

## Cyberkinife vs Cybercrime

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The era of computer and electronic data along with information technology may be the new millennium dawned, that it has gained popularity in every aspect of our lives and making us addict and dependence. There is no doubt that the technology has tremendous capacity to provide the tools to evolve the new era in new direction in all aspects including medical, health, defense, financing, education, communication etc. If we quote an example of drugs which remove the pain or disease of sufferer and same time if same drugs made to misuse it give pain or injury to the parsons. In the same way, the judicial use of computer and IT give tremendous benefits to the society in all aspects and if misused it produce more harm and pain to society and human beings.

### WHAT DO YOU MEAN BY TERM CYBER

It is a prefix used in a growing number of terms to describe new things that are being made possible by the spread of computers. Anything related to the internet also falls under the cyber category. Some words that use the cyber prefix include the following:

#### CYBERCAFE

The cafes whose customers sit at computer terminals and log on to the internet while they eat and drink.

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**CYBERCRIME:** the crime committed using a computer and the internet to steal a person's identity or sell contraband or stalk victims or disrupt operations with malevolent programs.

**CYBERCULTURE:** The culture that emerges from the use of computers for communication and entertainment and business.

**CYBER FORENSICS:** It is the discovery, analysis, and reconstruction of evidence extracted from any element of computer systems, computer networks, computer media, computer peripherals and other electronic equipment that allow the forensics experts to present and put forward the best evidence in a court of law.

**CYBERNATE:** The cybernate has control a function, process, or creation by a computer.

**CYBERNAUT:** A computer user who uses the internet; someone who explores cyberspace.

**CYBERNETICS:** The field of science concerned with processes of communication and control (especially the comparison of these processes in biological and artificial systems)

**CYBERPHOBIA:** Irrational fear of computers or technology

**CYBERPUNK:** A programmer, who breaks into computer systems in order to steal or change or destroy information as a form of cyber-terrorism,

**CYBERSEX:** the sexual arousal involving communication on the internet

**CYBERSPACE:** A computer network consisting of a worldwide network of computer networks that use the TCP/IP network protocols to facilitate data transmission and exchange.

## CYBERWAR

An assault on electronic communication networks

**CYBORG:** A human being whose body has been taken over in whole or in part by electromechanical devices

**CYBERSUICIDE :** An Internet suicide pact (cybersuicide pact) is a suicide pact made between individuals who meet on the Internet.

**CYBER-TERRORIST:** A programmer who breaks into computer systems in order to steal or change or destroy information as a form of cyber-terrorism.

## CYBERKNIFE

The **CyberKnife** is a frameless image guided robotic radiosurgery system. It is invented by John R. Adler, a Stanford University Professor of Neurosurgery & Radiation Oncology<sup>1</sup>. The cyberknife system is based on two main elements that are (1) the radiation produced from a small linear particle accelerator and (2) a robotic arm which allows the energy to be directed at any part of the body from any direction.

Once the tumour is marked with help of an X-ray opaque material, the CyberKnife system may used treat. It is a method of delivering radiotherapy, with the intention of targeting treatment more accurately than standard radiotherapy.<sup>1</sup>

Its uses pencil beams of radiation which can be directed at any part of the body, from any direction with the help of robotic arm. The system tracks the tumour's position; detects any movements of the tumour or patient and automatically corrects its positioning. It then targets the tumour with multiple beams of high energy radiation, destroying abnormal tissue without damaging surrounding areas. The treatment is so accurate that it's now possible to treat tumours previously through to be inoperable. Although the results of the treatment do not always show immediately, in most cases, the procedure will initially stop the

growth the tumour before gradually reducing their size.

As there is no open surgery the risk complications normally associated with an operation are eliminated, as is the need for a long recovery time, it makes treatment suitable even for those who are not well enough to cope with surgery, most patients leave the hospital the same day.

## APPLICATION AND ADVANTAGES OF CYBER KNIFE

1. Noninvasive procedure
2. Pain free and bloodless
3. Alternative to conventional open surgery
4. Can be generally done as an OPD patient procedure
5. No anaesthetic required
6. No recovery time
7. Lesions/tumor's that have previously had the maximum dose of standard radiation can be treated.
7. Lower risk than with conventional surgery
8. Treatments of lesion / tumours previously inoperable by surgery or standard radiation
9. Can often achieve comparable or better outcomes than conventional surgery
10. The ability to give stronger, more accurate doses or radiation directly to tumours
11. Means that the number of treatment doses can be shortened
12. Immediate return to normal activity

## CYBER CRIMES

The first recorded cyber crime took place in the year 1820. The era of modern computers, however, began with the analytical engine of Charles Babbage.<sup>2</sup> Cyber crime is an evil having its origin in the growing dependence on computers in modern life. In a day and age when everything

from microwave ovens and refrigerators to nuclear power plants is being run on computers, cyber crime has assumed rather threatening implications.

Today, directly or indirectly computers play a major role in almost every crime that is committed. Every crime that is committed is not necessarily a computer crime, but it does mean that law enforcement must become much more computer literate just to be able to keep up with the criminal element. According to Donn Parker<sup>3</sup>, "For the first time in human history, computers and automated processes make it possible to possess, not just commit, a crime. Today, criminals can pass a complete crime in software from one to another, each improving or adapting it to his or her own needs."<sup>3</sup>

The majority of what are termed "cyber-crimes" is really violations of longstanding criminal law, perpetrated through the use of computers or information networks. The problems of crime using computers will rarely require the creation of new substantive criminal law; rather, they suggest need for better and more effective means of international cooperation to enforce existing laws.

On the other hand, there are new and serious problems posed by attacks against computers and information systems, such as malicious hacking, dissemination of viruses, and denial-of-service attacks. Recently, Google, the world's most popular search engine has planned to stop its service to China's 384 million netizens due to a sophisticated cyber attack take place in China that resulted in theft of its intellectual property.<sup>4</sup> Such attacks should be effectively prohibited, wherever they may originate. At the same time, it is to be remembered that often the most effective way to counter such attacks is to quickly deploy technical countermeasures; therefore, to the extent that well-meaning but overbroad criminal regulations diminish the technical edge of legitimate information security research and engineering, they could have the unintended consequence of actually undermining information security.

## WHAT IS A COMPUTER CRIME ?

1. Criminals can operate anonymously over the Computer Networks.
2. Hackers Invade Privacy.
3. Hackers destroy "Property" in the form of Computer Files or Records.
4. Hackers injure other Computer users by destroying Information Systems.
5. Computer Pirates Steal Intellectual Property.

## CLASSIFICATION OF CYBER CRIMES

The Information Technology Act deals with the following cyber crimes along with others:

1. Tampering with computer source documents
2. Hacking
3. Publishing of information, which is obscene in electronic form
4. Child Pornography
5. Accessing protected system
6. Breach of confidentiality and privacy

### **Cyber crimes other than those mentioned under the IT Act**

1. Cyber Stalking
2. Cyber squatting
3. Data Diddling
4. Cyber Defamation
5. Trojan Attack
6. Forgery
7. Financial crimes
8. Internet time theft
9. Virus/worm attack
10. E-mail spoofing
11. Email bombing
12. Salami attack
13. Web Jacking

### Offences Related to Computer which is Punishable under the Sections of IT Act 2008

The various offences related to computer which are punishable under the sections of IT Act 2008 (modified IT Act 2000) are as follows:

Section under IT Act, 2008	Offences	Punishments
65	Tampering with Computer Source Documents	Imprisonment up to 3 years, or with fine which may extend up to two lakh rupees, or with both
66	Dishonestly, or fraudulently, does any act referred to in section 43	Imprisonment for a term which may extend to two three years or with fine which may extend to five lakh rupees or with both.
66 A	Punishment for sending offensive messages through communication service, etc. (Introduced vide ITAA 2008)	Imprisonment for a term which may extend to two three years and with fine.
66 B	Punishments for dishonestly receiving stolen computer resource or communication device (Inserted Vide ITA 2008)	Imprisonment of either description for a term which may extend to three years or with fine which may extend to rupees one lakh or with both.
66C	Punishment for identity theft. (Inserted Vide ITA 2008)	Imprisonment of either description for a term which may extend to three years and shall also be liable to fine which may extend to rupees one lakh.
66D	Punishment for cheating by personation by using computer resource (Inserted Vide ITA 2008)	Imprisonment of either description for a term which may extend to three years and shall also be liable to fine which may extend to one lakh rupees.
66E	Punishment for violation of privacy. (Inserted Vide ITA 2008)	Imprisonment which may extend to three years or with fine not exceeding two lakh rupees, or with both
66F	Punishment for cyber terrorism	Imprisonment which may extend to imprisonment for life'
67	Punishment for publishing or transmitting obscene material in electronic form (Amended vide ITAA 2008)	Imprisonment of either description for a term which may extend to five years and also with fine which may extend to ten lakh rupees.
67 A	Punishment for publishing or transmitting of material containing sexually explicit act,etc. in electronic form (Inserted vide ITAA 2008)	Imprisonment of either description for a term which may extend to seven years and also with fine which may extend to ten lakh rupees.
67 B	Punishment for publishing or transmitting of material depicting children in sexually	Imprisonment of either description for a term which may extend to seven years and also with fine which may extend to ten lakh rupees.

<b>Computer Related Crimes Covered under IPC and Special Laws</b>		
<b>Section under IPC</b>	<b>Offences</b>	<b>Punishments</b>
383	Web-Jacking or Extortion	Punishment as per sec. 384 of IPC
420	Bogus websites, cyber frauds	imprisonment of either description for a term which may extend to seven years, or with fine, or with both
463	Forgery of documents or electronic records or Email spoofing	Punishment as per sec. 465 of IPC
465	Punishment for forgery	Imprisonment of either description for a term which may extend to two years, or with fine, or with both
499	Sending defamatory messages by email	Under IPC Sec 500
500	E-Mail Abuse	Imprisonment for a term which may extend to two years, or with fine, or with both
503	Sending threatening messages by email	Under IPC Sec. 504 that is imprisonment of either description for a term which may extend to two years, or with fine, or with both

### REFERENCES

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