

Definition Search From The World Wide Web

SUBJECT: Assignment #6: Definition Search
From The World Wide Web

COURSE: MCTE 661 - Advanced Instructional Delivery Systems

Textbooks: • Beyond Calculation: The Next Fifty Years of Computing
Denning & Metcalfe (1997)
• Learning Networks: A Field Guide to
Teaching and Learning Online
Harisim, Hiltz, Teles & Turoff (HHITT) (1995)

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Abstract

Web search engines such as Metacrawler Search Engine, Lycos, Yahoo, AltaVista, etc. have been utilized to research a list of common Internet, World Wide Web, and instructional delivery systems terminology. Other resources have been online dictionaries such as (but not limited to!) The ArtLex Lexicon of Visual Art Terminology, the Free On-line Dictionary of Computing, One-Look Dictionaries, The On-line Medical Dictionary, PC Webopædia Dictionary, and Resources by Nerd World Media®.

Because the scope and intention of this list of definitions are to provide a tool for use by the writer, a judgement call was made concerning the inclusion of definitions. Much of the information listed had extensive explanations that were technical. Therefore, it was decided that a literal transcription enclosed in quotation marks would leave the topics less vulnerable to error. Instead of re-writing many areas of the topics, literal quotes were inserted.

Finally, it should be noted that the citations for this paper are NOT listed in APA Manual fashion, but are included with each term, at the end of the definition. They are listed in a), b), c) manner; however, they are not listed in alphabetical order. Instead, from top to bottom, they are listed in the chronological order in which I accessed them. This was done to provide some sort of historical logic to this search. In this same *non*-APA Manual manner, double-spacing was reduced to 16-point in some places, and single-spacing in others, to save the final document from being over 60 pages.

Definition Search From The World Wide Web

1. AT&T Learning Network

WebCrawler reveals that there is a professional development Web site called DWoKnet, made possible by a grant from AT&T, that serves hundreds of school districts taking part in school-reform efforts across California. They have committed \$50 million over the next five years to help families, schools and communities use technology to enhance teaching and learning. It supports programs for family involvement in education, provides professional development opportunities for teachers, aids in the preparation of new teachers, and promotes lifelong learning and community collaboration. It provides the latest technology to schools and communities, and support and information on how to plan for and use technology effectively, and as a powerful teaching and learning tool.

Many people seem to think that installing hardware, software and wires will fix a variety of education and social ills. That hasn't happened in industry and such a quick fix will not work in the classroom. The AT&T Network says this is what is needed: (1) hardware and wiring; (2) relevant and engaging software and content (such as lesson plans and curriculum); (3) teacher training and professional development; and (4) access to the Internet, resources, experts, and ways of communicating with one other. Community and parental is also a key ingredient needed for success.

"Internet 101" provides an online teacher tutorial on how to use the Internet. WebTour, created by well-known education experts, walks teachers through various education-related uses of the World Wide Web. AskLNSM is an online mentoring program that provides coaching to teachers.

- a) Metacrawler Search Engine; Query: AT&T Learning Network. 891 AT&T Learning Network. Available: <http://www.metacrawler.com/crawler?general=AT%26T+Learning+Network&target=&method=2®ion=0&rpp=20&timeout=10&hpe=10>
- b) AT&T Learning Network. © 1997 AT&T. Last Modified: Friday, January 02, 1998. Available: <http://www.att.com/learningnetwork/> and at <http://www.att.com/learningnetwork/program.html>
- c) Also: <http://www.att.com/learningnetwork/who.html>

2. Animation

Animation is a simulation of movement created by displaying a series of pictures, or frames. Cartoons on television are one example of animation. **Animation on computers** is one of the chief ingredients of multimedia presentations. There are many software applications that enable you to create animations that you can display on a computer monitor. Note that there is a difference between animation and video. Video takes continuous motion and breaks it up into discrete frames; animation starts with independent pictures and puts them together to form the illusion of continuous motion. Related words: 3-D graphics, 3-D software, alpha channel, animated GIF, modeling, morphing, multimedia, SGI (Silicon Graphics, Inc.), sprite, tweening. Animation gives motion to a thing. Also, the making of animated cartoons on film is also called animation.

The most commercially successful animator has been **Walt Disney** (American, 1901-1966). There is a comprehensive list of animation sites: Aardvark Entertainment's Animation Gallery (Aardvark Entertainment produces professional 3-D raytraced animations), American Royal Arts - Animation Art (Disney, Warner Bros., Hanna Barbera, Garfield, Felix the Cat, Comics, Cartoons, etc.), LightWave 3D Computer Animation and Modeling Radical 3D (a Highly Skilled Computer Animation, Modeling, and Production Company Recent projects included: Starship Troopers, Disney's Light Magic, MTV, The Learning Channel).

- a) ANIMATION Resources by Nerd World Media®, © 1995,1996, Nerd World Media, Last modified: Jan. 8, 1998. Available: <http://www.nerdworld.com/nw406.html>
- b) The ArtLex Lexicon of Visual Art Terminology (28KB, indexed Jul. 22, 1997). The earliest form of ArtLex appeared on the Web in August, 1996. ArtLex was last modified on December 18, 1997. ©1996, 1997, 1998, Michael Delahunt, M.F.A. MichaelDelahunt@aristotle.com . Available: http://www.onelook.com/cgi-bin/cgiwrap/bware/dofind.cgi?word=animation&type=type_x and <http://www.aristotle.com/sskystorage/Art/ArtLex/An.html>

3. Artificial Life

Artificial life (AL, alife) is a scientific discipline in which researchers study life by creating computer programs that recreate biological systems from scratch. This site is tremendously exciting in not just an overview of AL, but the projects they are working on. In order to derive general theories about life, we need an ensemble of instances to generalize over. Since it is quite unlikely that alien lifeforms will present themselves to us for study in the near future, our only option is to try to create alternative life-forms ourselves -- Artificial Life -- "**life made by Man rather than by Nature.**"

AL is the name given to a new discipline that studies "natural" life by attempting to recreate **biological phenomena from scratch within computers and other "artificial" media**. Alife complements the traditional analytic approach of traditional biology with a **synthetic approach** in which, rather than studying biological phenomena by taking apart living organisms to see how they work, one attempts to put together **systems that behave like living organisms**.

Artificial life amounts to the practice of "**synthetic biology.**" By analogy with synthetic chemistry, the attempt to recreate biological phenomena in alternative media will result in better theoretical understanding of the phenomena under study. Better understanding will also be gained in practical applications of biological principles in the technology of computer hardware and software, mobile robots, spacecraft, medicine, nanotechnology, industrial fabrication, and other vital engineering projects.

There is a project called **Tierra**. The website is called "What Tierra Is." This is some of the description of the project (and it is fascinating):

"Life on Earth is the product of evolution by natural selection operating in the medium of carbon chemistry. However, in theory, the process of evolution is neither limited to occurring on the Earth, nor in carbon chemistry. Just as it may occur on other planets, it may also operate in other media, such as the medium of digital computation. The Tierra C source code creates a virtual computer and its Darwinian operating system, whose architecture has been designed in such a way that the **executable machine codes** are *evolvable*. This means that the **machine code can be mutated** (by

flipping bits at random) or recombined (by swapping segments of code between algorithms), and the resulting code remains functional enough of the time for natural (or presumably artificial) selection to be able to improve the code over time.

"This system results in the production of synthetic organisms based on a **computer metaphor of organic life** in which **CPU time is the "energy" resource** and **memory is the "material" resource**. Memory is organized into informational patterns that exploit CPU time for self-replication. Mutation generates new forms, and evolution proceeds by natural selection as different genotypes compete for CPU time and memory space.

"Diverse ecological communities have emerged. These digital communities have been used to experimentally examine ecological and evolutionary processes: e.g., competitive exclusion and coexistence, host/parasite density dependent population regulation, the effect of parasites in enhancing community diversity, evolutionary arms race, punctuated equilibrium, and the role of chance and historical factors in evolution. This **evolution in a bottle** may prove to be a valuable tool for the study of evolution and ecology."

- a) One-Look Dictionaries. Available: http://www.onelook.com/cgi-bin/cgiwrap/bware/dofind.cgi?word=artificial+life&type=type_x
- b) The On-line Medical Dictionary. (indexed Jan. 11, 1998). Available: <http://www.graylab.ac.uk/cgi-bin/omd?artificial+life>
- c) Alife Online: Introduction to Artificial Life. Last modified: May 9, 1996. Santa Fe Institute, Santa Fe, New Mexico. Available: <http://alife.santafe.edu/alife/alife-def.html>
- d) What Tierra Is. Last Modified: Friday, Feb. 14, 1997. Available: <http://www.hip.atr.co.jp/~ray/tierra/whatis.html>
- e) Thomas Ray, Santa Fe Institute, University of Delaware (<http://www.hip.atr.co.jp/~ray/>)

4. Asynchronous Communication

This is a method of **transferring data without a specific timing mechanism** between the two communicating parties. The party receiving data isn't expecting more data at any set interval. This term also describes how your computer uses a modem to connect with other computers. Back in the days of teletypes and dumb terminals, computers sent data synchronously -- they operated using a shared timer that marked the transmission of each character. This didn't work very efficiently for large blocks of data over phone lines, however. So modern modems use **asynchronous** rules: instead of synching up to a time signal to mark a character, transmitting computers use a start bit, a stop bit, and an optional error-checking parity bit to indicate to receiving computers the boundary of each character. (The term is a bit of a misnomer, though, since all modems synch up with one another before they transmit data.)

- a) One-Look Dictionaries. Available: http://www.onelook.com/cgi-bin/cgiwrap/bware/dofind.cgi?word=asynchronous+communication&type=type_x
- b) CNET Internet Glossary. (20KB, indexed Jan. 11, 1998). © 1995-98 CNET, Inc. Available: <http://www.cnet.com/Resources/Info/Glossary/Terms/asynchronouscommunication.html>
- c) TECHNICAL GLOSSARY. (indexed Dec. 17, 1997). UGeek Magazine, Somerville, MA. Available: [http://www.ugeek.com/cgi-bin/glossary_search.cgi?Asynchronous Communication](http://www.ugeek.com/cgi-bin/glossary_search.cgi?Asynchronous+Communication)

5. Audiographics

Audiographics is the same as **Audiographic Teleconferencing**, or "electronic whiteboarding", or "screen sharing"). This is a form of teleconferencing in real time, using both an audio and a data connection. The computer screen is shared by more than one site, and used as an electronic blackboard, overhead projector or still video projector. Some systems allow for sharing software also. It is the combined use of voice transmission, computer networking, and graphics transmission through **narrow band telecommunications channels**. An example is the **Wisconsin Audiographics**. The WisView audiographics system combines audio teleconferencing with computer graphics. Voice, text and graphics are delivered over **standard telephone lines**.

- a) Metacrawler query: Audiographics. Available: <http://www.metacrawler.com/crawler?general=Audiographics&target=&method=0®ion=0&rpp=20&timeout=10&hpe=10>
- b) Distance Education Clearinghouse, University of Wisconsin Extension, Interactive Delivery Systems page. Available: <http://www.uwex.edu/disted/audiograph.html>
- c) One-Look Dictionaries. Available: http://www.onelook.com/cgi-bin/cgiwrap/bware/dofind.cgi?word=Audiographics&type=type_x
- d) Free On-line Dictionary of Computing. (indexed Jan. 11, 1998). Available: <http://wagner.Princeton.EDU/foldoc/cgi-script?action=Search%3A&query=audiographics>

6. Automatic Programming

This explanation is derived from the Computational Sciences Division, NASA Ames Research Center. The goal of **automated software engineering** is to increase by orders of magnitude both the quality and the productivity of software engineering. The cross-cutting research done by the automated software engineering group at NASA Ames draws upon several disciplines, including **Artificial Intelligence** (especially automated reasoning and knowledge representation) Formal Methods, programming language theory, mathematical logic, and advanced compiler methods. The focus is on strategic research, directed to the 5 - 15 year time horizon. It aims to make large impacts rather than incremental advances. Some current space-related projects are space science code generation, and software verification for deep-space missions. For civilian aviation, the research is on next-generation **autocoding technology**, and **high-assurance software design**. There is development on **innovative educational technology**. They have sample lessons for students and teachers based on work done so far.

Automatic programming deals with **basic processes related to learning and inference theory**. Specifically, it might mean mechanisms that can receive samples of a behavior and then create a general representation of the behavior. For example, the system might receive samples of the input-output behavior for a computer program and then generate the program. A number of models have been studied including grammatical inference systems, program generators, signature table systems and others. The NASA group emphasizes the development of systems that can be shown to learn well-defined classes of behaviors and whose convergence characterizations can be understood. They look for both new algorithms for doing such inference and general theory to explain the phenomena.

Amphion is a **knowledge-based software engineering (KBSE) system** that guides a user in developing a formal specification of a problem and then implements this specification as a program

consisting of calls to subroutines from a library. It is domain independent. Program synthesis is based upon constructive theorem proving, and is efficient and **totally automatic**.

- a) Metacrawler query: Automatic Programming. Available: <http://www.metacrawler.com/crawler?general=Automatic+Programming&target=&method=2®ion=0&rpp=20&timeout=10&hpe=10>
- b) Automatic Programming, Learning and Inference. Tue Aug 23 12:33:31 EDT 1994. Dr. Curry I. Guinn, Adjunct Assistant Professor, Voice and Natural Language Laboratory, Department of Computer Science, Duke University, Durham, North Carolina. Available: http://www.cs.duke.edu/~cig/awb/subsectionstar3_2_2.html
- c) Abstract: Amphion: Automatic Programming for Scientific Subroutine Libraries. Computational Sciences Division, NASA Ames Research Center, MS 269-2, Moffett Field, CA 94035-1000. Michael Lowry, Andrew Philpot, Thomas Pressburger, and Ian Underwood. Principal Investigator, Amphion project: lowry@ptolemy.arc.nasa.gov (Mike Lowry). Last updated: Sept. 13, 1995. Available: <http://ic-www.arc.nasa.gov/fia/projects/amphion/papers/ISMIS94/ISMIS94-abstract.html>
- d) Computational Sciences Division, NASA Ames Research Center, MS 269-2, Moffett Field, CA 94035-1000. Automated Software Engineering Group. Available: <http://ic-www.arc.nasa.gov/fia/projects/amphion/>

7. British Open University

The **Open University** is Britain's largest and most innovative educational and training organization. It leads the world in the large-scale application of technology to learning. There are more than 218,000 students; 141,000 are undergraduate, 10,000 are postgraduate. There are professional development programs in management, education, health and social welfare, manufacturing and computer applications, and self-contained study packets. Open University is different from other universities:

- It is open to any adult living in the UK or other member states of the European Union, irrespective of previous educational qualifications. There are no entry requirements for the majority of its courses.
- It is the university that goes to its students. Teaching materials are delivered to the students in their own homes or places of work -- by mail, by computer, and by national BBC broadcasts. Local support is provided by a network of 7,000 tutors and counselors, who operate through a structure of thirteen Regional Centers.

Degrees awarded by the Open University are **BA** and **BS**, **Masters**, **MBA**, and research degrees including **BPhil**, **MPhil** and **PhD**. There are also undergraduate, postgraduate and professional diplomas. In addition to its own degrees, the University validates a wide variety of awards for other educational providers. Most students are aged between 25 and 45, and the **median age for graduation is in the mid-thirties**. The oldest graduate so far was 93, while the youngest student was a nine-year-old prodigy, taking math as a major. There are roughly equal numbers of men and women. About three-quarters of students remain in full-time employment throughout their studies.

The Open University also operates in **partnerships with institutions in many parts of the world**, making its teaching materials available both in English and in translated versions. **Public funds** provided through the Higher Education Funding Council make up more than half of the Open University's finances. Student fees, research grants and other income make up the remainder.

- a) Metacrawler query: British Open University. Available: <http://www.metacrawler.com/crawler?general=British+Open+University&target=&method=2®ion=0&rpp=20&timeout=10&hpe=10>
- b) What is the Open University? Available: <http://www.open.ac.uk/OU/Intro/WhatIs.html>

8. CD-ROM

This term is an abbreviation of **Compact Disc-Read-Only Memory**. It is a type of optical disk capable of storing large amounts of data -- up to 1GB, although the most common size is **630MB** (megabytes). A single **CD-ROM** has the storage capacity of 700 floppy disks, enough memory to store about 300,000 texts. CD-ROMs are recorded by the vendor, and once recorded, they cannot be erased and filled with new data. To read a CD, you need a **CD-ROM player**. Almost all CD-ROMs conform to a standard size and format, so it is usually possible to load any type of CD into any ROM player. In addition, most CD-ROM players are capable of playing audio CDs, which share the same technology. They are particularly well suited to information that requires **large storage capacity**. This includes color graphics, sound, and especially video. In recent years, as the prices of CD-ROM players have decreased, and the tools for creating new CD-ROM titles have improved, the CD-ROM industry has been expanding rapidly. To date, the most popular CD-ROM titles have been **computer games** and **multimedia reference works**.

The technology is continuing to move forward to include **write-once** and **rewritable media**, as well as faster and faster data transfer speeds. Current popular speed offerings are in the 12X to 16X range, with even higher speeds on the horizon.

- a) OneLook Dictionaries. Available: http://www.onelook.com/cgi-bin/cgiwrap/bware/dofind.cgi?word=CD-ROM&type=type_x
- b) PC Webopædia Dictionary. (indexed Jan. 11, 1998). Available: http://www.pcwebopaedia.com/CD_ROM.htm
- c) Information Brief: CD-ROM Technology. ©International Business Machines Corporation 1997. IBM Personal Computer Company, Research Triangle Park, NC. Last Modified: Thursday, October 30, 1997. Available: <http://www.pc.ibm.com/us/infobrf/cdtech.html>

9. Collaborative Projects

Collaborative Projects might be described as a way to maximize the efficiency and success rates of enterprise transformation efforts, by placing **a strong focus on sharing knowledge** across functional or process boundaries, by moving knowledge to the most critical points in a business process, and coordinating multiple sources of knowledge. It is the **capture, categorization, dissemination and re-use of enterprise knowledge**, allowing a group to benefit from its most valuable asset, and it must become a core competence for every organization. The projects should be innovative, address key areas of enterprise competitiveness, and support the transition of traditional management into knowledge-based management. This approach has important benefits: 1) Overcoming the cost hurdles associated with innovation and adoption of new technologies; 2) Facilitating accelerated learning; 3) It is a practical means of establishing "**best practice**" **views** and benchmarking; 4) It develops internal expertise in place of complete reliance on external consultants. MetaCrawler listed many collaborative project websites.

- **Identifying Collaborative Web Pages: More Than One Classroom.** Find resource links to websites that will guide you into developing a collaborative project. Available: <http://www.siec.k12.in.us/~west/online/coll2.htm>
 - **ACES Affiliates & Collaborative Projects. University of Illinois at Urbana - Champaign,** College of Agricultural, Consumer and Environmental Sciences Affiliated Units and Collaborative Projects. Available: <http://w3.ag.uiuc.edu/Affiliates.shtml>
 - **USC Biomedical Simulations Resource - Collaborative Research.** The University of Southern California Biomedical Simulations Resource (BMSR). Available: <http://www.usc.edu/dept/biomed/BMSR/Research/collabre.html>
 - **artnetweb PROJECTS** - Rather than a curated exhibition, think of this area as an on-going creative laboratory for artists to experiment and explore mapping their ideas to a new terrain. Most of the artists are working without the benefit of high-end equipment or industry expertise. Available: <http://artnetweb.com/artnetweb/projects/projects.html>
 - **Canada's SchoolNet Collaborative Projects** - Collaborative Projects are projects that use **electronic communications to improve or carry out the activities** involved. The projects may just use the Internet as a carrier of data or may be integral in the workings of the project. The term collaborative suggests that many different people, students, teachers, and/or classes may be involved in any project. These projects can range from surveys to scientific experiments to question and answer areas. This diversity of topics and the emphasis on fun provide a great environment for students to learn in. Some of the projects require a lot of preparation time and a certain amount of electronic communications knowledge. Available: <http://www.ncf.carleton.ca/ip/schools/schoolnet/demo/resources/projects>
- a) Metacrawler Query: Collaborative Projects. Available: <http://www.metacrawler.com/crawler?general=Collaborative+Projects&target=&method=2®ion=0&rpp=20&timeout=10&hpe=10>
- b) Federation for Enterprise Knowledge Development (FEND). Updated on Sept. 24, 1997. Available: <http://www.fend.es/services/projects/projects.html>

10. Computer-Based Simulation

The process of **imitating a real phenomenon with a set of mathematical formulas**. Advanced computer programs can simulate weather conditions, chemical reactions, atomic reactions, even biological processes. In theory, **any phenomena that can be reduced to mathematical data and equations** can be simulated on a computer. In practice, however, simulation is extremely difficult because most natural phenomena are subject to an almost infinite number of influences. One of the tricks to developing useful simulations, therefore, is to determine which are the most important factors. In addition to imitating processes to see how they behave under different conditions, simulations are also used to **test new theories**. After creating a **theory of causal relationships**, the theorist can codify the relationships in the form of a computer program. If the program then behaves in the same way as the real process, there is a good chance that the proposed relationships are correct.

The operation of a dynamic model in order to obtain a **sequence of outcomes** that could occur in a **real world system**. Simulations of social processes can be accomplished either by **human player**

games or by computer programs or by a combination of the two. Rather than simply computing the solution to a set of equations, a simulation produces a **synthetic history of the process.** Beginning with a set of initial conditions, the simulation plays through the various kinds of **events that might occur.**

- a) Metacrawler Query: Computer-Based Simulation. Available: <http://www.metacrawler.com/crawler?general=Computer-Based+Simulation&target=&method=2®ion=0&rpp=20&timeout=10&hpe=10>
- b) PC Webopædia Dictionary. (indexed Feb. 15, 1998). Available: <http://www.pcwebopædia.com/simulation.htm>
- c) Principia Cybernetica Web: Web Dictionary of Cybernetics and Systems. (indexed Feb. 15, 1998). Available: <http://pespmc1.vub.ac.be/ASC/Simulation.html>

11. Computer Supported International Learning Environment

The **TeleLearning Research Network** builds on **Canadian successes** from every nook and cranny of the nation. The numerous national participants have chosen to develop four "beacon technologies" that they feel are capable of becoming the standards for **technology-based education.** Each beacon technology is of Canadian origin and a participant in the initiative. **CSILE** is one of those beacon technologies. It is the **Computer Supported International Learning Environments, K-12** (pronounced Cecil) --uses the idea of knowledge-building communities. Developed at the **Ontario Institute for Studies in Education,** it is a network system built around a **hypermedia database** constructed by the learners. **Linda Harasim** says, "We're helping to design the kind of technologies to support the most effective learning that is going to help develop, in Canada, **knowledge workers** and not just knowledge transmitters. We're trying to build, not just a new paradigm but a whole **new strategy for learning** so that we can learn in a **technologically mediated society,** as the 21st century is going to be."

- a) Metacrawler Query: Computer Supported International Learning Environment. Available: <http://www.metacrawler.com/crawler?general=Computer+Supported+International+Learning+Environment&target=&method=2®ion=0&rpp=20&timeout=10&hpe=10>
- b) Ramirand, Rod. (1995). Learning Online: Technologies Honed in National Telelearning Project. Available: <http://www.tcp.ca/Sept95/Backtoschool.html>

12. Connected Education

Connect Ed has been offering **online courses for academic credit** in cooperation with major universities, plus a variety of non-credit workshops, since 1985. Since 1985, more than 2000 people from 40 states and 20 countries have taken Connect Ed courses. All courses can be taken either for graduate credit or not for credit. They also offer special **non-credit online workshops,** seminars, and conversations with authors, usually ranging from one week to a month. Their **online campus** is accessible **via Telnet** from all Internet providers. **Most participants are professionals** in the business, public sector, and educational communities. Connect Ed courses range from examination of cutting edge developments in telecommunications, to philosophic considerations of the impact of modern technology

on our lives, to hands-on skill development in such areas as online journalism and multimedia techniques. All are taught by **top faculty in their field**, a distinguished group of more than 40 teachers.

- a) Metacrawler Query: Connected Education. Available: <http://www.metacrawler.com/crawler?general=Connected+Education&target=&method=2®ion=0&rpp=20&timeout=10&hpe=10>
- b) connect.ed. ©1985-1997 by Connected Education, Inc. Available: <http://www.cinti.com/connect-ed/welcome>

13. Crackers

Everyone is familiar with **hacking** thanks to movies like "WarGames", "Sneakers", and "Hackers". The **original term hacker** used to mean **computer programmer**, like the **early MIT** computer and program designers of the 1970's. After the movie "WarGames" hackers came to be known as mischievous "**computer nerds**", who gained unauthorized access to computer systems and their data. The **more accurate term "cracking" is used by hackers to describe criminal hacking**. **Crackers**, as they are called, operate by using computers to **commit crime**. Cracking raises several legal issues and jeopardizes privacy and security. Several crackers have been arrested and convicted. Government and industry alike have formulated many regulatory and ethical responses to cracking. Cracking raises questions on just how **secure government, business, and private computers really are**. Some argue that government and business are already **too dependent on computers**. They could be setting themselves up for a fall at the hands malicious crackers. Institutions like research centers, defense systems, utilities, financial networks, and education networks are the most ideal targets for crackers. Individuals can suffer the consequences of **malicious crackers** when they **trespass and damage** computer systems that regulate our lives or access personal and confidential information.

- a) Metacrawler Query: Crackers. Available: <http://www.metacrawler.com/crawler?general=crackers+computer&target=&method=0®ion=0&rpp=20&timeout=10&hpe=10>
- b) Sergio Chapa and Ryan Craig. The Anatomy of Cracking. March 31, 1996. Available: <http://actlab.rtf.utexas.edu/~aviva/compsec/cracker/crakhome.html>

14. Cyborg

Donna Haraway, in the Foreword to The Cyborg Handbook, said this about **cyborgs**: "The term 'cyborg' was coined by Manfred E. Clynes and Nathan S. Kline (1960) to refer to **the enhanced man** who could survive in extra-terrestrial environments. They imagined the **cyborgian man-machine hybrid** would be needed in the next great **technohumanist challenge -- space flight**." She also said in A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century, that "A cyborg is a **cybernetic organism**, a **hybrid of machine and organism**, a creature of social reality as well as a creature of fiction. Social reality is lived social relations, our most important political construction, a world-changing fiction."

"**We are all cyborgs**," say Gray, Mentor, and Figueroa-Sarriera, in The Cyborg Handbook. Cyborgs are not just in Science Fiction. You don't have to be the Terminator, Chief Engineer Geordi LaForge of ST:TNG, or Steve Austen in The Six Million Dollar Man: "There are many actual cyborgs among us in society. **Anyone with an artificial organ, limb or supplement (like pacemaker)**, anyone

reprogrammed to resist disease (**immunized**) or drugged to think/behave/feel better (**psychopharmacology**) is technically a cyborg. The range of these intimate human machine relationships is mind-boggling. It's not just Robocop, it is our grandmother with a **pacemaker**. Not just the cyberwarriors of a hundred militaristic science fiction stories, but arguably one whose immune system has been programmed through **vaccination** to recognize and kill the poliovirus. And also the potentially billions of humans yet unborn who will be the **products of genetic engineering**.

Cyborgs actually do exist; about 10% of the current U.S. population are estimated to be cyborgs in the technical sense, with **artificial joints, drug implant systems, implanted corneal lenses, and artificial skin**. A much higher percentage participates in occupations that make them into **metaphoric cyborgs**, including the **computer keyboarder** joined in a cybernetic circuit with the screen, the **neurosurgeon** guided by fiber optic microscopy during an operation, and the **teen gameplayer** in the local videogame arcade. This merging of the evolved and the developed, this **integration** of the **constructor and the constructed**, these systems of dying flesh and undead circuits, and of living and artificial cells, have been called many things: **bionic systems, vital machines, cyborgs**.

- a) Definitions of a Cyborg. Chris Hables Gray, Steven Mentor, and Jennifer Figueroa-Sarriera. The Cyborg Handbook. Chapter: "Cyborgology: Constructing the Knowledge of Cybernetic Organisms." Available: <http://ernie.bgsu.edu/~alan/SF/fem/hbbegin.html>
- b) George P. Landow, Professor of English and Art History. Cyborg: Some Definitions, Descriptions, and Exemplifications. English 111: Cyberspace and Critical Theory, Brown University.

15. Delta Chart

Delta: 1) An **expression-based language** by J.C. Cleaveland, 1978; 2) A **string-processing language with single-character commands**. (Tandem); and 3) **Language for system specification of simulation execution**. "System Description and the DELTA Language", E. Holback-Hansen et al, DELTA Proj Rep 4, Norweg Comput Ctr, Feb 1977.

STATEMENT BY THIS WRITER: THIS HAS GOT TO BE SOME WEIRD STUFF! Whatever this is doing in the middle of this writing project, is quite un-understandable, unless of course we are looking for a way to fund some mega-instructional-delivery-system! Most of this tale is told verbatim from the websites in which the writings were found, in order to make this something that will have SENSE for being a reference tool!

The Delta Phenomenon is a very special book. On the website for the **Delta Society International**, I found some of the strangest writings! It seems to be a secret society based around the following story:

"It is the last book that **Welles Wilder** will ever write about markets. It is written as an adventure, a road to new and unbelievable revelations about things never known before. The book takes you step by step through the unveiling of each **Delta time frame** and the beautiful **logic** behind it. You will feel what Mr. Wilder felt at the moment that he saw the **Delta order** for the first time. You will understand what he perceived when he made the following statement in the original Delta brochure: 'I looked at the chart. It was **overlaid with colored lines and numbers**. It took about five seconds to hit me...to

comprehend what I was seeing. I simply could not believe the answer was that simple. I suddenly felt a sense of awe like my eyes were opened and I was seeing something that no else had ever seen....'

"Welles faced the challenge of presenting the Delta Phenomenon in a way that would explain everything that he had learned about it. The book is beautifully done, in color. Remember, the Delta overlays that instantly bring out the innate order in the markets are in color. Without the colors, the order would not be visible. Anybody who tries to copy this book would have to copy it in color for it to make sense. Anyone who wants to learn this secret has to exhibit 'one-half of one percent' as much faith as those who paid \$35,000 to learn it. This book will make an impact on all markets. Even those who concentrate on fundamentals and scoff at technicians as 'the Elves' will soon see the wisdom of (or rather the necessity of) making the Delta order an integral part of their trading. Since all markets have and follow an innate order that is predictable to a known accuracy rating, the knowledge presented in **The Delta Phenomenon will be the cornerstone of all technical analyses.**

NOTE FROM THIS WRITER: Could this be even remotely true? On the other hand, is it any stranger than the history of Gelernter, or the theories of calm technology?

"When **Jim Sloman finished the last Delta chart back in 1984**, he looked up from the table and made a statement that I will never forget. He said: 'Welles it's like having a **road map into the future.** What an incredible advantage to those who have it.'"

According to Wilder, **there is a solution for any market for DELTA on any of the five DELTA time frames.** Wilder's own website goes much more into detail. What initially terrified me about this "secret order" soon had me laughing:

Jim Sloman explained that DELTA is a Greek letter derived from a word meaning 'door', in this case a door to the unknown. It also means 'diagnosis', a diagnosis of the markets. He began thinking about the markets in a way that was different. He attempted to find out if there was some kind of order in all markets. He visualized the **markets as being a hologram (a projection in three dimensions).**

A hologram is made by projecting laser light through a holographic negative -- much like a photographic negative. However, if one looks at the holographic negative with normal lighting, it looks like mass confusion. When laser light is projected through the negative, then the three dimensional hologram appears -- the confusion is replaced by perfect order.

This was Sloman's approach to finding order in the markets. If the holographic negative were the markets -- mass confusion. If the right laser were to shine through that negative, if there was order there, it would be immediately obvious. He made a regular bar chart of the last nine months of the S & P's. It was mass confusion. But, the same chart with a projection of a beam . . . was overlaid with colored lines and numbers. Wilder suddenly felt a sense of awe -- like his eyes were opened and he was seeing something that no one else had ever seen. He was suddenly able to see the next turning point for the S & P's. During an intensive study it became more and more apparent how DELTA *is* the basis of all market movement. **DELTA is not a market follower -- it is the reason for market cycle phenomenon.**

He designed a computer program and put his programmer to work on it. The program contains the results of DELTA, but not the secret. This is significant, because it means that the secret could not be learned even if someone were able to decipher the object code of the program:

"MARKETS REPEAT DIRECTLY OR INVERSELY RELATIVE TO THE TOTAL INTERACTION OF THE SUN, MOON, AND EARTH."

Wilder says, "The turning points shown on these charts will continue into the future as long as the **Sun, Moon, and Earth continue in their present orbits** -- that is, continue doing what they have been doing since man has been on this earth. Life, itself, is a cycle. Nature is a cycle. The cycle of the animal kingdom is related to the seasons that are a function of the interaction of the Earth and the Sun. The tides are a result of the interaction of the Earth, the Moon, and the Sun. Every second of our daily lives is related to this interaction -- every time we look at our watch. What we are saying is that the basis of all cycles is the interaction of the Sun, Moon, and the Earth. Now, since it is well known that markets also move in cycles, it is but a short step to connect the two and arrive at the conclusion that **market cycles are relative to solar/lunar cycles. That is the DELTA secret!**

"We still need to make one last connection. What makes man act (and therefore trade the markets) in accordance with solar/lunar cycles? The answer to this is the topic of an intriguing book by **Dr. Arnold Lieber** titled **THE LUNAR EFFECT**. In the book, Dr. Lieber states, 'all life forms are cosmic resonators...capable of perceiving changes in the **Earth's magnetic field** that are brought about by the **movement of the Moon in relation to the Earth and the Sun**. We live in an **electromagnetic world**. My **biological tides hypothesis** states that the human body is susceptible to the same cosmic influences as is the earth and that **body processes ebb and flow with gravitational electromagnetic tides**.

It is reasonable to assume that **gravity exerts a direct effect on the water mass of the body**, as it does on the water mass of the planet. The feeling that 'this just ain't my day' may be sometimes extraterrestrial in origin ... A new field of science is evolving: **cosmobiology**, a unifying border science.'

"And there it is! The reason for what you see on the charts in this letter. In fact, the charts shown here plus the **hundreds of other delta charts on the five DELTA time frames are proof of Dr. Lieber's hypothesis.**

BOY, AM I GLAD THIS IS FINISHED!

- a) Metacrawler Query: Delta Chart. Available:
<http://www.metacrawler.com/crawler?general=Delta+Chart&target=&method=2®ion=0&rpp=20&timeout=10&hpe=10>
- b) Free On-line Dictionary of Computing. (indexed Feb. 15, 1998). Available:
<http://wagner.Princeton.EDU/foldoc/cgi-script?action=Search%3A&query=Delta>
- c) The Delta Phenomenon. Welles Wilder. © 1996. Delta Society International. Available:
<http://www.deltasociety.com/phenomenon.html>
- d) Welles Wilder's Delta Phenomenon. The Delta Secret. Last Modified: Wednesday, February 11, 1998. [Online]. Available: <http://www.british-american.com/delta2.html>

16. DVD

DVD is short for **digital versatile disk** or **digital video disk**, a **new type of CD-ROM** that holds a **minimum of 4.7GB (gigabytes)**, enough for a **full-length movie**. Many experts believe that DVD disks, called **DVD-ROMs**, will eventually **replace CD-ROMs, as well as VHS videocassettes and laser discs**. The DVD specification supports disks with capacities of from **4.7GB to 17GB** and access

rates of **600KBps to 1.3 MBps**. One of the best features of DVD drives is that they are backward-compatible with **CD-ROMs**. This means that DVD players can play old CD-ROMs, CD-I disks, and video CDs, as well as new DVD-ROMs. Newer DVD players can also read CD-R disks. DVD uses **MPEG-2 to compress video data**.

- a) PC Webopædia Dictionary. Last modified: January 15, 1998. Available: <http://www.pcwebopaedia.com/DVD.htm>
- b) DVD resource index. This site is an impressive index of Web-based resources and information related to DVD technology. Mar. 5, 1998. Available: <http://www.unik.no/~robert/hifi/dvd/>
- c) NewMedia article on DVD. This article, from February 10, 1997, features an explanation of DVD technology and contains links to the different kinds of DVD, a DVD forecast, information on how companies are using this technology, and a DVD contact list. Updated on Feb. 21, 1998. Available: http://www.hyperstand.com/NewMedia/97/02/fea/DVD_Hype_Hope.html
- d) DVD FAQ. FAQ from the alt.video.dvd newsgroup. It contains general information, as well as links to products, technical details, compatibility issues, and standards. Updated on Feb. 26, 1998.

17. Evaluation

Evaluation, in the case of our studies in computing technologies, is the process of examining a system or system component to determine the extent to which specified properties are present. The key issue in **program evaluation** is to determine the extent to which the program, rather than other factors, has **caused any changes that have been observed**. Evaluation is a general term referring to the **collection and processing of information and data** in order to **compare events** that have taken place (e.g. effects caused by a new technology) to a **set of normative criteria or goals**. This can be done in a number of different ways and with regard to a number of different classes of objects (e.g. technologies, projects, policies etc.). Depending on this, a number of different evaluation methodologies exist while there is **no general "evaluation methodology"**. Evaluation can be defined as the use of **scientific methods** and procedures in order to obtain and process information **for comparing real or hypothetical events to normative criteria and values**, which, to the extent possible, should be scientifically founded. This is done in order to **obtain guidelines for the future** planning and realization of such events.

- a) Free On-line Dictionary of Computing. May 13, 1996. Available: <http://wagner.Princeton.EDU/foldoc/cgi-script?action=Search%3A&query=evaluation>
- b) Principia Cybernetica Web: Web Dictionary of Cybernetics and Systems. (indexed Feb. 15, 1998). Available: <http://pespmc1.vub.ac.be/ASC/Evaluation.html>

18. FIRN

The **Florida Information Resource Network** links public education institutions across the state and provides education-related services. This **network** provides **email and conferencing** and allows educators to access their institution using FIRN local phone numbers from **anywhere in the state**. In this search, all direct "firn.edu" pages other than the entry page to FIRN's website, came up with an error message stating that there was no data in the pages. The Metacrawler query, however, revealed several other pages to the site:

- [FIRN FAQs](http://www.firn.edu/firnfaqs.html) -- Frequently Asked Questions (and Answers). Obtaining Access. How do I register for a network access username? View Network Registration Instructions. Available: <http://www.firn.edu/firnfaqs.html>
- [About FIRN](http://www.firn.edu/about.html) -- FIRN || Documents || Services || FIRN Staff || Contact FIRN || WHAT IS "FIRN"? The Florida Inform. Available: <http://www.firn.edu/about.html>
- [Firn Chat Tips](http://www.itrc.ucf.edu/EdTech/firnchat.htm) -- Note... The following Chat instructions are intended for those educators who either have or intend to have FIRNMail accounts. Knowledge of the gold-key is important. Available: <http://www.itrc.ucf.edu/EdTech/firnchat.htm>
- [FIRN Access Levels](http://www.fau.edu/divdept/found/EME5403/firnaccess.htm) -- FIRN was chartered to support all levels of public education and therefore provides unlimited access for these entities at no cost. Limited access is provided for non-educators. Available: <http://www.fau.edu/divdept/found/EME5403/firnaccess.htm>
- [Britannica On-Line Through FIRN](http://www.firn.edu/eb.html) -- The Florida Information Resource Network (FIRN) has purchased a statewide license to access Britannica On-Line. Available: <http://www.firn.edu/eb.html>

Finally, it was proven by this writer that all the FIRN web pages have been relocated to other divisions within Florida. The **NERDC Information Services** page had much to reveal. Enthusiasm for linking educators and students to computer networks is at an all-time high. NERDC hosts valuable staff resources in the "FIRNTECs" (technical education consultants) for the Florida Information Resource Network (FIRN). The senior generation of educators is much less fearful of computers now -- and simple for the new teachers. Four years ago, few people knew about FIRN. Today, the majority of Florida educators knows it and uses it, and promotes telecommunications.

FIRN is now a **part of the Florida Department of Education**, and the **Legislature-funded network** itself is accessible at no cost to qualified patrons through 600 local phone numbers in 47 locations throughout Florida. Supported are FIRN's **K-12, community college, and university** customers in an 11-county area. FIRNTECs teach educators how to use FIRN's **applications** and network, and how to **connect to the Internet**. FIRN has been able to offer PPP access to FIRN and the Internet, and support for graphical World Wide Web browsers. Much of the training and consulting revolves around connectivity issues. **NERDC personnel helped design FIRN in 1986.**

- a) [Metacrawler Query: FIRN](http://www.metacrawler.com/crawler?general=FIRN&target=&method=0®ion=0&rpp=20&timeout=10&hpe=10). Available: <http://www.metacrawler.com/crawler?general=FIRN&target=&method=0®ion=0&rpp=20&timeout=10&hpe=10>
- b) [Florida Information Resource Network](http://www.circa.ufl.edu/comp.net/services/firn.html). Computing and Networking at the University of Florida. Last updated: June 5, 1997. Available: <http://www.circa.ufl.edu/comp.net/services/firn.html>
- c) [FIRNTEC Grows Internet Access for Florida Educators](http://nervm.nerdc.ufl.edu/UPDATE/u961105a.html). NERDC Information Services. Last updated Oct. 23, 1996. Available: <http://nervm.nerdc.ufl.edu/UPDATE/u961105a.html>

19. [Flamming] - Flaming

More commonly spelled **FLAMING**. A **Flame** is a **negative response to an email message or newsgroup posting**. If you post an article or send an email to an audience that deems your message **inappropriate, expect to get flamed**. The most common recipients of flames are users who **post commercial messages in public forums**, those who **post adult material in non-adult areas** of the

Internet, and users who post or send make **racial** or **gender-biased** comments. The worst sort of flame is known as a **mail-bomb**, which occurs when the user being flamed open his or her email and receives a flood of letters with unusually long file attachments that make his or her **computer crash**.

The 'Net being what it is, of course there is the other side of the coin! There is Spark's Comprehensive Guide To Flame, which guides the old and new through all aspects of **successful flaming!** History: Begun as a simple HTML experiment on January 26th, 1997, this bit of code has become the most looked-at guide to **flames, flaming, and the sport that is Schadenfreude**. Over 13,000 people wondered at the thing that was spark.org, and this current incarnation has become leaner, meaner, but still loaded with the things the oldbies love, and the things which the newbies need most of all. It will explain in it's own way **what motivates one to flame**, and how one does such a thing **without losing one's temper**. It also helps to explain to the outsider that despite the childish appearance, flaming is actually quite a constructive enterprise.

- a) Windows95.com Internet Hyper-Glossary. (68KB, indexed Feb. 14, 1998). © 1995-1998 Steve Jenkins and Jenesys, LLC. Available: <http://www.windows95.com/connect/glossary.html#Flame>
- b) Spark's Comprehensive Guide To Flame. Last Modified: Monday, December 22, 1997 Available: <http://www.wilhelp.com/spark/index.html>

20. FREENET

A network system made up of community-based bulletin board systems with email, information services, interactive communications, and conferencing. They are usually funded and operated by individuals or organizations **much like public television**. Freenet providers are part of the **National Public Telecomputing Network (NPTN)**, a **Cleveland-based organization** that works to make computer networking services as **freely available as public libraries**.

- a) Windows95.com Internet Hyper-Glossary. © 1995-1998 Steve Jenkins and Jenesys, LLC. Available: <http://www.windows95.com/connect/glossary.html#Freenet>
- b) WWW to support group learning-QUB. Available: <http://www.qub.ac.uk/mgt/papers/discussion/qub60625.html>

21. Group Learning

What promotes **deep learning**, where students try to really understand a subject, is **group learning**: through **group projects, discussions, brainstorming, dividing large classes into smaller groups, pyramiding**, and so on. This can be done crudely by using computer conferencing or real-time chat. But we need to change the teaching to fit in with the ways programmers have designed the systems. It would be better to design the tools to support the best educational techniques. Two forms are traditional in universities: 1) **Discussion-based seminars and tutorials**, and 2) **Group assignments, practicals and projects**. They promote **active participation in learning, interaction and feedback, and critical thinking and deep learning**. **Computers** can support discussions in several ways: online readings, online searches, external computer conferences, defining problems or discussion subjects, stimulating creativity during a discussion, real-time chat with a wider range of people, prompts to encourage lateral thinking, organizing

ideas during and after discussions, threaded computer conferences, issue-based Information Systems and voting systems, group outliners and editors.

The Center for Group Learning is a great example of this technique. They say this, "The Center for Group Learning is a gathering of people learning and teaching about how groups of people work and how they can **work better**. We organized as a non-profit in 1994, and existed in some form even before that. We're based all over the San Francisco Bay area in California, USA, and lately most activities have taken place in the East Bay (Oakland/Berkeley/Richmond/Walnut Creek). We organized the *Process of the Month* series from 1995 to 1997. Many of us are involved in **organizational development** (and **transformation**), others are activists, teachers, students, writers, visionaries, office workers, lawyers, and more. We also try to understand and teach how individuals can **participate more effectively** and self-satisfyingly in the various groups that they are in, and how to help change their groups as necessary -- and how to decide when it's necessary. There are many useful perspectives on the **psychology of groups**, and many experiences that an individual or group can go through to learn about groups. There are many organizations studying or implementing a particular **group psychology or practice** (e.g., **National Training Laboratories (NTL)**, **the Mindells' Process Work**, **GREX/A. K. Rice Institute...**).

- a) Metacrawler Query: group learning. Available: <http://www.metacrawler.com/crawler?general=group+learning&target=&method=2®ion=0&rpp=20&timeout=10&hpe=10>
- b) Dr. David R. Newman. Queen's School of Management. Using the WWW to support group learning. Prepared for the QUB Seminar on Teaching and Learning on the World-Wide Web, June 25, 1996. Available: <http://www.qub.ac.uk/mgt/papers/discussion/qub60625.html>
- c) Welcome to the Center for Group Learning (CGL). Latest update Feb. 22, 1998. Available: <http://www.cgl.org/>

22. Group Processes

The Center for the Study of Group Processes describes this in this manner, "We define '**group**' very broadly. Included are **formal organizations, political groups, families, intimates, social categories and societies**. Two issues are especially pertinent to our interests, however: (1) the discovery and analysis of general principles underlying **group processes across diverse empirical settings**, and (2) the **interplay between individual and group levels of analysis**. The group processes area is inherently **interdisciplinary**, offering a broad, theme under which a variety of strands may be unified. For example, it may subsume sociological work on status, public goods research by economists, political scientists' interests in the balance of power and deterrence in international settings, communications research on interpersonal strategies, organizational scholars' research on group decision making, and psychological work on social judgments. The **role of group processes in human behavior** is a **fundamental, crosscutting issue for the social sciences**. The Center places a strong emphasis on theory-driven research, that is, conducting tests of group process theories, developing innovative methods and procedures for doing so, and employing and/or devising rigorous and appropriate analytic and statistical tools. In addition to consolidating ongoing group processes research by members of the Sociology faculty, the Center seeks to mobilize **an interdisciplinary community of scholars** on the University of Iowa campus. Doing so will crystallize the complementary strengths of several

departments including Sociology, Communication Studies, Economics, Management and Organizations, Political Science, and Psychology."

- a) MetaCrawler Query: group processes. Available: <http://www.metacrawler.com/crawler?general=group+processes&target=&method=2®ion=0&rpp=20&timeout=10&hpe=10>
- b) Center for the Study of Group Processes. Last update: Jan. 24, 1998. Department of Sociology, University of Iowa, Iowa City, IA. Available: <http://www.uiowa.edu/~grpproc/>

23. Hypermedial

HYPERMEDIA is an **extension to hypertext** that supports **linking graphics, sound, and video elements in addition to text elements**. The **World Wide Web is a partial hypermedia system** since it supports graphical hyperlinks and links to sound and video files. New hypermedia systems under development will allow **objects in computer videos to be hyperlinked**. Hypermedia extends the notion of the hypertext link to include links among **any set of multimedia objects, including sound, motion video, and virtual reality**. It can also connote a **higher level of user/network interactivity** than the interactivity already implicit in hypertext. **HYPERMEDIAL** refers to the use of hypermedia within a given setting, such as classroom, business meeting, etc.

- a) MetaCrawler Query: hypermedial. Available: <http://www.metacrawler.com/crawler?general=hypermedial&target=&method=2®ion=0&rpp=20&timeout=10&hpe=10>
- b) PC Webopædia Dictionary. Last modified: Oct. 5, 1997. Available: <http://www.pcwebopaedia.com/hypermedia.htm>
- c) Whatis.com Computer Dictionary (39KB, indexed Feb. 15, 1998). © 1996-97 whatis.com Inc. Available: <http://whatis.com/hypermed.htm>

24. Intellectual Property

This is property that **can be protected under federal law, including copyrightable works, ideas, discoveries, and inventions**. Such property would include **novels, sound recordings**, a new type of mousetrap, or a cure for a disease. It is also any **intangible asset** (something of value that cannot be physically touched, such as a **brand, franchise, trademark, or patent**. It is the opposite of tangible asset) that consists of **human knowledge and ideas**.

- a) The 'Lectric Law Library's Reference Room. (indexed Feb. 14, 1998). Available: <http://www.lectlaw.com/def/i051>
- b) INVESTORWORDS - The Biggest, Best Investing Glossary on the Web. WebFinance Inc. (44KB, indexed Feb. 27, 1998). Available: <http://www.investorwords.com/i3.htm#intellectualproperty>

25. Intelligent Agent

On the Internet, an **intelligent agent** (or simply an **agent**) is a program that **gathers information or performs some other service without your immediate presence and on some regular schedule**. Typically, an agent program, using parameters you have provided, searches all or some part of the Internet, gathers information you're interested in, and presents it to you on a **daily or other periodic basis**. An agent is sometimes called a **bot (short for robot)**. The definitive site about bots is **BotSpot**

(<http://botspot.com>). Other agents have been developed that **personalize information on a Web site** based on registration information and usage analysis. Other types of agents include specific site watchers that tell you when the site has been updated or look for other events and analyst agents that not only gather, but organize and interpret information for you. The practice or technology of having information brought to you by an agent is sometimes referred to as **push technology**.

- a) Whatis.com Computer Dictionary. (39KB, indexed Feb. 15, 1998)© 1996-97 whatis.com Inc. Available: <http://whatis.com/intellig.htm>

26. KIDSNet

KIDSNET helps **children, families and educators intelligently access the educational opportunities available from television, radio and multimedia sources**. KIDSNET does this by encouraging **media literacy** in children and a commitment to **educational excellence in broadcasters**. Since 1985, KIDSNET has worked with community organizations and educators, as well as media professionals and parents to create and disburse **educational materials for children ages preschool through high school**. KIDSNET is the only **national non-profit computerized clearinghouse and information center devoted to children's television, radio, audio, video and multimedia**. KIDSNET offers consulting and technical assistance to children's programmers and broadcasters in education and public affairs. They encourage children to read by associating programs with books of the same title, discover additional resources available to support specific television, radio and multimedia; take control of electronic media and harness its power to **enlighten and educate**.

- a) MetaCrawler Query: KIDSnet. Available: <http://www.metacrawler.com/crawler?general=KIDSnet&target=&method=2®ion=0&rpp=20&timeout=10&hpe=10>
 b) KIDSNET. Washington, D.C. © KIDSNET, 1997. Available: <http://www.kidsnet.org/>

27. Knowbot

A **Knowbot** is also called a **Bot**, a **Softbot**, a **Robot**, a **Webcrawler**, or a **Spider**. It is a program that **wanders the Web collecting document titles and URLs** to be indexed so that they can be searched by users. **Webcrawler** is a good example of an index utilizing knowbots. Zen and the Art of the Internet gets more specific: "Knowbot is a '**master directory**' that contains email address information from the NIC WHOIS database (see section The WHOIS Database), the PSI White Pages Pilot Project, the NYSERNET X.500 database and MCI Mail. Most of these services are email registries themselves, but Knowbot provides a very comfortable way to **access all of them in one place**. Telnet to <nri.reston.va.us> on port 185.

- a) The Essential Guide to Convergency Terminology. (45KB, indexed Mar 7 1998). The Digital Reality Site: Gemini Consulting. © 1997 by Gemini C4 Lab. Available: <http://digital.gemconsult.com/glossary/k.htm#A10>
 b) MetaCrawler Query: knowbot. Available: <http://www.metacrawler.com/crawler?general=knowbot&target=&method=2®ion=0&rpp=20&timeout=10&hpe=10>
 c) Zen and the Art of the Internet: A Beginner's Guide to the Internet, First Edition, January 1992. Available: http://www.cs.indiana.edu/docproject/zen/zen-1.0_toc.html

28. Learning Circle

Learning Circles are virtual communities that have **no fixed locations or time zones**. In part a Learning Circle is **group conversation carried over electronic mail** in slow motion. But what happens online is only half the story. The other half is what takes place in the classroom as a direct result of either the **sending or receiving of information**. The **virtual and real classrooms are inseparable**. The Learning Circle concept originally comes from **AT&T**.

The **AT&T Learning Network** is a **global, curriculum-based telecommunications project** that establishes electronic **learning communities** for students who live far apart and come from diverse cultures. Students from distant locations share and **exchange information** on every topic imaginable as they work together to create a **collaborative publication**. Classes register for a particular curriculum area by grade level. They are then grouped with 8-10 other **classes from around the world** in a 'Learning Circle'. Projects, information, data, thoughts, concepts, cultures, etc. are then shared for the duration of the session, within that curriculum area content. Students gain an **increased focus** on their **writing, researching, and editing processes**. They become motivated and excited as they increase their communications skills, build teamwork knowledge, and become more aware of cultural perspectives in the global society. These circles are offered for grades 3-12.

One **Learning Circle** in California describes their setup: "The focus of our Learning Circle will be to create a **collaborative newspaper**. Each participating classroom will sponsor one section of the news in a topic area of their choice. Information for the articles will come not just from the sponsoring classroom, but from the **participation of all classrooms in the circle**. Communication will be via e-mail, and all work will be put in the form of a newspaper using programs such as ClarisWorks, Word, or other word processing program. In the end, all work is sent (e-mailed) to the **coordinator** who will compile the information and 'assemble' the newspaper. Copies of the final product will be distributed to all classrooms. The newspaper will then be transferred to a **web page, a well**, so that it becomes available to a more **global audience**. In addition, if time and resources allow, video will be taken of each classroom and then shared among the circle so that participants can actually see the other students with whom they will be working."

- a) MetaCrawler Query: learning circle. Available: <http://www.metacrawler.com/crawler?general=learning+circle&target=&method=2®ion=0&rpp=20&timeout=10&hpe=10>
- b) Learning Circles. Last modified: Feb. 20, 1997. Available: http://www.lennox.k12.ca.us/Learning_Circle/LCFrame.html
- c) AT&T Learning Network. Last modified: May 03, 1996. Available: <http://inet.ed.gov/Technology/TechConf/attnet.html>

29. MAUD

MAUDs are related to **MUDs**. **Multiple User Domains (Multiple Academic User Domains = MAUDs)** provide an excellent **real-time, on-line environment for instructors and students** as they provide the internet-user the opportunity to **interact with others from around the world**. **MUDs or and MAUDs (Multiple Academic User Domains -- copyright 1994)** provide virtual classrooms, offices, lecture halls, conference facilities, and associated bulletin board, simulations and mail services

all within the setting of a 'virtual realm'. This **virtual realm** is important as it helps establish the point that the MAUD should be viewed as a **meeting place** and a **place for learner-centered discovery**. Although there are 3-dimensional graphic domains available, they tend to require relatively large amounts of memory and line speed. Accordingly, if universal access is important, then the text based MUD will be more suitable.

It should be noted that not much information was readily available in an Internet search for MAUDs. It appears that the forms of MUSEs, MOOs and other online group settings are more popular.

- a) Multiple Academic User Domains. Modified: July 21, 1997. Available: <http://www.cariboo.bc.ca/ae/php/phil/mclaughl/edtech/mud.htm>

30. MMX

MMX stands for **Multi Media Extensions**. It is a **Pentium microprocessor from Intel** that is designed to run much faster while playing **multimedia applications**. According to Intel, a PC with an MMX microprocessor will run a multimedia application up to **60% more quickly** than one with a microprocessor having no MMX but the same clock speed. Additionally, an MMX microprocessor will run **other applications about 10% faster**. The MMX technology consists of three improvements over the non-MMX Pentium microprocessor: 1) 57 new microprocessor instructions have been added that are designed to control video, audio, and graphical data more competently; 2) A new process, **Single Instruction Multiple Data (SIMD)**, makes it possible for one instruction to perform the same operation on multiple data items; and, 3) The **memory cache on the microprocessor has increased** to 32 thousand bytes, meaning the computer has fewer accesses to make, to memory that is off the microprocessor. Analysts anticipated that Intel would ship 30-to 45-million MMX chips in 1997, or about half of its microprocessor volume. **Most major PC makers plan to include the MMX in new computer systems.**

- a) Whatis.com Computer Dictionary. (39KB, indexed Feb. 15, 1998). *What Is...MMX (a definition)*. Available: <http://whatis.com/mmx.htm>

31. MOO

A **MOO is an object-oriented MUD**. According to Canton Becker, author of The Unofficial Moo Guide Tutorial, a MOO is: "...just a **programming language in which you design objects**. Everything is an object. Rooms are objects, exits are objects, possessions are objects, **even your MOO alter-ego/avatar is an object**. We'll be looking at how you (1) **make objects**, and (2) **write verbs** that allow you to do *Interesting Things* with those objects." **Object-Oriented programming is what the OO in MOO stands for.**

Canton Becker has this to say in his tutorial: "I'm really not all that good of a programmer. In fact, I'm much more what people call a "hacker", someone who borrows code, modifies it, patches broken stuff with hideously kludgy fixes, values "elegance" somewhere in between Alpo and Velveeta in the culinary correlate to programming elements. In other words, this isn't really an all-inclusive, politically correct, terrifically complete volume on **MOOcoding**... It's more of a **"how to make cool stuff** in

Canton's kludgy way" instruction booklet. And what cool stuff you will make. Whatever you can imagine. This tutorial assumes that you've already fooled around in **CTDMOO** for quite a while now. This means that you know how to move around. If you haven't yet, you might want to explore a bit so as to get a feel for what's being talked about here. Also, this manual is prejudiced towards **MOOcoding** as it can be implemented on MOOs whose foundations are formed by the **unabridged LambdaCore database. (This applies to most MOOs.)"**

It is the observation of this writer that perhaps MOO coding would be an excellent introduction to programming languages.

- a) Whatis.com Computer Dictionary. (39KB, indexed Feb. 15, 1998). *What Is...a MOO (a definition)*. Available: <http://whatis.com/moo.htm>
- b) Canton Becker. The Unofficial MOO Programming Tutorial (an experimental beginner's guide to making cool stuff in MOOcode). Modified: Jan. 12, 1998. Available: <http://lucien.sims.berkeley.edu/MOO/Moo.Tutorial.Txt>

32. MUD

A **MUD** is a **software program** that accepts **connections from multiple users across a network** providing access to a **shared database**. Each user browses and manipulates this database from the 'inside', generally seeing only those objects that are in the same 'room.' A MUD is a **kind of virtual reality**, an electronically represented 'place' that users can visit. **MUDs were originally developed as games** that grew out of attempts to build multi-player versions of text-based environments such as **Dungeon and Zork**. Following on from the development of the first MUD, there now exists **MOOs, MUCKs, MUSHs, MUGs** to name but a few. MUD is often used as an umbrella term to cover all the various types. There is a group of MUDding students from the MSc Electronic Information Management program in the University of Sheffield; their website offers detailed info and links.

MUDs used to stand for "Multi-user Dungeons", i.e. multi-user interactive role-playing games on the Internet. **Today, the concept "MUD" refers to all primarily text-based Multi-User Dimensions.** MUD technology can be used for **education in various ways**. In education, **MOOs (MUD, Object Oriented)** are most popular as they have a sophisticated built-in programming language. The Sheffield website is MUD oriented because (so far) that is how educational interactive multi-user cyberspaces have been implemented.

MUDs (and specially the MOO variant) can be characterized by the fact that **many persons can connect simultaneously to a server**. The **MUD has a spatial organization**, (e.g. people interact with people or objects primarily within "rooms"). Within a MOO, many real-time communication actions exist, like "saying" or "emoting" things publicly to the persons in a "room", paging people elsewhere, "whispering" messages, using a "CB" channel, etc. **Asynchronous communication tools** include internal e-mail, newsgroups, newspapers, tutorial rooms, "white boards", etc.

Exciting expansions are currently happening in the realms of new systems and increased functionality of **2/3D "Avatar"/Chat worlds and VRML interfaces**.

- a) Welcome to MUDdom ... Where Reality blends with Fiction. The University of Sheffield: Sheffield, UK. Available: <http://www.shef.ac.uk/uni/academic/I-M/is/studwork/groupe/home.html>

- b) The WWW VL: Educational Technology - Educational VR (MUD) sub-page (25-Sep-1997). Available: <http://tecfa.unige.ch/edu-comp/WWW-VL/eduVR-page.html>.
- c) TECFA ("Technologies de Formation et Apprentissage." ("Training Technologies and Learning"), is a teaching and research unit within the School of Psychology and Education (Faculte de psychologie et des sciences de l'education), University of Geneva. Available: <http://tecfa.unige.ch/>).

33. Management Games

Very often used in programs for **MBAs or other business management courses**, **Management Games** are perhaps best represented by the institutions that are utilizing them. This Internet search revealed some very interesting Management Games, their uses and applications, and their results.

The **Multinational Management Game website** shows that this is a game of global strategy aimed at students of management and international business. MMG's innovative approach gives students experience in both **domestic and international strategic management** and provides many opportunities for developing **global environmental analysis skills**. It contains the following features:

- Markets now include North America, Southeast Asia, and Western Europe.
- **Simulation decision data is based on real world computer products.**
- The simulation is introduced by a case with selections from **real world microcomputer companies**.
- The labor force varies in wages, productivity, and turnover rates in each producing country.
- **Global realism** is enhanced by the addition of prime interest rates, inflation rates, tariff/VAT, and depreciation rates.
- Instructor control over most costs and rates through menus.
- Separate economic indices for each country.
- Profile on each new market is described in a separate chapter.
- **Simulation play** can now begin in the domestic market with later addition of foreign markets.

Viscount Management Games is an interesting site that offers interesting solutions with Management Games. They say this about their games, "Viscount Business Games are a stimulating, enjoyable and exciting way of **learning about Business Management**. As a contestant in one of our games, you will manage a company by making **strategic, financial, policy and operational decisions** that will significantly determine your company's performance relative to your competitors in the game. The games are **competitive**, and of course, the objective is to win! But there is a lot of learning and enjoyment on the way ... We have games suitable for **In-Company** contests, and games suitable for use within a **workshop, training course or conference**. There are three General Business Games (G1, G2, G3), and soon to be released, there is an Insurance Game, an Investment Game and a "Run the Country" game. And there's more in the pipeline. They are all great **educational tools, good team-builders**, and all offer a **mental challenge**. And we have our nation-wide COMPETITION, VISCOUNT-98."

- a) MetaCrawler Query: Management Games. Available: <http://www.metacrawler.com/crawler?general=Management+Games&target=&method=2®ion=0&rpp=20&timeout=10&hpe=10>
- b) The Multinational Management Game. Modified: Oct. 3, 1996. Available: <http://www.cei.net/~krgoosen/mmg.htm>
- c) Viscount Management Games. ©1998 Viscount Associates Ltd. Waikanae, New Zealand. Available: <http://viscount.co.nz/VGames.htm>

34. Meta-Communication

Meta-Communication is communications about communication. Simply, you are communication further about a certain communication, in order to **clear up** any misunderstandings, or to **clarify** points that were left unclear. META is a prefix meaning "**to provide added meaning, transcending or going beyond.**" However, **meta** is nearly as abused a term as *cyber*. A 'meta' key is a key (shift, control, etc) that is used to change the meaning of other keys when used in combination. From the Greek, meaning '**with**'. You can basically think of 'meta' as meaning '**this, but something more**'. In computer science, this means "**about.**" So, for example, **metadata** is data that describes other data (data about data). A **metalanguage** is a language used to describe other languages. A **metafile** is a file that contains other files. **Meta-Communication** is a communication used to clarify other communications.

- a) Internet and Unix Dictionary. (7KB, indexed Feb. 14, 1998). Available: <http://www.msg.net/kadow/answers/m.html#meta>
- b) PC Webopædia Dictionary. (indexed Feb. 15, 1998). Available: <http://www.pcwebopaedia.com/meta.htm>

35. MicroMuse

MIT says this about their **MicroMuse** project: "**MicroMUSE is chartered as an Educational MUSE, with preference toward Educational, Scientific, and Cultural content.** The **Massachusetts Institute of Technology (MIT)** provides the computing resources for MicroMUSE with the understanding that these resources are used in accordance with the University's general policies and guidelines for propriety and relevance to MIT's Educational Mission. MIT is funded in part by Federal taxes. MicroMuse strives to provide an **environment for educational exploration and construction of simulated realities, present and futuristic; a recreational and congenial environment for socializing and exchanging ideas; a visionary model of an optimistic possibility for a future world inhabited by a productive community of people and machines; and a place where people can work cooperatively on new ideas in an atmosphere of trust and free communication.** MicroMuse is a **virtual community**, and players are expected to conduct themselves in an appropriate manner at all times. Specific guidelines are listed here, but the basic intent is that people will observe **the general norms of social interaction**, which include **respect** for other people and for their rooms and property."

"The educational purpose for MicroMUSE is that it allows the cooperative exploration and construction of **simulated worlds**, past, present or futuristic. The educational aims of the Muse are as varied as the people who use it. Some such uses include **learning basic programming techniques**, producing **simulation models** of real-life phenomena, exploring such simulated models to learn about the systems that were modeled; learning by teaching others; classroom projects; meeting people from other parts of the country or the world; reading and learning to write clear, understandable prose. MicroMUSE is geared towards the **promotion of communication** and the **transfer of new ideas.**"

- a) MetaCrawler Query. Available: MicroMuse. <http://www.metacrawler.com/crawler?general=MicroMuse&target=&method=2®ion=0&rpp=20&timeout=10&hpe=10>
- b) Gopher Menu: Introduction to MicroMUSE. Available: [gopher://cyberion.bbn.com/11/muse](http://cyberion.bbn.com/11/muse)

36. Netiquette

Netiquette is etiquette on the Internet. Since the Internet changes rapidly, its netiquette does too, but it's still usually based on the **Golden Rule**. The need for a sense of netiquette arises mostly when sending or distributing e-mail, posting on Usenet groups, or chatting. To some extent, the practice of netiquette depends on **understanding how e-mail, the Usenet, chatting, or other aspects of the Internet actually work** or are practiced. So a little **preliminary observation** can help. Poor netiquette because you are new is one thing, but such practices as *spam* (unsolicited e-mail on the Internet, which from the sender's point-of-view, a form of bulk mail, but to the receiver is viewed as just more junk) and flaming (giving someone a verbal lashing in public) are other things altogether. Since Netiquette is the conglomerated **informal set of rules for using the Internet**, ignoring them may result in being not just flamed but **mail-bombed**. Guidelines for Usenet news can be found in news.announce.newusers.

- a) Whatis.com Computer Dictionary. (39KB, indexed Feb. 15, 1998). *What Is...netiquette (a definition)*. Available: <http://whatis.com/netiquet.htm>
- b) Internet and Unix Dictionary. (7KB, indexed Feb. 14, 1998). Available: <http://www.msg.net/kadow/answers/n.html#netiquette>

37. Pacing Instruction

This term is another that is best described within the context of a company who utilizes it. Content-Free Microteaching, given by One-to-One Training Workshop of Paradigm Training Systems, teaches a way of **pacing instruction** based on **non-verbal feed back** so the **learner isn't overloaded, confused, or bored**; their content also offers a means of **pacing instruction** based on **both non-verbal and verbal feedback**. Often, **pacing instruction is a vital element of On-the-Job training**, which has many advantages, one of the best of which is that **employees learn what they need to learn when they need to learn it, just in time**. It is an **individualized way of learning**. It helps to determine the **training needs** of individuals, and it helps the instructor to explain clearly, and pace him/herself in response to the **students' readiness**, and also to summarize, when it is appropriate.

- a) MetaCrawler Query: Pacing instruction. Available: <http://www.metacrawler.com/crawler?general=Pacing+instruction&target=&method=2®ion=0&rpp=20&timeout=10&hpe=10>
- b) One-to-One Training Workshop. Paradigm Training Systems: Aurora, Illinois. Available: <http://www.paradigmttt.com/html/1-1.html>

38. PARTI

The simplest approach to explaining this complex history is to actually begin with the term: PARTI/2. This "second go" at this computer language was much enhanced from PART1. Many **algorithms**, such as sparse matrix codes or sweeps over unstructured meshes, require **irregular accesses to data structures**. The **PARTI library** [136] developed at **ICASE and the University of Maryland** was an important first step in providing **runtime support for such algorithms**, which was integrated at an early stage into VFCS. We have generalized and optimized **PARTI in the framework of the ESPRIT III research project PREPARE**. More details on the development of PARTI/2 are given in Sections 3.5 [PARTI/2] and 6.2 [Prepare].

PREPARE (Programming Environment for Parallel Architectures) is an ESPRIT III project performed by a team including a number of European companies and research institutes. The project aims to develop a new, powerful toolset for the parallelization of **applications for DMMPs**. The project is carried out by a Consortium of three industrial and six academic partners. The main contractor is **ACE (Amsterdam, The Netherlands)**, that coordinates the project, provides the COSY framework and is responsible for integration and for the transfer of the prototype into a product. The **Parsytec (Aachen, Germany)** company is responsible for the runtime system and will perform the integration with its GC systems based on the Power PC processors. The third industrial partner, **Steria (France)**, is responsible for the **Interactive Engine**, which is being developed in cooperation with the Technical University of Munich, which contributes its expertise on **performance monitoring and user interfaces**. A crucial role in the consortium is played by institutes having expertise about **automatic parallelization for DMMPs**: this includes our institute as well as **IRISA (Rennes, France)**, **GMD (Berlin, Germany)**, and **TNO (Delft, The Netherlands)**. **PELAB** from the **University of Linköping** interfaces the PREPARE system with its **ObjectMath environment**, which enables scientists and engineers to describe their models in a high level object-oriented equational representation.

- a) Metacrawler Search Engine. Query: PARTI. Available: <http://search2.metacrawler.com/crawler?general=PARTI&method=2&sid=424252420&sno=127908&start=40&domainLimit=0&rpp=20&timeout=10&max=10&format=0>
- b) Metacrawler Search Engine. Query: PARTI/2. References: 136 Saltz, J., Crowley, K., Mirchandaney, R., Berryman, H.: Run-time scheduling and execution of loops on message passing machines. Journal of Parallel and Distributed Computing, 8(2):303-312, 1990. (Bernd Wender. Mon Apr 1 11:29:01 MET DST 1996. Available: <http://www.par.univie.ac.at/inst/3J/node70.html#parti>)
- c) PARTI/2. Kamran Sanjari and Peter Brezany. Content by: Bernd Wender. Mon Apr. 1, 1996. Institute, Vienna, Austria. Postal address, Kamran Sanjari: University of Vienna, Institute for Software Technology and Parallel Systems, Vienna, Austria. Available (Sanjari): <http://www.par.univie.ac.at/inst/3J/node16.html>
Available (Wender): http://www.par.univie.ac.at/ii/staff_info.cgi?sanjari
- d) The ESPRIT III Project PREPARE. Available: <http://www.par.univie.ac.at/inst/3J/node40.html> and Research Overview: Background, Motivation, and Objectives. Available: <http://www.par.univie.ac.at/inst/3J/node8.html>
- e) Free On-line Dictionary of Computing. Princeton University, New Jersey. Gábor J. Tóth and Paul Mayer. Modified: June 02, 1997. Partial Differential Equation LAnguage (PDELAN) ["An Extension of FORTRAN Containing Finite Difference Operators," J. Gary et al, Soft Prac & Exp 2(4) (Oct 1972)].

39. PSINet

PSINet Inc. is the **world's first commercial Internet service provider**. Through subsidiaries in **Belgium, France, Germany, The Netherlands, Switzerland and the United Kingdom**, **PSINet** offers full service Internet connectivity, intranets, web hosting, Internet fax, and electronic commerce solutions to **European businesses**.

Mary-Ann Carolan, PSINet's Vice President of Individual Support, speaks concerning their part in attempting to control net-abuse: " PSINet considers net-abuse an action that undermines the ability of a

newsgroup or mailing list to serve as a discussion forum. In addition, net-abuse may be a violation of state or federal law, or the laws of other countries." They will take these actions: cancel offending article(s), issue warnings: written or verbal, suspend the account, terminate the account. There are those who wonder, "Do the PSINet net-abuse policies have teeth?"

- a) Metacrawler Search Engine Query: PSInet. Available: <http://www.metacrawler.com/crawler?general=PSInet&target=&method=2®ion=0&rpp=20&timeout=10&hpe=10>
- b) PSInetEurope. Available: <http://www.europe.psi.net/>
- c) A Word About Net-Abuse. Mary-Ann Carolan, PSINet, Vice President of Individual Support. Available: <http://www.interramp.com/support/net-abuse-statement.html>

40. Policy Delphi

The essence of **Delphi** is **structuring of the group communication process**; a communication structure aimed at producing **detailed critical examination and discussion**, not at forcing a quick compromise. Certainly quantification is a property, but only to serve the goal of quickly identifying agreement and disagreement in order to focus attention. In 1975, Linstone and Turoff proposed a view of the Delphi method that they felt best summarized both the technique and its objective:

'Delphi may be characterized as a method for structuring a group communication process, so that the process is effective in allowing a group of individuals, as a whole, to deal with complex problems.'

"The **Policy Delphi (Turoff, 1970)** is an interesting Delphi structure in that its objective is not to produce a consensus, but to **expose the strongest pro and con arguments** about differing resolutions of a policy issue. It is a form of policy analysis that provides a decision-maker the **strongest arguments** on each side of the issue. Usually one utilizes as respondents, individuals who have the strongest opposing views. The structure of a Policy Delphi is very simple.

Policy Delphi Structure

TYPE OF ITEM	VOTING SCALES	RELATIONSHIPS
Resolution	Desirability Feasibility	Alternatives
Argument	Importance Validity	Pro or con to a given resolution. Opposing to other arguments.

"In the above structure any respondent in the Delphi is free to add a resolution (solution) to the basic policy issue, or to make a pro or con argument about one or more of the listed possible resolutions.

"The Policy Delphi structure was **first implemented in paper and pencil in 1970** and was later implemented in **two separate computer versions (Turoff, 1972; Conklin and Begeman, 1987)**. It should be noted that the structure of relating items in a Policy Delphi might also be viewed as a representation of a **specialized or tailored Hypertext system (Conklin, 1987; Nelson, 1965)**. Most Delphi designs, when translated to a computer environment, do **depend upon semantic relationships** among items being established and are utilized for **browsing and presenting content oriented groupings** of the material. **Hypertext is the view of text fragments in a computer** as the nodes within

a graph or web of relationships making up a body of knowledge. Hypertext functionality is therefore useful for the support of automated Delphi processes." (Murray Turoff and Starr Roxanne Hiltz).

- a) Metacrawler Search Engine Query: "Policy Delphi". Available: <http://www.metacrawler.com/crawler?target=&general=%22Policy+Delphi%22&method=2®ion=0&rpp=20&timeout=10&hpe=10>
- b) Computer Based Delphi Products. Murray Turoff and Starr Roxanne Hiltz. Modified: June 18, 1996. Available: <http://eies.njit.edu/~turoff/Papers/delphi3.html#DelPolicy>

41. SchoolNet

SchoolNet is sponsored by **GILL ENTERPRISES**, founded by **Dr. Thomas R. Gill**. Gill Enterprises is based in San Diego, California, with offices in New York City and Washington, D.C. They attempt to serve the interests of everyone who's concerned about education by providing meaningful **information regarding all facets of education**. SchoolNet is dedicated to serving the interests of **students, parents and educators**. They serve **kindergarten through graduate school**. SchoolNet is always changing! The **SchoolNet-Bulletin Board** has a variety of upcoming **meetings/events** and has interesting items for students, parents and educators. **Seasonally, the website has one major focus of content**. This **Winter's major focus** has been the concern of **sexual harassment in schools** -- elementary through high school -- and what students, parents or educators can do to reduce that threat. The web visitor can learn a clear definition of peer sex harassment, and also find out why school districts can be liable for peer sex harassment.

- a) Metacrawler Search Engine Query: SchoolNet. Available: <http://www.metacrawler.com/crawler?general=SchoolNet&target=&method=2®ion=0&rpp=20&timeout=10&hpe=10>
- b) SchoolNet Home Page. ©1995 GILL ENTERPRISES. Sponsored by Thomas R. Gill. Available: <http://www.schoolnet.org/>

42. Southern Interior Telecommunications Project (SITP)

Three years ago, we started the **Southern Interior Telecommunications Project (SITP)** for some schools here in BC. (Some of the founders for SITP are: North Vancouver Public Library Systems, Vancouver FreeNet System Design Committee, West Coast Environmental Law's Electronic Crossroads Project, BC Teacher Federation's Research and Technology Division).

One of the applications was access to **news databases for Social Studies**. We recognize that the **text book era in education is coming to an end and students have to know how to use these network databases**. Unfortunately, cost drives access. Since *USA Today* was available for \$12/hour and Southam (Canadian news) cost \$40/hour, most schools could only afford the United States current events perspective. This problem is happening right now with Lower Mainland schools on EdNet only having access to *USA Today*!

One of the landmark books covering these issues and the **SITP** is The Networked Classroom: An Assessment of the Southern Interior Telecommunications Project (SITP). (Teles, L. and N. Duxbury 1991. Vancouver, Canada: Faculty of Education, Simon Fraser University).

Lucio Teles, himself, has this to say about SITP: "The **Networked Classroom** is a **recent innovation in education** and is rapidly becoming an **important tool in K-12 classes**. **Computer-mediated communication** is increasingly adopted by teachers and students in North America and other regions in the world. In **British Columbia, Canada, dozens of schools** have established links with schools elsewhere in the country or the world with which various learning projects were implemented.

"In this presentation the **Networked Classroom is discussed as implemented by the Southern Interior Telecommunications Project (SITP)**. This project was established in **1991** to provide computer-mediated communication resources to teachers and students in the southern region of British Columbia. Data were collected on how SITP teachers and students used new telecommunication **technologies**, their **usage patterns**, and the **obstacles** they experienced. Findings show that the primary use of telecommunications was to support **peer communication** and **teacher professional development**, and to **enhance curriculum-based classroom activities**; 10% of participants also indicated they used the technology to **support administrative tasks**. The most used online services were electronic mail, followed by computer conferencing, and databases. While the peak access time is at 3:00 pm, participants use the system 24 hours a day."

"Teachers and students who provided data were positive about the Networked Classroom. They described how their learning activities were **enhanced through the connectivity and group work** with online partners. At the same time obstacles to implementing the Networked Classroom were also identified. Finally, some lessons learned from the **SITP Project**, both in regard to teaching and to professional development as well as administrative uses of the Networked Classroom were presented and discussed."

SITP relies heavily on the **FreeNet System, which is in trouble in Canada**. FreeNet has the potential for a wide variety of perspectives and we need an alternative news service where people can pass their own information back and forth. In January, 1994, the **BC FreeNet** and **Library Associations** could submit a proposal and make a presentation to the BC Systems Corporation Board of Directors, requesting a public slice of government bandwidth for FreeNets & the Depository Library Program.

- a) Metacrawler Search Engine Query: Southern Interior Telecommunications Project. Available: <http://www.metacrawler.com/crawler?general=Southern+Interior+Telecommunications+Project&target=&method=2®ion=0&rpp=20&timeout=10&hpe=10>
- b) The Online Report on Pedagogical Techniques for Computer-Mediated Communication. Morten Flate Paulsen. ©1995. Available: <http://www.hs.nki.no/~morten/cmcped.htm>
- c) Networked Learning: A Review Paper. Nicholas Bowskill. NetLinkS Research Report, by Phil Levy and members of the NetLinkS team: Nicholas Bowskill, Emma Worsfold, Sarah Ashton, and Tom Wilson. Available: <http://netways.shef.ac.uk/rbase/reports/chapter.htm>
- d) WIER Books, Theses & Research Reports. Writers In Electronic Residence. Canada. Available: <http://www.edu.yorku.ca/~WIER/WIERbooks.html>
- e) The Networked Classroom: Lessons from the SITP Project in British Columbia - Presentation - Lucio Teles. Program Director Centre for Distance Education Simon Fraser University. Available: <http://www.stemnet.nf.ca/Conferences/hook95/lucio.html>

43. Spider

A **spider** is a program that runs on the **Internet**, goes out to an **URL (Web page)**, and automatically fetches the Web pages, and requests all links that are referred to on that page. Spiders are used to **feed pages to search engines**. It's called a spider because it **crawls over the Web**. Another term for these programs is **webcrawler**. Because most Web pages contain links to other pages, a spider can start almost anywhere. As soon as it sees a link to another page, it goes off and fetches it. Also known as a **robot, Web spider**, or sometimes a **worm. Robots learn as they go, building a database of links**. They index based on **meta tags in the HTML or the title**, or just about anything else you can imagine. Usually, they come from search engines and are designed to **keep the search engines current**. Large search engines, like Alta Vista, have **many spiders working in parallel**.

- a) PC Webopædia Dictionary. (indexed Feb. 15, 1998). Available:
<http://www.pcwebopaedia.com/spider.htm>

44. Student-Centered Learning

Student-centered learning is a situation where **every single student can become an active learner**, collaborating fully in the **development of ideas and learning at his or her individual pace, not passively taking notes**. However, the usual power model of the classroom changes dramatically as student "voices" are heard more distinctly, and many teachers, even those most committed to a more collaborative, decentralized, and "democratic" class, find themselves challenged far more than they had expected.

The **computer now offers tools that can transform teaching** by translating a discipline's modes of inquiry into an **interactive and collaborative medium. Hypertexts of literature** can be prepared which let students study works intensely, vividly, at **different levels, and in context**. On-line discussions and writing involve all students in the study of the work **interactively and personally**. Combining these two elements into a **dynamic syllabus**, where students and teachers create a class hypertext, can empower students as readers and writers in unique ways, which **challenge traditional paradigms of teaching literature**.

The computer, especially when used outside the typical classroom setting, offers powerful ways of changing teaching into more **interactive and personalized learning paradigms**. For teachers convinced that **students learn to think better (and think to learn)** by writing and responding critically to the course materials and to each other's written responses, the computer, especially when networked through a **LAN, an Intranet, or the Web**, offers an **unequaled tool for facilitating student-centered discussion**. The materials can be posted, even set up as **interactive hypertexts**, and students may read and review them anytime. Not only can students develop the **critical thinking and writing skills** crucial to learning in every course; they can actually **enjoy doing it**.

- a) MetaCrawler Query: Student-Centered Learning. Available: <http://www.metacrawler.com/crawler?general=Student-Centered+Learning&target=&method=2®ion=0&rpp=20&timeout=10&hpe=10>

- b) Changing the Paradigm: Hypertext and Interactive, Student-Centered Learning. Ann M. Woodlief: Department of English, Virginia Commonwealth University. Available: <http://www.vcu.edu/engweb/home/horizon.htm>

45. Telelearning

In the paper [online], A Framework for Technology-mediated Inter-institutional Telelearning Relationships the authors state:

"We premise our writing on three key assumptions: 1) **Collaborative learning** is a **powerful** and desirable way to **improve the quality of education** (Alavi, 1994; Johnson, Johnson, and Smith, 1991). 2) Collaborative learning is enhanced when the **learning partners bring different perspectives** to a problem or topic (e.g., heterogeneous task-relevant knowledge from different student populations within a field of study) (Alavi, Wheeler, & Valacich, 1994). 3) Cooperation between institutions is required to enable **collaborative, inter-institutional telelearning**.

"We believe that the new educational forms for collaborative universities **add value for the students, faculty and for the institutions** which form them, yet creating or enabling such inter-institutional relationships is very **challenging**. From these experiences we set forth **a framework for developing inter-institutional collaborative telelearning programs**."

This same article points out valuable information concerning upcoming systems to be found in telelearning, problems anticipated, and a forecast for success rate at different levels:

"**Emerging communication technologies such as computer conferencing, videoconferencing, distributed document databases (e.g., Lotus Notes), and others are enabling new forms of learning opportunities which extend beyond the walls of the university.** As technology creates new possibilities, administrators, students, and faculty must carefully **question the value and payoff** of these new educational forms, yet, must also **be willing to reassess long-held assumptions of the current educational paradigm**. One such long-held assumption that influences the establishment of inter-institutional relationships is **how the competition for students and resources has changed**. Universities have found themselves under greater scrutiny by legislatures, parents, alumni, and students. This shift for universities is similar to how **nonacademic institutions go from operating in a near monopolistic environment to a market environment**."

The use of **computer-based learning facilities in the classroom leads to a more collaborative type of learning and instruction** among teachers and students, and also introduces many **new formats for curriculum content** and means for accessing and manipulating this content. These changes call upon **teachers to master new knowledge and skills** for the successful integration of these facilities into the classroom and imply extensive revision to professional education programs.

- a) MetaCrawler Query: telelearning. Available: <http://www.metacrawler.com/crawler?general=telelearning&target=&method=2®ion=0&rpp=20&timeout=10&hpe=10>
- b) Telelearning: Teacher Knowledge and Skill. McGill University, Faculty of Education. Available: <http://www.education.mcgill.ca/fedwww/cils/Telelearning/telelearn.html>
- c) A Framework for Technology-mediated Inter-institutional Telelearning Relationships. Available:

46. Teletutoring

Applications that allow people to teach or help one another or collaborate via computer, and includes the following: video teaching, video training, **teletutoring**, video conferencing, desktop conferencing, remote collaboration, remote access to research results, integrated library systems, home access to library services, download information retrieval.

Computer science professor Jorg Liebeherr were testing an idea that is still a novelty but might not be for long -- **interactive classes held over the Internet worldwide computer network**. Liebeherr's "Grounds-wide Teletutoring System," the name he gave his still-developmental software, incorporates **video, audio and a computer "chalkboard" to simulate a live educational experience on the Internet**. The software would have a variety if educational and business uses. They would be using the system to hold electronic "**office hours" with students at remote locations**. Two computer giants, **Microsoft and Hewlett Packard**, are helping him with the software's design. The system has one major advantage over satellite hookups -- the only cost to the public would be **a local telephone call to an Internet provider**, in this case the two universities. In theory, anyone who has access to the Internet can receive these conferences.

Students **don't have to leave home** to meet with instructors, tutors or discussion groups in **teletutorial learning environments** such as Liebeherr's Grounds-wide Tele-Tutoring System (gwTTS). For faculty and teaching assistants, "the notion of tele-presence" will mean more efficient use of instructional time and the ability to wield an **array of educational tools** including videotapes at a computer workstation to reach students throughout the area. Some of the teletutorial options are:

- **Virtual classrooms:** An instructor lecturing from a computer workstation to students at desktops in various locations will be able to use motion video, voice, data, displays, and graphical images as teaching tools. Students can ask questions and discuss points with the instructor, and the entire class can follow the exchange.
 - **Digital video broadcasts of lectures:** Talks given to students and others in a traditional classroom setting will be recorded on digital video tape, which can be transmitted at any time to any desktop computer equipped to receive gwTTS transmissions.
 - **Remote Study groups:** Students will be able to use a network of desktop computers to discuss project, using their gwTTS capabilities to work together on the whiteboard display and share voice, video and data materials.
- a) MetaCrawler Query: Teletutoring. Available: <http://www.metacrawler.com/crawler?general=Teletutoring&target=&method=2®ion=0&rpp=20&timeout=10&hpe=10>
 - b) EIES - User Needs - Telematics for Services for Knowledge. European Information Exchange Service (EIES) for the Communication between Harbour Areas. Bremen, Germany. Available: <http://www.isl.uni-bremen.de/EIES/needs/needs20.htm>
 - c) Internet Opens Windows of Opportunity for Students. The Daily Progress. March 8, 1996. University of Virginia, Charlottesville, Virginia. Available: <http://www.cs.virginia.edu/misc/news-jorg4t.html>
 - d) Tele-Tutoring will allow U.Va. Teachers and Students to Keep in Touch - Virtually. *Inside UVA*, June 9, 1995. University of Virginia, Charlottesville, Virginia. Available: <http://www.cs.virginia.edu/misc/news-gwtts2t.html>

47. Telnet

A **communications protocol for connecting to other computers locally or across the Internet. A terminal emulation program for TCP/IP networks such as the Internet.** The Telnet program runs on your computer and **connects your PC to a server** on the network. You can then enter commands through the Telnet program and they will be executed as if you were entering them directly on the server console. This enables you to **control the server** and communicate with other servers on the network. To start a Telnet session, you must **log in** to a server by entering a **valid username and password**. Telnet is the most common way to remotely control Web servers. Telnet is also the way you can access someone else's computer, assuming they have given you permission. (Such a computer is frequently called a **host computer**.) More technically, Telnet is a user command for accessing remote computers. The Web or **HTTP protocol** and the **FTP protocol** allow you to request specific files from remote computers, but not to actually be logged on as a user of that computer. With Telnet, you **log on as a regular user** with whatever privileges you may have been granted to the specific applications and data on that computer.

- a) PC Webopædia Dictionary. (indexed Feb. 15, 1998). Available: <http://www.pcwebopaedia.com/Telnet.htm>
- b) Internet and Unix Dictionary. (7KB, indexed Feb. 14, 1998). Available: <http://www.msg.net/kadow/answers/t.html#telnet>
- c) Whatis.com Computer Dictionary. (39KB, indexed Feb. 15, 1998). *What Is...Telnet (a definition)*. Available: <http://whatis.com/telnet.htm>

48. TERC

TERC is a **nonprofit research and development organization** committed to improving **mathematics and science learning and teaching**. Founded in **1965**, TERC is internationally recognized for creating **innovative curricula**, fostering **teacher professional development**, pioneering **creative uses of technology in education**, contributing to **educators' understanding of learning and teaching**, and developing equitable opportunities for **under-served learners**. Their mission statement explains some vital areas they are involved in:

"Telecommunications technology expanded TERC's leadership in global education. Since the early days of glasnost in the mid-1980s, TERC has collaborated with Soviet scientists and educators in their quest to bring technology into **Soviet schools**. Support from the John D. and Catherine T. MacArthur Foundation permits Soviet schools to participate in several network science projects at TERC. TERC also prepared and assisted **exiled black South African educators** in their efforts to establish an MBL and electronics laboratory at the Solomon Mahlangu Freedom College in Tanzania.

"As it has throughout its history, TERC maintains its **principle of reaching all learners**, be they **educationally disadvantaged, handicapped, minority, or those whose first language is not English**. While a diversity of students and schools is represented in most projects, some initiatives focus specifically on certain populations. These range from **studies of urban, immigrant students' conceptions of science** to support of **special education teachers** in their efforts to use computers more effectively with **learning disabled students**.

"Recognizing that it can effect a greater impact on mathematics and science by working with compatible institutions, TERC actively **seeks collaboration with colleges and universities, schools, museums, research and development companies, and community organizations.** A partnership can take many forms, ranging from joint development of a curriculum, to shared research investigations, to a resource network of organizations providing support to classrooms immersed in a TERC program."

- a) Metacrawler Search Engine Query: TERC. Available: <http://www.metacrawler.com/crawler?general=TERC&target=&method=2®ion=0&rpp=20&timeout=10&hpe=10>
- b) About TERC. © 1996 TERC. Available: <http://www.terc.edu/aboutterc/aboutterc.html>

49. Virtual Classroom

Class home pages on the Web allowed students to **access class resources anytime, anywhere.** The Web is known as a rich educational resource, but is regarded as more static than dynamic. **Instructors complement their home pages with e-mail or conferencing software to create a virtual classroom.** Some instructors are already designing class home pages to be viewable by the Super-Browsers, and already writing JAVA applets and exploring other possible features. Class home pages could include: JAVA applets, Frames, VRML, 3-D spaces, Acrobat PDFs, Quicktime videos, Shockwave modules, Teleconferencing & Internet phone. Generic class **home page templates** (such as VCI) will allow instructors to **plug their own class materials into ready-to-go pages,** and add in the preceding advanced features as they desire.

- a) MetaCrawler Query: virtual classroom. Available: <http://www.metacrawler.com/crawler?general=virtual+classroom&target=&method=2®ion=0&rpp=20&timeout=10&hpe=10>
- b) JAVA, Super Browsers, and the Virtual Classroom. John Schmitz, AIM Lab Group. College of Agricultural, Consumer and Environmental Sciences. Updated Dec. 5, 1995. University of Illinois at Urbana-Champaign. Available: <http://w3.ag.uiuc.edu/AIM/2.0/overview.html>

50. Virtual Organization

The Homepage of the **Virtual Organizations research project,** sponsored by the **Institute of Information Systems, Department of Information Management at the University of Berne,** shows that their VO research is focused on theoretical and empirical research related to Virtual Organizations. The organization is quite new, but already has established a newsletter that is filled with excellent information. Jennifer Gristock, of the University of Sussex, (Science Policy Research Unit, the Centre for Information Networks and Knowledge), writes in her paper, "**Communications and Organisational Virtuality,**" about the virtual organization:

"Two separate schools of thought separately hold that (1) tacit knowledge is of central importance to innovation and cannot be exchanged by electronic means, and (2) that **virtual organisations are 'enabled' by the use of advanced ICTs.** This paper argues that the key to understanding the changing organisation of work lies not in the search for the definition of 'the virtual organisation', but in understanding how the **use of advanced information and communication technologies surmount the communication barriers that exist** when activities

are organised 'virtually'. Using the changing organisation of scientific work to illustrate its argument, this paper proposes that activities which are carried out by highly fluid personnel, in multiple locations or using external capabilities do not help define 'the virtual organisation', but demonstrate that **organisational virtuality is multi-dimensional.**"

She points out many other important issues:

"Developments in **advanced information and communication technologies** have made possible new ways of **accessing equipment** and making and maintaining **links with colleagues**. Instead of being simply substitutional, the best uses of virtual environments will involve a **complimentary mix between the real and the virtual**, 'the question is, how can we get the best of both?'. In terms of **the organisation of work**, this would imply that the **most innovative use of virtual environments encourage both face-to-face and 'virtually-enabled' communication**, providing for both **traditional** and possibly **new modes of knowledge production and exchange**. Rather than there being one definition of 'the virtual organisation', organisations have different **degrees of 'virtuality'**, in three dimensions, each dimension corresponding to the way that activities are **organised over time, geographic space and organisational boundaries** respectively. Over time, the membership of the organisation may be highly fluid; it could be said to have a **virtual permanence**. Over space, the members of the organisation may be highly geographically disparate; it could be said to have a **virtual presence**. Across organisational boundaries, the organisation is accessing external sources of technology; it could be said to have **virtual capabilities.**"

- a) MetaCrawler Query: virtual organization. Available: <http://www.metacrawler.com/crawler?general=virtual+organization&target=&method=2®ion=0&rpp=20&timeout=10&hpe=10>
- b) Virtual Organization Homepage. Pascal Sieber, (assistant at the Institute of Information Systems, Information Management at the University of Berne). Available: <http://www.virtual-organization.net/>
- c) Communications and Organisational Virtuality - virtual-organization.net - the newsletter. Newsletter Vol. 1, No. 5. By Jennifer Gristock, University of Sussex, Science Policy Research Unit, the Centre for Information Networks and Knowledge (INK) [The work is supported by the Pira International's Strategic Futures Forum], Brighton, UK. Available: http://www.virtual-organization.net/news/nl_1.5/jenniferg.html

51. Virtual University

Probably one of the most powerful examples of the **VIRTUAL UNIVERSITY** is happening in California. Because of the trend-setting things that are going on, and because of media coverage, for the purposes of this writing this virtual university will be given as exemplar. California's leading colleges and universities are working together to create the **world's virtual university** -- with **courses, degree programs and other services**. The California Virtual University **ties together the online and distance education offerings of accredited colleges and universities in California**. Their website contains a list of catalogs with courses in **all interest areas**: Humanities/Literature/Languages and General Education (39 Campuses); Engineering/Technology/Science (37); Business (26); Health (26); Education (16); Environment (10); Law/Criminal Justice (4); Agriculture (1); Vocational Education (1).

They offer these **catalogs by segment**: University of California, California State University, California Community Colleges, Independent California College or University. And the website contains alphabetical links to the online course catalogs of the **accredited California colleges and universities that currently offer online and distance education courses**. There are **online libraries at 60 California colleges and universities** – a great resource for doing research online!

The **California Virtual University** is a **joint project** of the **University of California, California State University, California Community Colleges and the Association of Independent California Colleges and Universities**. The project is directed by a Design Team comprised of representatives from each of these segments.

- a) MetaCrawler Query: virtual university. Available: <http://www.metacrawler.com/crawler?general=virtual+university&target=&method=2®ion=0&rpp=20&timeout=10&hpe=10>
- b) California Virtual University. Available: <http://www.california.edu/>

52. Web Search

Interestingly, the best way to describe the term **WEB SEARCH** is to utilize the very page of web **searching** that was used to **find examples** in **THIS web search**. Round Robin enough? The very page that MetaCrawler gave in response to the key words, "web search," revealed many aspects of this pastime.

- **Search** for United States Code:
Go first to the listing of all Titles and **choose** the Title you want; then, **use** the **text-search link** on the overview page for that Title to do your search. **If you know** the citation for the US Code material you want to find, **fill in** the title and section numbers below.
Available: <http://www.law.cornell.edu/uscode/>
- **Search the engines that search for you! Worldwide Web Search Engines:**
Contents: Info servers - Software - People - Publications -- News/FAQs -- Documentation -- Other.
Lycos WWW search engine -- gigantic database of **URLs from WWW, gopher, and FTP**. . .
Available: <http://www.amdahl.com/internet/meta-index.html>
- . . .And more meta-lists of **search engines** -- Where do YOU want to **search** today?
Most complete list of **search engines** worldwide. **Search engines** from all over the world! If you **looking** for something on the **Internet** your first stop should be here!
Available: <http://home.earthlink.net/~guliaka/search/index3is.htm>
- . . . And MORE **search engines! ISD Web Search Page:**
Web Search. A Directory of **Search Engines, Directories, Email Address Locators, What's New On the Web?, Newsgroup Searches**, etc. . .
Available: <http://ec26.enrg.lsu.edu/findit.htm>
- When you are too tired to **search** anymore, here is Phoebe's List of **Web Search Tools:**
Where I Go to Get Others to Do What I am Too Lazy To Do Ways to find what you need in this universe of chaos. Check it out: handy as can be!
Available: <http://www-cgi.cs.cmu.edu/afs/...phoebe/mosaic/find-things.html>

- a) Metacrawler Search Engine Query: Web Search. Available: <http://www.metacrawler.com/crawler?general=WEB+SEARCH&target=&method=2®ion=0&rpp=20&timeout=10&hpe=10>

53. Writers in Electronic Residence (WIER)

The WEIR website reveals what they are all about: "**WIER is an educational initiative that focuses on Canada's literary culture through involvement in a written community; and, an arts initiative that creates new forms of work for Canada's writers, and markets for their books.** WIER's online programs currently offer content and services that are both **interactive**, and **information-based**. We opened this website on November 13, **1995** in order to support and extend the value of these initiatives for both the **participants in WIER's writing programs**, as well as the **wider online learning community**."

"Interaction - Our Conferencing-based Programs: Our primary activity is deeply rooted in **interaction**, linking writers with students and teachers in **online writing conferences**. These programs are undertaken in a **computer conferencing environment**, and operate on a **subscription basis**. An example of this interaction which came about as a result of the Manitoba flooding in April and May 1997 was the Red River Writing WIER Project where participants in the online writing conferences and website visitors could exchange writing pieces with additional participants in Manitoba.

"Information & Resources - Our Web-based Programs: WIER's online programs also create a broad range of **original information-based content, services and activities**, which we are pleased to make available at this website. In addition to the original information available here, WIER also provides access to **selected resources** that we feel are particularly useful. There is **no charge for these services**, thanks to the generous support of WIER's sponsors.

- a) Metacrawler Search Engine Query: Writers in Electronic Residence. Available: <http://www.metacrawler.com/crawler?general=Writers+in+Electronic+Residence&target=&method=2®ion=0&rpp=20&timeout=10&hpe=10>
- b) About WIER's Website. Available: <http://www.edu.yorku.ca/~wier/wierwebinfo.html>

54. X.500 Directory Services

Digital X.500 Directory Services V3.0:

- Provides production quality implementation of 1993 CCITT X.500 standards for directory services.
- Allows **very fast searching of large databases**
- Can be accessed from many different environments, including electronic mail and the Internet
- Available now on OpenVMS and Digital UNIX operating systems

PRODUCT DESCRIPTION: Digital X.500 Directory Services V3.0 products may be used to implement a **distributed network directory service** following the CCITT X.500 recommendations. These recommendations split the functions of the directory between **one or more directory system agents (DSA)**, where all information is held, and **one or more directory user agents (DUA)**, from which all inquiries and other directory actions are made. Using the X.500 model, **departments and organizations** may adopt an **incremental independent approach to the establishment of a directory service** using conforming products from many vendors. These **separate implementations may then be connected together** to

provide a **single logical directory service** that **spans the department, organization, region, or world**. The directory may contain information on anything of interest, including people, systems, network resources, and databases; it **may be accessed both by individual users and applications**. The Digital X.500 Directory Services V3.0 product set consists of Digital X.500 Directory Server and Digital X.500 Administration Facility software.

New features: Supports ALL-IN-1 V3.2 software; provides **very large database support**, allowing **millions of entries per server**; offers a pricing structure that is based upon the number of entries in a server; includes command line and **Motif GUI** look-up clients; optional **X.500 Directory Information Manager**, a **Windows 95 Microsoft Explorer-based information management client**; optional **Digital Driver for MAPI service provider interface** provides connection for **Windows 95 and Microsoft Exchange Client to X.500 service**.

BENEFITS: Provides **universal or controlled access to information** or pointers to that information from a number of different sources in an **economical and robust fashion**; allows upper limits on the number of entries to be determined by the user's criteria; **"pay for what you use" licensing** allows users to develop **low cost, simple directories**; offers users **more ways of accessing the directory**.

ALL TO SAY: A HIGH-POWERED DATABASE SEARCH TOOL.

- a) Metacrawler Search Engine Query: X.500 Directory Services. Available:
<http://www.metacrawler.com/crawler?general=X.500+Directory+Services&target=&method=2®ion=0&rpp=20&timeout=10&hpe=10>
- b) Digital X.500 Directory Services V3.0. Available:
<http://www.openvms.digital.com/openvms/products/directory-x500/index.html>