CYBERLAW:
A STUDY ON THE COMPUTER CRIME ACT

A thesis submitted to Graduate School in partial fulfillment of the requirements for the degree Masters of Science (Information Technology), Universiti Utara Malaysia

by
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ABSTRAK


ABSTRACT

The world of information technology is growing tremendously. More and more computer users surf the cyberspace everyday. Advancement in communication technology enables the usage of Internet in various aspects of our daily live. Cyberspace is a space without boundary, law enforcement and virtual. Computers are used as a medium to surf this space with Internet technology. Various activities ranging from business, education, government ruling and others uses Internet. The wide usage of Internet imposes a new problem, computer crime.

The law enforcement for computer crimes is categorized as Cyber Law. This is a very specific law to prevent unlawful activities involving the usage of computers. Cyber Law should be amended frequently along with the growth of Internet technology. This law has to be comprehensive. The definition used has to be precise to avoid any confusion. The definition analysis on computer crime act has to be conducted regularly. This is to ensure latest definition in the world of information technology is updated on a timely manner. Computer crimes can be prevented using prevention steps. These steps will help to curb these crimes.
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“This is just the beginning of my journey into Cyber Law

Insyallah my dreams will become reality in the near future.”

PATHMANATHAN GOVINDASAMY

@ MOHD SYAZWAN ABDULLAH

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CHAPTER 1
INTRODUCTION

Information Systems and the underpinning Information Technologies have become very powerful change agents. Information age where geographical distances have become irrelevant and where complex super corporations are being created and supported by an Information Systems/Information Technology life support system. Social, political, economic and technological turbulence in the sphere of operation has put organizations under a lot of pressure in responding effectively and efficiently to the needs of its clients. Cyberspace is the outcome of the growth of information technology in a connected networked environment.

The Internet is a revolution. At the current pace, it looks like certain that the Internet will be the medium of communication in the 21st century. It is an essential enabler of information society and information superhighways. Almost everything involving the transfer of information can be done on-line in the cyberspace: education, health care, banking, business, the provision of intangible services, all forms of publishing, and the practice of law. Cyberspace is a place. People live there. They experience all sorts of things that they experience in a real space, there. Technological advancements are pushed to the limit, leaving behind the laws of the nations which are now trying to catch. Much have been discussed concerning the technical
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BIBLIOGRAPHY

BOOKS


INTERNET

   "Technological Aspects of Internet Crime Prevention"

   "Computer Crime"
   http://www. Law.emory.edu/ELJ/volumes/sum96/alex.html

   "The Virtual Market Place"
   http://www. Law.emory.edu/ELJ/volumes/sum96/halvey.html
4. The UCLA Online Institute for Cyberspace Law and Policy
   http://www.gseis.ucla.edu/iclp/aboutinstitute.html

5. Highlights in the Development of Cyberspace Law
   http://www.gseis.ucla.edu/iclp/decade.html

   “New Direction in Cyberlaw: The Emerging and Specialized Law of The Digital Revolution”
   http://www.gseis.ucla.edu/iclp/jan96.html

   “Reading The Constitution in Cyberspace”
   http://www.Law.emory.edu/ELJ/volumes/sum96/lessig.html

   “Governing Networks and Rule Making in Cyberspace”
   http://www.Law.emory.edu/ELJ/volumes/sum96/reiden/html

9. C. Amanda Martin and Cynthia L. Counts.
   http://www.eghs.com/albany1.html
10. South Carolina
   Title 16 Computer & Offences
   Chapter 16 Computer Crime Act

11. An Act To Prevent Computer Crime
    A Massachusetts Law Enacted August 8, 1990
    Senate Bill No.1453