Department of Information Technology

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UNIVERSITY OF MUMBAI

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A Project Report on

Sentiment Analysis on Social Media

Submitted in partial fulfillment of the degree of
Bachelor of Engineering(Sem-7)
in
INFORMATION TECHNOLOGY

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1.Project Conception and Initiation

1.1 Abstract

- Social media consists of various kinds of emotions and sentiments of its users in the form of electronic media
- Analyse the reactions or sentiments of the users on a certain post is also a challenging task.
- Our project aims to automate this task of analysing the reactions and the posts and generate a report based on the outcome.
- Every post/reaction/comment would be rated based on the sentiments behind it and the appropriate admin would receive the reports which can be used for the future actions.
- Creating a user friendly platform by providing the user's variousfeatures.

1.2 Objectives

- To analyse user behaviour by their social media activity and predict their future behaviour.
- To Predict alarming behaviours like depression through their social media activities.
- To give user the privilege to share post on various platforms.
- To provide Admin the user's engagement by the scale of negative to positive.
- By user's interactions in the feed , his/her home page will get motivational quotes.
- To Create a centralised platform for the college for its social media activities.
- According to the outcome, future actions will be taken by guidance/counsellor.

1.3 Literature Review

- Paper Title: VADER: A Parsimonious Rule-based Model for Sentiment Analysis of Social Media Text .

Authors: C.J. Hutto Eric Gilbert

Publication details : Eighth International Conference on Weblogs and Social Media (ICWSM-14). Ann Arbor, MI, June 2014.

Findings: VADER, a simple rule-based model for general sentiment analysis, and compare its effectiveness to eleven typical state-of-practice benchmarks including LIWC, ANEW, the General Inquirer, SentiWordNet, and machine learning oriented techniques relying on Naive Bayes, Maximum Entropy, and Support Vector Machine (SVM) algorithms.

- Paper Title : Sentiment Analysis of Social Networking Sites (SNS) Data using Machine Learning Approach for the Measurement of Depression.

Authors: Anees Ul Hassan, Jamil Hussain, Musarrat Hussain, Muhammad Sadiq, Sungyoung Lee

Publication details : 2017 International Conference on Information Communication Technology Convergence.

Findings: They propose a system that uses Social Network Sites as a source of data and screening tool to classify the user using Machine learning according to the UGC on SNS.

1.4 Problem Definition

- To design a social media platform by using NLP sentiment analysis tool to analyse the user’s post/comments/reactions and rating sentimental scale accordingly, also to create user friendly platform.

1.5 Scope

- By the use of sentimental analysis, the platform can be well analysed by user's activity
- College/Universities will get analytical statistics of their students' reactions to the posts shared by them.
- The posts can be shared to multiple platforms through a single application.
- The organizations can use the platform to get student reviews on their activities

1.6 Technology stack

- Mongodb
- Express
- React
- Node

1.7 Benefits for environment & Society

- This platform will analyse the behaviour of our society based on their social activities.
- Admin gets the enagagement of the users.
- Users gets the motivational quotes on their home page.
- Admin can create and discuss the contents based on users interactions.
- Based on the users' behaviour on the application, they would see posts that would help them emotionally. For example, a depressed user would see motivational quotes.
- A user can administer groups and pages and manage the relative users and keep a check on their well being.

2. Project Design

2.1 Proposed System

- User can share his posts on multiple platforms like Instagram, Twitter and Facebook.
- User’s feed will get updated based on its post.
- Based on comments and posts of the users, using sentimental tool kit system will scale the user’s comments and posts .
- Sentiments of the particular user’s comment and posts will be analysed.
- Admin can see the scale of the users.
- Based on scale further future actions to be taken.

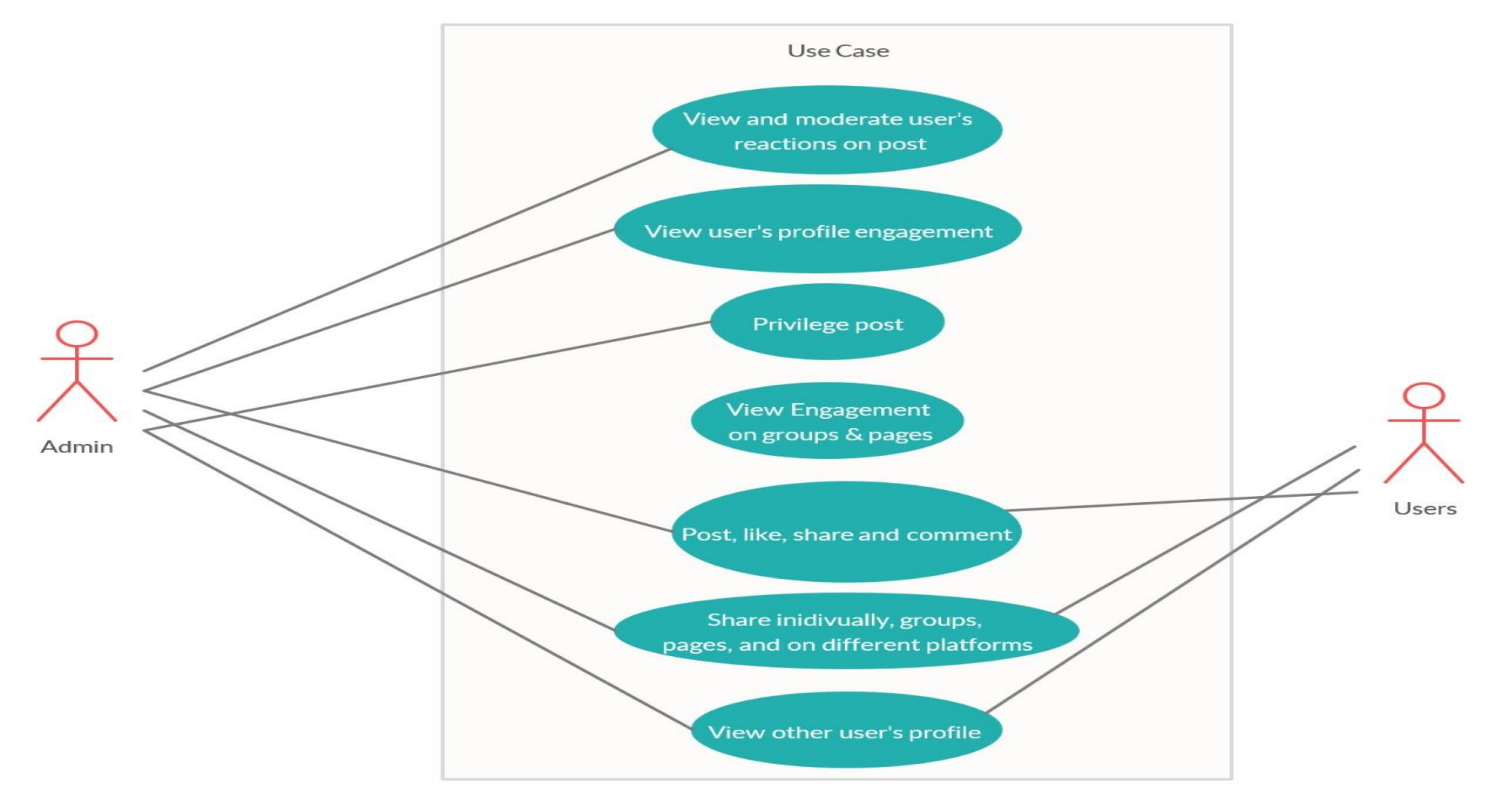
2.2 Design(Flow Of Modules)

2.3 Description Of Use Case

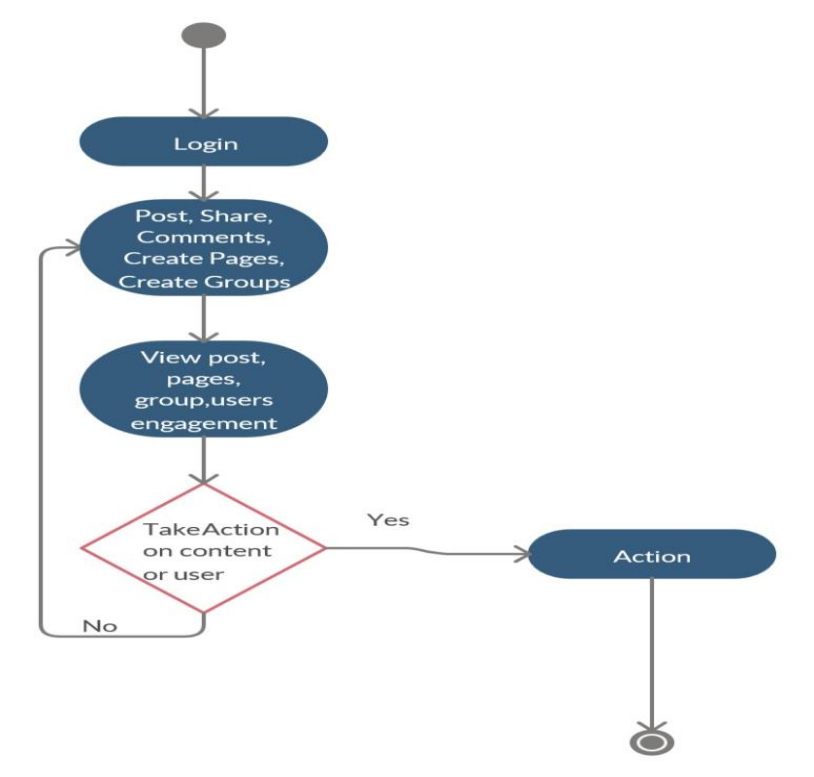
- Admin can view and moderate user’s reactions on post. Can view user’s profile engagement and also groups & pages engagement. Admin has a special privilege to post. Post, Like, Comment and Share actions also with sharing post on different platforms.

- Users can Post, Like, Comment and Share with option of sharing the post on different platforms along with option to share the posts individually and user can share it on groups and pages. Can view other user’s profile.

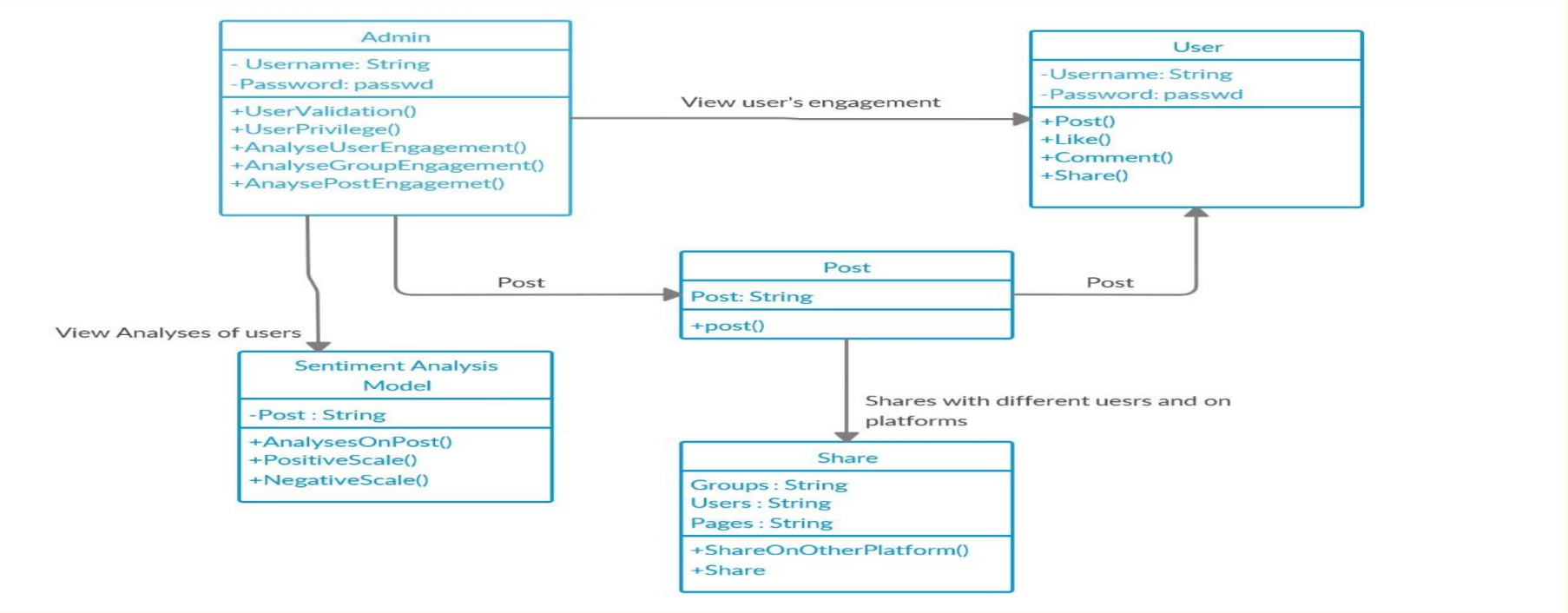
2.4 Use Case Diagram



2.5 Activity diagram



2.6 Class Diagram



2.7 Post module

- The users can view and create new posts. Along with it, they can also share and react to all the posts that they see.
- The user can post pictures, videos and audios along with text.

Module-2 Groups and Pages

- The users can create different groups and pages and other users can like/subscribe to those pages and groups.
- The admins of these pages and groups would get insights on how other users react to the posts made by the admins.

Module3 Dashboard

- The administrators can get a view of all the users belonging to their jurisdiction and look at their 'sentiment score'.
- The sentiment score is the aggregate score based on the posts created by the user.
- Judging by the score, the admin can tell if the user needs any special help.

Module 4 Profile

- The users can see their own and other users' profile.
- The profile view of the application would contain all the groups and pages administered by the user along with all the posts created by them.

2.7 References

- Hutto C.J., Gilbert E., VADER: A Parsimonious Rule-based Model for Sentiment Analysis of Social Media Text, AAAI, 2014.
- Anees Ul Hassan, Jamil Hussain, Musarrat Hussain, Muhammad Sadiq, Sungyoung Lee,'Sentiment analysis of social networking sites (SNS) data using machine learning approach for the measurement of depression', 2017 International Conference on Information and Communication Technology Convergence (ICTC)
- Persia, F., & D'Auria, D. (2017). A Survey of Online Social Networks: Challenges and Opportunities. 2017 IEEE International Conference on Information Reuse and Integration (IRI).

- Rosa, R. L., Rodriguez, D. Z., Schwartz, G. M., de Campos Ribeiro, I., & Bressan, G. (2016). Monitoring system for potential users with depression using sentiment analysis. 2016 IEEE International Conference on Consumer Electronics (ICCE).

3.Planning for next semester
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Planning

- Add Support for sharing to other FB and Twitter.
- Allow uploading images, videos and audio.
- Perform Sentiment Analysis on images,
- Add React, Comment and Share functionality.
- Complete Dashboard and Profile Modules.
- Add Groups and Page creating functionality.

Thank You