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Filtering Unwanted Messages and Misbehaving Users from OSN User Walls

Harshal Sonawane¹, Harshad Patil²

Student, Department of Computer Science and Engg., G.H.Raisoni Institute of Engineering and Management,
Jalgaon, India¹

Assistant Professor, Department of Computer Science and Engg., G.H.Raisoni Institute of Engineering and
Management, Jalgaon, India²

ABSTRACT: Online Social Network (OSN) users are not able to control the messages posted on their private wall. The contents which are unwanted with respect to OSN users should be avoided to display. For this purpose we propose a system which will allow an OSN user to have direct control on messages posted on their private space (User Wall). This system allows users to customize the filtering rules to be applied to their walls and we exploit machine learning based soft classifier automatically labelling messages in support of content based filtering. In addition to this we proposed the system to blocked misbehaving users also we exploit Blacklist (BL) mechanism in this paper. BL is use to determine which user should be inserted in BL and decide when to retention of the user finish.

KEYWORDS: Online social network, Blacklist, Machine Learning, Filtered Wall, Filtering Rules.

I. INTRODUCTION

Online social Network are today's one of the most popular interactive medium to share, communicate and distribute an important amount of human living information. The information shared is in the form of text, audio, video, images in tremendous quantity. In today's OSN there is a very high chance of posting unwanted contents by unwanted users on private user walls. Which will harmful to the security of OSN users. Today's OSN sites provide very little support for this. So to control posting unwanted messages on the user walls we are implementing Filtering Rules (FRs) in our system. Also Blacklist (BL) will maintain in this system along with FR. The filtering rules use to give users the ability to automatically control the messages written on their private walls by filtering out unwanted messages.

II. PROBLEM DEFINITION

Now a day, the online social network is one of the fastest growing and easy medium to share texts, images and videos and entertainment. There are billions of users are using the online social networks, and posting huge amount of data every day. When huge amount of data is getting posted over the OSN it is hard to keep watch of every post in terms of its contents. And the users are also not able to control the posts which are posting to his/her wall if it contains the offensive contents. It is also not possible to user to set criteria for the messages which are getting posted on his/her private wall. The current OSN are not providing such a type content base filtration no matter who is posting the message. The current OSN sites do not providing the facility to control user behaviour over OSN. The user is not able to set customizable filtration rules to posts which will be posting on his/her private wall.

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III. SYSTEM ARCHITECTURE

The application is web based system so it requires server, browsers, scripting languages, internet which is the below architecture.

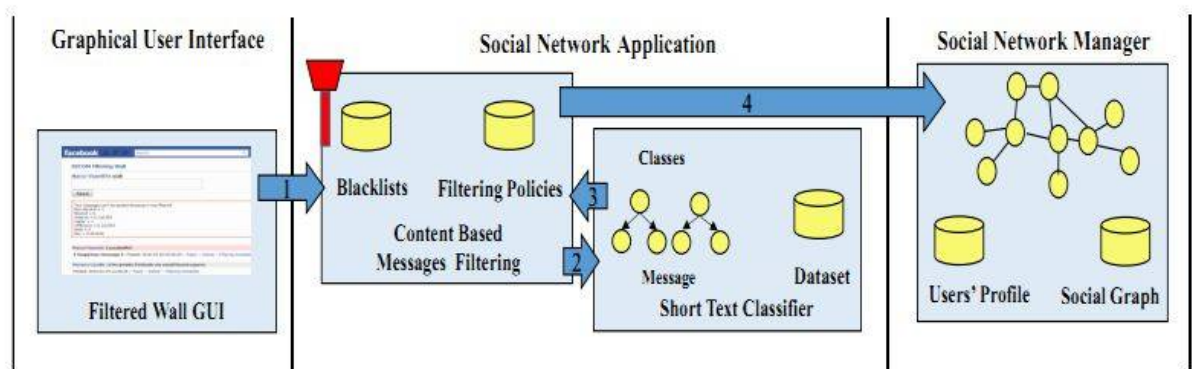


Fig 1. System Architecture

The architecture of proposed system is a three-tier structure. The first layer, called Social Network Manager (SNM), commonly aims to provide the basic OSN functionalities (i.e., profile and relationship management), whereas the second layer provides the support for external Social Network Applications (SNAs). The supported SNAs may in turn require an additional layer for their needed Graphical User Interfaces (GUIs). According to this reference architecture, the proposed system is placed in the second and third layers. In particular, users interact with the system by means of a GUI to set up and manage their FRs/ BLs. Moreover, the GUI provides users with a FW, that is, a wall where only messages that are authorized according to their FRs/BLs are published. The core components of the proposed system are the Content-Based Messages Filtering (CBMF) and the Short Text Classifier modules. The latter component aims to classify messages according to a set of categories. In contrast, the first component exploits the message categorization provided by the STC module to enforce the FRs specified by the user. BLs can also be used to enhance the filtering process. As graphically depicted in Fig. 1, the path followed by a message, from its writing to the possible final publication can be summarized as follows:

- When user wants to post messages of his friend's wall (private wall of friends) messages will be captured by FW.
- A ML based text classifier extracts metadata from the content of the messages.
- FW exploits metadata from text classifier along with data received from social graph and user's profile to implement the Filtering and Blacklist rules.
- Depending on the result of the previous step, the message will be available or filtered by FW.

3.1 Objectives

- To implement the existing system with more content filtration capabilities with respect to rules set by OSN users.
- To implement a blocking mechanism if user is posting offensive messages multiple times.
- To implement a master (admin) control over each user of online social network.

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IV. EXPERIMENTAL RESULTS

4.1 Filter Performance

The filter performance shows the post which is filtered by the system according to the filter criteria set by the user of OSN. Filter performance showed in fig. 2.



Fig 2. Filter Performance

4.2 Blocked user performance

Figure 3 shows the graph for blocked users. The graph shows the report of user blocked by the system and user blocked by the administrator.

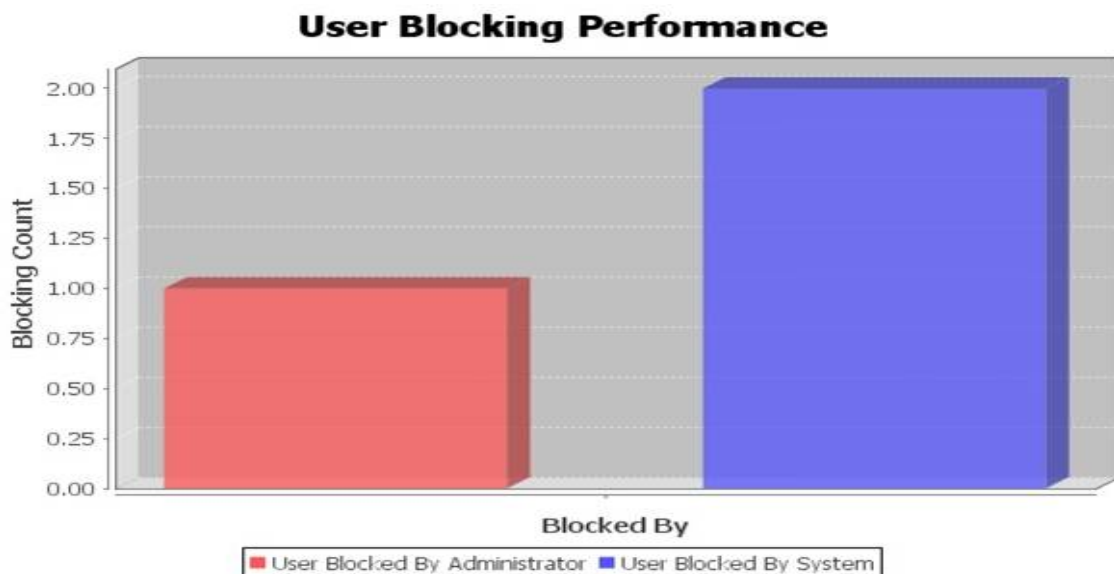


Fig 3. Blocked user performance

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4.3 System Result

Figure 4 shows the result of the post filtered by the system of each user who posts the offensive messages on OSN. The x-axis shows the user of OSN who posts the offensive messages and y-axis shows the count of filtered post. Same has been elaborated in form of table.

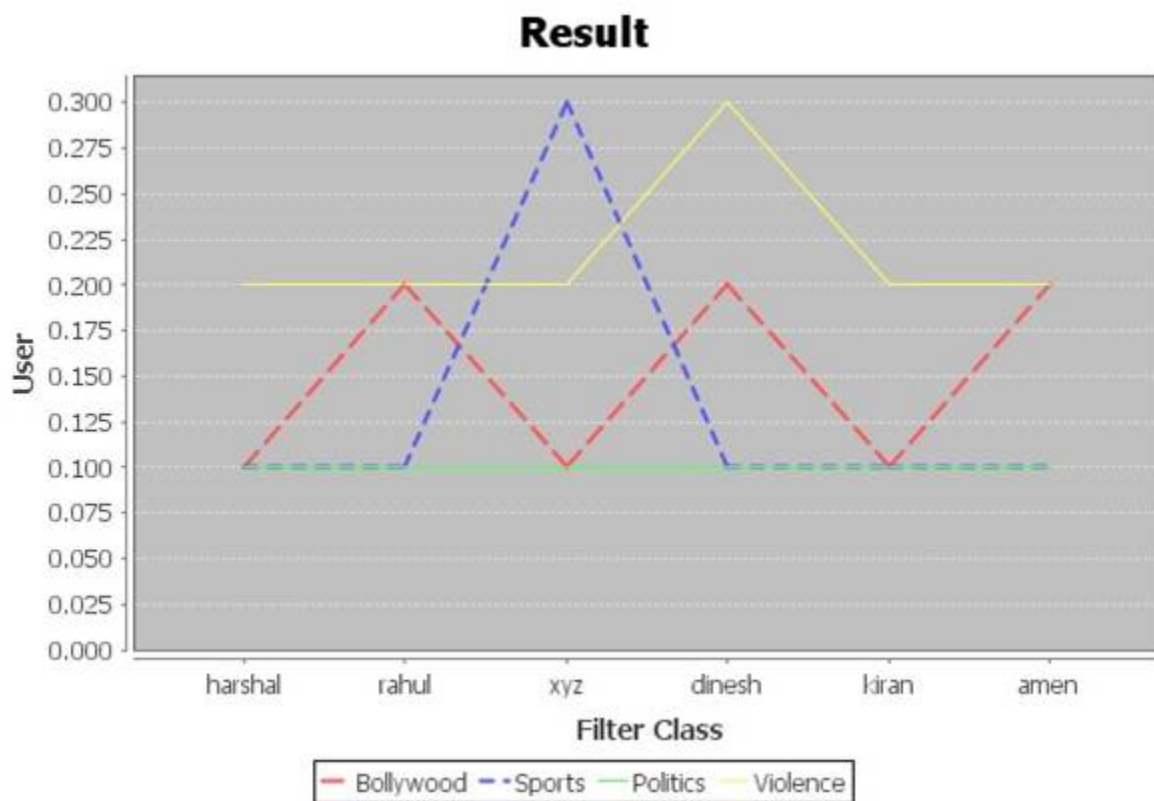


Fig 4. System Result

V. CONCLUSION

Proposed system concluded that a better system can be implemented in case of OSN. Using this system, it is possible to control unwanted messages posted on other user walls. This can be done using different filtering criteria. Whenever user posts the message on other user walls at that time if that message satisfies all the criteria then only it get posted on other user walls otherwise it get filtered by the system itself. It is also possible to block the unwanted user temporarily so that he becomes unable to post on other user walls for a specific time period. If still the unwanted user not behaves properly then it may be the possibility that he/she get permanently blocked by the system. It also possible to block the OSN users by the admin if user is misbehaving on the OSN.

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