

Control on Photo Operations in Online Social Network

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Abstract— Photo posting is an attractive feature which popularizes Online Social Networks (OSNs).

Unfortunately, it may leak users' privacy if they are allowed to download, comment, and tag a photo freely.[1] Many social networking sites is featured with photo posting, downloading, commenting and tagging. In this paper, we attempt to address this issue and we are trying to implement such system which can provide security for downloading, commenting and tagging photo. This system can also be used by the user to manage photo galleries and photo blogs which can make them view the photos but doesn't allow them to download the photo. Photos are tagged with a range of people with the help of online photo tagging which provides users various innovative alternatives. This system provides authentication for downloading, commenting and tagging photos by using Homomorphic algorithm.

Index Terms— Photo Privacy, Downloading Privacy, Commenting Privacy, Tagging Privacy.

I. INTRODUCTION

Photo tagging is an attractive feature which popularizes Online Social Networks (OSNs). Unfortunately, it may leak users' privacy if they are allowed to post, comment, and tag a photo freely. To prevent possible privacy leakage of a photo, we design a mechanism to enable each individual in a photo be aware of the posting activity and participate in the decision making on the photo posting. Also the authentication is provided on commenting and tagging. Therefore user understating which user leak privacy that's why him/her take awareness of that user. This system takes one more facility to him/her to any stranger user him/her they directly give comment user tag photo, status etc. because that user needs permission.[1]

II. SYSTEM USE CASE

This section provides more detail on some of the use cases, covering the most important user requirements in order to

clarify user scenario on this system. OSN like Facebook is rewriting a lot of policies to make easier to understand the operations. There is no security policy developed for when any friend tries to tag the photo or download and comment in your account without any permission, anyone can handle and access your Facebook profile easily, anyone can download profile photo without any concerns him/her without any privacy policies.

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A. Privacy

Privacy Suites which allows users to easily choose "Privacy" of privacy settings that can be created by an expert using privacy programming or can be created through exporting them to the abstract format or through existing configuration UIs. A Privacy suite can be verified by a good practice, a high level language and motivated users which then can be

B. Scope

The scope of this project is to provide security and protection without leaking our personal information. It will enable the protection of shared data associated with multiple users In OSN. It will provide the protection on commenting the photo so that there will be no wired comments. It also provides authentication on downloading of photo and also tagging so that security is provided.

C. Objective

The main objective of the system is to provide authentication on commenting, downloading and tagging of photo by any unauthorized user.

III. SYSTEM OVERVIEW

Photo tagging, downloading and commenting are an attractive feature which popularizes Online Social Networks (OSNs). Unfortunately, it may leak users' privacy if they are allowed to post, comment, and tag a photo freely. To prevent possible privacy leakage of a photo, we design a mechanism which provides authentication notification to each user whose photo is going to download by other user and to that user with whom other user wants to tag photo and if any person wants to comment on other user's photo then also that person needs permission from that user.

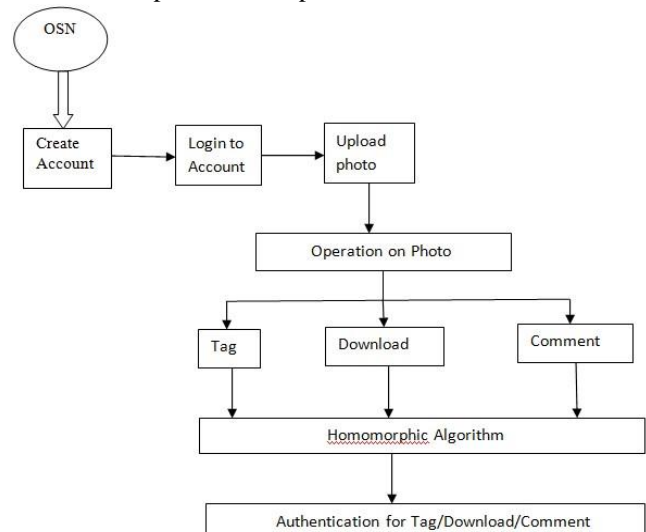


Figure 1: System Architecture

A. Creating User Account

Nowadays people have craze in OSN (Online Social network), number of peoples are creating their accounts on many social networking sites like facebook, twitter etc. This module is the first step of this system. User needs to create his/her account to access this system and for that user has to fill up all the necessary information need to create an account. Once the account get created by user then he will get one unique user-id and password, from that user can login to his/her account to use further system. This system will provide security to user's profile and personal data.

B. Posting on OSN

In this system posting is important part because nowadays Facebook, twitter etc. has become very popular. Posting photos are getting increased and very insecure i.e. anyone can comment, download and tag that photo which can harm that users profile or personal life also. So this system will provide authentication notification system which will send notification to the user who has uploaded the photo if he

permits the person sending request for downloading, commenting and tagging on that photo for the same, then only he can proceed further.

C. Download Photo from OSN

In this system Downloading is important part because nowadays Facebook, twitter etc. are not providing authentication for downloading photos i.e. user profile photos and gallery photos. These photos can be used for illegal works or to harm someone's personal life. Therefore, this system is providing authentication notification to user's profile. If the individual tries to download any user's photo then he has to take permission from the user, if the user allows then only the individual can download that photo otherwise he cannot download.

D. Photo tagging on OSN

In this system tagging is also important part because nowadays in Facebook, twitter etc. users are very much crazier to tag their photo to other user without any permission. Therefore this system is providing authentication notification system to user for tagging photos. If anyone wants to tag his/her photo to other user then that person has to take permission from that user. If that user accepts permission then only that person can tag his/her photo to that user otherwise he cannot tag the photos.

E. Commenting in OSN

This system is also providing very secure platform for comment option or facility in OSN. In OSN anyone can comment on photos without any permission. From these comments some comments are good as well as some are bad or we can say vulgar and because of these bad comments so much elective change can happen in user's life. So this system provides authentication notification for the same. If any commenter wants to comment on other user's photo then the commenter has to ask for permission and if the user allowed then only the commenter can comment on that user's photo.

F. Homomorphic algorithm

Security is the prime requirement because cybercrimes are increasing nowadays. Today, the public environment is

needed to be secure for preserving the security of data. There are many private environments are available but to store the data over those environments can be expensive than public area. Hence, everyone is convenient to store the data on public cloud i.e. Internet. There are many encryption algorithms are available. Using them, the secure environment is created. Homomorphic encryption enables that secure environment in which the operations can be done on the already encrypted data and the same result can be obtained as on original data. [5]

Key Generation: The modulus used in GM encryption is generated in the same manner as in the RSA cryptosystem. Alice generates two distinct large prime numbers p and q , such that $p \equiv q \equiv 3 \pmod{4}$, randomly and independently of each other. Alice computes $N = p \cdot q$. She then finds some non-residue a such that

$$a_p^{(p-1)/2} = -1 \pmod{p}, a_q^{(q-1)/2} = -1 \pmod{q}$$

The public key consists of (a, N) . The secret key is the factorization (p, q) .

Encryption: Suppose Bob wishes to send a message m to Alice. Bob first encodes m as a string of bits (m_1, \dots, m_n) . For every bit m_i , Bob generates a random value b_i from the group of units modulo N , or $\gcd(b_i, N) = 1$. He outputs the value

$$c_i = b_i^2 \cdot a^{m_i} \pmod{N}$$

Bob sends the cipher text (c_1, c_2, \dots, c_n) to Alice.

Decryption:

Alice receives (c_1, c_2, \dots, c_n) . She can recover m using the following procedure:

For each i , using the prime factorization (p, q) , Alice determines whether the value c_i is a quadratic residue; if so, $m_i \equiv 0$, otherwise $m_i \equiv 1$. Alice outputs the message $m = (m_1, m_2, \dots, m_n)$.

CONCLUSION

Online social networks help people to socialize with the world. But users should be aware of threats that can be faced due to lack of proper privacy settings. So, this system is providing quality range of authentication. In this paper, we have presented a too view to privacy the user profile which includes downloading, tagging, commenting as well as privacy methods. In future we can extend this system to the system which can provide security for taking screenshots of photos instead of downloading.

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