This guide is intended to introduce educators to computer conferencing, a new and often misunderstood communications medium. Written for a trainer/instructor to use with a group of classroom teachers, administrators, or other group of professional educators who are unfamiliar with computer conferencing as a teaching medium, the guide provides the trainer with the information necessary to give participants a clear view of this evolving communications and information technology. Generic information with specific, nongeneric examples allow the trainer to provide a complete course on the educational uses of computer conferencing. All the necessary background materials and references needed to make the trainer an expert are included, together with how-to activities that can be replicated by the trainer, thereby eliminating the necessity of redeveloping the workshop. Following an introduction and information on how to use the guide, the following sections are included: (1) What Is Computer Conferencing?; (2) Common Applications; (3) The Benefits of Computer Conferencing; (4) Current Educational Uses; (5) Electronic Courses; (6) What You Need to Hold a Computer Conference Online; and a (7) Quick Guide to Computer Conferencing. References and a brief directory of online services mentioned in the guide are included. (THC)
EDUCATOR'S GUIDE TO CONFERENCING:
USING COMPUTERS

by:

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1985

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# CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>1</td>
</tr>
<tr>
<td>I. Using This Guide</td>
<td>1</td>
</tr>
<tr>
<td>II. What Is Computer Conferencing?</td>
<td>4</td>
</tr>
<tr>
<td>III. Common Applications</td>
<td>8</td>
</tr>
<tr>
<td>IV. The Benefits of Computer Conferencing</td>
<td>12</td>
</tr>
<tr>
<td>V. Current Educational Uses</td>
<td>15</td>
</tr>
<tr>
<td>VI. Electronic Courses</td>
<td>17</td>
</tr>
<tr>
<td>VII. What You Need to Hold a Computer Conference Online</td>
<td>24</td>
</tr>
<tr>
<td>VIII. Quick Guide to Computer Conferencing</td>
<td>61</td>
</tr>
<tr>
<td>References</td>
<td>65</td>
</tr>
<tr>
<td>Appendix A. Services</td>
<td>66</td>
</tr>
</tbody>
</table>
INTRODUCTION

- What is computer conferencing?
- What role will it play in the future of the "Information Age?"
- What effect will it have on your future?

Computer expert and science fiction writer, Jerry Pournelle, offers the following answers:

- Computer-assisted communications have some similarities to telephone networks and more similarities to magazine and pamphlet publishing, but in truth they're a radical break with the past, something new and different and exciting. Except for science-fiction writers, few even suspect their implications.

- A few years ago, most of us had never heard of computer-mediated communications (CMC) but sooner or later just about everyone will become involved as much of the globe is knit together in one vast electronic village. CMC (as it's known in professional computer literature) is a splendid way to get new knowledge and organize what you already know. Properly used, it's an important tool in coping with the information society, but connecting to "electropolis" can become one of the main sources of information overload.

- Like it or not, there's a computer conference in your future. And like "computer literacy," skill in using computer conferencing tools will one day be a prerequisite for all but the most menial jobs.

Exactly what role computer conferencing will play in your future, even Pournelle can't predict. But there is no question that computer conferencing is evolving. This guide will introduce you to computer conferencing (as it exists today) focusing on educational applications. Now you can take part in computer-mediated communications and the evolution of the Information Age.
I. USING THIS GUIDE

Objective: To explain how to use this guide in a training situation. Upon completion of this material, the learner should be able use this guide to train trainers in the skills of computer conferencing.

Computer conferencing is new (to the general public) and is a misunderstood communications medium. Many people do not at first see the difference between computer conferencing and electronic mail. However, computer conferencing is much more than a mail service, and in a world of ever increasing information needs, it is more than just a cost-effective solution.

This guide is written for a trainer/instructor to use with a group of classroom teachers, administrators, or other group of professional educators who are unfamiliar with computer conferencing as a teaching medium. It will provide the trainer with the information necessary to give participants a clear view of an important, evolving communications and information technology. It provides generic information with specific, nongeneric examples that will allow the trainer to provide a complete course on the educational uses of computer conferencing.

It includes (1) all the necessary background materials and references needed to make you (with some additional practice) an expert; (2) it presents how-to activities in an order that can be replicated by the trainer, thereby eliminating the necessity of redeveloping the workshop (this information may be modified, however, to meet the needs of the trainer or situation).

The following workshop preparation is suggested:
1. Review this guide.
2. Review appropriate references as time permits.
3. Use computer conferencing systems to gain as much first hand experience as possible. (This will increase your comfort level in making the presentation and will allow you to personalize it.)

4. Try to set up a demonstration conference for the presentation that is relevant to the audience and that will allow some hands-on experience. Even if some participants only observe the conference, they will have shared in a first hand experience.

5. If possible, acquire the necessary facilities and online time to permit participants to develop and conduct a computer conference as a follow-up activity to the training.

6. Prepare all materials (handouts, transparencies) and check any equipment to make sure it works.

7. Make sure the meeting site has everything you will need (overhead projector, extension cords, electrical outlets, telephones, and telephone jacks).

8. Prepare an introduction and biographical sketches of any assistants you may be planning to use.

Using This Guide With the Educator's Guide to Networking: Using Computers

This guide provides more examples and less introductory material than the companion Educator's Guide to Networking: Using Computers. This difference does not impair this guide's ability to "stand alone," however, and it should prove an asset to those using it as a companion to the networking guide.

Suggested Beginning Activity

Use the evaluation form in Chapter VIII as the focus of an initial discussion. Ask participants how many conferences and seminars they are able to attend during a year. See how many they would like to attend. Are their information needs being met?

Suggested Follow-Up Activity

This training will be most effective if participants can reinforce what they have learned by actually taking part in a computer conference. If appropriate hardware, software, and network can be provided, holding a computer
conference is recommended. The following recommendations apply to any computer conference and will help to assure the success of an initial learning experience:

1. Develop an agenda for the conference with specific target dates, scheduled events, and topic. The more significant the topic is to the participants, the more successful the conference will be. (Developing the agenda is an excellent activity for the training.)

2. Elect a good moderator or systems operator (SYSOP) to organize the conference and manage its records. An enthusiastic conference moderator is necessary for a successful conference.

3. Turn over power and authority to individuals who get excited about the activity. (They can be put in charge of subconferences.)

4. Make sure everyone has had enough hands-on training with the system, hardware, and software to be used.

5. Use the training as an initial face-to-face meeting. See that participants get to know one another and understand the significance and usefulness of the chosen topic.

6. Remember that this technology is self-selecting and it is up to the trainer to help individuals become comfortable with it. If people are not ready to accept it, they won't.

NOTE: The use of specific examples from specific systems should not be construed as recommendations of those systems. Space and time do not allow for equal representation of all computer-conferencing systems.
II. WHAT IS COMPUTER CONFERENCING?

Objective: To provide workshop participants with an understanding of the similarities and differences that exist between traditional conferencing and computer conferencing.

Conferences are a way to acquire state-of-the-art information, keep up with what's going on in your field, learn about the latest advances in technology, share information, learn new skills, meet experts, and make contacts with others in your field.

Imagine a typical conference - taking place at a big hotel. When you arrive you are asked to register and are given a packet of materials, including an agenda. You browse through it, determine which of the concurrent sessions you wish to attend, and note the room designations for those presentations you will attend. You grab a cup of coffee from the refreshment table and head toward your first session. You hope the presentation will be interesting, but you have to wait and see. If it's good you'll stay, if not . . .

In many ways a computer conference is similar. You use your keyboard to register, to browse, to move around, and to interact. In fact, the computer conference has been compared to a cocktail party where you can circulate from group to group until you find a cluster of individuals talking about something of personal interest (Oppen, 1983). However, instead of navigating to and around a party or a hotel, all the activity takes place in the box, your computer. The computer conference is a unique mode of communication. Let's look at some of its features.

There are similarities and differences between computer and traditional conferences. First, the similarities:
There are often concurrent sessions addressing many different topics or aspects of the same topic.

2. There may be presenters whose sessions start at specific times.

3. The agendas for a computer conference may resemble those of their more traditional in-person cousins.

4. Both are usually interactive.

5. They can be combined to enhance each other.

6. Sessions can be "private" and restrict participants.

Second, the differences:

1. Computer conferences don't require that everyone participate at the same time.

2. Computer conferences can provide a written record, or "hard copy," of all communications.

3. People can participate at any time of the day or night.

4. Individuals may participate from home or office.

5. Communications, messages, and information can be kept available "on-line," providing a complete and accurate record of all activity.

The diagram shown on page 7 shows how a computer conference has many of the same "rooms" and type of activities, and provides much of the same kind of information as a regular conference. When you enter a computer conference you select an activity in which you can participate by reading, writing, or editing materials. Conferences can be public, private, or some combination. For example, you may be able to read some but not all entries in a conference or you may be able to read all the entries in a conference, write questions or messages, but not edit existing materials. What sort of activities might actually be taking place in those little boxes in the diagram? What might a "trip" to the computer conference actually entail? You might attend a seminar where a noted expert on school productivity answers questions as they are asked, leave...
to participate in a planning meeting, go on to read entries in an ongoing confer-
ence on school reform, download a document to print out and use in an upcom-
ing class, and finally, just before logging off, answer questions on a survey
being utilized for lobbying purposes. And, of course, you might read and re-
spond to any messages that have been posted specifically to you.
A COMPUTER CONFERENCE

ENTER & EXIT CONFERENCE

Private Subconference
1. Select activity
2. Write activity
3. Review messages
4. Edit messages
5. Quit

Document Work Space
1. Select activity
2. Write activity
3. Review messages
4. Edit messages
5. Quit

Main Conference Menu
1. Select activity
2. Write message
3. Review messages
4. Edit messages
5. Quit

Survey Work Space
1. Select activity
2. Write activity
3. Review messages
4. Edit messages
5. Quit

Bulletin Board
1. Select activity
2. Write activity
3. Review messages
4. Edit messages
5. Quit

Public Subconference
1. Select activity
2. Write activity
3. Review messages
4. Edit messages
5. Quit

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III. COMMON APPLICATIONS

Objective: To provide workshop participants with a knowledge of the uses of computer conferencing.

Seminars

Computer conferencing is used to provide courses, in-service education, and other seminars to individuals around the corner and around the world. Such seminars are becoming common in large corporations. An Electronic Information Exchange System (EIES) brochure notes, "Most professionals in the field know more than they think they do. The opportunity for spirited interaction between seminar participants and faculty leaders transcends the conventional classroom. The exchange of information, action, experiences and nuances of interpretation is now possible."

These aspects of computer conferencing have led to the "electure," or electronic lecture. It is now common for experts in various fields to "go online" at a predetermined time to address some area of their expertise. Comments from the audience are responded to and issues debated. These electures can be a one-time or ongoing thing.

Regular seminars by university scientists and industry experts are held on CompuServe's Science Education Forum. These seminars allow students of all ages to interact with experts in a way otherwise not possible.

Workshops

Writing and programming workshops have been held online where members of the "conference" all contribute to a final product. When a very accurate record of all activities is required, computer conferencing provides it. Some conferencing systems, like Notepad, provide automatically timed, dated, and identified-by-contributor transactions that are immediately retrievable.
Staff Meetings

When a project's staff is dispersed around the globe and discussions of highly technical material need to be take place, computer conferencing is the communication vehicle of choice. It eliminates distance and time-zone barriers. Notepad has been used to conduct "online journal refereeing," thus leading to faster and more interactive publication decisions. National Aeronautics and Space Administration (NASA), nuclear power companies, and oil companies have all used computer conferencing to conduct worldwide staff meetings.

Conferencing

Computer conferences may have many concurrent "sessions" arranged by topic or purpose, just like a traditional face-to-face conference. A good example would be the Special Interest Groups (SIGs) on CompuServe. Each group may establish a forum that in turn can create several subconferences. A computer forum might have several subconferences for people with a special interest in a specific brand of computers (e.g., Apple, IBM, or Kaypro) or in a specific software package (e.g., Wordstar, Lotus 1-2-3, or Symphony), or it might divide by purpose (e.g., project management, organization planning, or problem solving).

Standard Classroom Activities

Students can collaborate on class themes or correct each other's math homework. The computer allows students, teachers, and other educators to unite over time and distance.

Information Exchanges

Technical information can be stored online and used by people with conflicting viewpoints to bring about solutions to ongoing problems. A continuing dialogue between experts, problem solvers, and field personnel can

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be maintained around the city or around the globe. For example, Toledo Edison uses computer conferencing to share information with 60 other utilities in the United States. This network also has international connections that have allowed Toledo Edison to share information with a French nuclear power company on "procedures for integrated leak tests on the containment building."

Evaluation/Research

The ability to conduct and analyze surveys online and to network independent research groups allows geographically dispersed groups to conduct and maintain otherwise impossible research activities. The Texas Association of School Boards (TASB) has been able to use The Electric Pages to survey its districts and provide information for reports to the legislature.

Public Service Meetings

Statewide mandates from legislatures may stimulate community efforts across the state, and the problems that arise in one locale are likely to arise in another. Computer conferencing has been used successfully to solve problems involved in the implementation of H.B. 72 in Texas. This education reform bill forced school districts to develop specific plans regarding discipline. Conferencing schools and districts found they could learn much from each other. Computer conferences are also used to rapidly survey the membership of geographically dispersed groups for lobbying purposes or to formulate other action.

Electronic Mail

At first computer conferencing may seem like little more than an electronic messaging system. Computer conferencing and electronic mail have evolved together and are aspects of the same thing. (Electronic mail is covered in Educator's Guide to Networking: Using Computers.)
Interorganization Arrangements/Collaborations

Computer conferencing provides an unequaled method of connecting organizations with different purposes and locations. Ongoing computer conferences have been used to provide continuing management control, project management, crisis planning, and decision-making support structures for linking organizations.
Objective: To provide the participant with a thorough understanding of the benefits computer conferencing has over other modes of communication.

There are many advantages to computer conferencing, and the potential future benefits are staggering. Computer conferencing could lead to global networks, networks that Bugliarello (1984) feels will lead to "the possibility of expanding our biological intelligence to form a hyperintelligence - an intelligence operating on a global scale and representing a major evolutionary step for our society and our species" (P. 6). Computer conferencing is seen as a fundamentally new and powerful form of communication and linkage, one that will change the organization of work, education, leisure, and other social interactions. All that's in the future, however. I'm still waiting for the videophone my fourth-grade teacher promised almost thirty years ago. Computer conferencing is here now, however, and it has already brought with it some major advantages over other types of communication and conferencing:

Some of the down-to-earth advantages are:

**Allows you to Catch Up:** You can join a computer conference at any time and, in a very short time, immediately catch up on everything that's happened. Most important, this is accomplished without disrupting anyone or anything. You simply request the stored messages and interactions, then read, save to disk, or print the resulting transmission.

**Saves Time:** You don't go to the computer conference - it comes to you. It doesn't know how you're dressed or undressed, so you don't have to plan your wardrobe or take your suit to the cleaners.

**Speeds Communication:** If you have ever been bothered while playing telephone tag or by having to wait for someone, computer conferencing will be a pleasant surprise.
Increases Productivity: Computer conferences allow individuals to instantly create hard copies of online activities. Computer conferences also usually have online databases of materials relevant to the conference. This provides a participant with instant access to potentially vast amounts of organized materials.

Eliminates Travel: Computer conferences can bring the worldwide expertise of a major oil company together online and provide field personnel in Alaska or Africa with necessary guidance, all without involving a single mile of travel. They can also provide necessary training for urban teachers without a single teacher having to face traffic.

Saves Money: It is axiomatic that if computer conferencing can provide all of the above benefits, it must also save money. Even though long-distance charges and system surcharges can be expensive, airfare, the cost of hotels, food, rental cars, conference rooms, and other related costs are much higher.

Eliminates Scheduling and Time Zone Problems: Since in most cases "real-time" conferencing is not necessary, conference participants can log on to the system whenever they like and catch up on everything that is going on. Real-time conferencing can take place from anywhere, so if you have to meet with someone from another time zone at 3:00 a.m. at least you can do it from your own home.

Allows Asynchronous Communications: Because participants participate when they want or need to and because costs of conferencing are considerably less than those of traditional conferences, it is possible to have a conference that lasts for the duration of the interest of the conference members. This may be especially useful for interorganizational arrangements during project collaborations. For example, colleges of education, state education agencies, and school districts could collaborate on preparing teachers to meet new state mandates and provide experts online from the various relevant agencies throughout the mobilization and implementation of the necessary changes.

Provides Hardcopy Documentation: Messages, agendas, communications of all kinds, and even databases usually remain in a conference "area" until they are removed by the authorized conference coordinator, or sysop. The conference material can be accessed by all authorized members and read, printed, or "downloaded" to disk for later use. Material is usually dated, timed, and identified by author as it is entered on the system. This feature is especially significant for decisionmaking activities.

Provides Flexibility: Computer conferences combine the best features of a conference call with the best features of electronic mail and networks that provide members with all the advantages listed above.

It's Topic Driven: Large conferences are often topic - not person - driven. This means that you can use the telephone in conjunction with your computer to contact a conference full of people who are concerning themselves with a specific topic, instead of using the phone in the
traditional manner to call individually on persons who may or may not be available or interested. Most large national and international computer information utilities have numerous ongoing conferences on everything from cooking to lasers. Now, instead of meeting with the local tropical fish society once a month, you may meet online with fish enthusiasts every night, if you so desire.
V. CURRENT EDUCATIONAL USES

Objective: To provide the workshop participant with an overview of current classroom uses.

Teacher and Administrator Inservice Training

If you have the benefit of receiving "hands-on training" with this workshop, you are experiencing firsthand a good example of a computer conference used to provide inservice training.

Participate (a specific conferencing system licensed by The Source, a specific network) has a "practice conference" that functions as a self-teaching computer conference simulation. It has been used by teachers and administrators to learn computer conferencing on The Source. Connect*Ed, a cooperative electronic information network for education in Arkansas, has been used to provide district educators with both information and training. West Virginia also has a network that uses computer conferencing for teacher training.

Informal Education

Probably the most common educational use of computer conferencing is through informal special interest groups (SIGs). SIGs abound on The Source, CompuServe, and other private and public bulletin board systems. Most of these information systems have a menu structure that makes finding specific conferences or forums easy. For example the following menu lists the education forums on CompuServe:

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15
EDUCATION FORUMS

1. ADIC Forum
2. EPIE Forum
3. Educational Research Forum
4. ICCE Forum
5. Science/Math Education Forum
6. Telecure Forum
7. Education Forum
8. Tele Forum
9. LOGO Forum

English/Writing/Communications/Classes

Dr. Margaret Riel, at the University of California, San Diego, is developing activities designed to "break down the walls of the traditional classroom." The Intercultural Network has linked students from Alaska, Japan, Israel, Mexico, and the continental United States.

Dr. Riel has students from all over the world develop a newspaper called the Computer Chronicles. This disk-based newspaper is contributed to and edited by the students, who gain a "global perspective" from the experience. Riel points out that Alaskan children tend to make different types of errors while learning English than do children from Mexico. These children enjoy editing each other's work and are proud of the final results.

Dr. Riel's work is based on the idea that children should learn by creating a real-world product instead of learning how others created or participated in creating real-world products. For further information, contact

Dr. Margaret Riel
Intercultural Network
Teacher Education Program, D002
University of California, San Diego
La Jolla, California 92093
(619) 452-2957
ELECTRONIC COURSES

Objective: To provide the workshop participant with some idea of the types of courses that have been offered online.

The variety, quantity, and quality of educational opportunities offered online are constantly increasing. It is even possible to get a degree online. One of the first universities to offer a degree program online was the New York Institute of Technology (NYIT). Ward Deutschman, dean of NYIT's Center for Adult and Professional Education, credits computer conferencing capabilities for "using the personal computer as an online educational tool." If you have already become familiar with a computer, modem, and communications software package you may log on to the system by dialing up your local Telenet number. At the "@" prompt, type C 51630, then type COLLEGE for user name. You will then be on the Participate conferencing system. (Don't be concerned if you don't understand all the terms, numbers, and symbols that flash across the screen when you log on to a system. Some of the information is simply provided by the programmers for their use in debugging the program. The only time this information is needed is when you call a system operator to explain a problem. The operator will want to know exactly what was on the screen when the problem occurred.)

The whole thing should look something like this:

```
TELENET
512 16C

TERMINAL=01

@C 51630
```
Welcome to N.Y.I.T. Node OFFICE:
User Name: COLLEGE
ast interactive login on Sunday, 1-SEP-1985 13:55

COLLEGE COURSES AND DEGREES USING YOUR MICRO OR TERMINAL IN AN ACCREDITED INDEPENDENT STUDY PROGRAM, ARE OFFERED BY THE AMERICAN OPEN UNIVERSITY DIVISION OF NEW YORK INSTITUTE OF TECHNOLOGY.

Thank you for dialing into our system. PARTICIPATE is a computer teleconferencing system used for corporate and educational communications. It is also used by American Open University of New York Institute of Technology (AOU/NYIT) as a means of providing communication and interaction between students, professors, advisors, counselors, and administrators in the AOU/NYIT INDEPENDENT STUDY PROGRAM.

--CONTINUE?: Y (Note: You provide the Y [or yes] and hit the "return" or "enter" key to continue)

The AOU/NYIT INDEPENDENT STUDY program offers programs and courses leading to Bachelor of Science degrees in Business Administration, Behavioral Sciences, and General Studies.

PARTICIPATE is a trademark of Participation Systems, Inc.

NEW YORK INSTITUTE OF TECHNOLOGY is an independent institution of higher learning. A multi-campus college located in the New York metropolitan area, NYIT offers numerous and varied graduate and undergraduate degree majors, as well as a medical school.

--CONTINUE?: Y

A large number of non-credit and credit special programs are offered on campus and at corporate sites.

Using PARTICIPATE, the American Open University division of NYIT is offering independent study programs leading to Bachelor of Science degrees in Business Administration, Behavioral Sciences, and General Studies, to qualified candidates who enroll and who have available access to a microcomputer or other terminal, for communication with professors, advisors, and other students, and administrators of the College.

--CONTINUE?: Y
The program is designed to help people who normally would not find a traditional college program available or convenient - people whose jobs do not allow them to remain in one place long enough to complete a degree; people for whom transportation costs and time away from their families make college requirements undesirable or unavailable; handicapped and homebound individuals; people who work on jobs with changing shifts; people who live or work far from a school offering a program they need; military personnel who cannot get to a local college; and many others.

---CONTINUE?: Y

For military personnel, NYIT is a participant in the Servicemembers' Opportunity College (SOC) program and a full subscriber to the SOC principles.

HOW IT WORKS:

NYIT is an open-access, fully accredited college. To enroll, you must file an application and send your high school, other college, and military or corporate training transcripts to the AOI Information Office, Greenvale Admin. Center, NYIT, Old Westbury, New York, 11568. Upon acceptance to the college, an online (telephone or PARTICIPATE) meeting with an adviser leads to a joint decision between you and your advisor concerning the degree most appropriate for you, possible advanced standing based on previous college courses and other training you may have had, and the courses most needed to get you started toward your bachelor's degree.

Three degrees are offered: Bachelor of Science degrees in Business Administration, Behavioral Science, and General Studies. The General Studies degree is designed to provide you with maximum flexibility in the award of credit for previous college and other education. Credit for prior learning (Life Experience) based on an analysis of your background is also available if appropriate.

---CONTINUE?: Y

After admission and selection of courses for your first term you will receive texts, and a Course Learning Package (CLP) for each course in which you enroll. These materials will guide you through the program.

You will also be logged into specific courses on PARTICIPATE, moderated by your instructor. It is through the use of PARTICIPATE that you will be able to interact with your instructor and other students - at a time and schedule suitable to you.

---CONTINUE?: Y
PARTICIPATE makes possible asynchronous communications between students and between students and professors, through computer-based interaction - so that you will be able to log onto the system at a convenience to your own personal schedule. Since the PARTICIPATE system is tied in through Telenet, you will be able to dial into the system with a local or limited-distance call from most places in the U.S. In this way, by using materials provided and the PARTICIPATE computer teleconferencing system, it is possible to complete an entire college degree from your home or office without leaving your family or driving each way to and from classes.

--CONTINUE?: Y

Students who have used the system find that not only is computer teleconferencing not cold and impersonal, they have found it to be an extraordinary tool for learning, and an important source of communication with faculty and other students. Students support each other in their efforts to develop understanding in college courses, and communicate directly with professors, advisers, and administrators, without waiting for appointments, and climbing over other artificial barriers.

--CONTINUE?: Y

If you have been interested in pursuing a college degree, have a micro or terminal with a modem, and can't or don't want to attend a campus, we will be glad to send more information to you.

Would you like to leave your name and address with us so we can send you more information on ADU/NYIT?

(Please type 'YES' or 'NO') YES (*YES* was typed to get more information)

Please type in the following information.

Name: (You would type your name/ Address/phone no. here to receive info.)

Street:

City & State:

Zip Code:

Phone Number:

Thank you for checking with us.

Dr. W. Deutschman, Dean
Department INDI
Center for Adult and Professional Education
New York Institute of Technology
Old Westbury, NY 11568
For further information contact:

Dr. W. Deutschman, Dean
Center for Adult and Professional Education
New York Institute of Technology
Old Westbury, NY 11568
(516) 686-7612

Telelearning Systems of San Francisco offers the Electronic University. This is not a fancy title for a fly-by-night correspondence school; more than 200 colleges and universities participate in the Electronic University. Telelearning does not develop the courses or offer credit from them; this is done by the college or university that provides the course to Telelearning. All relevant courses meet or exceed the College Level Examination Program (CLEP) standards. For further information, contact:

Telelearning Systems
San Francisco, California
(800) 225-3276
(800) 455-3276 (inside CA)

Computer conferencing is at the center of a program designed not to take students away from their work or home environment. The Western Behavioral Sciences Institute offers an online degree program in business management that enrolls executives from major corporations and universities. This program is both highly rated and expensive. Participants use computer conferencing to interact with each other. For further information, contact:

Western Behavioral Sciences Institute
1150 Silverado Street
PO Box 2029
La Jolla, California 92038
(619) 459-3811
The National Education Corporation (NEC) will be offering courses online that will use advanced videotex technology provided by AT&T (Meeks, 1985, p. 17). NEC offers many two-year associate degree programs that are accredited in California. Courses are transferable to some other institutions; however, this should be checked out ahead of time. For further information, contact:

National Education Corporation  
Newport Beach, California 92660  
(714) 955-9400

The Control Data Corporation's computer-based education system, Plato, originally developed at the University of Illinois, is now offering courses online for anyone with a microcomputer and a modem. These courses run from the basic to the esoteric, from astronomy to basic English. For further information, contact:

Plato's Homelink Network  
Control Data Corporation  
P.O. Box 1305  
McLean, Virginia 22102  
(800) 328-7104

The New Jersey Institute of Technology (NJIT) uses a computer-conferencing system designed by Murray Turoff to offer a number of continuing education courses. The Electronic Information Exchange System (EIES) has been used by research, academic, nonprofit, professional, trade, government, and community groups. Through the Division of Continuing Education, the New Jersey Institute of Technology offers more than 150 programs a year. Seminar and course participants benefit from "electronic mail and messaging, participation in many of the existing EIES conferences with close to 1,500 participants world-wide; maintenance of electronic notebooks; and utilization of the system's document and word processing capabilities."
The following is a partial list of some of the courses offered by the WJIT EIES:

* Human Communication via Computer
* Computer Literacy
* Survey Research Methods
* Energy Options and Decision Making
* Fundamentals of Cybernetics
* Business and Professional Ethics
* Interactive Video Disc Production
* Professional Women and the Workplace
* Technical Writing for the Professional
* Local Area Networks
* Personal Development Program

For further information, contact:

New Jersey Institute of Technology
323 High Street
Newark, New Jersey 07102
(201) 645-5503
VII. WHAT YOU NEED TO HOLD A COMPUTER CONFERENCE ON LINE

Objective: To provide the workshop participant with basic how-to information.

Once you have your computer, communications software, and modem set up and connected to a telephone line you will need to know the following:

How to Log On to a System and use the Menus

Logging on will vary, depending on the computer, the modem, the communications software, the network or conferencing system you are using, and whether you need to utilize a packet switching network. Packet switching networks, such as Dialnet, Uninet, Tymnet, and Telenet are all shared communication networks that permit a user to dial a local telephone number and connect with any of a variety of national subscribers without paying long-distance telephone rates. Line charges are bundled in the subscriber's charges to their users. There are, however, some similarities between the various networks, and the amount of information you need to know is decreasing as computers, software, modems, and networks become easier to use -- more "user friendly."

The following is an example of what you see as soon as a connection with The Source is made via the Telenet system. For this example, all I had to do was put a disk with MITE, a communications program, in my computer, and wait for it to "autoboot," and then hit the "B" key to select option "B-Source via Telenet."

Again, remember that most systems will present you with extraneous information. It is unlikely that more than a few of the thousands of people who have logged on The Source know what 301 28 stand for, or even care.
(Dial local Telenet number)
TELENET
512 16C
TERMINAL D1
8C 30028
301 2B CONNECTED
Connected to THE SOURCE
> id RD0260
Password? FOSTEX

(Note: This password is not real; keep your password secret)

RD0260 (user 22) logged in Monday, 19 Aug 85 21:31:44.
Welcome, You are connected to THE SOURCE.
Last log in Thursday, 15 Aug 85 15:29:56.

Copyright © 1985 Source Telecomputing Corporation. All Rights Reserved.

Now at 1200 baud, an extra value service.

Many communication software packages will enable your computer to automatically provide all the necessary information, including host ID, user number, and password. If your software does not provide this feature, you will need to enter the information when the system prompts you for it.

Usually after you log on, a main menu or a message telling you the command for a main menu appears on the screen. Depending on the system you use, there are two ways to join a specific computer conference. You can either follow a menu trail or use a "fast command." If you are not sure how to join a conference, or if there is no fast command, you will want to use the menu structure or "tree" to get where you want. The following example is from The Source.
WELCOME TO THE SOURCE

1. Tutorial and Introduction <INTRO> **FREE**
2. Menu of Services <MENU>
3. Member Information <INFO> **FREE**
4. Today From The Source <TODAY>

<QUIT to go to Command level->
Enter item number of Help: 2

NOTE: You must type in a number from one menu to move to the next. Thus "2" brings up the menu of services.

MENU OF SERVICES <MENU>

1. Today From the Source <TODAY>
3. Business and Investing <BUSINESS>
4. Communication Services <COMM>
5. Personal Computing <PC>
6. Travel Services <TRAVEL>
7. Shopping, Games, and Leisure <HOME>
8. Member Information <INFO> **FREE**

Enter item number, <Help or <QUIT>: 4

COMMUNICATION SERVICES <COMM>

1. Source Mail
2. Bulletin Boards
3. Chatting Online
4. Computer Conferencing <PARTI>
5. Member Directory <MEMBERS>
6. Members Currently Online <ONLINE>
7. E-Com and Mailgram Messages
8. Member Publishing <PUBLIC>
9. How to Upload Files to The Source

Enter item number, <Help or <QUIT>: 4

[PARTI version 3.4]

PARTICIPATE ON THE SOURCE

1. Overview
2. Instructions
3. List principal Conferences
4. Begin to PARTICIPATE

Choose one (or QUIT): 4

BEST COPY AVAILABLE
Were you able to follow what I just did? I followed The Source's menu structure until I was in the conference area. Once we are in a conference area, we have many options. They vary from system to system, but to find out what they are, just look at the menu. We will look at some actual conferences a little farther on. PARTI option #3 would have told us there were 90 different conferences or notes active on the system. We would see:

"PARTICIPATE" and "PARTI" are trademarks of Participation Systems Inc.
90 waiting notes.
Read, Scan, Other?

Creating an Online Conference

Creating an online conference varies from one system to another, but the basic principles remain the same. CompuServe's CB Simulator provides an easy-to-grasp example. You log on to the simulator, much like you would go on the air with a CB radio. As with CB, there are channels that are designated for specific purposes and there are channels that are free to use as you like. If you want to hold a conference on "Writing to Read" you would simply post a message on one of the general channels saying that you were discussing IBM's reading curriculum on an otherwise unused channel. Most conferencing systems allow either public or private conferences. With CompuServe you can create a private conference on a public channel simply by scrambling your message with the command "/SCR code." Other members of the conference preface their remarks with the same "code."
Many computer information utilities have special interest groups (SIGs) or forums. These are areas of the utility where people with common interests meet and discuss relevant topics. These groups are usually run by someone called a sysop. Often the sysop will set up a conference for anyone who asks, as long as the topic is relevant to members of the group. A good example of this is the Science Education Forum on CompuServe.

The following message resides within the Science Education Forum on CompuServe for science teachers to read, and if need be, act upon.

+-------------------------------------+ +-------------------------------------+
| RESERVATIONS: | Science Teachers are reminded that you can reserve this area for classroom conferences with a scientist. |
| RESERVATIONS: | We have an extensive list of members and organizations willing to go ON-LINE WITH "OUR CLASS FOR ELECTRONIC "discussions." Make your reservations for the upcoming school year with the sysop. |
+-------------------------------------+ +-------------------------------------+

Again, the process for creating an online conference varies from one information utility to another. The following example is a transcript of my logging onto The Electric Pages and starting or "opening" a conference. One idiosyncratic aspect of The Electric Pages involves using the help, or "H," command every time you want a menu. After you provide the system with your user ID and password, it always greets you with a randomly selected advertisement and information on whether you have any electronic mail.

The Electric Pages receives some revenue from advertisements, just like a print magazine. It is not uncommon for information utilities to send messages and advertisements to your computer as soon as you log on.
ENTER YOUR USER ID AND PASSWORD FOR PRIVATE NETWORK SERVICES
ENTER 'FREE' TO USE PUBLIC ACCESS SERVICES
ENTER 'EAT' FOR THE TEXAS RESTAURANT GUIDE

ENTER USER ID:

ENTER PASSWORD:

* Daily News
* Daily Stock Ideas
* Weekly Stock Picks
* Weekly Analyst's Commentary

AND - The Ability to Query the Broker - Hilton Sherrod

Type DWR

Press RETURN to continue:
THERE ARE NO MESSAGES IN YOUR MAILBOX

Have a Safe and Happy Holiday
From all of us at THE PAGES

THE ELECTRIC PAGES - 1-800-252-3617
The Next Time you Sign On and SAVE

For ELECTRIC PAGES Main Menu, Type H

THE ELECTRIC PAGES: MAIN MENU

ENTER COMMAND: comm (*comm is TEP's command to enter the communications area)

THE ELECTRIC PAGES: COMMUNICATIONS

ENTER COMMAND:H

THE ELECTRIC PAGES COMM HELP FILE

<table>
<thead>
<tr>
<th>COMMANDS</th>
<th>USAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDITOR</td>
<td>Text Editor</td>
</tr>
<tr>
<td>MAIL</td>
<td>Electronic Mail</td>
</tr>
<tr>
<td>CONF</td>
<td>The CONFERENCE monitor</td>
</tr>
<tr>
<td>UP</td>
<td>File Upload</td>
</tr>
<tr>
<td>LDIR</td>
<td>Personal Interest Profiles</td>
</tr>
<tr>
<td>TIME</td>
<td>Time/Date</td>
</tr>
<tr>
<td>LFIL</td>
<td>Display a Stored File</td>
</tr>
</tbody>
</table>

BEST COPY AVAILABLE
Have you been able to follow what happened? Once I logged on I was informed that I could use the command "FREE" to gain access to certain areas or files or databases. Since I would not be using a password or ID, it is obvious that there was no cost for using these files. However, if I wanted access to all the subscription services, I had to enter my identification number and password. I then received several messages while the system checked my mail; I had none.

I then called up the communications menu (using "H" for help) and requested the conference section of the network.

**THE ELECTRIC PAGES: ELECTRONIC CONFERENCE**

ENTER CONFERENCE COMMAND: H

THE ELECTRIC PAGES CONFERENCE CENTER

<table>
<thead>
<tr>
<th>COMMANDS</th>
<th>USAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPEN</td>
<td>START A CONFERENCE</td>
</tr>
<tr>
<td>CLOSE</td>
<td>END A CONFERENCE</td>
</tr>
<tr>
<td>LIST</td>
<td>LIST CONFERENCES</td>
</tr>
<tr>
<td>JOIN</td>
<td>JOIN A CONFERENCE</td>
</tr>
<tr>
<td>LDIR</td>
<td>See File Directory</td>
</tr>
<tr>
<td>LFILE</td>
<td>See single File</td>
</tr>
<tr>
<td>TIME</td>
<td>Time/Date</td>
</tr>
<tr>
<td>HELP</td>
<td>Display HELP FILE</td>
</tr>
<tr>
<td>QUIT</td>
<td>RETURN TO MAIN MENU</td>
</tr>
<tr>
<td>OFF</td>
<td>RETURN TO MAIN MENU</td>
</tr>
</tbody>
</table>

at any time in CONF
Using the "H" command again I have requested the conference menu and will now ask to start or "OPEN" my own conference.

```
ENTER CONFERENCE COMMAND: OPEN
ENTER CONFERENCE NAME: TESTCONF
WILL THIS BE A PRIVATE CONFERENCE?: YES
IS THIS A PRIVATE GROUP CONFERENCE?: YES
IS THIS A PASSWORD ADMISSION CONFERENCE?: YES
ENTER 6 CHARACTER PASSWORD; PRESS RETURN FOR NO PASSWORD: FOSTER
ENTER BRIEF DESCRIPTION: TEST CONFERENCING CAPABILITIES
HOW MANY PROCEEDINGS WILL BE MAINTAINED?: 15
ENTER PASSWORD: FOSTER
YOU ARE NOW IN CONF: TESTCONF

<INFO 201> BULLETIN BOARD DOES NOT EXIST
<INFO 199> BULLETIN BOARD
<ERROR 202> FILE DOES NOT EXIST
```

We opened a conference and then provided the system with the information it requested. It used this information to set up a conference file. We then entered the conference by using the password we just created. Once we entered the conference the conferencing software then began to look for certain files. Since we haven't entered anything into the conference we received several error messages. This provides an example of the type of "computerese" that one does not concern themselves with: <INFO 201>; <INFO 199>; <ERROR 202>.
We then called up the CONFERENCE CENTER menu by using the help "h" command. This menu provides you with a good idea of the type of activities you can do in a conference on this system.

We will now exit the conference, the communications area, and the network.

Note the last two lines of "garbage." It is very common to see a lot of garbage when you log on or log off a system. This simply means your computer...
is receiving signals it doesn't understand. If this type of garbage is all you are able to receive, your software "protocol" is incorrect. It's usually a simple matter of changing a setting or two. Consult your communications or modem manual for how to make the settings. Consult the network for their setting requirements.

SIGs and Forums

Special interest groups are a common form of computer conference. Several permanent SIGs or forums exist for educational purposes on most major information utilities. The following is an example of logging onto CompuServe's Science Education Forum. I shall also request information about the mail system while I'm on the system. All conferencing systems have some form of electronic mail. Checking your mail is usually the first thing you do when you log on to a network or into a conference.

OBAUS

Host Name: CIS

User ID: 76555,530
Password: (The Password is typed but does not show on computer screen)

Job 34 of CompuServe Information Service at 00:14 CDT 26-Aug-85 on TOBASUS
CompuServe Information Service

00:14 CDT Monday 26-Aug-85

You have Electron Mail waiting.

What's New This Week NEW-1

1 Labor Day Rates and Hours
2 Connect to Educational Trips
3 Micro Moonlighter Copy Offered
4 What's New - Previous Weeks
5 Form Conference Schedules
6 CompuServe Community News
Online Today Magazine

Enter choice! go easy

EasyPlex

Welcome to EasyPlex, the new electronic mail system. Features of EasyPlex include:
- An Address Book to enter the names and User ID's of the people you communicate with
- REPLY and FORWARD capabilities
- UPLOAD and DOWNLOAD support
- Switchable modes for using EasyPlex; either menu, prompt or command mode
- Switchable modes for editing.

Do you wish additional information (YES or NO)? yes

(Note - I asked for the additional information that follows.)

EasyPlex

Introduction

EasyPlex, formerly known as Email, borrows several exciting features from CompuServe's industry-leading electronic mail service for business, InfoPlex. At the heart of both names is the term "plex," which means network. "Easy," as you will soon discover accurately describes the user-friendly features of CompuServe's "new" electronic mail service.

For quick access to EasyPlex, type: GO EASY OR GO EASYPLEX

Features of EasyPlex include:

ADDRESS BOOK
- Keeps track of the names and User ID's of the people you communicate with regularly. Then, when you send the message you only have to specify the name of the recipient since the User ID is already stored in the Address Book.
- You can enter your own name in the Address Book so you will not be prompted for the "From:" information when you send a message.
- You can embed the "To:," "Fr:," and "Subject:" information in your message and then, when you send a message, you will not be prompted for that information.
READING MAIL

- A menu is presented of all pending messages sent to you. It displays the message number, who sent the message and the subject of the message. You may select a range of message numbers to be read (1-5) or a list of message numbers (5,7,10), or both. Or, you may read all messages by selecting choice 0.
- After reading messages, you must choose the ACTION to be taken. Either DELETE the message, FILE it in your Personal File Area, or FORWARD the message to another subscriber. You may also REREAD the message, REPLY to the original sender, or SAVE the message in your mailbox.
- If you wish to be notified of any pending EasyPlex messages when you enter the CompuServe Information Service, you must first set the appropriate LOGON ACTION. To do this, type: GO DEFAULT.

SENDING MAIL

To send mail to another subscriber, you must first KNOW THEIR User ID. The three methods for creating a message are:
- COMPOSE a new message. You'll be prompted for the text to be entered.
- USE a file that contains a message you previously composed and stored in your Personal File Area.
- UPLOAD a file containing a message that you composed on your microcomputer.

Whatever method you choose, you will be given the option to edit the message. Then, when you choose the SEND option:

- You will be prompted for "Send to:" information and you may supply the User ID or just the name if you have that information stored in your Address Book.
- You must also specify the "From:" information (unless you stored your own name in the Address Book).
- You must also specify the "Subject:" of your message.

The message will not be sent unless all of this information is supplied. However, your message will remain in the work area if you wish to further edit it and then send it.

SET OPTIONS

Set the options for viewing the EasyPlex service. You will be prompted whether the options you choose should be set permanently or for the current session only. The options are:
- Three choices for using EasyPlex. MENU mode for the novice user, PROMPT mode for the intermediate user, and COMMAND mode for the expert user. Menu mode is the standard mode.
Switchable modes for editing and composing messages. The standard is line-numbered editing and composing messages; however, you can switch to non-line numbered editing (FILG).

A paging or scrolling option when reading messages. Messages can be paged, according to the type of equipment you are using. This is the standard mode. If you do not want your message to page, set the paging to OFF. Your message will then scroll continuously.

Enter HELP selection or <CR> to continue:

At this point I hit the carriage return and am presented with the main mail menu. It informs me that I have two messages waiting. I shall choose to read my mail.

EasyPlex Main Menu

1 READ mail, 2 messages pending
2 COMPOSE a new message
3 UPLOAD a message
4 USE a file from PERS area
5 ADDRESS book
6 SET options

Enter choice !1

1 Rick Needham/Forum SYSOP/Science & Math Forum
2 Rick Needham/The ON-LINE Teacher
0 READ ALL 2 messages

or M for EasyPlex main menu 10

EasyPlex

Date: 21-Aug-85 10:52
From: Rick Needham/Forum SYSOP [76/13,627]
Subj: Science & Math Forum

WELCOME TO THE SCIENCE/MATH FORUM

Thank you for taking the time to join us in the Science/Math Forum and providing us with your introductory message for our membership rolls.

BEST COPY AVAILABLE
Here is where to find the most popular features of the Forum.

SCIENCE UPDATES: Concise information about recent developments in Science are found in DLO ("DL" stands for data library)

LAB NOTEBOOK: Safe experiments for the "Home Scientist" are found in DLO.

COLLEGE BOARD ASSISTANCE: Practice problems for students studying for the College Board's Achievement tests in Physics, Chemistry, Biology, and Math are found in DL's 2, 3, 4, and 5 respectively.

JOB BANK: Employment listings and college scholarship opportunities in Science and Math related fields are Restricted in DL9.

THE BULLPEN: Science and Math Professionals debate issues in the CO area on WEDNESDAY nights...10:00 pm EST.

THE ON-LINE TEACHER: Science and Math teachers ON-LINE in the conference area to help HS and College Students with problems on THURSDAY NIGHTS!

Hope to "see you" shortly in the newly expanded Science/Math Forum... DL's 5, 6, 7, and 8 contain our software collection for your use and are being updated weekly!!!!

Rick Needham/SYSOP

Last page. Enter command or <CR> to continue!

Rick knew I was new to the forum (I had "joined" several days before) and sent me a letter telling about its features.

Now let's store this message and recall the main menu.

EasyPlex Action Menu

** Rick Needham/Forum SYSOP/Science & Math Forum**

1 DELETE this message
2 FILE in PER area
3 FORWARD
4 REREAD message
5 REPLY
6 SAVE in mailbox
Enter choice or <CR>
to continue 16

EasyPlex  Read Menu

2  Rick Needham/The ON-LINE Teacher or M for EasyPlex main
   menu M

EasyPlex Main Menu

1  READ mail, 1 message pending
2  COMPOSE a new message
3  UPLOAD a message
4  USE a file from PER area
5  ADDRESS book
6  SET options

The main mail menu now notes that we have only one message pending because
I read the first. Instead of reading the message at this time, I'll "GO" on
into the Science Education Forum by using its code word "EDU-13."

Press <CR> ! GO EDU-13

CompuServe          SCIENCE

Request Recorded,
One Moment, Please
Thank you for Waiting

Welcome to Science/Math Forum, V. 4A(45)

Hello, David Foster!
Last visit: 22-Aug-85 21:52.05

Forum messages 3492 to 8799
Last message you've read: 8632

No members are in conference.

Short bulletin:

**********SKY TRAVELER**********

Forum member BRUCE BOWDEN has just contributed his SPECtACULAR
Astronomy Program into .L6 for our C64 users. Save some room on
your disk for this one Sky Travelers ...it is 96 blocks long!!!
Thanks Bruce!

BEST COPY AVAILABLE
++: MATI! BRAIN TEASER++++:

Forum member Rick Brown has contributed a "Probability Brain Teaser" which has now been saved as a file in DL5. (R)ead Brainl.TXT for details. Other math students/teachers are urged to submit more "teasers" - either as a direct DL5 upload, or leave it as a message in the Forum posted To: ALL. The SYSOP staff will move it into the DL5 area for you!

***********SYMBOL MANIPULATIONS***********

Math Students & Teachers note:::

A new file which is a summary of the discussion concerning symbol manipulations in the math classroom, from the recent joint summer meeting of the AMS and the MAA held in Laramie, Wyoming, has been uploaded into DL5 by forum member Lou Talman.

***********ANTI-MATTER***********

A message posted by Brown University's D. Jerry Heller dealing with the "history" of the term "ANTI-MATTER" has been saved for posterity as a file in section DL2. Read ANTI.TXT for details.

***********SCIENTIFIC CENSORSHIP***********

Information concerning the censorship of scientific research reports is included in the weekly bulletin (AUGUST 16th) of the American Physical Society which was uploaded into DL5 by forum member Bob Curtis.

***********IBM GRAPHICS***********

Science & Math Forum member Sheldon Jolson has taken the time to upload an excellent graphing program for the IBM into the DL5 area. This program is capable of doing Cartesian, Polar, and 3-D graphing!

***********MATH HELP***********

If you are "searching" for those math practice problems which are "scattered" throughout DL5 . . . here is the fast way to find them and save on your connect charges.

In the DL5 area utilize the BROWSe command and type the following.

DL5: bro/key:sat and hit a <CR>

The practice problem files will then "appear" in order for your use!!

BEST COPY AVAILABLE
Regular Bulletin

Science & Math Forum users NOTE:

This "short bulletin" section is updated bi-weekly ... however information about new uploads into our DL areas is posted for a longer time in the REGULAR BULLETIN section. To familiarize yourself with the "progress" of our DL sections, read the REGULAR BULLETIN often!

SCI NiE NCE

If you have been struggling with a method of reaching the Science & Math Forum ... here's the easiest way ... Type ... GO SCIENCE at any function prompt!

INDEPENDENT STUDY

Our most prolific contributor, Mat{hew Belmonte (featured in this month's ONLINE TODAY MAGAZINE), has just contributed his Summer Independent Study Program, Matt has written a complete TEXT file as accompanying documentation.

Thanks Matt!!

WELCOME

Welcome to the recently EXPANDED Science & Math Forum. If this is your first time here, kindly leave a message of introduction posted to: SYSP with a short summary of your educational background, if you are a student, a teacher, or "just interested" in Science & Math. Teachers and College Students desiring access to the restricted DL9 area should request access in your introductory message. Since we have a huge collection of Science and Math software available for a variety of popular microcomputers kindly leave us some information about your micro in your message so we can provide you with downloading assistance.

You have a message waiting:

#: 8715 S9/Teachers Only Area
23-Aug-85 10:02:52
Sb: #8700-computer conferences
Fm: Rick Needham 76703,62/

This message has been marked for reading with the RM function

The Forum provided me with several general messages and then reminded me that I still had one unread message from the SYSP. Let's read it.
Press <CR>:

Science/Math Forum

Function Menu
1 (L) Leave a Message
2 (R) Read Messages
3 (CD) Conference Mode
4 (DL) Data Libraries
5 (B) Bulletins
6 (V) View Member Directory
7 (SS) Set Sub-topic
8 (OP) Set User Options
9 (I) Instructions
0 (E) Exit from Science/Math Forum

Enter Choice or H for Help : 2

Message Sub-Topics Menu

0 Student Area
1 Voyage of The Mimi
2 Physics
3 Chemistry
4 Biology
5 Mathematics
6 Commodore Science
7 Apple Science
8 Tandy/IBM Science
9 Teachers Only Area
10 ALL All Authorized sub-topics
T Return to Function Menu

Enter choice : 9

Read Messages Menu

1 (RF) Forward - oldest first
2 (RR) Reverse - newest first
3 (RN) New - not yet read by you
4 (RM) Marked - messages for you
5 (RS) Search mode
6 (T) Return to Function Menu

Enter choice or <CR> for more : 4

#: 8715 S9/Teachers Only Area
23-Aug-85 10:02:52
Sb: #8700-computer conferences
Fm: Rick Needham 76703,627
To: DAVID FOSTER 76555,530

BEST COPY AVAILABLE
David:

The Wednesday and Thursday night Conferences will begin in earnest in September when school re-opens...

We have had as many as 30 on the C0 line at once... yet on some nights there may only be 4 or 5... I usually "sit there" until someone logs on... but the past two weeks I have been "on vacation!"

Not really sure what is with your back-arrow key... I do not use a KAYPRO so I am short on advice there... apparently, the system recognizes your back-arrow as some sort of control character. You might want to leave a message for our asst. SYSOP Robert Fowkes 70775,1415... he is pretty good at deciphering log off problems.

Rick Needham/SYSOP

Enter command, N for next message or C0 for menu.
Read Action Menu
1 (RA) Read again
2 (N) Read next message
3 (F) Forward
4 (RE) Reply with current subject
5 (UA) Reply with new subject
6 (D) Delete this message
7 (T) Return to Function Menu
Enter choice or H for help: 7

Science/Math Forum
Function Menu
1 (L) Leave a Message
2 (R) Read Messages
3 (CO) Conference Mode
4 (DL) Data Libraries
5 (B) Bulletins
6 (V) View Member Directory
7 (SS) Set Sub-topic
8 (OP) Set User Options
9 (I) Instructions
0 (E) Exit from Science/Math Forum

Enter choice or H for Help: 0

Exiting at 26-Aug-85 00:28:28
Last message in forum: 8799
Last message you've read: 8632
Thank you for visiting Science/Math Forum

CompuServe EDU-50
Were you able to follow all that menu hopping? In the process of reading one message I used six separate menus. The first menu is the conference function menu. It tells us what functions we can carry out in the various conferences. The second menu names the subconferences that exist in the Science Education Forum. The third menu allows us to read conference messages in many different ways. This provides necessary flexibility. After the message where Rick tells me that the conferences are not very active, I am provided with a Read Action Menu. This provides me with more needed flexibility. I am then provided with the conference function menu. After I ask to leave the Science Education Forum, CompuServe asks if I want to join any of the other ongoing forums and provides me with a menu to choose from. I decline. After all, it is 12:28 a.m.

Sending Public and Private Messages

The difference between a computer conference and a computer bulletin board lies in their purposes. All systems, however, have procedures for confidentiality. Messages can be addressed to one person, to a group of individuals, or can be posted on a public bulletin board. Conferences can have
several levels of passwords, and some systems even have sophisticated means of encryption. It is usually simply a matter of a single command to set up the level of privacy required.

Now let's analyze a typical online session.

TYPICAL ONLINE SESSION

Log on Error

Log on errors are common, especially if you are a poor or a fast typist. Don't be surprised if you are bumped off a system the first time you try to log on. Because of the popularity, especially among young "hackers," of trying to break into computer systems, many computers will log you off after only one or two typos. However, since you haven't logged on, you aren't charged for your mistake unless it's a long-distance number. In any case, no harm has been done, and all you have to do is call the number and try again.

Following is an attempt to log on the Notepad conferencing system in which I enter an incorrect response. It is important to realize that it is not important to understand all the information that scrolls down the screen. You don't need to know who SC-1 is; what a TOPS-20 Monitor is, what 4(3247) means; or why it is telling you that this is Job 4 on TTY5.

please type your terminal identifier
-2754-103-
please log in: nctepad;
P 2
SC-1 IS ON LINE

Infomedia Service Center One, TOPS-20 Monitor 4(3247)
@ NOTEPAD
Note: My first mistake involved typing in the command "Trial" when I should have typed "Notepad." Then I made another mistake; I did not type in the correct password.

Correct Log on

Being dropped by the host isn't nearly as painful as being dropped by your girlfriend or boyfriend, honest. You shouldn't get our feelings hurt by a rude computer. Instead, humor it and try to provide it with the information it wants.
NOTEPAD is ready.
Last Name: FOSTER N

Please set a permanent PASSWORD with no more than ten characters. Use no spaces or punctuation.
- DAVID

Please type the number corresponding to your make of terminal.
1 Hazeltine 2000 4 Beehive 7 Dec VT100 (ANSI)
2 Tektronix 4023 5 Superbee 8 Other
3 Datapoint 3300 6 VT52 or Scanset

# 8

Please enter the number of lines on CRT terminal.

# 24

Thank you.
(strike the CR key to continue)

This system requires some specific information about the equipment you are using. In this case, I was using none of the terminals listed, and my computer screen was capable of displaying 24 lines of text at one time.

Opening Menu

Now that I'm on the system, let's see what this trial demonstration conference is all about. Like most networks and conferencing systems, it begins with a menu of options.

The following activities are available to you:

Open Membership

* 1 NOTEPAD General Discussion
* 2 Participant Biographies

Assigned Membership

3 SEDL
Joining an Activity

Let's see what the introduction to the system has to say. This is always a good place to start when you're using a system for the first time. The introduction for this system follows the same format as an actual conference with introductory material presented as an actual set of stored messages.

Please type the number of the activity you wish to join.

#1

The Title of the Activity is:
NOTEPAD General Discussion

The project members are:

Chitwood (Donna)  
Graves (Brook)  
Johnson (Peter)  
Landgraf (Bill)  
Foster (David)  

Evren (Mary)  
Breck (Ren)  
Mayer (Margie)  
Changelon (Lee)

You have seen none of the 7 entries made so far. Please indicate the entry number at which you wish to begin. If you do not wish to see any of the past entries, strike only the CR key.

#1

[1] Evren (Mary) 6-Feb-85 9:15AM-PST
Welcome to the General Discussion Activity in this NOTEPAD project! This is an Open Activity, which means that all members of the Notepad Project are automatically members. Please feel free to ask questions and start a discussion. Thank you for joining us on NOTEPAD!

[2] Johnson (Peter) 7-Feb-85 8:14AM-PST
One major weakness of computer conferencing seems to be that it would be difficult to get things done rapidly. Because of its sequential nature one may end up waiting quite some time for a reply. Do you have any suggestions about methods for enforcing good discipline.
Peter, although they are not on in real-time conferencing right now, I thought I would introduce you to Ren Breck, Infomedia's Vice President and Director of Marketing, Brooke Graves, our System Coordinator, and Donna Chitwood, our Administrative Coordinator. We all take part in on-going discussions in this demonstration area of NOTEPAD.

Peter, you bring up a good point. I will quote our Administrator's manual on this: a successful conference needs guidance and leadership. If the leader of the conference keeps an eye on things, prods people who have not contributed, helping the shy ones afraid of making typographical errors, you will find the conference moving more smoothly and consistently.

Other tips on helping a conference be successful: the first entry of every conference should clearly state the purpose and "set the tone and pace" of the conference. If discussions and topics are planned, and time frames are built around them, the conference proceeds in an organized way. All conferences go in fits and spurts depending on the urgency of the topic, the deadlines involved and need for fast information. Good habits are also important. The habit of logging on at the same time every day to see if there are messages will go a long way to keeping the information flowing quickly, whether people log on simultaneously or not.

Please tell me what you think of voting and questionnaires within the context of a conference, and how useful this would be.

This question has been closed.

Please tell me what you think of voting and questionnaires within the context of a conference, and how useful this would be.

Text of responses:

I think voting is used best in on-line meetings with a defined goal or decision to be arrived at. For general discussions the questionnaire function is often useful.

You are up to date.
I've just reviewed all activity that has taken place in this conference and am about to receive a message from another online participant.

**Receiving a Message**

This system informs us that someone is about to enter into a discussion with us.

**ACTION:**

Now joining: Graves (Brook)

Note 1 From Graves (Brook) To Foster (David)

Good morning, David. Or afternoon. Whichever it may be I'm not positive at the moment. But welcome to NOTEPAD! I don't believe I've seen you in here before.

**ACTION** Select Activity 1

The Title of the Activity is:
NOTEPAD General Discussion

Graves (Brook) is present.
You are up to date.

**Sending a Message and Interaction**

Now that I am up-to-date and I know that Brook is present, I'm going to tell her I am new on the system (and hope she forgives me if I make any mistakes).

**ACTION:** HELLO

*** Please check the option you indicated. If you wish to see the choices available to you, type a question mark.

**ACTION:** Write Note 2 To:

**ACTION:** Write Note 2 To: GRAVES (Brook)

- HELLO THIS IS MY FIRST TIME ON.

- ACTION: Review Notes??

You may use any of the following, alone or in combination:

- BY and a list of participant names (or the word ALL)
TO and a list of participant name: to whom you have
sent NOTES; e.g., TO SMITH, JONES
BETWEEN a participant name AND a participant name.
    Note: one of the participant names must be your own.
A list of NOTE numbers (or word ALL); e.g., 2,5-9,14
LAST N notes (to see only the previous note, simply type
    LAST)
BEFORE, ON, or AFTER a date such as 17-APR-73
BETWEEN a date AND another date
RE and a topic word in Quotation marks; e.g., RE "energy"
In addition, if you do not wish to see the heading and complete
text of the NOTES you have specified, you may use any of the
following restrictions, alone or in combination:
    BY FIRST LINE or BY FIRST N LINES
    NO HEADING
    NO TEXT

Notes ? BY GRAVES

Note 1 From Graves (Brook) To Foster (David) ^Apr-85
11:43AM-PST.
Good morning, David, or afternoon. whichever it may be I'm
not positive at the moment. But welcome to NOTEPAD! I don't
believe I've seen you in here before.

1 Note was found.

(strike the CR key to continue)

Note 3 From Graves (Brook) To Foster (David)
Well congratulations! Your note came through loud and clear.
Where are you?

ACTION: Write Note 4 To: GRAVES (Brook)
- I'M IN AUSTIN. I LOGGED ON AT 300 BAUD WHICH SEEMS TO BE
- SLOW. I TALKED TO A MARY EVREN A WHILE BACK. SHE SENT SOME
- INFO. THAT I HAVEN'T LOOK AT TILL NOW. I AM WRITING A
- PROPOSAL FOR A NSF PROGRAM AND HAVE CONSIDERED USING NOTEPAD
- IN ONE OF OUR STATES.

Note 5 From Graves (Brook) To Foster (David)
I'm down here in San Bruno at InfoMedia HQ. I'm the Operations
Coordinator here and make sure the system keeps humming, and act
as a(ll)aison between the Operations Department and the rest of
the world.

Note 6 From Graves (Brook) To Foster (David)
(I have to go away from my terminal for a minute...but I'll be
right back....)
ACTION: Write Note 7 To: GRAVES (Brook)

- I ASSUME THIS SYSTEM REALLY NEEDS INDIVIDUALS WITH 1200 BAUD MODEMS.
- I HAVE ONE AT HOME, BUT MANY OF THE SCHOOLS AND TEACHERS
- WE WOULD LIKE TO LINK DO NOT.

Note 8 From Graves (Brook) To Foster (David)
Yes, 300 baud is a bit slow, but our system can handle 1200 baud too. What is "NSF?" And is that where you work?

Note 9 From Graves (Brook) To Foster (David)
What kind of people would you expect to link together with NOTEPAD?

ACTION: Write Note 10 To: GRAVES (Brook)
- NATIONAL SCIENCE FOUNDATION WANTS TO NETWORK SCIENCE AND
- MATH EDUCATORS

ACTION: Write Note 11 To: GRAVES (Brook)
- I WORK FOR A NIE (NATIONAL INSTITUTE OF EDUCATION) LAB.
- SEDL (SOUTHWEST EDUCATIONAL DEVELOPMENT LABORATORY) IS A REGIONAL
- ED. LAB SERVING A SIX (SOON TO BE FIVE) STATE AREA.

ACTION: Write Note 12 To: GRAVES (Brook)
- I'VE GOT TO RUN. PLEASE HAVE SOMEONE CALL ME ABOUT SYSTEM
- AT 512/476-6861 Ext. 222

Logging Off

All good conferences (and bad ones) must come to an end and it's always nice to let the computer know you are leaving. Usually the computer will tell you how long you have been on the system and sometimes it will tell you the cost of the session. It may also tell you if you have left anything dangerous undone - like not closing a file.

ACTION: Quit
Leaving NOTEPAD.
Thank you.
End of Job 4, User NOTEPAD, Account MARKETING-DEMO, TTY 5,
at 9-Apr-85 12:06:09, Used 00:00:13 in .28:59
Dropped by host
please log in: OFF
Dropped again. Oh, well, I guess I asked for it this time.

**Differences Between Available Systems**

There are numerous differences between systems, but in general, they are either differences in format or slight differences in capabilities. To demonstrate differences between systems, let's take a look at a conference on The Electric Pages and compare it to the previous Notepad conference. Remember, the Electric Pages is not just a conferencing system; Notepad is. The Electric Pages, The Source, CompuServe, and Delphi are all information utilities. You must log on and then get to the conferencing system. This may involve a few a...s, messages, and menus, as we are about to see. See if you can follow what is going on without any help.

---

ENTER 'FREE' TO USE PUBLIC ACCESS SERVICES
ENTER 'EAT' FOR THE TEXAS RESTAURANT GUIDE
ENTER USER ID:
Enter PASSWORD:
ATTENTION PUBLIC SCHOOL PERSONNEL
Be ready for TECAT: (Texas Exam of Current Admin. & Teachers)
Take the REVIEW COURSE: Practical Assistance in the Renewal of Test-Taking in a Highly Motivational Group Environment

COST: Registrations based on sliding scale according to # of registrants

WHEN/WHERE-Scheduled at any location with 20 registration guarantee

SEND QUESTIONS TO: BOX 5053 or Type MSG at the next prompt

Offered by: The Univ. of Texas Division of Cont. Education

Press RETURN to continue:
THERE ARE NO MESSAGES IN YOUR MAILBOX

THE ELECTRIC PAGES
- Bulletin Board -

Have a Safe and Happy Holiday
from all of us at THE PAGES

---
THE ELECTRIC PAGES - 1-800-252-3617
The Next Time You Sign On and Save

For ELECTRIC PAGES Main Menu, Type H

THE ELECTRIC PAGES: MAIN MENU

ENTER COMMAND: h

THE ELECTRIC PAGES MAIN MENU HELP FILE

<table>
<thead>
<tr>
<th>COMMANDS</th>
<th>USAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADS</td>
<td>View display ads</td>
</tr>
<tr>
<td>EAT</td>
<td>* Texas Restaurant Guide *</td>
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<tr>
<td>COMM</td>
<td>Communications (Note: The Conference</td>
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<td>function is located in the</td>
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<td>Editor, Upload)</td>
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<td>GOV</td>
<td>Governor Mark White Reports</td>
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<td>MAG</td>
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<tr>
<td>TCEA</td>
<td>Texas Computer Educ. Assoc.</td>
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<td>DMR</td>
<td>Financial Information from</td>
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<td>Dean Witter Reynolds, Inc.</td>
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<tr>
<td>TERA</td>
<td>State Energy Statistics from</td>
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<td></td>
<td>Texas Energy Research Assoc.</td>
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<tr>
<td>SF</td>
<td>We Make Contact: Online SciFi</td>
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<tr>
<td>BUILDNET</td>
<td>Austin Energy Mgmt Dept Network</td>
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<tr>
<td>CS</td>
<td>Consumer Services</td>
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<tr>
<td>TRADE</td>
<td>Free Trade-Classified Ads</td>
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<tr>
<td>PW</td>
<td>Texas Parks and Wildlife Dept</td>
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<td>TEEN</td>
<td>Teen Issues</td>
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<tr>
<td>OLIN</td>
<td>Olin Murrell-KLBJ AM</td>
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<td>RICKI</td>
<td>Really Important Community</td>
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<td></td>
<td>Knowledge &amp; Information</td>
</tr>
<tr>
<td>PASS</td>
<td>Change password</td>
</tr>
<tr>
<td>HELP</td>
<td>View this HELP file</td>
</tr>
<tr>
<td>TIME</td>
<td>Display Time and Date</td>
</tr>
<tr>
<td>QUIT</td>
<td>Sign off</td>
</tr>
</tbody>
</table>

FOR MORE INFORMATION ON ANY COMMAND, TYPE COMMAND NAME;

TO EXIT HELP FILE, PRESS RETURN:

ENTER COMMAND: COMM (Type "COMM" <CR>)

THE ELECTRIC PAGES COMM HELP FILE
**COMANDS**

**EDITOR**  Text Editor
**MAIL**  Electronic Mail
**CONF**  The CONFERENCE monitor (CONF is the command to be selected from the communications menu)
**UP**  File Upload
**PI**  Personal Interest Profiles
**LDIR**  List Directory of files
**TIME**  Time/Date
**LFIL**  Display a Stored File
**HELP**  Command Instructions
**QUIT**  Quit This Session
**OFF**  Sign Off

FOR MORE INFORMATION ON ANY COMMAND, TYPE COMMAND NAME.

TO EXIT HELP FILE, PRESS RETURN:

ENTER COMMAND:CONF

THE ELECTRIC PAGES: ELECTRONIC CONFERENCE

ENTER CONFERENCE COMMAND:n (This the "Help File")

THE ELECTRIC PAGES CONFERENCE CENTER

**COMANDS**

**OPEN**  START A CONFERENCE
**CLOSE**  END A CONFERENCE
**LIST**  LIST CONFERENCES (To see a list of existing conferences, type LIST <cr>)
**JOIN**  JOIN A CONFERENCE
**LDIR**  See File Directory
**LFIL**  See Single File
**TIME**  Display Time/Date
**HELP**  Display HELP FILE
**QUIT**  RETURN TO MAIN MENU
**OFF**  RETURN TO MAIN MENU at any time in CONF

FOR MORE INFORMATION ON ANY COMMAND, TYPE COMMAND NAME.
TO EXIT HELP FILE, PRESS RETURN: (Press return to exit the help file and return to the command and prompt)

ENTER CONFERENCE COMMAND; join (Join an existing conference)

ENTER CONFERENCE NAME:distance (Names and explanations of exiting conferences may be seen by typing LIST at the prompt "Enter Conference Command:"

ENTER PASSWORD

YOU ARE NOW IN CONF: DISTANCE <INFO 199> BULLETIN BOARD

Passwords often don't show on the screen when when you type them in.)

(On TEP the Bulletin Board is an unlimited space that only the creator of a conference may use to describe the purpose, intent, or nature of the conference.)

THE DEADLINE FOR BUDGET DECISIONS FOR NEXT YEAR IS FAST APPROACHING AND I NEED YOUR INPUT BEFORE DECIDING. PLEASE RESPOND TO THE QUESTIONS FROM ITEM #1 BEFORE 12 NOON NEXT WEDNESDAY. FEEL FREE TO RESPOND OPENLY AND ASK QUESTIONS WHEN APPROPRIATE. YOUR HELP IS APPRECIATED VERY MUCH. THANKS, CHIEF FINANCIAL OFFICER.

(Notice: This conference has a time limit at which time all responses must be completed. So the conference creator makes important administrative decisions.)

CONFERENCE ACTIVE; ENTER COMMAND:;

THE ELECTRIC PAGES CONFERENCE CENTER

COMMANDS USE .E

L Display the LIST of conference entries
I INSERT item into conference agenda

BEST COPY AVAILABLE

55

60
DETERM item from conference agenda
READ item from conference agenda
B Read BULLETIN BOARD
TIME Display TIME/DATE
HELP Display HELP FILE
QUIT RETURN TO CONF MENU
OFF RETURN TO MAIN MENU

FOR MORE INFORMATION ON ANY COMMAND, TYPE COMMAND NAME.

TO EXIT HELP FILE, PRESS RETURN:

(While in a "Help File," for additional explanation of the commands, enter the command and press return.)

If you wish to display the list of commands, enter the command and entries in the conference, type L and press RETURN.

You will see the entry, its number and the date it was entered.

FOR MORE INFORMATION ON ANY COMMAND, TYPE COMMAND NAME.

TO EXIT HELP FILE, PRESS RETURN:

(Press <Return> to exit help file.)

CONFERENCE ACTIVE; ENTER COMMAND:

1 05/04/85 ISSUES & QUESTIONS
2 05/06/85 MATH DEPARTMENT
3 05/05/85 SCIENCE DEPARTMENT
4 05/06/85 PHILOSOPHY DEPARTMENT
5 05/07/85 HISTORY DEPARTMENT
6 05/07/85 MATH DEPARTMENT #2

<INFO 187> END OF ENTRY LIST

CONFERENCE ACTIVE; ENTER COMMAND:

ENTER PROCEEDING NUMBER: 1

(Proceeding numbers may be selected in any order desired.)
1. **DO YOU REQUIRE ADDITIONAL FUNDS FOR LAB, SPECIAL TEXTS, ETC.?**

2. **WHAT ARE YOUR OFFICER MAINTENANCE NEEDS?**

3. **LIST SUPPORT STAFF BY CLASSIFICATION.**

---

**CONTINUE READING PROCEEDINGS?**

(“Yes” automatically displays the next proceeding in numerical order; “No” would return the user to the prompt “Conference Active; enter command:”)

---

**MATH DEPARTMENT**

1. **WE NEED FOUR NEW COMPUTERS, $3,000 EACH, TOTAL $12,000.**

2. **OFFICE NEEDS A NEW SECRETARY’S DESK AND CHAIR ($635), TWO SIDE CHAIRS ($250), A FILE CABINET ($5) AND AN ELECTRONIC TYPEWRITER ($1,600).**

   **TOTAL:** $32,005.00

3. **SUPPORT STAFF:**
   - JONES, D. SECRETARY GROUP 07
   - SMITH, R. SECRETARY GROUP 07
   - GIBBS, R. CLERK GROUP 05
   - SMALL, A. CLERK GROUP 05

---

**SCIENCES DEPARTMENT**

1. **WE DESPERATELY NEED A NEW CUISINART DLC-9 FOR PREPARATION OF BIOLOGICAL GROWTH CULTURES.**
   **COST:** $289.00

2. **SURPRISE! WE DON’T NEED ANY OFFICE EQUIPMENT THIS YEAR!**

3. **SUPPORT STAFF**
   - BATES, N. LAB TECH GROUP 11
   - JONES, C. LAB ASST GROUP 09
   - SMITH, T. SEC. GROUP 07

---

**PHILOSOPHY DEPARTMENT**

1. **DOES THAT QUESTION REFER TO OUR NEEDS IN THIS LIFE, OR THE NEXT?**

2. **OUR OFFICE HAS TRANSCENDED THE NEED FOR WORLDLY GOODS. HOWEVER, A MR. COFFEE WOULD BE GREATLY APPRECIATED.**
   **COST:** $29.95

3. **SUPPORT STAFF**
   - GHANDI, M. TECH. ASST. GROUP 09
CONTINUE READING PROCEEDINGS?y

DO YOU WANT A COMPLETE LISTING OF ALL OUR NEEDS, ITEMIZED ONE BY ONE? OR CAN WE JUST GIVE YOU A TOTAL DOLLAR AMOUNT "ESTIMATE" OF EXPENSES? (Note: Some users may request clarification before answering the questions.)

WHEN YOU REFER TO SUPPORT STAFF, DO WE ALSO INCLUDE T/A'S, PART-TIME FACULTY AND GRAD STUDENTS?

CONTINUE READING PROCEEDINGS?y

OC0006 05/07/85 MATH DEPARTMENT #2

PLEASE ADD A MR. COFFEE ($29.95) TO OUR OFFICE EQUIPMENT NEEDS-LIST. (Often, a proceeding may trigger a new idea or response from one of the other users.)

CONTINUE READING PROCEEDINGS?y

<INFO 194> END OF PROCEEDINGS (When the user has displayed the last proceeding in the numerical order the)

CONFERENCE ACTIVE; ENTER COMMAND:B (To review the directions given on the bulletin board, the user would type B <CR>)

<INFO 199> BULLETIN BOARD

THE DEADLINE FOR BUDGET DECISIONS FOR NEXT YEAR IS FAST APPROACHING, AND I NEED YOUR INPUT BEFORE DECIDING. PLEASE RESPOND TO THE QUESTIONS FROM ITEM #1 BEFORE 12 NOON NEXT WEDNESDAY. FEEL FREE TO RESPOND OPENLY AND ASK QUESTIONS WHEN APPROPRIATE. YOUR HELP IS APPRECIATED VERY MUCH. THANKS, CHIEF FINANCIAL OFFICER.

ENTER COMMAND:off

TOTAL CONNECT TIME (MM.SS): 6.43
TOTAL CONNECT TIME CHARGE: 0.32
Creating Your Own System

After joining several of the readily available computer conferences on various information utilities, you may find yourself wanting to create not only your own conferences but also your own system. Paying for online time can be expensive and though many bulletin boards systems may be available locally, they may not meet your needs.

Perhaps you want to create an electronic information exchange system for all the local social studies teachers in your district, an exchange that will deal with a new curriculum that has been mandated, or some other related topic. Your member teachers will need access to a computer, modem, and communications software package. You will need a computer, auto-answer modem, and bulletin board system (BBS) software. There are many BBS software packages and they vary in terms of the computers they will run on, the features they have, and how much they cost. There are too many packages to describe them all here. I shall describe one package; by the time you read this, however, there may be many superior products on the market.

The Bread Board System is a highly rated program by Ebert Personal Computers. It has received a rating of "excellent" by InfoWorld in all four categories of performance, documentation, ease of use, and error handling. It will give you the ability to easily develop a very sophisticated information network; however, without more complex software and modems, only one person can communicate with you or your computer at a time, necessitating asynchronous communications.

If your needs include the ability to have numerous conference participants online at the same time, leasing a minicomputer-based system is probably your best bet.
There are also many other BBS programs that can be obtained free. These public domain programs lack manuals and may have only sparse documentation. They will, however, allow you to set up and run your own system. These systems may or may not be able to allow you to do all of the following:

1. Create many subtopic areas, or "boards."
2. Create private or public access.
3. Create large information or data files and store them online.
4. Create various levels of security and "privilege levels" that allow for read only, read/write, or no access to each board on the system.
5. Provide electronic mail.
6. Develop a tiered menu structure that guides participants where they want to go.
7. Provide for uploading and downloading of text and program files.
8. Eliminate the problems of "telephone tag."
9. Take surveys of users.
10. Run your system when you are not present or enable you to access it yourself to download or upload files from remote locations.

For information on The Bread Board System, contact:

Ebert Personal Computers, Inc.
4122 South Parker Road
Aurora, Colorado  80014
(303) 693-8400

Multi-Media Teleconferencing

Computer conferencing may have limitations and drawbacks; many of the existing drawbacks, however, are being eliminated by new technologies or by combining computer conferencing with other existing technologies. The invention of projectors that enlarge the computer's CRT display or project it on a screen, voice modems, high-speed modems, and graphic capabilities are being added to computer conferencing. The University of Dayton Research Institute (UDRI) has developed ATMC (Advanced Technology - Multimedia Communications). This system adds freeze-frame images, high-resolution graphics, handwriting, pointing, and print.

The system is now marketed by a private firm.
VIII. QUICK GUIDE TO COMPUTER CONFERENCING

Uses: Local, Regional, and National

1. Seminars
2. Workshops
3. Staff meetings
4. Conferencing
5. Standard classroom activities
6. Information Exchanges
7. Evaluation/Research
8. Public service meetings
9. Electronic mail
10. Interorganizational arrangements/collaborations

The Main Benefits of Computer Conferencing

1. Allows you to catch up
2. Saves time
3. Speeds communication
4. Increases productivity
5. Eliminates travel
6. Saves money
7. Eliminates scheduling and time zone problems
8. Allows asynchronous communications
9. Provides hard copy documentation
10. Provides flexibility
11. Can be topic driven

Current Educational Uses

1. Teacher and administrator in-service training
2. Informal education
3. English/writing/communications classes
4. Other classes
   (a) Science, mathematics, and technology classes
   (b) Foreign language classes
   (c) Classes for homebound and hospitalized students
   (d) Adult education classes
   (e) Continuing education classes
   (f) Gifted and talented classes
   (g) Part of classes using multimedia telecommunications
   (h) Part of classes that provide for meetings and conferences; guest speakers from remote areas; distance learning; sharing ongoing topical information, concerns, and solutions as problems and needs arise (example: homework networks).
Accreditation Concerns  
(may vary from state to state)

1. Instructor must be certified to teach content area
2. Course format must allow for enough student/instructor interaction
3. Course content must exist and already be approved

Problems and Limitations

1. Lack of face-to-face and nonverbal communication
2. Requires "getting used to"
3. Requires extra effort in dealing with others' resistance to change
4. The importance of good curriculum development and organization are increased
5. The technology offers a good scapegoat for poor performers
6. Some individuals may have had bad experiences due to faulty equipment or poorly run conferences
7. Cost of equipment and online time
8. Harder to get to know your students/classmates
9. Discussion is less likely to happen spontaneously
10. Concentration will be more difficult for some people
11. Keyboarding skills are generally needed

Costs

1. Equipment costs (computer, modem, software, phone line, printer)
2. Online time
3. Sign-up charges?
4. Development of course materials
5. Instructor
6. Long distance phone charges?

Techniques

1. Good teaching/instruction skills are even more important in computer conferencing than in face-to-face situations
2. Address specific questions to specific individuals when possible
3. Combine with other teleconferencing media
4. Provide equipment and software training
5. Provide agenda and hard copies of material ahead of time
6. Personalize the computer conference as much as possible
7. Encourage dialogue and interaction as much as possible
8. Provide information in highly structured modular way to ensure understanding of relationships and increase retention
9. Use feedback as much as possible
10. Keep messages brief
EVALUATION FORM: IS COMPUTER CONFERENCING APPROPRIATE?

- Are you unable to attend major conferences in your field?
- Do you get behind in your work when you do attend a conference?
- Would you like to attend more conferences?
- Is your professional development hampered by a lack of time?

If your answer to any of the above is "Yes," then computer conferencing could be a benefit. Even your existing ongoing activities might be enhanced by computer conferencing.

The following is a variation of an evaluation developed by InfoMedia Corporation that can assist in determining whether computer conferencing could be of use in your everyday work. Answer the following questions based on your current or proposed activities. Circle the number corresponding to your answer.

A. How do you communicate now?
   1) Mail and face-to-face
   2) Telephone
   3) Telex and telegrams
   4) Not communicating at this time

B. How serious would the loss or late delivery of a typical message be?
   1) Not serious at all
   2) Mildly disruptive
   3) Serious problems could result
   4) Very costly

C. Typical messages need to be read by
   1) One person
   2) Two to five people
   3) Five to ten people
   4) Over 10 people

D. Where are the other group members located?
   1) The same building
   2) In the same city but different buildings
   3) In different cities but the same region
   4) In different regions
E. What is the nature of issues discussed?

1) General entertainment
2) Continuing Management
3) Planning
4) Crisis Management

F. What is the purpose of a typical message?

1) To inform others
2) To request information
3) To alert others to new developments or problems
4) To assign specific responsibilities

G. When a message is sent, how important is a reply?

1) Not important
2) Nice to have
3) It influences outcomes
4) It is vital

H. How important is it to document communications (CIA paperwork)?

1) It would be better not to have a record
2) Not important
3) Some information facilitates tracking and record keeping
4) All information should be on record

Now add up the values of the numbers you circled. (Check to be sure you circled one number for each question.)

If your score is:

8-14  You do not need computer conferencing.
15-19  You would benefit from a computer conferencing system, but can do without it.
20-14  You could greatly benefit from a computer conferencing system.
25+  You have an acute need for a computer conferencing system.
IX. REFERENCES


BEST COPY AVAILABLE
Like several other conferencing systems, COM is both a conferencing system that runs on a large computer run by the vendor (in this case, Stockholm University) and a software package that can be leased or perpetually licensed.

The COM system at QZ is used internationally and is linked to other conferencing systems in the United States and Europe. The conferencing software runs on a DEC-10, DEC-20, Univac 1100, VAX-11/VMS, CDC CYBER, IBM/MVS. Conference participants, however, can use almost any terminal or microcomputer to access the host computer. Rates vary, depending on the type of agreement and the value of the dollar.

Confer II
Advertel Communications
2067 Ascot Road
Ann Arbor, MI 48103
(313) 665-2612

Confer II is run solely on the vendor's computer (Wayne State University). There is a small on-time cost to set up a "project" with an associated set of accounts. You are then charged on a pay-as-you-go basis, which involves the cost of using the Telenet communications network, the cost of using the Wayne State computer, and the cost charged for using Confer II. This rate was about $19.00 per hour for all three charges (nonprofits receive a 25% discount). Users also incur a small storage charge for disk space on this system.

EIES
New Jersey Institute of Technology Computerized Conferencing and Communications Center
323 High Street
Newark, NJ 07102
(201) 645-5211

EIES stands for Electronic Information Exchange System; it is another university-based system. The system was designed by Murray Turoff and operates from the New Jersey Institute of Technology. One of the unique aspects of this system involves its "Participatory Seminars Via Computer Telecommunications." NJIT's Division of Continuing Education offers several courses or seminars where an instructor is linked with seminar participants for a period of usually three months via their microcomputers.
The Electric Pages (TEP) is a regional electronic information utility that is very active in Texas education. TEP provides electronic mail, conferencing databases, and "private networks" for associations and groups. TEP provides private networks for the Texas Education Agency, the Texas Association of School Boards, the University Interscholastic League, Texas Computing Educators Association, and the Texas PC Junior College Association. The utility is currently adding a "CHAT" feature to its electronic conferencing. Rates will be $12.00 per hour for a local call and $15.00 per hour for those who use The Electric Pages' Texas WATTS line.

HUB
National Information Systems, Inc.
20370 Town Center Lane, Suite 130
Cupertino, California 95014
(408) 257-7700

HUB was developed by the Institute for the Future and is now marketed by National Information Systems. Though a sophisticated system, it is not used much at this time. It allows for messaging, joint writing and editing of documents, drawing of graphic images, running of computer programs, and conducting surveys.

Notepad
Infomedia Corporation
801 Trager ave. #275
San Bruno, California 94066
(415) 952-4487

Notepad is one of the most sophisticated conferencing systems available and was developed by one of the leading researchers in the field, Jacques Vallee. It is extremely easy to use, and its literature claims that "no prior computer experience is required, our personnel are trained to assist users in all aspects of getting on line, including getting familiar with their personal computer's modem and telecommunications software if required."

Participate
The Source
Source Telecomputing Corp.
1616 Anderson Road
McLean, VA 22102
(703) 734-7500

The Source is one of the largest information utilities in the world; it is used by thousands of individuals every day. Using Participate on The Source is probably one of the least expensive ways to use sophisticated computer conferencing software. The Source can be accessed by a local phone number in most areas and has lower rates in the evening and on weekends.