NetTEACH NEWS

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A Childhood Remembered: The Magic of Computer Networks

by Kathy Rutkowski

"As a small child I remember standing in front of my house and looking out across the yard which spread itself before me wide and green. I remember asking myself, Who am I and what is this place? Even today I do the same thing. ...Childhood is a place of wonder. The edges that surround the world have not been set. All the textures are new and wonderful. As children we do not understand how things happen, they just do. It's magic.---." A Childhood Remembered, Mercer Mayer

There is a great deal of discussion about how computer networks can empower teachers, end their isolation, and enrich the learning environment of their students. Computer networks, however, are also enriching the learning environment of teachers and reversing the role of teacher and student in a most significant way.

All you need to do is to spend a few hours reading through an educational discussion list such as Kidsnet or EDNET and you readily perceive the excitement, the wonder, and the incredible energy of teachers who are networking. No matter whether novice or expert, networking seems to offer an unending cornucopia of learning opportunities to educators.

Interestingly, primary school teachers are seemingly becoming "nethooked" faster than teachers at the middle school and indeed high school and even university levels. This is a most promising trend because it is there in the primary school classroom where most childhood's do in fact end. It is imperative we determine why this is so, and begin to take the steps necessary not to deny adulthood but to encourage the creative spirit of the child to remain alive in the maturing man or woman.

In many primary schools, teachers are asking for more time to explore the networks. The teachers are becoming eager students, and the eager students find themselves competing with their teachers for "networking time".

There is no better teacher than an inspired teacher, and even if teachers are competing for networking time their enthusiasm and devotion to networking can only encourage students to explore networlds and to work together with the teacher to develop unique and stimulating cooperative learning experiences.

Teachers hungry to learn, to explore, and to innovate will produce students with insatiable curiosity and powerful creative urges. Children, and indeed adults, learn best by observation and by active participation. Bored teachers beget bored students. Stimulated and exhilarated teachers, on the otherhand, inspire future generations to greatness.

We have come a long way from the day when a teacher stood in front of her class and lectured for two hours straight, filling their " empty" heads with "significant" facts. And yet we have a long way to go before we reach the natural classroom of our earliest tribal ancestors where the excited hunters returned with their kill and drew inspired drawings of the woolly mammoths on the walls of their cave dwellings. It is that excitement of sharing experiences that is the beginning and end of learning.

What is a school but a place of learning. What is a classroom but a place to share experiences. What is learning but an insatiable curiosity, a lifetime of questions, and a joyful celebration of life.

If learning is the purpose of education, then what is teaching? Teaching , I suggest, is the MAGIC.that makes it all happen. Effective teaching motivates children to learn, and gives adults the the ability to refind their childhood.

Perhaps the greatest contribution of computer networks will be in their seemingly magical ability to encourage teachers to learn and to remember the wonder and excitement of their own childhood. Teachers so inspired will like those ancient cavemen reach out to future generations to share the excitement of the hunt and to ask those future generations the most profound questions, "Who are you, and what is this place?"

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And YOU Will Decide
by Kathy Rutkowski

"*Congratulations! Today is your day. You're off to Great Places! You're off and away! You have brains in your head. ....You can steer yourself in any direction you choose. You're on your own. And you know what you know. And YOU are the guy who'll decide where to go*." Oh, the Places You'll Go! by Dr . Seuss.

Perhaps you have heard of the Grand Tour. This was predominately an upper-class British custom that sent young women and men off on a prolonged tour of Europe's cultural centers such as Paris, Rome, Venice, and Florence. The young person would be accompanied on this journey by an older family member, or a friend of the family.

Americans have adopted a scaled-down and modified version of the Grand Tour called the junior year abroad. College age young men and women, usually juniors, are sent to study for a semester or two in a foreign university. The purpose is enrichment through firsthand observation of a foreign culture.

The fact is travel was and is a privilege. Only a small segment of the world's population will ever travel in person to a foreign country. Only a small minority of Americans will ever visit Hawaii or Alaska and be able to interact with people living there. Foreign travel and long-distance travel remain exclusive and undemocratic.

Of course, books and magazines have allowed us to travel to exotic places as have motion pictures , television and video programs.. New CD-ROM technologies linked to virtual reality technologies will permit us to walk through museums around the world, explore the ancient pyramids of Peru, and bicycle through Tienanmen Square in Beijing. However, the most critical missing element even in virtual reality programming is the ability to interact directly and frequent with a foreign person.

Today, global networks are spanning the globe and are connecting people from diverse cultures, from every country, representing many socio-economic classes, and from many different professions including the mullahs in Iran In effect, networks are enabling large numbers of people to become true travelers and global explorers.

In education, teachers and students are now using networks to establish direct contact with teachers and students from around the globe. The opportunity exists for children in Herndon, Virginia to forge close friendship with children in Helsinki, Finland and exchange messages daily if not hourly.

The children can play games together, work on homework together, jointly compose a musical piece, draw a picture, build a skyscraper out of legos, and write a play together. The barriers of time, and space, and increasingly even languages are becoming insignificant.

Network travel in K-12 education is just beginning. The potential exists to provide access on a fair and equitable basis to virtually all students and teachers worldwide. However, we will lose the opportunity to democratize educational network travel if educators, parents, students, and community leaders do not put outside their differences and work together for that common goal.

K-12 connectivity to global networks does carry costs. Many of these costs are being absorbed in the US now by public funds, or by sponsor universities and research centers. Already people are asking how long and for how many more users can we continue to provide access without levying additional charges on the actual users

We are fast approaching a critical crossroads where we must decide whether networks will facilitate a more equitable and efficient sharing of scarce education resources, or will networks merely reinforce the power of those who are already privileged and empowered, and deny access to those most in need.

I suggest the opportunity costs of not connecting schools and communities from around the globe particularly from those places where the need is greatest and the economic resources most limited are high. At stake is the very stability of the global social order. We have witnessed on a global basis the increase of terrorism, the increase of violence in our cities an in the rural regions, the increase in depression and suicide among our youth, the increase in antagonisms between generations, and a general global societal malaise.

Networks and educational networking will not cure all our social ills but opening lines of communication between diverse groups , building bridges of understanding between people and communities, sharing common life experiences with persons in distant places, and sharing scarce resources with other teachers, students, and schools can lead to some decline in violence that arises out of ignorance, mistrust, and misunderstanding.

Educational networks can and already are bringing together children and their parents and the greater communities where they reside. It can be the beginning of a new culture, a new community and a new citizen.

At no time in history, have a classroom teacher and his or her students had such opportunity and potential power as today. Teachers and students are emerging as diplomats, social engineers, and potent agents of change.

Working together as a united front, parents, teachers, students, and community leaders statewide, nationwide, and across the globe can promote regional, national, state and community-wide connectivity schemes that effectively distribute costs and support a fair and equitable access. The time is now to seize or lose the opportunity to effect positive change.

To the teachers I know in Herndon, in Philadelphia, in Moscow, in Peru, in Geneva, in Israel, in Boston, in Pittsburgh, in San Francisco, in El Paso, in Helsinki, in Nottingway, in Cheshire; across the globe, I ask you this question, "If you could, would you change this world and make it a better place for all children?" ; and evoking the words out of Mishnah Abot, " If not now---when?

TENET--The Lone Star Shines
by Connie Stout, TENET Director

TENET --The Texas Education Network began operation on August 26, 1991,and today has more than 19,500 registered account users. Users average 90,500 logins per month and more than 75 new users apply for an account each day. TENET is certainly one of--- if not indeed, the largest public K-12 network in the world. In the article which follows, Connie Stout, the venerable TENET watchdog and Program Director who is perhaps second only to Anne Richards, the Governor of the State of Texas in energy, intelligence and commitment to her constituents, describes how TENET evolved and what it can potentially offer to the more than 3.2 million students and over 200,000 teachers, support staff, and administrators working in Texas schools each day..(KMR)

TENET-The Texas Education Network
by Connie Stout

The Institutional Evolution of TENET

Texas is a diverse state with more than 1,050 school districts. The districts range in size from 190,000 students to less than 10 students. The Texas Education Agency long recognized the need for effective and low-cost communication among and between the more than 6,400 public school campuses, the 20 regional education service centers, colleges and universities, and other educational professionals in Texas

.In 1985, the Texas Education Agency contracted for an electronic network with THE ELECTRIC PAGES, a commercial network operated by GTE. The TEA-NET (Texas Education Agency Electronic Network) provided electronic mail and bulletin boards to approximately 650 of the administrative offices in school districts in Texas

In November of 1988, the State Board of Education adopted the 1988 - 2000 Long-Range Plan for Technology. Incorporated within the plan was a request to establish a k-12 statewide communication network to link all school districts and their campuses. Senate Bill 650 which was passed by the 71st Texas Legislature incorporated these requests and authorized the establishment and maintenance of an electronic information transfer system, the Texas Education Network (TENET).

The Agency evaluated alternatives for the acquisition of services necessary for the creation and maintenance of an enhanced electronic communication network capable of transmitting information among and between the members of the public education system in Texas. Agency staff conducted a nationwide review of telecomputing networks, telecomputing hardware, software and training. The telecomputing networks reviewed included: proprietary networks such as GTE, CompuServe, AT&T, AppleLink, America Online; statewide networks such as Pennsylvania's PennLink, Florida's FIRN, Virginia's, VA.PEN; and, other "grassroots' networks like FrEdMail and K12 Net. In addition, teachers, administrators, the regional service centers, and the educational organizations that had been utilizing the TEA-NET network were invited to share their ideas.

Review of existing and proposed networks resulted in the formulation of three essential requirements:

☆Network standards that would allow this network to scale as growth and new advanced technology demanded.

★Network standards based upon TPC/IP and OSI protocols to permit inter-operability between networking systems.

★Network standards for UNIX based operating system to permit multi-tasking for educators utilizing the system.

Following a Request for Proposal process, which did not result in an award, the staff met with staff at the University of Texas System to consider using the Texas Higher Education Network (THEnet) as the network carrier. THEnet, currently providing connectivity to the majority of the major post-secondary institutions in the state, is a NSF regional network connecte to thousands of other networks worldwide through the Internet. Analysis of the available networking alternatives showed that an approach based upon interagency contracts with The University of Texas System for telecommunications services was the option which would realize both the most cost-effective system and increased services to Texas K-12 students and educators.

The Operational Blueprint of TENET

The configuration of TENET is based upon a distributed design. The local hosts are a series of message processing and storage units (MPS) which are Unix systems with 24 Megabytes of memory, 1 Gigabyte of disk, and backup tape. The University of Texas System Office of Telecommunication Services houses one system that functions as the central host. Local phone access as well as 800 line service is provided in Austin. Seven other message processing and storage (MPS) computer systems are distributed across the state at university sites to store messages and support applications.

The Computation Center of The University of Texas at Austin provides help-desk services for the public education community in the use of the TENET. This is accomplished through the expansion of existing THEnet information center operations. Applications on the system are designed and implemented by The University of Texas System Office of Telecommunication Services in cooperation with the Texas Education Agency.

By contracting with the existing distributed network of The Higher Education Network (THEnet) public school educators are brought onto an electronic network with rich resources that include on-line library catalogues, educational computer archives, public databases, and instructional hypermedia libraries. The distributed computer system, when fully implemented, will permit local access from fifteen major metropolitan centers in the state. Toll-free lines are available to educators located outside the local calling areas. As the traffic increases on

the network, local access will be expanded through additional nodes. Utilizing THEnet also recognized and supports national efforts to link higher education with public education and offers the potential for expanded access and extended services over the network

.Another key component to successful networking involves adequate training and support. The Texas Education Agency worked with the Texas Center for Educational Technology to design curriculum for course delivery through a mix of expertise available at the Center, other universities, and regional education service centers. Training on the Texas Education Network is now being conducted statewide through the 20 regional education service centers through a training of trainers model. The analysis of the interagency approach realizes the following advantages to the K-12 community:

❒ Utilization of an existing tax-supported network.

❒ Increased access to other state agencies serving public education.

❒ Increased access to the wealth of resources available in the university community.

❒ Training designed to meet unique needs and resources available to the state education community.

❒ Access to network services at minimal cost to Texas educators.

❒ Rapid implementation of networking services.

❒ Extension of the potential use of the system to include curriculum based projects as well as administrative projects, thus expanding the benefits of the network to teachers and students.

The basic components of the TENET network include:

❒ Electronic mail: The TENET network utilizes the PINE mailer designed by the University of Washington. The mail service extends beyond the community of educators in Texas to educators using other state, national, and international networks.

❒ Electronic bulletin board: The bulletin board, with capabilities for indexing and searching, makes it possible to post information from many locations within the state for educators to access.

❒ Electronic conferencing: Conferencing differs from a bulletin board in that it establishes a climate of interaction thus allowing educators from different locations to discuss important topics.

❒ Electronic Databases: Electronic databases contain information accessible by all Texas educators.

❒ Workstation communication software: Software that will permit educators to edit and prepare files for transmittal, as well as request or send information to and from bulletin boards, conferences and databases, prior to actually connecting to the network, is an integral part of the design. This will minimize the time each educator is directly connected to the network and reduce the cost of telecommunications time. Currently the TENET network is utilizing Kermit. However, there are plans in place to customize the communication software.

❒ Telnet: A capability which permits resource sharing between networks is an important part of the network design which permits educators to have access to many resources on the Internet.

❒Remote file transfer -- ftp: This capability permits sharing computer files from many networks.

Benefits to the K-12 Community

The benefits of the electronic network extend beyond just electronic mail and computer conferencing. The network supports collaboration between K-12 educators and post-secondary educators. For a nominal fee of $5 per year and no on-line cost, Texas administrators, teachers, and students have the capability to extend their communication to thousands of educators and students throughout the United States and countries around the world. By using the TENET network, not only are they able to utilize many major university libraries such as the University of Texas, Texas A&M, University of California, University of Hawaii, and University of Colorado, but they also have access to resources such as NASA's Spacelink in Huntsville, Alabama. By utilizing NASA, teachers are able to communicate with astronauts and scientists as well as retrieve classroom materials for their own use. Other resources on TENET include UPI news, CNN Newsroom lessons, and Newsweek Lessons. The network features an on-line encyclopedia and a study skills guide.

The capabilities of the TENET network also include electronic mail gateways to many other major networks. Some of these networks include AppleLink, CompuServe, MCI mail, AT&T mail, FrEdMail and Fidonet. These capabilities are available to Texas educators without an additional charge.

Forty Texas educators, representing a broad range of expertise, were selected as TENET Master Trainers. They received training in three areas: use of the network, conference moderation, and curriculum integration. Twenty of the trainers were from each of the educational service centers. The additional twenty trainers represented school librarians, math supervisors, computer coordinators, and representatives from professional organizations such as the Texas Computer Education Association (TCEA), the Texas Association of School Boards (TASB), the Texas Association for Supervision and Curriculum Development (TASCD), and the Texas State Teachers Association (TSTA).

The TENET network uses USENET conferencing software on the system to create Texas specific conferences. All of the TENET conferencesare moderated by educators who are trained to help nurture and guide conference participants as they begin to explore the use of telecommunicatio in the classroom

Texas educators are using TENET to promote many excellent telecommunication projects. One such project is an example of how telecommunications can bring students, teachers and members of the community together through collaboration across state and national boundaries. This effort brought students, teachers, and

community members in El Paso closer to their peers in the East Texas community of Sour Lake. During the past several years, the Texas EducationAgency has provided support for other such projects tailored to specific needs by classroom teacher. Examples of such projects include projects which enabled handicapped students to share their writing with other geographically dispersed students throughout the state and nation. In addition, the Induction Year pilot supported new teachers as they were inducted into the profession of teaching.Through a collaborative effort with educators in the state, the Agency supports the use of telecommunications as an instructional application which extends learning beyond physical barriers and time constraints.

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The Networked Teacher Talks
Judy Simmons

I read Judy Simmon's note to Ednet introducing herself, and her wonderful words about being lost in candy store seem to underscore my belief that networks like inspired teachers work miracles. (KMR)

Hello to everyone. I teach 8th grade English in Denton,Texas - about 30 miles north of the home of the world champion Dallas Cowboys. I am at a first year middle school. In other words, we have been a 7-9 junior high, and this is our first year as a 7-8 middle school. So far, we're adjusting pretty well.

Actually, I'm on "sabbatical" from the library this year. For the last eleven years I have been an elementary librarian. I loved every minute of it (or almost every minute). But - I needed a changed.

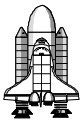
The "middle school" concept is very BIG right now in Texas, so I thought I would try something different for a year or two. I had taught 7-12 grade English for ten years before becoming a librarian. Now, I have the best of BOTH worlds.

I am fairly new at telecommunications, but I am addicted and I love it! It has SO much to offer to the classroom teacher as well as the librarian, not to mention the students. No one in our district usestelecommunications for classroom projects, so I'm trying to be a "pioneer"in this area.

Currently, I am "patiently" waiting to get a phone line installed in our library so I can introduce my students to the REAL thing instead of just talking about it all the time.

Being a librarian, I am a member of LM_NET and have learned much from them - just as I hope to learn much from Ednet. I also participate in KIDLEADR and their projects. With telecommunications, the world is at my fingertips, and I'm like a kid in the candy store.

Judy Simmons (jsimmons@tenet.edu)
Strickland Middle School
Denton, Texas



NASA ON THE NETS
by Kathy Rutkowski

NASA is pioneering the way to use networks in the distribution of information to the public and in particular to the K-12 community. NASA's largely unheralded mission to provide teachers support in their efforts to stimulate a new generation of astronomers, astronauts, space - related engineers, and other space-related professionals will likely have an even greater impact to the future than any individual space mission. it has yet undertaken in its rather impressive history.

NASA'S SPACELINK

NASA's SPACELINK is a stellar example of what government and government agencies can do to support the K-12 community globally and here in the United States. SpaceLink is an on-line service located at Marshall Space Flight Center in Huntsville, Alabama. The system is specifically designed for teachers.

The data base is arranged to provide easy access to current and historical information on NASA aeronautics, space research, and technology transfer information. Spacelink also provides educators with suggested classroom activities that incorporate information on NASA projects to teach a number of scientific principles. In addition, it offers downloadable shareware and public domain programs useful for science educators as well as space graphics and GIF images from NASA's planetary probes and the Hubble Telescope.

NASA Spacelink runs on a Data General ECLIPSE MV-7800 minicomputer at the NASA George C. Marshall Space Flight Center in Huntsville, Alabama. The Date General Corporation developed the Spacelink Software and donated it to NASA. NASA/Spacelink is linked now to the Internet via the Southeastern Universities Research Association Network (SURAnet)----a regional network affiliated with National Science Foundation Network (NSFNET).

Unlike bulletin board systems, NASA Spacelink does not provide for interaction between caller. Teachers and other callers, however, can leave questions and comments for NASA.These requests will be answered electronically as well as by snail mail. Messages are generally handled the next working day except during missions when turnaround times increase

The Educational Affairs Division at NASA Headquarters provided the initial support for NASA Spacelink. The Public Services and Education Branch of the Marshall Space Flight Center Public Affairs Office maintains the NASA Spacelink data base, and the Information Systems Office at the Marshall Center provides operational support. Education specialists at NASA Headquarters and from the NASA field centers provide the information on NASA scientific projects and educational programs.

The next NASA/Spacelink expansion phase seeks to increase several elements of the system. There will be additional storage for images from NASA's observatories.

In addition, simultaneous TELNET sessions and complete FTP capabilities will be supported.

How to Access Spacelink

NASA Spacelink is free service. Educators having computers equipped with modems can call into Spacelink. The phone number is (205)-895-0028 (300/1200/2400/9600(V.32) baud, 8 bits, no parity, 1 stop bit). However, for anyone dialing from outside of the 205 exchange, this will constitute a long-distance call, and NASA will not pay for those calling charges.

If you are an educator with direct access to the Internet or with access to computer networks such as VAPEN, or NODAK SENDIT, that provide gateways to the Internet, you can telnet to spacelink. Many of the statewide K-12 public education networks will a build in telnet to Spacelink and you need only choose Spacelink from the Internet services menu. If your system has direct connectivity, you can do one of the following:

Telenet spacelink.msfc.nasa.gov or telnet 192 .149.89.61

Internet callers may also try Spacelink's new FTP capability (currently under construction). There is a small file set up for Spacelink users to sample. Upon accessing this site, follow the instructions to "get" the README file and read this document first. This will explain NASA Spacelink's current FTP capabilities. The intent is to offer full access of NASA Spacelink files in the near future. (Note: XMODEM and YMODEM will not work through the Internet. If you want to use XMODEM or YMODEM, you'll need to call NASA Spacelink directly at 205/895-0028.

NASA AMES

NASA Ames maintains extensive archives which are available via anonymous FTP or an email server. These archives include many images and a wide variety of documents including an FAQ list, NASA press releases, shuttle launch advisories, and mission status reports. These archives are NOT maintained on an official basis.

FTP users should:

❒ connect to <**ames.arc.nasa.gov**> (128.102.18.3) and

❒ look in **pub/SPACE. pub/SPACE/Index** contains a listing of files available in the archive .

To access the archives by email:

❒, send a letter to <archive-server@ames.arc.nasa.gov> In the subject of your letter (or in the body), use commands like:

send SPACE Index
send SPACE
SHUTTLE/ss01.23.91.

The Magellan Venus and Voyager Jupiter, Saturn, and Uranus CD-ROM image disks are available on-line in the CDROM and CDROM2 directories. The disks will be rotated on a weekly basis. Thousands of images are available in these collections.

NATIONAL SPACE SCIENCE DATA CENTER

The National Space Science Data Center, which is the official Clearinghouse for NASA data, provides an on-line catalog. This catalog can be obtained either by sending e-mail requests to:

<request@nssdc.gsfc.nasa.gov>

or by telnet to **nssdca.gsfc.nasa.gov (128.183.36.23)** and log in as '**NODIS**'.

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KidsNews from Finland
by Kathy Rutkowski

Finland's national tv, channel 1, has launched an innovative children's news show. The show airs weekly, and young primary school-age children are responsible for the production at all stages. They research the news, write the news, edit the news, and present the news for a national Finnish audience.i

The news deals with significant issues and events, and the young commentators are able to react to the world and national events impacting on their lives. Other children from around the globe are feeding news to the Finnish children via computer networks. There are currently correspondents from the United States, England, Taiwan, Venezuela, and Hong Kong,

Heikki (Henry) Korpinen.of the Helsinki University of Technology is helping the students to establish a worldwide corps of student correspondents linked together by the Internet. Heikki envisions a time when there will be student correpondents across the globe. His hope is that the children involved in this project through their exchange of news will forge friendships and acquire an understanding of the diversity of world culture and the differences in living conditions. He believes that the children will ultimately redefine what constitutes significant news, and will influence adult perceptions of "good" news as well as their opinions about world events and issues.

Any students desiring to contribute news articles, or for anyone interested in finding out more about this fascinating project or about the Finnish FreeNet which will soon provide the Finnish students with their own accounts and Internet access, contact Heiiki Korpinen at the following internet address:

<hkorpine@vipunen.hut.fi>

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email \ee' mayl\ 1. n. Electronic mail automatically passed through computer networks and/or via modems over common-carrier lines. 2. vt. To send electronic mail.

Source: The New Hacker's Dictionary, edited by Eric S. Raymond, with assistance and illustrations by Guy L. Steele. (Cambridge, Mass.: The MIT Press, 1991).

THE PANGAEA PROJECT
Linking Continents & Minds

Some 249 million years ago all of the world's land masses joined together to create a supercontinent. Geologists called this supercontinent Pangaea, which in Greek means "all lands". Educator Jean-Claude Bres of the Active School of Malagnou in Geneva, which was first proposed at a meeting in Fribourg, Switzerland in 1990.

The Pangaea Project will use Logo and new networking technologies to bring together children from hopefully all the continents of the world. The children, ranging in ages from 9 to 12 years old, will build LEGO LOGO models of ecosystems or models depicting an ecology issue. They will exchange their ideas and visions by means of the Internet or other alternative means of telecommunication.

Project Design

Together the children will study an ecosystem or ecological issue. They will put together a scale models and at the conclusion of the project the children will be able to work each others' models remotely by means means of computer networks. At the conclusion of the project, a world-wide television programme will show how a child in one part of the world can operate the model system built by another child on the other side of the world.

The scale models constructed by the students can be an exact copy of a place or situation, a symbolic representation, or even a mechanical device explaining the phenomenon. The models can be made of all sorts of different material such as wood, cardboard or plastic, but ideally should be capable of being computer-controlled. LEGO LOGO is strongly recommended although classess without LEOG LOGO or even without computers can certainly join the project and other meansof cooperation will be devised.

The telecommunications aspect of the project can be achieved by outfitting IBM compatible computers or Apple II E or GS with a modem (a Hayes standard 1200b or 2400b) or perhaps by using the minitel or Fax of the national consulates or cultural centers. Where possible, the Internet will be used to convey the information and link together the students.

Project Vision

The project's underlying purpose is to empower the children so that they can demonstrate to themselves and indeed to the world that with these new technologies they can transcend not merely physical distances but also cultural and socio-economic differences. The children will understand how small the earth really is, how interrelated our problems, how interconnected our societies, and how easy it is for people of diverse cultures and living in remote locations to forge friendships and work together creatively to find solutions to significant global problems.

For more information about this powerful project, please contact :

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UNEP

Youth CaN-93

On June 3, 1993 YOUTH CaN-93 (Youth , Communication, and Networking) will be convened at the UN Headquarters in New York City in celebration of World Environment Day. Project sponsors include the United Nations Environment Programme - Global Youth Forum (UNEP GYF), New York University program in Environmental Education, I*EARN (International Education and Resource Network) and H. Frank Carey High School Ecology Council.

Organizers hope to demonstrate how computer networks are facilitating global environmental research and education.as well as assisting environmentalists in lobbying for policy changes. In particular, the focus will be on the influence the network students of the world are exerting in effecting changes in national environmental policies and helping to reshape the global environment.

There will be demonstrations, workshops, and discussions that will primarily be conducted by young people for young people and interested adults. Participants will be able to experience firsthand how global electronic mail and on-line conferences can be used to share environmental projects and create effective activist enviromental networks.

Anyone interested in participating in the event either in person, or on-line are invited to send a message to:

<unepyouth@igc.apc.org >
United Nations Environment Programme Global Youth Forum
1 UN Plaza, Room DC1-590 New York NY 10017
Tel.: (212)963-7781/7474
Fax.: (212)963-8193

Join the CoSN open, online discussion on issues of importance to the K-12 community.

Send an electronic message to:

<LISTSERV@bitnic.bitnet>

Include the following information in the body:

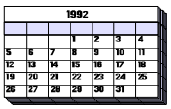
Subscribe COSNDISC, your first and last name

What's New In Educational Educational Lists?

➡Two new discussion groups are open for early childhood educators:
<listserv@vmd.cso.uiuc.edu> "subscribe ecenet-l" and your name
<listserv@maine.maine.edu> "subscribe eceol-l" and your name

➡ The Curriculum Discussion Listserver sponsored by Rowan College of New Jersey and moderated by <GALLAGHERJ@saturn.rowan.edu> To subscribe, send **<LISTSERV@saturn.rowan.edu>** the message::
subscribe curricul your e-mail address your name
Following subscription notification, address all messages to be posted to: **<CURRICUL@saturn.rowan.edu>**

➡**KIDLIT-L** is a new electronic discussion group to provide a forum for faculty members, librarians, researchers, teachers and others interested in the study and teaching of literature for children and youth. This group will discuss teaching strategies, innovative course ideas, current research, and most importantly we will share, ideas, questions and stories of interest to the group. To join, send the following message to:
<listserv@bingvmb> subscribe KIDLIT-L (your first and last name) Prue Stelling and Pamela Summers will serve as co-moderators of this list.



Upcoming Events

NATIONAL NET'93-- EXTENDING THE BENEFITS April 14-16, 1993 at the Loews L'enfant Plaza Hotel in Washington, DC. There wil be panel discussions covering a broad range of networking issues but of particular note to the K-12 community are: The Plenary Panel Session on THE NREN AND THE NATIONAL INFORMATION INFRASTRUCTURE--COMPETING VISIONS that will be April 14 from 10 to 11 a.m. ; the K-12 parrallel session to be held of April 16 from 9 to 10 a.m. (Chair: John Clement, CoSN); and finally the parrallel session entitled MULTIMEDIA ON THE INTERNET: REACHING THE CLASSROOM to be held on April 16 from 10 to 11 a.m. The registration fees are steep for educators: Late Registration $395 (after March 13) Questions, call **Elizabeth Barnhart at 202-872-4200 or email< barnhart@educom.edu>**

TEL-ED '93 Global Connections The Second International Symposium on Telecommunications in Education, Tel-Ed '93, is to be held at InfoMart in Dallas, TX, USA, November 10-13, 1993.

The Tel-Ed '93 symposium, *Global Connections*, will give leaders in educational telecommunications a forum in which to learn about rapidly-advancing developments in telecommunications technologies; to debate key policy issues; and to share experiences, ideas, insights, and research findings on the applications of this new technology to education.

For more information, contact:
Lynne Schrum, Program Co-Chair
Voice: 518-564-2122
Fax: 518-564-4069
email: SCHRUMLM@SPLAVA.CC.PLATTSBURGH.EDU

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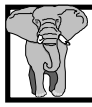

CERF n'SAFARI

The California Education and Research Federation Network--CERFnet--is now offering an excellent eight week introductory package called CERF n'SAFARI. The package is designed to give teachers access to CERFnet and the INTERNET.

For US$49.00 the subscriber is entitled to one dial-in username and password, unlimited dial-up network access for eight weeks, the CERF'n Safari Users' Guide-, a copy of the popular Zen and the Art of the Internet, and a choice of a Macintosh, MS-DOS, or Apple disk which contains several scripts developed to allow simple access to CERFnet and the services described in the CERF'n Safari guide.

Subscribers who do not live near one of the local sites and wish to avoid long distance phone charges are given 4 free hours of connect time on an 800 number. After 4 hours, an $8.00 per hour charge is applied.

If you already have access to the Internet, you can telnet to CERFnet and use their excellent services.

The Cerf n'Safari Classroom Users' Guide was written by Yvonne Marie Andres, who is the School Based Program Coordinator, Oceanside Unified School District, and the Director of Curriculum for the FrEDMail Fondation. The guide is not intended to be a comprehensive manual on the Internet, nor an exhaustive listing of services available via the Internet. It is however an excellent hands-on instruction manual which allows you to go as slow or as fast as you desire. It is indeed the itinerary of a true SAFARI for teachers through the Internet and CERFnet .

You can obtain CERF n'Safari from

California Education and Research Federation Network
P.O. Box 85608
San Diego, CA 92186-9784
Telephone (619)455-3900
Fax (619)455-3990
Internet e-mail: help@cerf.net

Instruction Corner FAQs

Questions Frequently Asked About *Internet*

By Anthony M. Rutkowski, V.P. Internet Society,;
Director, Technology Assessment, Sprint International

????WHAT IS Internet?

Internet is about 10,000 information networks of all kinds, encompassing approximately 1,700,000 computers, that are linked together through common open protocols to form a vast global network of networks. It includes all kinds of diverse public and private networks, gateways, and backbones, in almost every country and region of the world: from Antarcticia to Siberia, from Mongolia to Manitoba. Only the public telephone network exceeds it -- in terms of extent and connectivity.

??WHERE DID Internet COME FROM?

Internet is an outgrowth of a research effort on packet switiching technology started by the U.S. Defense Advanced Research Projects Agency in 1968. An immediate result of this research was the creation of a network called ARPANET which eventually included packet nodes in the U.S. and sites in the UK and Norway. An extension of this effort led to packet switiching experiments using mobile radio and satellite communications. The need to link these systems together led to the Internetting project, the immediate outcome of which was a research Internet to join many autonomous information networks at participating research, academic and government institutions.

In the mid-80s, the U.S. DoD spearated an operational MILNET from the rest of the experiment ARPANET. In the last half of the 1980s, the National Science Foundation began work on a supercomputer network called NSFNET. When the ARPANET was retired, the NSFNET backbone, together with other agency networks (e.g. NASA and Department of Energy nets) became the principal backbone nets for the Internet in the U.S.

Beginning in the late 80's, similar major internet initiatives were begun throughout the world in dozens of countries, and connections among all these networks were established and are continuously enlarged to meet the global needs for information resource connectivity. At the same time, PCs and Ethernet-based Local Area Networks began to proliferate. Companies and organizations of all kinds throughout the world began moving reorienting their information systems around these technologies, then linking physically separated systems together using the DARPA developed technologies.

In the early '90s, everyone discovered the value of seamless "flat" connectivity both for internal and for intraorganization information networking, and the result has fueled the Internet revolution.

??WHAT IS Internet's GROWTH PROFILE?

With a monthly growth rate of computer hosts averaging 10-15 percent, the Internet is by far the most rapidly, growing electronic network in the world. Traffic growth on major backbones has been exceeding 25 percent per month. The growth is without precedent in the field of communications and is invoking major engineering efforts to accommodate the anticipated size, complexity, and traffic.

????WHAT DOES Internet PROVIDE?

The primary applications include electronic mail, file transfer, remote log-in & news distribution. Experimental real-time video and audio broadcast applications have begun to appear, as has resource discovery and 'knowledge' services.

??WHO USES Internet?

More than 10 million people worldwide in more than 120 countries who have a need to access and use information or to collaborate rapidly with colleagues use Internet --in whole or in part. Major user groups include: researchers and educators in every professional discipline, government officials and agencies, and commercial enterprises. It has spawned entirely new disciplines like collaborative theory.

Internet started as an academic network, which was supported and been evolved by most of the world's best universities and institutes. It subsequently attracted commercial service providers, and today, most major electronic research, manufacturing, and operating companies are now active Internet users. It is increasingly being marketed and used for commercial purposes.

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The Washington Beat

by Kathy Rutkowski
kmr@cnri.reston.va.us

The Clinton/Gore Administration on February 22, 1993 announced a new policy iniative entitled, Technology for America's Economic Growth: A New Direction to Build Economic Strength. Vice President Gore was asked by President Clinton to take a leading role in implementing the iniative.

Specific initatives of concern to K-12 networkers include:

❶ Access to the Internet and developing NREN will be expanded to connect university compuses, community colleges, and K-12 schools to a high-speed communications newtrok providing a broad range of information resources. Support will be provided for equipment allowing local networks in these learning institutions access to the network along with support for the development of high-performanc esoftware capable of taking advantge of emerging hardware capabilities;

❷An interagnecy task force will be created from appropriate federal agencies to among other things collect information resources in a standaridized format and make them available to schools and teaching centers throughout the nation through

both conventional and advanced communication networks.

❸Programs in the Federal Coordinating Council for Science, Engineering, and Technology (FCCSET) Committee on Education and Human Resources will be enhanced. In K-12 schools, primary emphasis will be placed on teacher preparation, comprehensive orgainzation reform, and curriculum development.

Specific new programs include:

❶Implementation of the HCCP established by the High-Performance Computing Act of 1991 introduced by Vice President Gore when he served in the Senate.

❷Create a Task Force on Information Infrastructure.within the National Economic Council which will work with Congress and the private sector to promote an accelerated deployment of a national information infrastructure [$47 million proposed for FY93 for networking andcomputing applications at NIST/NIH/NASA/NSF.].

❸Provide funding for networking pilot projects through the National Telecommunications and Information Administration (NTIA) of the Department of Commerce. NTIA will provide matching grants to states, school districts, libraries, and other non-profit entities so that they can purchase the computers and networking connections needed for distance learning and for hooking into computer networks like the Internet. The pilot projects will demonstrate the benefits of networking to the educational and library communitieis [$64 million proposed for FY93].

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CoSN---The Consortium for School Networking

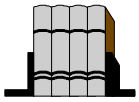
The Consortium for School Networking is a membership organization of institutions formed to further the development and use of computer network technology in K-12 education.

Members represent educational, institutional, and commercial organizations with an interest in advancing the state of the art in all aspects of electronic computer networking. CoSN provides an opportunity for groups involved in educational networking to benefit from the resources and experience of all members.

The Consortium offers an unparalleled opportunity to partcipate in the evolution of computer networking to serve the needs of the K-12 education community in the United States.

Persons not representing a professional or business member organization are also invited to join for an annual fee of US $35.

For further information, call:
CoSN at (202) 466-6296,
e-mail: cosn@bitnic.bitnet.



For the Shelf: Recommended Books
by Kathy Rutkowski

📖📖📖📖 **Zapp! in Education How Empowerment Can Improve the Quality of Instruction, and Student and Teacher Satisfaction** by William C. Byham(Ballantine Books, 199; ISBN 0-449-90796-1, 244pgs, US$10.00)

📖📖📖 **Internet:Mailing Lists 1993 Edition** Edited by Edward T.L. Hardie and Vivian Neou (PTR Prentice Hall, 1993; ISBN 0-13-327941-3; pages 356; US$26.00) A good reference guide

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NetTEACH NEWS provides a forum for the exchange of information about the digital networks and networking resources, applications to the general K-12 community , significant events, and major national and state policies having relevance to K-12 networking. It will hopefully become a platform to many varied personal and collective travels to new "networlds".for educators around the globe.

NetTEACH NEWS is published monthly. Send submissions and subscription queries to:

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