

Social Networking Sites, Cyber Threats Prevention Techniques

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ABSTRACT:-

Intoday's socio-economic environment one of the fastest growing areas of technical infrastructure development is the Internet. The increasing cyber-attacks over the past decade are posing a serious threat to the digital world. The paper focuses on the issues of cyber security for Social Networking Sites (SNS) since social media adoption among individuals and businesses is skyrocketing. Social Networking Sites have many areas of applications like digital marketing, social-commerce and branding. The fact that the maximum number of users are not aware of risks and their lack of knowledge leads to further increase in cyber-crimes is a major challenge. All these issues would form a part of the paper. These security concerns and challenges on SNS like identity misuse, malware, phishing attacks and third party application threats have also been discussed separately. Social networking websites such as Facebook, Twitter, Myspace, Google+, and LinkedIn are the popular social sites. Social networking websites have become a platform for cyber criminals for cybercrime; cybercriminals exploit its sensitive and personal information through social engineering and reverse social engineering. It is usual for the users of social websites to share information; however they lose privacy, while sharing information with strangers, they can fall in a honey trap made by them. Privacy has become an important concern in online social networking sites. Users are unaware of the privacy risks involved when they share their sensitive information on the social networking sites.

Keywords: Social Networking Sites (SNS), Security issues, Cyber Crimes, Prevention

1. INTRODUCTION

Internet based life are a well-spring of correspondence between the information proprietor (information generator) and watchers (end clients) for online interchanges that make virtual networks utilizing on the web interpersonal organizations (OSN) [1]. A non-formal community is a social diagram that speaks to a relationship among clients, associations, and their social exercises. These clients, associations, gatherings, and so forth, are the hubs, and the connections between the clients, associations, bunches are the edges of the diagram. An OSN is an online stage utilized by end clients to make informal organizations or associations with others that have comparative perspectives, interests, exercises, and additionally genuine associations [2]. Countless various kinds of person-to-person communication administrations are accessible in the current online space. Coming next are a portion of the regular highlights in long-range informal communication destinations [2,3]:

- All current online informal communication administrations are

electronic, utilizing an Internet association. Substance is put away on distributed storage through an incorporated access to the executive's framework. This substance can be gotten from anywhere utilizing an Internet association and internet browsers.

- OSN clients need to make an open profile for interpersonal organization locales according to their predefined position. This profile data is fundamentally utilized for the confirmation procedure to sign into the person-to-person communication site.
- Almost all current long-range interpersonal communication administrations encourage clients in building up their social relationships with different clients by interfacing a client's profile with others having comparative profile data.
- One intriguing component of the current OSN is that substance on these destinations is client created, while OSNs utilize this substance for business purposes. The fundamental objective of OSNs is to impart substance to most extreme clients.

Users put to use OSNs, such as Facebook, Twitter, and LinkedIn to put into print their irregular order operations. Sometimes, OSN users part new given about themselves and their lives with friends and persons having like-position. However, in these made public facts, some of the let be seen what is in through the OSN are private and therefore should not be put into print at all. Representatively, users give parts of some part of their daily living regularly order through position brings up to the current state or the having the same of camera pictures and viewing record. Currently, different OSN users put to use computer-helped telephones to take pictures and make viewing record for having the same through OSNs. These facts can have placing new given and some metadata fixed in it. OSN support gives keep in order, under control a range of facts about their users to offer made for a person's supports, but it could be used for trading, business like purposes. In addition, users' acts may also be on condition that to third groups of persons, which lead to right not to be public losses. This new given can let ill-will, bad users to with more power and go into the right not to be public of a person [4]. New given acts to get back and facts right not to be public are growing areas in computer science fields of knowledge that have different ends, purposes. News given acts to get back provides methods for facts extraction. It also offers a group of techniques to an organization for facts observations and making decisions based on this got back new given. Facts right not to be public keep safe new given from not with authority and ill-will, bad way in that makes come to light, makes different, attacks, or makes waste the facts stored or shared online. For example, persons making observations related to new given acts to get back sometimes do not take into account as right no

to be public issues while designing answers for news given act to get back and business managers. On the other hand, persons making observations who work on facts right not to be public usually keep inside limits information-retrieval techniques to keep safe sensitive facts from persons fighting against whom make attempts personal news given.

The essential plan is that the amount of long range interpersonal communication sites watch and clients is growing bit by bit (Ref. Figure 2), the amount of assaults passed on out by software engineers or programmer to take individual information is also raised. Hacked can be used for clients data for some reasons, for instance, sending unapproved messages (spam), taking money from clients accounts and so forth. The reason for this paper is to consider and investigate the current dangers of informal community and create measures to secure the character in the web world.

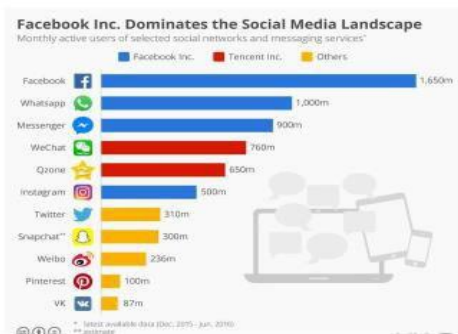


Figure 1. Total number of social networks users (Rapple's data)

In the now days The Internet, sad to report, offers such a large number of approaches to the virtual crooks and gives numerous capacity to hack accounts on informal organizations sites and the at the present time, there are huge quantities of noxious arrangement of projects that goal to get the information from the social destinations. (Fig 2).

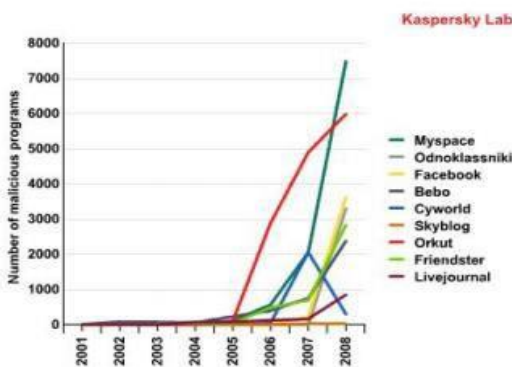


Figure 2. Number of malicious programs targeting social networks

2. LITERATURE REVIEW

Chew et al. [1] concentrated on how close to home data is being influenced by web and online networking, and furthermore talked about how the protection become a hazard and how to dole out security attention to forestall security break. They featured the current circumstance on utilizing informal community and dangers that can influence the clients. At last they expressed some security mindfulness that can be drilled to be progressively mindful of informal community dangers.

Gangopdhyay and Dhar [2] have distributed a report in which

they have referenced that social locales pull in youngsters and permit them the chance to coexist with known and obscure individuals. Warming up to obscure individuals and adding them to their companions rundown may be considered a tasteful or a thing that can be flaunted. So they concentrated on how and how much the uncovering of individual data by clients is secure. They additionally engaged the security setting made by the long range informal communication destinations like Facebook, Myspace, Orkut, Twitter and so forth.

The analysts Gunatilaka et al. [3] have distributed a report in which they have referenced that as a result of the expanding fame of informal communication locales, clients have become an objective for aggressors. Personal communication destinations are based on social relationships among individuals. The individuals share the greatest number of their own and touchy data in their social destinations. On account of the individual data and simple availability, an aggressor is following clients to start with them to play out certain activities. Numerous locales endeavor to keep away from those abuses, however aggressors are easy yet ready to beat those safety efforts. They additionally contain the issues remembered as a study for various protection and security issues in social locales. The issues close protection hazard, character take, physical dangers, and hacking, phishing, spamming and malware assaults.

Pesce and Casas [4] demonstrated that person to person communication clients intentionally and accidentally post specific sorts of private and touchy data that can cause immense harm, hurt them. Mutual news, photographs, recordings, private data and a child development of genuine exercises with loved ones are worry of client protection. They likewise attempted to mindfully clients the potential break of their protection and advised them the maker of new security safeguarding setting of labeling photographs on social destinations.

Krishnamurthy and Wills [5] portrayed and estimated different protection perspectives across various SNS utilizing the idea of bits of shared data. They additionally uncovered that, much like customary sites, outsider space track client's exercises in Social Networking Sites. In opposition to boundless presumptions.

Boyd and Hargittai [6] referenced that adolescents could not care less about protection settings in social destinations like Facebook. Leitch and Warren [7] told in his report; individual data can be gained by anyone whenever and at wherever through web. They have permitted clients to rub quickly post their emotions, share under standing and substantially more intriguing. Beth as it may, there are numerous issues in regard to security inside its condition. They investigated a few security vulnerabilities and dangers related with Facebook.

F. Stutzman and J. Kramer-Duffield [7] give counsel on the most proficient method to upgrade the protection of clients in interpersonal interaction destinations. To stay away from data fraud, they propose making clients profiles private for companions just, which will diminish the data robbery danger on Social Networking destinations. A. Verma et al. [8] proposed a decentralized and disseminated design that jelly protection and security of the clients in person to person communication locales. They improved the protection and security by the utilization of a cryptographic strategy like (Random Sequence Algorithm) RSA and computerized signature.

C. Marcum et al. [8] recommended that clients may not comprehend the dangers related with sharing individual data or the probability to utilize this data to foresee exceptionally secret information like government managed savings numbers. Yabing Liu, et al., (2011) attempted to improve defaults and give better instrument to look after security. Be that as it may, they bemoaned that the full degree of protection issues stayed obscure and there was little evaluation of the occurrence of inaccurate security settings or the challenges clients face while dealing with their protection.

3. PRIVACY AND SECURITY THREATS IN OSNS

Client created content via web-based network media may incorporate clients' encounters, sentiments, and information. What's more, it might likewise incorporate private information, for instance, name, sexual orientation, area, and private photographs [7]. Online-shared data is electronically put away and is accordingly lasting, replicable, and reshareable [8]. OSN clients by and large face the difficulties of dealing with their social character while trading off their social security. The prominence of online networking is with the end goal that overall dynamic clients of web based life are relied upon to stretch around 2.95 billion by 2020, which is around 33% of the world's whole populace (https://www.statista.com/themes/1164/informal-organizations/). The absolute dynamic clients on various well known online life systems are introduced in Table 1 (https://www.statista.com/insights/272014/worldwide-interpersonal-organizations-position-ed-by-number-of-clients/)

OSN	Total Active Users in Millions
Facebook	2047
YouTube	1500
WhatsApp	1200
WeChat	938
Instagram	700
Twitter	328
Skype	300
Viber	260

Table 1. Popular Online Social Networks (OSNs) and their total active users in millions.

Taking into account this global number of users, privacy is one of the obvious and critical issues regarding OSNs. Various privacy issues are fostered because of OSNs, such as surveillance, in which the social sphere of OSNs changes to a commercial sphere and OSN service providers supervise user actions for market force access control. Standard OSNs share users' personal data with third parties for advertisement purposes that may be exploited [9]. Likewise, OSN users leave digital imprints when they browse OSN sites, and therefore are targeted as data sources for commercial uses and user profiling. Social networking tools have changed the way we interact in our personal and professional lives. Although they play a significant role in our social and business lives, at the same time they bring about high risks concerning privacy and security. As hundreds of thousands of users use OSNs on a regular basis, they have attracted the attention of attackers more than any other target in recent years. Because of the high usage of social media, online users have been exposed to privacy and security threats. These threats can be categorized into classic and modern threats. Classic threats are online threats that not only make OSN users vulnerable, but also threaten users who do not use any OSN. The second type of threat is modern threats, which are related to OSN users only because of the OSN infrastructure that can compromise user privacy and security [10]. A 2016-based finding, NopSec, the State Vulnerability Risk Management Report (http://info.nopsec.com), claims that organizations are using inadequate risk-evaluation scoring systems. The report states that social media are not included in the risk-evaluation scoring system but they are one of the top types of platform for cyber security.

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3.1 CLASSIC THREATS

Exemplary dangers have been an issue since the time of the improvement of the Internet. These dangers are spam [11], malware [12], phishing [13], or cross-site scripting (XSS) assaults [14]. In spite of the fact that specialists and enterprises have tended to these dangers in the past with the innovation of OSNs, they can spread in another way and more rapidly than any other time in recent memory. Exemplary dangers are utilized to separate the individual data of clients, which are shared through an OSN, not exclusively to assault the objective clients yet in addition their companions by changing the danger to correspond to clients' private characteristics.

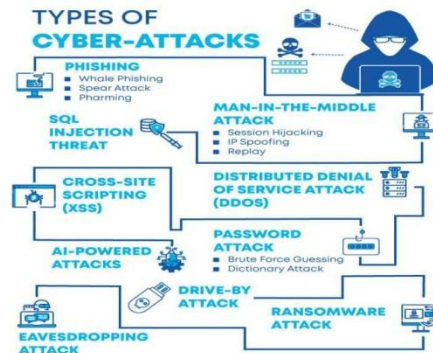


Figure 3. Types of cyber attacks

3.1.1. MALWARE REPRESENTS A MALEVOLENT PROGRAMMING

It is an exclusive term that alludes to meddling programming. It is created with the expectation to sign into somebody's PC and access their private substance. A malware assault on informal organizations is simpler when contrasted with other online administrations in view of the structure of an OSN and the collaborations among clients. The most noticeably terrible malware case is to get to clients' certifications and imitate them to send messages to their companions. For instance, the Koobface malware was spread through OSNs, for example, MySpace, Facebook, and Twitter. It was utilized to gather log certifications and make the objective tainted PC a piece of a botnet [15]. An OSN has a fundamental job for different purposes, for instance, promoting and diversion. Be that as it may, it has opened up its clients to destructive exercises. Carrying out extortion and proliferating malware are criminal activities wh

ereinclientsarelockedintogettoaURLandrunamalevolentcode onthePCofanOSN client[16].

3.1.2. PHISHING ATTACKS

Phishingisanothersortoffakeassaultwherethegatecrasher gets the client's very own data by taking on the appearance of a dependable outsider through either a phony or taken character. For instance, during an assault that was ascribed to knowledge by the Chinese government, senior U.K. what's more, U.S. military authorities were fooled into turning out to be Facebook 'companions' with somebody mimicking the U.S. Naval force Admiral James Stavridis [17]. Essentially, web-based social networking were utilized in numerous spots by phishers acting like different people [18–20].

3.1.3. SPAM ATTACKS

Spam messages are undesirable messages. In OSNs, spam comes as a divider post or spam text. Spam in OSNs is progressively hazardous when contrasted with conventional email spams since clients invest more energy in OSNs. Spam messages typically contain some malignant connections that can prompt phishing or malware destinations. By and large, spam originates from counterfeit profiles or spam applications. If there should arise an occurrence of a phony profile, it is typically spread from a profile made for the sake of a mainstream individual [21]. Spam messages ordinarily originate from traded off records and spamming bots [22]. Notwithstanding, most of spam spreads from bargained accounts [23, 24]. Spam-sifting approaches are utilized to identify a vindictive message or URL in a message and channel it before conveying it to the objective framework.

3.1.4. CROSS-SITESCRIPTING

XSS is a powerless assault on online applications. It is one of the most well-known and genuine security issues that definitely influence web applications. A XSS assault permits an interloper to run a malevolent code on the focused on client's internet browser that outcomes in undermined information, burglary of data put away as treats, and sparing passwords and Mastercard numbers. Moreover, an assailant can utilize XSS with an informal community framework and build a XSS worm that can be virally spread on OSNs.

3.2. MODERN THREATS

These threats are typically related to OSNs. Normally, the focus of modern threats is to obtain the private information of users and their friends, for example, an attacker wishes to know about a user's current employer information. If users have their privacy setting on their Facebook account as public, they can be easily viewed. However, if they have the customized privacy setting, then it is viewable to their friend only. In this situation, the attacker can create a Facebook profile and send a friend request to targeted users. Upon acceptance of the friend request, details are disclosed to the attacker. Similarly, the intruder can employ an inference attack to collect users' personal information from their peers' publicly available contents.

3.2.1. CLICKJACKING

Clickjacking is otherwise called a UI change assault, where a malevolent method is utilized to make an online client click on something that isn't the equivalent for which they expect to click. In clickjacking assaults, an assailant

can control OSN clients into posting spam posts on their course of events and requests 'likes' to join unwittingly. With a clickjacking assault, aggressors can even utilize the equipment of client PCs, for instance, an amplifier and camera, to record their exercises.

3.2.2. DE-ANONYMIZATION ATTACKS

De-anonymization is a strategy based on data-mining techniques, wherein unidentified information is cross-referenced with public and known data sources to identify an individual in the anonymous dataset. OSNs provide strong means of data sharing, content searching, and contacts. Since the data shared through OSNs are public by default, they are an easy target for de-anonymization attacks. In existing online services, pseudonyms are used for data anonymity to make the data publicly available. However, there are several de-anonymization techniques to identify an individual from such data. For example, a recent work claims a precise and robust de-anonymization attack on social-network data.

3.2.3. FAKE PROFILES

A run of the mill assault in a large portion of the interpersonal organizations is a phony profile assault. In this sort of assault, an aggressor makes a record with counterfeit certifications on an informal community and sends messages to real clients. In the wake of getting fellow ship reactions from clients, it sends spam to them. Typically, counterfeit profiles are computerized or semiautomated and imitate a human. The objective of the phony profile is to gather the private data of clients from the OSN, which is open just to companions, and spread it as spam. The phony profile assault is additionally an issue for the OSN specialist community since it abuses their data transfer capacity. Additionally, it tends to be utilized for different purposes, for instance, ads. Making counterfeit devotees and retweets is a huge IT business, and it is conceivable on account of phony profiles, however it gives deluding data to watchers.

3.2.4. IDENTITY CLONE ATTACKS

Profile cloning can be performed by an assailant utilizing robbery certifications from a previously existing profile, making another phony profile while utilizing taken private data. These assaults are known as character clone assaults (ICAs). The taken certifications can be utilized inside a similar system or across various systems. The aggressor can utilize the trust of the cloned client to gather substance from their companions or perform various sorts of online misrepresentation.

3.2.5. INFERENCE ATTACKS

Induction assault on interpersonal organizations are applied to anticipate the touchy and individual data of a client that they might not have any desire to uncover, for instance, age, sex, strict, and political affiliations. The characteristics or data that are uncovered inside the system should be private, yet it is conceivable to utilize information mining procedures on the discharged OSN information to foresee a client's private data. AI calculations can be applied for induction

assaults by consolidating freely accessible interpersonal organization information, for instance, arrange geography and substance from clients' friends. A shared companion based assault can be utilized to locate the regular neighborhood of any two clients. A surmising assault was introduced in Reference to foresee the qualities of a client dependent on their other

pen characteristics that were accessible on the web. The method was tried on Facebook to construct various clients' traits, for example, profile, instructive foundation, inclinations, and read data.

3.2.6. INFORMATION LEAKAGE

Online networking is about straightforwardly sharing and trading data with companions. A few clients eagerly share their own information, for example, well-being related information. Sadly, a couple of them share a lot of close to home data about items, ventures, association, or some other sort of private information. The sharing of such touchy and private substance may have negative ramifications for OSN clients. For example, an insurance agency may delve in OSN information to group clients as dangerous customers.

3.2.7. LOCATION LEAKAGE

The location-leakage threat is a type of data leakage. There is a trend for various users to access a social network through mobile devices. Usually, apps are used to access an online source through a mobile device. The use of mobile devices for online access introduces the new privacy threat of location leakage. The use of mobile devices for online access encourages users to share their location information. Thus, the revealing of geographic data on social-networking sites may be used by attackers to harm users.

3.2.8. CYBERSTALKING

Cyberstalking is to harass an individual or group through the internet or social networking. It could be used for monitoring, identity theft, threats, solicitation for sex, or harassment. Winkelmetal worked on the study to examine women's sex experiences with cyberharassment and their attitudes toward it using an anonymous online survey. A total of 293 women were asked, where the participants of the survey were selected from different OSN sites in their research. A good percentage of participants, i.e., 58.5%, were students at a college or university. Almost 20% of women repeatedly received sexual messages or sexual solicitations on the Internet. Approximately 10% received pornographic messages from some unknown users, whereas more than 33% of them experience cyberharassment.

3.2.9. USER PROFILING

Client profiling is one of the basic exercises in practically all online administrations, where OSN servers investigate routine client exercises in their space through different AI strategies. Client profiling has a few favorable circumstances for prescribing expected articles to clients. In any case, it might prompt protection pillages since client profiles contain individual data. Along these lines, client profiling is a security issue and its insurance is required in an OSN situation. Online specialist companies perform client profiling for business purposes; be that as it may, it can open up the path for security pillage.

3.2.10. SURVEILLANCE

Web-based life observation is another kind of checking that is not quite the same as the amiability and social jobs of an individual in legislative issues, the economy, and common society. It turns into a procedure for checking the different exercises of their client in various social jobs by utilizing their profiles and associations with others. Online networking observation is an innovation based reconnaissance in which human exercises are checked via web-based networking media.

4. ANTITHREATS STRATEGIES

In this segment we show the particular kinds of digital dangers in interpersonal organizations and found the majority of dangers happen as a result of these segments which are recorded as underneath:

- a) Most of the clients are not stress with the noteworthy soft he individual data assertion and as such they are under the risk of over disclosure and security intrusions.
- b) Users, who know about the dangers, incredibly pick unseemly insurance setting and direct security tendency suitably.
- c) The methodology and performing are not adequately outfitted to deal with a wide scope of informal organizations dangers which are increment bit by bit with more challenges, present day and current advances.
- d) Lack of instruments and appropriate validation framework to manage and oversee various security and assurance issues.

Because of the recently referenced components that are reasons for dangers, we endorsed the accompanying methods for evading dangers related with social site:

- a) Building mindfulness the data revelation:- customers most charge the well and outstandingly perceptible with respect to the noteworthy of their own data in profiles in social locales.
- b) Encouraging mindfulness:- raising and informative fights: governments need to give and offer educational classes about mindfulness-raising and security issues.
- c) Modifying the current order: existing authorization ought to be balanced related to the new development and new fakes and attacks.
- d) Empowering the validation:- get the chance to control and confirmation must be a sound in gly strong society crimes done by software engineers, spammers and different cybercriminals could be diminished any way much as could sensibly be normal.
- e) Using the most stable anti-virus apparatuses:- customers must use the most competent anti-virus instrument with ordinary updates and should keep the fitting default setting, so that the anti-virus devices could work even more effectively.
- f) Providing suitable security devices:- here, we offer proposition to these security programming suppliers and that they have to offer some one of a kind apparatuses for customers that enable them to clear their records and to supervise and control the particular protection and security issues.

5. FUTURE TRENDS OF SOCIAL NETWORKING WEBSITES

In all feelings of the getting more out and gave forward moves-forward in meeting networking sites adjustment, couples are recorded as beneath:

1. Thing needed for more changes for grouping networks with

he end, purpose that they can make able users to give out with their face seen from the side and connecting tools.

2. A thing needed for joining and joined as complete unit of grouping networks and future virtual universes.
3. Needs for news given joined as complete unit from different networks, i.e. has been seen before fact in support of all substance a kentobewithoneexamplechiefidea. This needs special guidelines and polished power of invention upheld by grouping network suppliers.
4. Many grouping networks have need of quality example application programming connections, so clients can take goods from another country and price of journey their outlining news given by using quality example apparatus for making or put right things. (For example, Facebook and Google have connected new powers of invention that authorities given in writing person for whom one does work news given power to adjust to changes among grouping places on the net, representing another well-spring of competition feelings among social networking administration).

We business organization that soon rather than later, one can by single sign-in usefulness use over places on the net, that is, the user IDs are right to other places on the net. In addition, virtual all existence have separate virtual interests, money, goods work in societies and money that in light of the trading of virtual things commonly needed. Amusements are one of the coldest and most well experienced online application writes on grouping places on the net. Here, we need to give detail of the sense, value of right not to be public and safety to let free clients from fraudsters who attempt to take grouping network qualifications and online cash. Finally, we need to say that the move forward in the grouping sites and unit telephone use will force of meeting blow on the growing of using a tablet to be taken about grouping networking by adding more high-lights and application on not fixed, as well in connection with grouping TVs for future talk, email, meetings, groups, and viewing records having meetings [5, 6].

5. RISKS PREVENTION AND THREATS VULNERABILITIES

In this part, we supply with some most important suggestion to give power to grouping system networks to keep in place let free by making a request the followings:

1. At all times have exceptionally solid let-through secret words on your messages and other meeting sites.
2. Limiting gave personal news given in the grouping sites as much as you can.
3. Change your let-through secret words unchanged, with the end, purpose that your news given can be far away by programmers.
4. Make ready with the least possible or recorded measure of news given to the place on the net and the net because of the Reputation of the internet.
5. Do Not put believe in-

line others and do not answer on uncommon inquiries from away from public view, unnoted clients or organizations. Beware.

6. Check right not to be public policies and have knowledge of about away from public view, unnoted sends word and connections gives by away from public view, unnoted clients.
7. To make use of before sensing notes house by sender of fun wanted - mail carefully worked designs, make up the email: xyz@hotmail.com as xyz@hotmail.com in the net.

7. CONCLUSION

Although grouping network sites offer gave forward technology of effect on one another and news, they in the same way lift new difficulties to do with right not to be public and safety questions under discussion. In this paper, we quickly represented the grouping networking places on the net, makes shorter their scientific order, and marked the full of danger right not to be public and safety issues giving some basic against signs of dangers systems with the point of view without bounds of the grouping networking places on the net. We have in mind that the headway of new technology a rule and grouping sites especially will take new safety danger that may let see open doors for looking for punishment for another giving effect to artists, key lumberjack trojan horses, phishing, persons getting facts secretly, causes of diseases and attackers. Knowledge safety experts, government officials and other news officers must grow new apparatus for making or put right things that make of less effect (by acting against) and adjust to the future possible unused quality dangers and signs of danger. It can in the same way safely control the of great size, degree measure of news given in the net and in the grouping sites in addition.

REFERENCES

- [1] Chewae M., Hayikader S., Hasan M.H. and Ibrahim J. 2015 How Much Privacy We Still Have on Social Network?. International Journal of Scientific and Research Publications, Volume 5, Issue 1, January 2015 Edition, page no. 1.
- [2] Gangopadhyay Sand Dhar M.D. social networking sites and privacy issues concerning youths. Article 2 Global Media Journal - Indian Edition Sponsored by the University of Calcutta/www.caluniv.ac.in ISSN 2249-5835 Summer Issue/June 2014/Vol.5/No.1.
- [3] Gunatilaka D. A Survey Of Privacy And Security issues In Social Network. <http://www.cse.wustl.edu/~jain/cse571-11/ftp/social/index.html>.
- [4] Pesce and Casas Privacy Attacks in Social Media Using Photo Tagging Networks: A Case Study with Facebook
- [5] D. Boyd and E. Hargittai. 2010. Facebook privacy settings: Who cares? Journal of the Internet, 15(8), 2010.
- [6] Krishnamurthy B. 2010. I know what you will do next summer. *ACM SIGCOMM Computer Communication Review*, 40(5):65-70, Oct. 2010.
- [7] Leitch Sand Warren M. Security Issues Challenging Facebook
- [8] Verma, K. Shirsagar D. and Khan S. 2013. Privacy and Security: Online Social Networking, Association of Computer Communication Education for National Triumph (ACCENT), vol. 3, no. 8, pp. 310-315, 2013.
- [9] Marcum C. D. and Higgins E. G. (April 28, 2014 by CRC Press) Social Networking as a Criminal Enterprise. *Criminal Justice & Law* [Online]. Available at: <http://www.crcpress.com/product/isbn/9781466589797> (Accessed: 31 Nov 2014).
- [10] Liu Y., Gummadi K. P., Krishnamurthy B. and Mislove A. Analyzing Facebook Privacy Settings: User Expectations vs. Reality
- [11] Boyd, D.M.; Ellison, N.B. Social network sites: Definition, history, and scholarship. *J. Comput.-Mediat. Commun.* 2007, 13, 210-230.
- [12] Obar, J.A.; Wildman, S. Social media definition and the governance challenge: An introduction to the special issue. *Telecommun. Policy* 2015, 39, 745-750.
- [13] Kaplan, A.M.; Haenlein, M. Users of the world, unite! The challenges and opportunities of Social Media. *Bus. Horiz.* 2010, 53, 59-68.
- [13] Shoji, N.A.; Mtsweni, J. Big data privacy in social media sites. In Proceedings

- ngsofthe2017IST-AfricaWeekConference (IST-Africa), Windhoek, Namibia, Southern Africa, 30 May–2 June 2017; pp. 1–6.
- [14] Nissenbaum, H. Privacy as Contextual Integrity. *Wash. L. Rev.* 2004, 79, 101–139.
- [15] Davison, H. K.; Maraist, C. C.; Hamilton, R.; Bing, M. N. To Screen or Not to Screen? Using the Internet for Selection Decisions. *Empl. Responsib. Rights J.* 2012, 24, 1–21.
- [16] Taddicken, M. The ‘Privacy Paradox’ in the Social Web: The Impact of Privacy Concerns, Individual Characteristics, and the Perceived Social Relevance on Different Forms of Self-Disclosure. *J. Comput.-Mediat. Commun.* 2014, 19, 248–273.
- [17] Marwick, A. E.; Boyd, D. Networked privacy: How teenagers negotiate context in social media. *New Media Soci.* 2014, 16, 1051–1067.
- [18] Ashtari, S. I Know Who You Are and I Saw What You Did: Social Network and the Death of Privacy. *J. Inf. Priv. Secur.* 2013, 9, 80–82.
- [19] Fire, M.; Goldschmidt, R.; Elovici, Y. Online social networks: Threats and solutions. *IEEE Commun. Surv. Tutor.* 2014, 16, 2019–2036.
- [20] Heymann, P.; Koutrika, G.; Garcia-Molina, H. Fighting spam on social websites: A survey of approaches and future challenges. *IEEE Internet Comput.* 2007, 11, 36–45.
- [21] Everett, C. Social media: Opportunity or risk? *Comput. Fraud Secur.* 2010, 2010, 8–10.
- [22] Alarm, S.; El-Khatib, K. Phishing Susceptibility Detection through Social Media Analytics. In *Proceedings of the 9th International Conference on Security of Information and Networks*, Newark, NJ, USA, 20–22 July 2016; pp. 61–64.
- [23] Nithya, V.; Pandian, S. L.; Malarvizhi, C. A survey on detection and prevention of cross-site scripting attack. *Int. J. Secur. Appl.* 2015, 9, 139–152.
- [24] Baltazar, J.; Costoya, J.; Flores, R. The Real Face of Koobface: The Largest Web 2.0 Botnet Explained. *Trend Micro Threat Research*. 2009. Available online: https://www.trendmicro.de/cloud-content/us/pdfs/security-intelligence/white-papers/wp_the-real-face-of-koobface.pdf (accessed on 21 October 2018).