CYBER CRIMES AGAINST WOMEN

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ABSTRACT

Information technology has widened itself over the last two decades and has become the axis of today's global and technical development. The world of internet provides every user all the required information fastest communication and sharing tool making it the most valuable source of information. With the numerous advancement of internet, the crime using internet has also widened its roots in all directions. The cyber-crimes pose a great threat to individuals. Cyber-crime is a global phenomenon and women are the soft targets of this new form of crime. In this paper we explore the Cyber-crimes and the online security vulnerabilities against women. Cyber-crime is emerging as a challenge for national and economic security. Various issues that are discussed in this paper are: Cyber Stalking, Harassment via Email, Cyber Defamation, Morphing, and Email Spoofing against women.

Keywords: Cyber Crime, Women, Information Technology.

I. CYBER CRIME

There have been numerous technological advancements over the last decade [Maltais 2005]. The Internet is one of the fastest-growing areas of technical infrastructure development in all nations. [ITU 2005] In the current era of online processing, maximum of the critical information and details are online and prone to cyber threats. Individuals use the internet because they can gather and share information very easily with other individuals no matter where on the globe they are located [Grzybowski 2012]. In every creation there are both good and bad sides but when a new one is created for the betterment of people the inventor does not think for its evil sides [Kumar, Jha 2012]. Any technological development is capable of beneficial uses as well as misuse [Seminar on "Cyber Crimes against Women, 2009]. The growth of the internet has also resulted in the creation and growth of cyber-crime.

Current era is too fast to utilize the time factor to improve the performance factor. It is only possible due the use of Internet [Saini, Rao 2012]. For the communication purpose, e-mails have displaced traditional letters; online web representation is nowadays more important for businesses than printed materials and Internet-based communication and phone services are growing faster than landline communications. These advancements, while of immense benefit for the population, have also brought opportunities for various criminal activities.

The growth of the information society is accompanied by new and serious threats. When internet was invented, inventors did not think for its bad behavior. But the criminal mentality of human psychology started its misuse by using internet as a tool of crime, which gave the birth to "Cyber-crime" and world is facing a huge challenge from these cyber criminals [Kumar, Jha 2012].

Crimes are as old as man himself and computer crimes are as old as computers themselves. People are very reliant on information systems and the Internet making them easy targets for cyber criminals [Loganathan, Kirubakaran 2011]. The number of internet users has grown exponentially over the last twenty years. Cyber-crimes have become rampant in the city [The Hindu, 2011]. Top 10 countries facing cyber crime is shown in Figure 1. Cyber-crime is a major issue facing society today.

With the advent of technology, cyber-crime and victimization of women are on the high and it poses as a major threat to the security of a person as a whole [Agarwal]. The cyber-crime is the crime, which occurs in the cyber space. In cyber-crime computer is used as a tool, a target, as incidental, and as associate. Cyber-crime also known as computer crime can be defined as -Criminal activity directly related to the illegal use of computer and a network, for unauthorized access or theft of stored or on-line data that can be used for several criminal activities against a victim [Saini, Rao 2012].

A. Cyber-Crimes Can Be Broadly Divided Into 3 Major Categories –
Cyber-crimes against persons, property and Government. Cyber-crimes committed against persons include various crimes like transmission of obscene messages, harassment of any one with the use of a computer such as e-mail, cyber-bullying and cyber-stalking. The second category of Cyber-crimes is that of Cyber-crimes against organization or all forms of property. These crimes include illegal and unauthorized computer trespassing, and transmission of important and critical information outside the organization which can lead to a great loss to the organization. The third category of Cyber-crimes relate to Cyber-crimes against Government which includes Cyber Terrorism [Duggal].

II. CYBER CRIME AGAINST WOMEN
The expanding reach of computers and the internet has made it easier for people to keep in touch across long distances. However, the means that enable the free flow of information and ideas over long distances also give rise to a worryingly high incidence of irresponsible behavior. The vulnerability and safety of women

is one of the biggest concerns of any criminal and penal law, but unfortunately women are still defenseless in cyber space [Halder, Jaishankar 2008]. Cyber-crime against women is on at alarming stage and it may pose as a major threat to the security of a person as a whole [Jeet 2012]. The World Wide Web allows users to circulate content in the form of text, images, videos and sounds. The widespread circulation of such content is particularly harmful for women. In recent years, there have been numerous reports of women receiving unsolicited emails which often contains obscene and obnoxious language.

India is considered as one of the very few countries to enact IT Act 2000 to combat cyber-crimes; This Act widely covers the commercial and economic crimes [Jeet 2012]. Even though issues regarding women still remain untouched in this Act.

Social Networking and other websites are created and updated for many useful purposes, but they are nowadays also be used to circulate offensive contents also. Individuals who post personal information about themselves on job and marriage websites or social networking websites are often at the receiving end of 'cyber-crime'. Women and minors who post their contact details become especially vulnerable.

As many as 80,000 cyber-crime related complaints have been registered with police in Kerala in 2012, of which 50,000 relate to harassment of women through new hi-tech devices [The Financial Express, 2012].

A. *Types Of Cyber-Crime That Are Committed Against Women:*
Amongst the various cyber-crimes committed against individuals and society at large, crimes that are specifically targeting women are as follows: –
1.   Cyber-stalking.
2.   Harassment via e-mails.
3.   Cyber Bullying
4.   Morphing.
5.   Email spoofing.
6.   Cyber Defamation.

III. CYBER STALKING
Cyber Stalking is one of the most widespread net crimes in the modern world. The word "stalking" means "pursuing stealthily". Cyber stalking can be used interchangeably with online harassment and online abuse [Muthukumaran 2008]. It is the use of the Internet or other electronic means to stalk or harass a

person [Kumar 2010]. The utilization of technology allows stalkers to harass their target from oceans away [Cyber Stalking 2011].

It involves invading the privacy by following a person's movements across the Internet by posting messages on the bulletin boards, entering the chat-rooms frequented by the victim, constantly bombarding the victim with messages and emails with obscene language.

While Cyber Stalking affects both men and women, women are disproportionately targets, especially of age group of 16-35, who are stalked by men. It is believed that Over 75% of the victims are female. More than one million women and 370,000 men are stalked annually in the United States. An astonishing one in twelve women and one in forty-five men will be stalked in their lifetimes [Moore 2009]. Statistics of Cyber stalking is depicted in Table 1.

In Cyber Stalking, stalker access the victim's personal information like name, family background, telephone numbers and daily routine of the victim and post them on the websites related to dating services with the name of victim [The Times of India, 2013].

A. Ritu Kohli Case

The perfectly normal married life of Ritu Kohli, New Delhi turned upside down, when she started receiving a number of emails from an unknown source. Initially she ignored the mails. [Mukut 2012].

Stalker used obscene and obnoxious language, and post her residence telephone number and other personal details on various websites, inviting people to chat with her on the phone. As a result, she started receiving numerous obscene calls at odd hours from everywhere, then she got alarmed. Distraught, Kohli lodged a police complaint. Fortunately Delhi police immediately sprang into action. They traced down the IP address (Internet Protocol address) of the hacker to a cyber cafe. The cyber stalker- Manish Kathuria, later got arrested by the Delhi police and was booked under sec 509 of the IPC (Indian Penal Code) for outraging the modesty of a woman and also under the IT Act (Information Technology Act) of 2000. The case highlighted here is the first case of cyber stalking to be reported in India [Mukut 2012].

B. Another Case

In another case of Cyber Stalking that comes in the notice, a 28 year old woman, Neha Ghai was shocked after she received objectionable calls and text messages

on her mobile phones and even vulgar e-mails in her inbox. When she approached the cyber cell and lodged a complaint against the accused, she came to know that she has become a victim of cyber stalking and the stalker had collected all her personal details posted on objectionable portals.

Cyber stalking nowadays become a serious issue and victims should immediately inform the police. The Police can trace the accused by tracking the IP (internet protocol) address of the system that is used for the criminal activity.

IV. HARASSMENT VIA EMAIL

There is no doubt that email has become one of the most heavily used electronic tools of the last decade. Many people, send and receive in around 100 emails every day [Email Harassment in Business]. Harassment on the Internet can take place in a number of ways [Harvey]. One form may include Harassment through e-mails includes blackmailing, threatening, bullying, [Halder] constant sending of love letters in anonymous names or regular sending of embarrassing mails to one's mail box. Indian Penal Code, Criminal Procedure Code and select sections of IT Act deal with the protection from cyber-crime. In general they are used to book the perpetrators along with Section 292A of the IPC for printing or publishing grossly indecent or scurrilous matter or matter intended to blackmail, and under Section 509 of the IPC for uttering any word or making any gesture intended to insult the modesty of a woman.

V. CYBER BULLYING

Today, people all over the world have the capability to communicate with each other with just a click of a button and technology opens up new risks.

Cyber bullying is the use of Information Communications Technology (ICT), particularly mobile phones and the internet, deliberately to upset someone else [Childnet International]. Cyber bullying is "willful and repeated harm inflicted through the use of computers, cell phones or other electronic devices, by sending messages of an intimidating or threatening nature. "Globally, India is third behind China and Singapore in cyber bullying or called online bullying [Simhan]. Cases of suicides linked to cyber bullying have grown over the past decade.

Bullying classmates, juniors or even seniors in the school is a common culture among the young school students in India [Halder, Jaishankar]. Social networking sites used in nearly half of cases. Girls are about twice as likely as

boys to be victims [Do Something]. With 24 female cases were reported compared with 17 males, reveals that the victims are more often female.
India is third on the list behind China and Singapore in the cases of cyber-crime according to a report, highlighting the need to take actions and increase education about online behavior.

Teens say cruel behavior takes place on-social networking sites as shown in Figure 2 and the states with the highest number of cyber bullying cases in depicted in Table 2.

A. *Cyber Bullying New-Age Threat*
Harini (name changed), a 12 year old girl when put up her profile picture on a social networking site, she did not know that she would soon face serious physical threat. When she finally told her parents about the happening, they were shocked that a person living in the neighborhood had been bullying her and threatening to misuse her personal information and photos if she told anyone. After certain visits to the cyber-crime police station, they somehow managed to get rid of the threat.
However, Harini's parents are still not sure how to make their daughter overcome the fear and regain her self-esteem [Indian Express 2012].

VI. MORPHING
Morphing is editing the original picture by an unauthorized user. When unauthorized user with fake identity downloads victim's pictures and then uploads or reloads them after editing is known as morphing. It was observed that female's pictures are downloaded from websites by fake users and again re-posted/uploaded on different websites by creating fake profiles after editing them.

This amounts to violation of I.T. Act, 2000. The violator can also be booked under IPC also for criminal trespass under Section 441, Section 290 for committing public nuisance, Section 292A for printing or publishing grossly indecent or scurrilous matter or matter intended to blackmail and under Section 501 for defamation [Agarwal].

VII. EMAIL SPOOFING
A spoofed e-mail may be said to be one, which misrepresents its origin [Legal India]. It shows its origin to be different from its actual source. E-mail spoofing is a popular way of scamming online.

E-mail spoofing is a term used to describe fraudulent email activity in which the sender's address and other parts of the email header are altered to appear as though the email originated from a known or authorized source. By changing certain properties of the email, such as its header, from, Return-Path and Reply-To fields etc., hostile users can make the email appear to be from someone other than the actual sender. Email spoofing is possible because the main protocol used in sending email i.e. Simple Mail Transfer Protocol (SMTP), does not allow an authentication mechanism. Email spoof can cause monetary damage also.

VIII. CYBER DEFAMATION

Cyber tort including libel and defamation is another common crime against women in the net. Although this can happen to both genders, but women are more vulnerable. This occurs when defamation takes place with the help of computers and/or the Internet when someone publishes defamatory matter about someone on a website or sends e-mails containing defamatory information to all of that person's friends.

The term defamation is used to define the injury that is caused to the reputation of a person in the eyes of a third person Cyber defamation is publishing of defamatory material against another person with the help of computers or internet.

You build a great brand over 20 years and all it takes is 2 days to destroy it, on the Net [The Times of India 2010]. Unfortunately cyber defamation is not defined by the IT Act 2000 and it is treated by the criminal justice system under the same provisions of publication of obscene materials in the internet.

With the exponential increase in the use of the internet as a medium of communication and sharing of information, chances of use of the web for publication of defamatory content has increased multi-fold and there is a coherent need for a clear law in this area.

A. Cyber Defamation Case
Abhishek, a teenaged student was arrested by the police in India following a girl's complaint about tarnishing her image in the social networking. Abhishek had allegedly created a fake account in the name of the girl with her mobile number posted on the profile [Didwania 2013].

B. Laws Against Cyber Defamation In India

According to Section 67 of the IT Act 2000, any person who sends, by means of a computer resource or any communication device any offensive information, shall be punishable with imprisonment for a term which may extend to three years and with fine [Didwania 2013].

The offence of cyber defamation is well explained in the IPC under Section 500 which mentions punishment with simple imprisonment that can be extended up to two years or with fine or with both.

IX. CONCLUSION

The growth of cyber-crime in India, as all over the world, is on the rise. Anybody who uses the Internet is at risk for becoming a victim of cyber-crime [Mennell]. Cyber space offers a plethora of opportunities for cyber criminals either to cause harm to innocent people.

India is considered as one of the very few countries to enact IT Act 2000 to combat cyber-crimes; This Act is widely covered commercial and economic crimes which is clear from the preamble of the IT Act but it is observed that there is no specific provision to protect security of women and children. However there are few provisions to cover some of the crimes against women in cyber space under IT Act.

In order to avoid the cyber-crime we should not engage in conversation with people we don't know. People on the other end of the computer may not be who they claim to be. We must keep our passwords protected and do not keep sensitive material on the computer as that can be accessed by the hacker. If anything seems out of place or wrong, contact law enforcement immediately.

Indian women netizens are still not open to immediately report the cyber abuse or cyber-crime. This nature provides the offenders the chance to escape after the commission of cyber-crime. The problem would be solved only when the victimized woman then and there report back or even warn the abuser about taking strong actions.
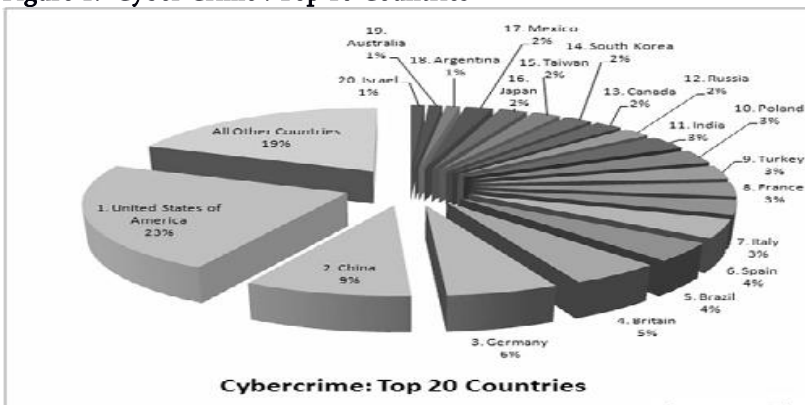
X. REFERENCES

1) Agarwal, R "CYBER CRIME AGAINST WOMEN AND REGULATIONS IN INDIA" available on
http://tmu.ac.in/gallery/viewpointsdcip2013/pdf/track4/T-403.pdf

2) Childnet International "Cyberbullying: A whole-school community issue" available on
http://digizen.org/downloads/cyberbullyingOverview.pdf

3) Cyber stalking (2011) "Cyber stalking: A growing problem" available on
http://womenslawproject.wordpress.com/2011/06/13/cyberstalking-a-growing-problem/

4) Didwania, P (2013) "India: Cyber Defamation In Corporate World" available on
http://www.mondaq.com/india/x/218890/Social+Media/Cyber+Defamation+In+Corporate+World

5) *Published on* Do Something "11 Facts about Cyber Bullying" available on
http://www.dosomething.org/tipsandtools/11-facts-about-cyber-bullying

6) Duggal, P "Cybercrime" available on
http://cyberlaws.net/cyberindia/cybercrime.html

7) "Email Harassment in Business" available on
http://www.icsworld.com/Private_Investigation_Case_Studies/Email_Harassment_in_Business.aspx

8) Grzybowski, K (2012) " An Examination of Cybercrime and Cybercrime Research: Self-control and Routine Activity Theory" available on
http://barrettdowntown.asu.edu/wp-content/uploads/2012/05/Grzybowski_An-Examination-of-Cybercrime-and-Cybercrime-Research_-Self-control-and-Routine-Activity-Theory_2012.pdf

9) Halder, D "Cyber crime against women in India" available on
http://www.cyberlawtimes.com/articles/103.html

10) Halder, D & Jaishankar, K (2008) "Cyber Crimes against Women in India: Problems, Perspectives and Solutions" TMC Academic Journal Volume 3, Issue 1, June 2008 available on
http://www.tmc.edu.sg/pdf_files/acadjournal/TMC%20Academic%20Journal%20-%20June%2008%20-%20full%20issue.pdf

11) Halder , D & Jaishankar , K "The problem of cyber bullying amongst school students in India: The loopholes in IT Act" available on
http://www.careerlauncher.com/lstcontent/plansuppliments/attachments/40/64/Cyber%20bullying%20amongst%20school%20students%20in%20India.pdf

12) Harvey, D "CYBERSTALKING AND INTERNET HARASSMENT: WHAT THE LAW CAN DO" available on

http://www.netsafe.org.nz/Doc_Library/netsafepapers_davidharvey_cyberstalking.pdf

13) Indian Express (2012) "Cyber bullying new-age threat" Indian Express, Nov 24 available on
http://newindianexpress.com/cities/bangalore/article1352590.ece

14) ITU (2005) "Understanding Cybercrime: phenomena , challenges and legal response" available on
http://www.itu.int/ITU-D/cyb/cybersecurity/docs/Cybercrime%20legislation%20EV6.pdf

15) Jeet, S (2012) "Cyber crimes against women in India: Information Technology Act, 2000" Elixir International Journal Elixir Criminal Law 47 (2012) 8891-8895 available on
http://www.elixirpublishers.com/articles/1351168842_47%20(2012)%208891-8895.pdf

16) Kumar, M (2010) "Cyber stalking : Online harassment or Online abuses" available on http://www.cyberarmy.in/2010/12/cyber-stalking-online-harassment-or.html

17) Kumar,T & ,Jha,R (2012) "Cyber Crime And Thier Solution" International Journal Of Engineering And Computer Science ISSN:2319-7242 Volume1 Issue 1 Oct 2012 Page No. 48-52 available on http://ijecs.in/ijecsissue/wp-content/uploads/2012/12/48-52..pdf

18) Legal India "CYBER CRIMES AND THE LAW" available on http://www.legalindia.in/cyber-crimes-and-the-law

19) Loganathan, M & Kirubakaran, E (2011) " A Study on Cyber Crimes and protection" IJCSI International Journal of Computer Science Issues, Vol. 8, Issue 5, No 1 available on http://www.ijcsi.org/papers/IJCSI-8-5-1-388-393.pdf

20) Maltais, C (2005) "Managing Cyber Crime: an Assessment of Canadian Law Enforcement Responses" available on http://cathyfmaltais.com/assets/docs/full_thesis.pdf

21) Mennell, C "Cyber Crime Facts" available on http://www.ehow.com/about_6601237_cyber-crime.html

22) Moore, A(2009) "Cyberstalking and Women - Facts and Statistics" available on http://womensissues.about.com/od/violenceagainstwomen/a/CyberstalkingFS.htm

23) Mukut (2012) "Cyber Stalking - A "Virtual" Crime With Real Consequences" available on http://worldpulse.com/node/61115

24) Muthukumaran, B (2008) "CYBER CRIME SCENARIO IN INDIA" avaialable on http://www.gcl.in/downloads/bm_cybercrime.pdf
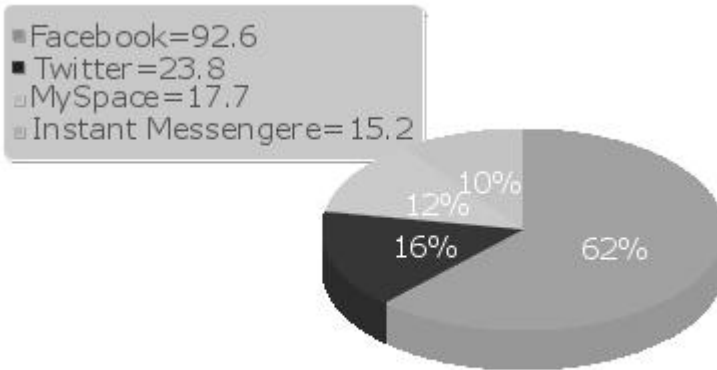
25) Saini, H & Rao, S (2012) "Cyber-Crimes and their Impacts: A Review" International Journal of Engineering Research and Applications (IJERA) Vol. 2, Issue 2,Mar-Apr 2012, pp.202-209 available on http://www.ijera.com/papers/Vol2_issue2/AG22202209.pdf

26) Seminar on "Cyber Crimes against Women"- Public Awareness meeting (2009)
 available on
http://supremecourtofindia.nic.in/speeches/speeches_2009/seminar_-_cyber_crimes_against_women_1-08-09.pdf

27) Simhan, R "India ranks third in cyber bullying" Business Line available on http://www.thehindubusinessline.com/industry-and-economy/info-tech/india-ranks-third-in-cyber-bullying/article3573592.ece

28) The Financial Express, July 30 (2012) "Cyber crimes: Criminals target women with hi-tech devices" available on http://www.financialexpress.com/story-print/981431

29) The Hindu, May 25 (2011) "Cyber crimes against women on the rise available on http://www.thehindu.com/todays-paper/tp-national/tp-kerala/cyber-crimes-against-women-on-the-rise/article2047032.ece

30) The Times of India, March 18 (2013) "Cyber stalkers leave residents in web of trouble" available on http://articles.timesofindia.indiatimes.com/2013-03-18/ludhiana/37813762_1_cyber-stalkers-cyber-cell-e-mail-account

31) The Times of India, Dec 18 (2010) "Cyber defamation increasing in India available on http://articles.timesofindia.indiatimes.com/2010-12-18/security/28256203_1_cyber-defamation-blog-sites-mega-housing-project

Figure 1. Cyber Crime : Top 10 Countries -

Source-http://www.enigmasoftware.com/top-20-countries-the-most-cybercrime

Figure 2. Cyber Bullying


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■ Facebook=92.6
■ Twitter=23.8
□ MySpace=17.7
□ Instant Messengere=15.2
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Source - http://infographicsmania.com/cyberbullying-statistics-2012/

Table 1. Cyber Stalking Statistics

NO. OF CASES	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Total
	353	256	218	198	196	443	372	249	234	220	349	305	394	3787
VICTIM GENDER														
Female	87%	79.30%	71%	70%	69%	67%	70%	61%	71%	78%	73%	74%	80%	2769
Male	13%	16%	28%	27%	18%	25%	28.50%	21%	21%	21%	27%	26%	20%	866
VICTIM AGE															
Under 18	0	0	0	0	0	1%	0	0	2%	0	0.25%	0%	0%	10
18-30	54%	44.60%	50%	63.50%	48%	38%	40%	28%	35%	34%	41%	35%	36%	2845
31-40	27%	26.20%	36%	25%	27%	25%	29%	24%	23%	30%	29%	33%	38%	1093
41+	19%	6.30%	2%	6%	23%	30%	28.50%	29%	32%	32%	27.50%	32%	26%	965
UNKNOWN	62.50%	22.90%	12%	5.50%	2%	6%	2.50%	19%	8%	4%	2.25%	0%	0%	226
DID VICTIM REPORT IT?*														
YES	N/A	81.70%	78%	66.50%	66%	59.50%	72.50%	59%	70%	72%	61%	77.50%	81%	2163
NO	N/A	18.30%	22%	33.50%	34%	40.50%	27.50%	41%	30%	28%	39%	22.50%	19%	966

Source - http://www.haltabuse.org/resources/stats/Cumulative2000-2012.pdf

Table 2. States with highest level of bullying

Rank	State
1	California

2	New York
3	Illinois
4	Pennsylvania
5	Washington

Source - http://www.statisticbrain.com/cyber-bullying-statistics/

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