# Cyber Crime and Information Professionals: A Brief Overview and Conceptual Study

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Abstract - Cyber Crime is one of the important aspects in today's age and important name towards Information Technology, Computer Technology, Law and Legal Studies and so on. Virtually, the increasing number and percentages of Cyber Crime lead the evolution of emergence of Cyber Law. Cyber Crime is also known as Information Technology crime, computer crime, information crime and so on. Cyber Crime is a big space which deals with several cyber related activities thus cyber related aspect like computer crime, mobile crime, and IT crime and so on. This is a legal action used for mining IT related problem. Virtually, Cyber Crime is an important illegal activity now days. This paper is talks about Cyber Crime and so many aspects and facet related to this. Paper also talks about the challenges and issues related to Cyber Crime and about the information professional and their role in respect of Cyber Crime.

*Keywords:* Cyber, Cyber Crime, Information Technology, IT Act, Computer Science, Information Professionals, Electronic Crime, Computer Forensic, Information Assurance

#### **I.INTRODUCTION**

Cyber world is rising day by day and which includes Computer Systems, Internet Systems, ATM Systems, and Mobile Systems and so on. Cyber Law is basically encompasses the laws deals with Cyber Crime, electronic signature, intellectual property crime, data protection and so on. Expert considers that internet and email are the main tool in Cyber Crime [01, 05]. Information Professionals are those people which are deals with information activities which include collection, selection, organization, packaging, management and dissemination of information. Information Professional plays an important role in all most all type of organization and institution apart from traditional information foundation such as information centre, documentation centre, data centre and libraries. Information professionals are includes Librarian, Information Officer, Knowledge Manager, and Documentation Officer and so on. Virtually, all of them have to play good role in cyber space including their management and professional solution in cyber security and cyber crime [06].

#### **II.OBJECTIVES**

The main aim and objective of this paper is includes but not limited to as follows.

- 1. To know basic about Cyber Crime and its characteristics;
- 2. To find out the types and classification of Cyber Crime in brief manner;
- 3. To find out common example of Cyber Crime at a glance;
- 4. To know about the Cyber Crime and its possible solution at a glance;
- 5. To know about information professionals and general information activities and role of cyber crime management in respect of information professionals.

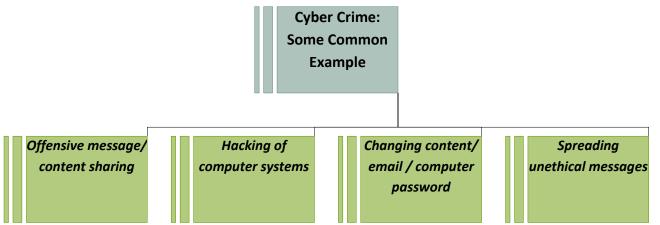


Fig.1 Depicted some popular means of Cyber Crime

## **III.CYBER CRIME**

Crime and criminal activities in respect of cyber world may be treated as Cyber Crime; which includes mobile, internet, computer systems and even ATM system and so on. Cyber Crime is a crime which is deals with several cyber related activities thus cyber related like computer crime, mobile crime; IT crime may fall under the cyber crime [07,08]. Virtually, Cyber Crime is increasing day by day and affects thousands of people; directly and indirectly. Practically, people are still not aware about Cyber Crime and remedial for this kind of offence. Cyber Crime is only possible with the pre requisite of public awareness about E Crime, technological weapon, legal action and so on [09].

## **IV.CYBER CRIME AND ITS TYPES**

Cyber crime may be classified as follows:-

- **1.** *Computer Crime-* the offence related to computer may be called as computer crime. In computer crime following things may be fall under
  - a. Tampering with computer stored documents; more clearly, allocation and changes in the content and document;
  - b. Cheating by personalization by using computer and similar resources;
  - c. Hacking with computer systems and other electronic equipments such as database and servers,
- 2. *Internet and Web Crime-* the following may be fall under this category-
  - Sending offensive message and information to some one with out acknowledge of similar dealing or content[10];
  - Sending and spreading illegal and adult content to the computer system or e-mail or spreading through user domain specific web 2.0 empowered sites such as YouTube, face book and so on;
  - c. Publishing and spreading any un ethical and illegal information and content delivery to the net is another important facet of cyber crime;
  - d. Corrupting any public computer terminal like community based information kiosk is another important aspects of Cyber Crime;
  - e. Spreading and disseminating malware, virus to the internet and email;
  - f. Access to the internet log in with out automation and changes in content;
  - g. Building full website and fake portal is also a part of E-Crime;

- h. Bogus and fall website and e-mail; including making false document and so on.
- 3. E Gadget Crime- This section is includes
  - a. Use and providing falls information in the TV and claiming for product and services many benefits and so on may fall under this category;
  - b. Cheating in ATM, asking ATM and banking related information and so on.

## V.CYBER CRIME AND INFORMATION PROFESSIONALS

Information Professional has so many relationships with Cyber Crime and its real implementation. Cyber Crime and its basic aspects we already mention; now let's know about basic aspects on information professionals [12, 15, 18]. Information professionals are those, which are deals with information processing and management and complete information activities. Information Professionals are deals such works with manual tool, techniques and so many technologies such as database, networking, computing, multimedia and so on.

Thus, today's information professionals deal with so many electronic gadgets and hence they need to do several in terms of Cyber Crime or E Crime. The contemporary Cyber Crime dealing in respect of Information Professionals are as follows.

- Information Professionals are working in the general organization and MNC's and apart from such organization they are also working in the conventional information foundation such as information centre, documentation centre, data centre, libraries, information analysis centre and so on and these organization empowered with computing facility to the public and thus it is very much essential that the common user should use only ethical works at the centre and view ethical internet site [19, 20].
- From an Information Centre, one can send offensive E Mail or spread virus and thus such thing is essential to keep in mind among the Information Professionals;
- They should keep update all the computer, software, hardware, networking devices up to date, and virus free. Hence, Information Professionals are need to make computing devices for healthy and future useful;

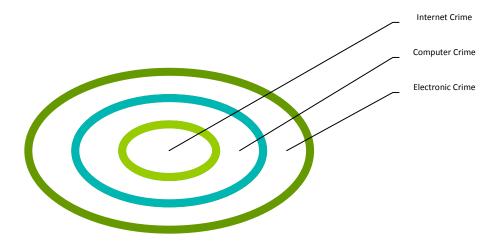


Fig. 2 The spectrum of crime related to e world with broader to smaller perspectives

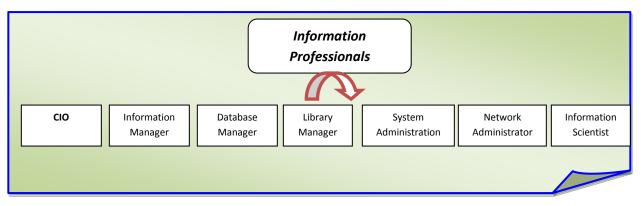


Fig: 3 Depicted some Information Professionals at this age

- They need to keep allow any specific site and internet;
- Information professionals may also need to conduct seminar, conferences, workshop in the field of Cyber Crime to reduce Cyber Crime rapidly;
- Information Professionals deals with information activities and thus they may be adopt encryption method and most and powerful sophisticated firewall system of he/she working in the defense or some place[21, 18];
- For making awareness or Cyber Crime, information professional may write manual for institutional user or may use some guidelines;
- Use only services from authenticated and authorized service providers;

- Keep all the important data and content away from the open access terminal and keep them in proper place;
- Changing password and other secret information more confident manner.

#### **VI.FINDINGS**

- 1. There are so many organization working for the solution of Computer Security, Information Security solutions;
- 2. Out of so many Act, IT Act, Communication Account, Data Security Act, 2007 is most important;
- 3. Still many people are not aware about the cyber crime, e crime and similar facet;
- 4. Apart from computer, Online Information Systems, today in many other ones Cyber Crime is increasing such as ATM security and so on.

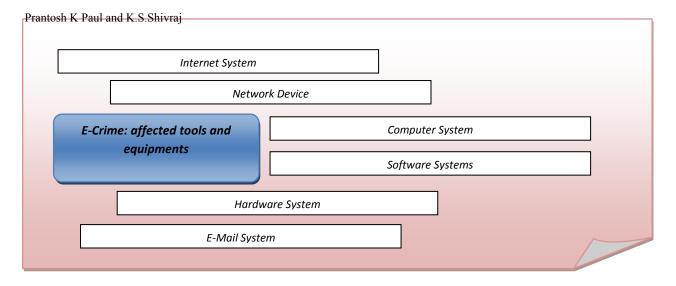


Fig. 4 Showing some possible and affected E-Crime devices

## VII.SUGGESTION

- 1. Proper awareness on Cyber Crime is need to build among the user and changes frequently is also essential;
- 2. Proper funding in the organization to reduce Information security changes are also important to look into;
- 3. Use of advance antivirus software, internet safety tool and firewall is very much important and urgent;
- 4. Proper utilization of IT account is also essential to follow up.

#### VIII.CONCLUSION

Information Professionals are doing well in so many organizations such as healthcare, business, commerce, educational sector and so on[19, 22]. They are responsible for Information solution and now days also dedicated to the technological solution. As far as E Crime is concerned, they has to do so many things which includes using better strategy inside the Information System of the organization and keep aware about the matter of E Crime among the Information Kiosk user or Institutional users.

#### REFERENCES

- Cohen, E. B. (2004). Applying the Informing Science Framework to Higher Education: Knowledge Development, Management, and Dissemination. Konferencja Pozyskiwanie wiedzy i zarządzanie wiedzą (Proceedings of the Knowledge Acquisition and Management Conference) May 13-15, 2004 Kule, Poland.
- [2] Cohen, Eli B. and Nycz Malgorzata (2006). Learning Objects and E-Learning: an Informing Science Perspective. Interdisciplinary Journal of Knowledge and Learning Objects Volume 2, 2006
- [3] Martin, S.B. (1998). Information technology, employment, and the information sector: Trends in information employment 1970–1995. Journal of the American Society for Information Science, 49(12), 1053–1069.
- [4] Michael Buckland and Ziming liu (1995). History of information science. Annual Review of Information Science and Technology vol. 30: 385-416.
- [5] Prantosh Kumar Paul, "Information Scientist: Roles and Values with special Reference to their Appropriate Academic Programme and its availability in India:" International Journal of Information

Dissemination and Technology, Vol. 2, No. 4, October-December-2012, Page-245-248, ISSN-2229-5984 [Indexed in DOAJ,EISRJC, J-GATE, Ulrich Directory, Google Scholar, Proquest, Index copernicus and other major databases]

- [6] Paul,Prantosh Kumar, D Chaterjee,R Bhatnagar, Uma Pricilda "Information Scientist: Contemporary innovative techno management roles with special reference to Information Scientist Vs Information Technologist: A Study", Indian Journal of Information Science and Applications [IJISA], Vol. 2. No. 1, Jan-Jun-2012, Academic Research Publication, New Delhi, Page-47-50, ISSN-2249-3689
- [7] Paul,Prantosh Kumar, D Chatterjee, M Ghosh "Neural Networks: Emphasizing its Application in the World of Health and Medical Sciences" Journal of Advances in Medicine, Vol. 1 No. 2, July-Dec, ISSN-2277-9744 Page-17-23, New Delhi Publisher, New Delhi.
- [8] Prantosh Kumar Paul, Ashok Kumar, Dipak Chaterjee "Health Informatics and its Practice: Emerging Domain of Information Science-Indian Scenario" in Current Trends in Biotechnology and Chemical Research, Vol. 2 No. 2, July-Dec, 2012, Page- 83-87, ISSN-2249-4073 [Indexed in DOAJ, Index Copernicus, Google Scholar, CAS-USA]
- [9] Prantosh Kr. Paul, K L Dangwal, Asok Kumar Garg "Education Technology and Sophisticated Knowledge Delivery" Techno-Learn-International Journal of Education Technology, ND Publisher, New Delhi, Vol. 2, No. 2, Page-169-175 ISSN-2231-4105
- [10] Prantosh Kr. Pau1, K L Dangwal and Dipak Chaterjee, "Information Technology and Advance Computing and their interaction for healthy Education, Techning, and learning: The IKM Approach" Asian Journal of Natural and Applied Sciences, ISSN-2186-8468, Page- 70-77 V-1, No. 4, December-2012, Leena and Luna International, Oyama, Japan
- [11] Paul,Prantosh Kumar, M K Ghose, "Cloud Computing: Possibilities, Chalenges, and opportunitities with special reference to its emerging need in the academic and working area of Information Science", ICMOC, Procedia Engineering, 38 [2012], Page-2222-2227, DOI-10.1016/j.proeng.2012.6.267, 1877-7058 C- Published by-Elsevier,USA,
- [12] Prantosh Kr. Pau1, K L Dangwal and Ramana Chettri, "Quadrple Play Network: Emphasizing its possibilities for smarter University Education especially online knowledge delivery model" Learning Community- International Journal, ISSN-0976-3201 Vol. 4. No. 1, March, 2013 NewDelhi-Publishers, New-Delhi, [Indexed in EBSCO, Ulrich Directory, ICI, CAB, Proquest, Camell, ERIC, Index copernicus and other major databases]
- [13] Prantosh Kr. Pau1, S Govindarajan, Dipak Chaterjee, "Cloud Computing: Emphasizing Hybrid Cloud Computing on Android Computing Platform-An Overview" International Journal of Applied Science and Engineering, V.1, N1, ISSN-2321-0745, Page- 21-28 New Delhi-Publishers, New-Delhi
- [14] Paul,Prantosh Kumar, R Rajesh, D Chatterjee, M K Ghose "Information Scientist: Technological and Managerial Skill requirement in 21st century" in 'Information Studies' Vol. 19, No. 1, January, 2013, RCIS,Chennai, Page-29-36, ISSN-0971-6726

- [15] Paul, Prantosh Kumar, "MSc-Information Science [Geo Informatics]: Overview emphasizing twoproposed curriculum for sophisticated Geo Spatial development" International Journal of Pharmaceutical and Biological Research (IJPBR)", Vol 4 Issue 5 Oct-Nov 2013, ISSN : 0976- 285X, Vol-218-227 [Indexed in DOAJ; 2. Urlich's Periodical Directory, USA; 3. EBSCO Publishing's Electronic Databases, USA; 4. Indian Science Abstracts, India; 5.Index Copernicus, Poland. 6. NewJour,USA, 7. Google Scholar 8. Citeseerx]
- [16] Paul, Prantosh Kumar, "Environment and Sustainable Development with Cloud Based Green Computing:A Case Study" Scholars Academic Journal of Biosciences (SAJB), 2013; 1(6):337-341 ISSN 2321-6883
- [17] Paul, Prantosh Kumar, "Nutrition Information Networks: Possible domain and Future Potentials" Scholars Academic Journal of Biosciences (SAJB), 2013; 1(6):342-345, ISSN 2321-6883
- [18] Prantosh Kr. Pau1, K L Dangwal "Cloud Computing Based Educational Systems and its challenges and opportunities and issues" Turkish Online Journal of Distance Education-TOJDE January 2014 ISSN 1302-6488 Volume: 15 Number: 1 Article 6, Page-89-98
- [19] Prantosh Kr. Pau1, K L Dangwal, B Karn, "Engineering Academics, Departments and Community : Emphasizing Some Educational Perspective of Information Science [IS], EDUCATIONAL QUEST: An International Journal of Education and Applied Social Sciences, 4(2): August, 2013: Page 141-146
- [20] Prantosh Kr. Pau1, K L Dangwal, A Kumar "Information Infrastructure and Academic and Education World: The Role and Opportunities in Contemporary Perspective" International Journal of Education for Peace and Development: Vol. 1 No. 1 December 2013, Page-31-36

- [21] Reichman, F. (1961). Notched Cards. In R. Shaw (Ed.), The state of the library art04(01), pp. 11–55). New Brunswick, NJ: Rutgers, The State University, Graduate School of Library Service.
- [22] Saracevic, T. (1996). Relevance reconsidered. Information science: Integration in perspectives. In Proceedings of the Second Conference on Conceptions of Library and Information Science (pp. 201–218), Copenhagen, Denmark: Royal School of Library and Information Science.
- [23] Saracevic, T. (1975). Relevance: A review of and a framework for the thinking on the notion in information science. Journal of the American Society of Information Science, 26(6), 321–343.
- [24] Saracevic, T. (1979a). An essay on the past and future of information science education. I. Historical overview. Information Processing &Management, 15(1), 1–15.
- [25] Saracevic, T. (1979b). An essay on the past and future of information science education. II. Unresolved problems of 'extemalities' of education Information Processing & Management, 15(4), 291–301.
- [26] Vakkari, S.P. (1996). Library and information science: Content and scope. In J. Olaisen, E. Munch-Petersen, & P. Wilson (Eds.), Information science: From development of the discipline to social interaction. Oslo, Norway: Scandinavian University Press.
- [27] Vickery, B.C., & Vickery, A. (1987). Information science in theory and practice. London: Butterworths.
- [28] Wersig, G., & Neveling, U. (1975). The phenomena of interest to information science. Information Scientist, 9, 127–140.
- [29] White, H.D., & McCain, K.W. (1997). Visualization of literatures. Annual Review of Information Science and Technology, 32, 99–168.
  [30] www.en.wikinedia.org
- [30] www.en.wikipedia.org
- [31] www.infosci.cornell.edu/[32] www.ischools.org
- [32] www.isciloois.org
- [33] http://www.libsci.sc.edu/bob/istchron/iscnet/ischron.html