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**CONTENT BASED MESSAGE FILTERING AND
ACCESS CONTROL IN ONLINE SOCIAL
NETWORKS**

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Abstract- On-line Social Networks (OSNs) is one type of popular interactive medium that is used to share, communicate and publish an extensive amount of human life information. The most challenging to engage in social interaction presented by Internet based platforms such as Facebook, My Space and Google+ has users the ability to control the messages posted on their wall. Furthermore, content based filtering is no longer supported in Online Social Networks (OSN) and also failed to prevent undesired message posted in general walls. A proposed approach provides a solution to have direct access control for posted messages in terms of several metrics. First, customize the filtering criteria according to user needs using Content Based Messages Filtering (CBMF). Second, the system exploit Machine Learning (ML) based soft classifier to automatically assign with each other short text message categories based on content. Finally, the system provides the support for user defined Blacklist that list user temporarily prevented to post any kind of message on user wall.

Keywords- Data Mining, Online Social Networks, Content Based Messages Filtering, Machine Learning.

1. INTRODUCTION

When the Web become popular at the mid of 1990, the web enable people to share or distribute information in the ways that was never possible earlier than. But as unlimited as the potential seem, there was a personal aspects are lack. While users might creates the home pages and post their own content in the Web, these personal own sites lacked a sense of community. In the early of 2000, the Web became a great deal for more personal as social networking websites were introduced and embraced by the masses. Over a billion people as members, today's Online Social Networks (OSN) spread in the course of all aspects of our daily life. OSNs comprise developed past platforms for news distribution and social communication, to crucial tools for social recommendations, professional networking, and online content creation.

Their usage have partial today's community and cultural issues, and changed the way we see ourselves and communicate with everyone. Not amazingly, research and study in the OSNs is highly participants and interdisciplinary include researchers from networking and systems, data mining and databases, privacy and security, and analysis and modeling. For a few amount of years, researchers enclose and published in disparate venues focused in their own areas, and that has lacked a common platform to exchange and congregate ideas. This has limited in the communication between likeminded researchers and led to repeated and sometimes conflict the results across disjoint venues. Social networks is used to provide opportunities for new relationships as well as strengthening existing relationships whether your kids' friends are close to home or across the world. It is important to be vigilant when your kids are getting involved in online social networking, but it also good to encourage positive relationships through a variety of avenue including the internet.

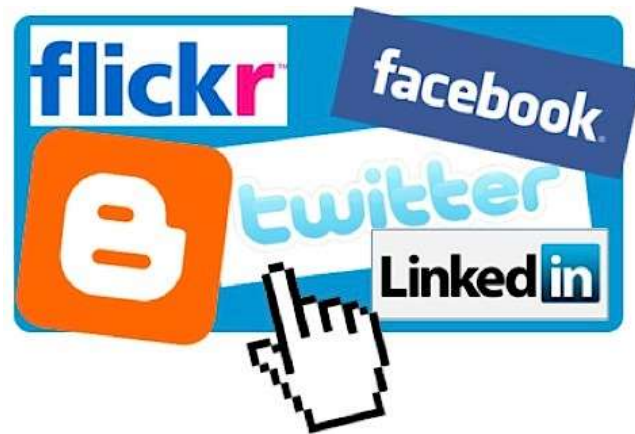


Fig 1: Online Social Networks (OSN)

Social networking websites allow users to be part of a virtual community. The two most popular sites are currently MySpace and Facebook. These websites are provides users with straightforward tools to create a custom profile with text and pictures. A representative profile includes basic information about the user and at least one photo and other comments or possibly a blog published by the user. Advanced profiles possibly that will include videos, photo albums, online applications, or custom layouts (in MySpace). After creating a profile, users can add friends, send messages to other users, and leave comments directly on friends' profiles. These features provide the building blocks for creating online communities. Here data mining is main part to analysis, maintain and retrieve data from Online Social Networks (OSN).

In general, data mining is the course of action of analyzing data from different perspectives and summarizing it into useful information that can be used to increase revenue, cuts costs, or both. Data mining is the process to discover interesting knowledge from large amounts of data. Data mining, also called knowledge discovery in databases in computer science, the process of discovering interesting and useful patterns and relationships in large volumes of data.

The field combines tools from statistics and artificial intelligence such as neural networks and machine learning with database management to analyze large digital collections, known as data sets. Data mining is widely used in business (insurance, banking, retail), science research (astronomy, medicine), and government security (detection of criminals and terrorists).

The main techniques for data mining include classification and prediction, clustering, outlier detection, association rules, sequence analysis, time series analysis and text mining, and also some new techniques such as social network analysis and sentiment analysis [1].

Data mining consists of five main elements:

- △ Extract, load transaction data and transform into the data warehouse system.
- △ Store and manage the data in the multidimensional database system.
- △ Provide data access to business analysts and information technology professionals.
- △ Examine the data by application software.
- △ Present the data in a useful format, such as a graph or table.

2. PROBLEM STATEMENT

Users are able to upload and share information's interrelated to their personal lives. The prospective privacy risks of such behavior are often ignored. The fundamental issues in the present day Online Social Networks are to give users the capability to control and manage the messages posted on their own private wall to avoid such unwanted content is displayed. Today OSNs provide very little support to prevent unwanted messages on user walls [2].

In existing there is no content based preference are supported in Online Social Networks (OSN). Some of privacy data is only user based in OSN and therefore it is not possible to prevent undesired messages, such as vulgar ones or political, no matter of the user who posts them. And this does not support to providing short text analysis service. Today OSNs provides very small support to avoid unwanted messages on user walls. For example, Facebook is one type of online social network that allows users to order who is allowed to add messages in their own walls.

On-line Social Networks (OSNs) is one type of popular interactive medium that is used to share, communicate and publish an extensive amount of human life information [3]. The most difficult to take on in social interaction presented by internet based platforms such as Facebook, Google+ and My Space has users the ability to manage the messages posted on their wall. In addition, the content based filtering is no longer supported in Online Social Networks (OSN) and also fail to prevent the undesired message posted in common walls.

3. PROPOSED SYSTEM

To proposed a new system that to automatically filter and clean unwanted messages from OSN user walls on the base of both message content and characteristics and significantly extends for what concerns both the rule layer and the classification module and major differences. That includes a different semantics for filtering the rules to improved fit the considered domain, an Online Setup Assistant (OSA) to help users in FR specification.

The new proposed system allows OSN users to enclose a direct control on the messages posted on their walls. This is achieved in the course of both flexible rule based system and Machine Learning (ML) [4] based system. Flexible rule based systems that allow users to modify the filtering criterion called Filtering Wall (FW) to be applied on their walls and a Machine Learning (ML) based system supports the content based filtering. The main mechanism used in this approach is explained in below.

3.1 SHORT TEXT CLASSIFIER

The task of Short Text Classifier is semantically categorizing the short texts is conceived in our approach as a multiclass soft classification process collected in two main phases: text representation and ML-based classification. The first level filtering tasks facilitate the subsequent and the second level performs a soft partition of Non neutral messages that assigning with a given message to each of the non neutral classes.

3.2 CONTENT BASED MESSAGE FILTERING

Information filtering systems [5] [6] are designed to organize a stream of information that dispatched asynchronously by information producer and to present the users or persons information that are likely to satisfy his/her requirements.

The filtering rules are allows user to constraints on message creators. Therefore those creators on which a filtering rule supposed to be selected on the basis of several different criteria. One of the most significant is by impressive conditions on user profile's attributes. This means the filtering rules identify particular messages according to constraints on their contents.

4. CONCLUSION

In this paper, we explain our work in detailed to protect unwanted messages for social networks. We also offered a system to filter undesired messages from OSN walls. In addition, the flexibility of the system is works in terms of filtering options that is improved through the management of Black Lists (BLs).

In future we research the new alternative mechanism to filter unwanted pictures & videos and also detecting the modifications of profile attributes and values.

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