



**INTERNATIONAL JOURNAL OF ENGINEERING SCIENCES & RESEARCH
TECHNOLOGY**

**ADVANCED FILTERING SYSTEM TO PROTECT OSN USER WALL FROM
UNWANTED MESSAGES.**

Uttam Rahane*, Anil Lande, Onkar Bavikar, Sandip Chavan, Prof.K.N.Shedge

* Students(B.E.Computer),SVIT College,Nashik, India

Students(B.E.Computer),SVIT College,Nashik, India

Students(B.E.Computer),SVIT College,Nashik, India

Students(B.E.Computer),SVIT College,Nashik, India

Professor,SVIT College,Nashik, India

ABSTRACT

Now a days, Online Social Network has become the more powerful way of entertainment for the young generation. The OSN mainly helps people to share their personal issues with friends or others. We seen that most of times in the past few year OSN is facing problem of people posting unwanted messages. We are presenting a system to overcome some sort of these problems. We are applying several techniques to achieve our goal such as Machine Learning text categorization, Filtered Wall, Filtering Rules, Short Text Classifier and Black List Management.

KEYWORDS: Online Social Network, Short Text classifier, Filtered Wall, Machine Learning, Filtering Rules.

INTRODUCTION

In today's modern era everyone is using is using OSN to communicate with their friends, family and colleagues. OSN is the very popular medium to interact. By using OSN peoples are sharing their personal life issues. Such as sharing ideas, photos, videos, thoughts and text data. According to statistics of Facebook one average user creates 90 pieces of context each month and over 30 billion pieces of context are shared each month. As we see the OSNs become the most important part of the people. But OSNs does not provide certain kind of security, as there may be possibility of posting or commenting the posts on to users personal or private area(walls). Therefore information filtering can be used to control the unwanted messages, by filtering out unwanted message. This is most important OSNs service, which is still not provided by any OSN. But in little proportional today's OSNs provide support for the prevention of unwanted messages on users walls. For example Facebook, where user defines that who is allowed to post on their walls (such as friends of friends, friends or group of friends)[1].

The goal of this work is to implement an automated system that filter unwanted messages such as political or vulgar ones. We apply machine learning-based classification to automatically accredit each sort text message categories based on its context.

The proposed system gives a powerful rule layer to apply on language to specify his owns filtering rules. So that the user defines that what should be posted on to his/her wall. In addition to the ML, STC and FR, this proposed system provides support for the blacklist management. It also provides a support for online setup Assistant(OSA) to help in specifying the filtering rules.

LITERATURE SURVEY

The main purpose of this paper work is to design customizable context-based message filtering system for OSNs. Using ML technique our work has affiliation with context-based filtering and policy based personalization.

Content Based Filtering

Recommended font sizes are shown in Table 1. In content based filtering each user is treated as an independent user. Filtering is done on the basis of the contents of the item and user defined prepossession. Documents process in the content based filtering are textual in nature. And so it become very similar to the text classification.

Policy Based

In policy based filtering, filtering process is performed according to the criteria defined by the user. The best example of this is Twitter. In Twitter user can view only those Tweets which are based on user interest.

METHODOLOGY

Our aim is to control the messages posted on users OSN wall & to avoid that unwanted context is to be displayed. This can be achieved by using flexible rule based machine learning base classifier which automatically labels messages in support of context based filtering.

System Architecture

The three-tier structured architecture is used. In which first layer is called SNM which provides the basic functionality of Online Social Networks. The second layer is Social Network Application which does the filtering. The third and last layer is graphical user interface. Our proposed system is placed in the second and third layer.

User is interacting with system with the help of the GUI to define and manage their FRs and BL. The heart of the proposed system are context-based messages filtering and short text classifier modules.

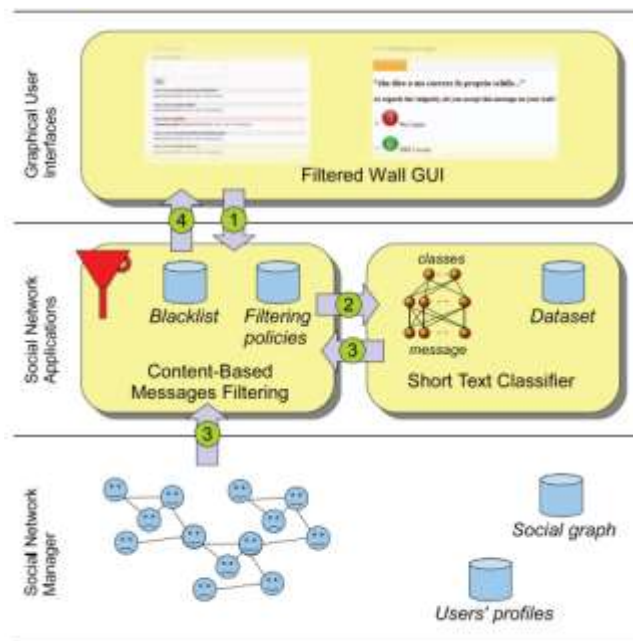


Fig.1 System Architecture

Short Text Classification Technique

Short text classification is used for word to word matching. Short text categorization is done with the help of neural learning strategy. According to ML's point of view, we accession the task by two level hierarchical strategy. The task of first level is assumed as hard classification in which short texts are labeled as neutral and non-neutral labels. The task of second level is to apply filtering rules on the non-neutral short texts.

Machine Learning Text Classification

Machine learning model is better for the text classification. We are choosing Radial Basic Function Network(RBFN) model for the experimental model with respect to other art classifiers. The main advantage of RBFN is that

classification function is non-linear. The model may produce deterministic values and it may be powerful for user. In the second level standard use of RBFN is modified, which in results a hard decisions on the output values. For the better performance machine learning based classifier requires a trained set of adequately complete and homogeneous pre-categorized data. It developed the quantitative transparent model in which classification process has taken place.

Filtering Rules

While defining the language for FRs specification we consider some constraints such as the user profile checks relationship, output of ML categorization process and user defined blacklist. By applying filtering rules the ML categorizes bad words, correct words and restricted words. Filtering rules defines the rules for the messages which is to be posted.

The message is passed through the filtered wall, in filtered wall all filtering rules allows user to determine constraints on message creators. In OSN scenario, creator is identified by exploiting information on their social graph. This graph shows the depth and trust values of relationships. For each message user states that which message is to be post or reject.

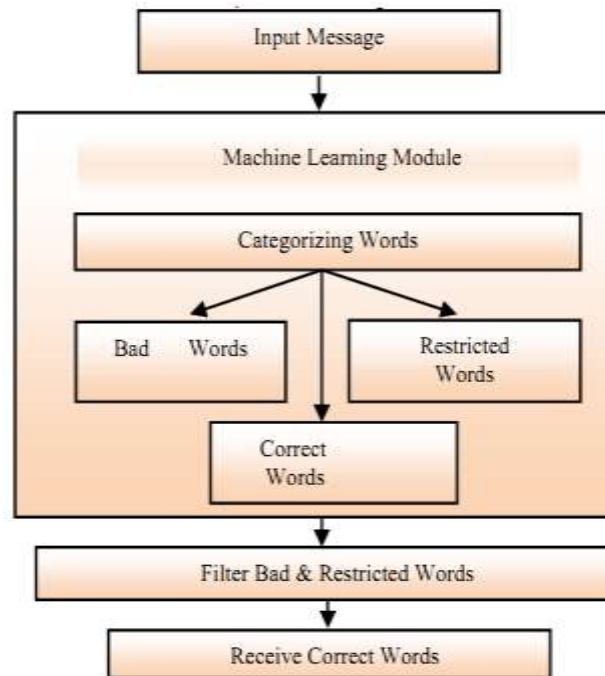


Fig.2 Filtering Process

Blacklist Management

The next and last part involved in our proposed system is BlackLists(BL) mechanism to avoid message from exceptionable peoples. BL is managed by either system or the user, which decides who should be inserted into BL and when it should be removed from the BL. Blacklist is used to enhance the flexibility of the system. BL rules specified by walls owner state that who has to be blocked and how long. The system does the blacklist on behaviours of the creators. To catch the newly recognized bad behaviours we use Relative Frequency (RF), that allows system to detect those whose messages are continually fail to the filtering rules. Every unwanted message will give an alert that is provided by admin a place for post and share for specific use walls. In this module we displays the performance of the system.

ALGORITHM

Algorithm for Filtering Rules

Filtering rules are decided by the user. User decides which message should be display or blocked on user wall. For specify a FR user profile & social relationship will be consider following factors are necessary as input to FR.

FR={ Actor, Userspec, Contentspec }

Where ,

Actor is a person who decides the rules.

Userspec is set of OSN users.

Contentspec is Boolean expression define on content.

The system will compare the text with the different prevented categories.

FM={ Userspec, Contentspec==category(violence || vulgar || offensive|| hate || sexual)}

Multiple filtering rules can apply on same user. The message will publish only when it is neutral and produce the output.

PFM={ Contentspec, M || Y }

PFM means percentages of filtered message in month or year.

Algorithm for Blacklist

BLs are managed by the system. It determines the who are the users to be inserted in BL with some time. To decide BL rules, such information is given to the system.

INPUT={ Author, Userspec, UserBehaviour }

Where,

Author is wall owner who specify the rules.

Userbehaviour is category of user.

Userspec is creator specification.

The system will process it with following factors.

BL={ Userspec, Contentspec,T }

Where,

Contentspec is message send by user.

T is total number of message send by each OSN user.

Then the system can take decision using-

BL={ Userspec, Contentspec, T>3, P }

Where,

T is prevented message count, if it is greater than 3 times then message creator will put into BL for period P..

RESULTS

We have present a system which can provide basic functionality of social site. Using filtering rule system can avoid to send unwanted messages. We categorizing violence vulgar, offensive, hate and sex type of words and filter these messages. We have provided analysis chart and graph to report behaviour of sender to Administrator .



Fig.3 set unwanted words.

Figure shows that the administrator of the system can decide unwanted words and category of those words. Administrator can also set the level of words by which system can identify sensitivity of words.



Fig.4 post message or to block user.

Above figure shows that user can send the message to another user and he or she can block to particular user.



Fig.5 avoid unwanted message.

Figure shows that system avoids unwanted messages to send or post on receiver's user wall. It shows those unwanted words and category of word.

ADVANTAGES

- Protect user wall from unwanted messages.
- The BlackList guarantees maximum filtering of messages coming from suspicious sources.
- The flexibility of system enhanced.

LIMITATIONS

- It can filter only text messages.

APPLICATIONS

- This application is useful for common people who don't want to write any unwanted messages like vulgar, political, sexual messages on his her own wall by any third person.
- Mostly, this type of activities are happen with some famous personalities, So if this facility will provide with OSN sites then people can protect his wall from this type of malpractices.

CONCLUSION

We have developed a system which prevent user wall from unwanted messages. The flexibility of system can be enhanced by filtering rules and blacklist management. Administrator decides filtering rules and maintain dataset of unwanted messages with it's categories. System maintains blacklist depending on certain criteria and social behaviour with some time period.

REFERENCES

- [1] Marco Vanetti, Elisabetta Binaghi, Elena Ferrari, Barbara Carminati, and Moreno Carullo, A System to Filter Unwanted Messages from OSN User Walls IEEE TRANSACTIONS ON KNOWLEDGE AND DATA ENGINEERING, VOL. 25, NO. 2, FEBRUARY 2013.
- [2] M. Chau and H. Chen, A Machine Learning Approach to Web Page Filtering Using Content and Structure Analysis, Decision Support Systems, vol. 44, no.2, pp. 482-494, 2008.
- [3] R.J. Mooney and L. Roy, Content-Based Book Recommending Using Learning for Text Categorization, Proc. Fifth ACM Conf. Digital Libraries, pp. 195-204, 2000.
- [4] F. Sebastiani, Machine Learning in Automated Text Categorization, ACM Computing Surveys, vol. 34, no. 1, pp. 1-47, 2002.
- [5] K.Babu , P.Charles "A System to Filter Unwanted Words Using Blacklists In Social Networks" K.Babu et al, / (IJCSIT) International Journal of Computer Science and Information Technologies, Vol. 5 (2) , 2014, 1748-1753.
- [6] Sujapriya. S, G. Immanual Gnana Durai ., Dr. C.Kumar Charlie Paul "Filtering Unwanted Messages from Online Social Networks (OSN) using Rule Based Technique" IOSR Journal of Computer Engineering (IOSR-JCE) e-ISSN:2278-0661, p- ISSN: 2278-8727Volume 16, Issue 1, Ver. I (Jan. 2014), PP 66-70.
- [7] A. D. Swami, B. S. Khade "A Text Based Filtering System for OSN User Walls" International Journal of Advanced Research in Computer Science and Software Engineering Volume 4, Issue 2, February 2014.