Sentiments can be calculated.

References

- https://www.oberlo.com/blog/twitter-statistics [Accessed on 01/08/2020]

Demo

Thank you for your attention!

Any Questions?