

Technical UNIX User Group

April 1991 \$2.50
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newsletter of the
Technical UNIX[®]
User Group

This month ...

A Musical Rap Program
Navigating Usenet
March Minutes
April Agenda

Late Breaking News...
Next Meeting to be held at the
UNISYS Canada, Inc.
See ANNOUNCEMENT for details

Thoughts From The Editor

By Susan Zuk

This month's newsletter is short and sweet. The feature article is about Usenet, a very widely used UNIX network. There are questions which are asked from time to time about this news service. USENET was also discussed in our last meeting, see the minutes.

Also included in this month's newsletter is a RAP program. When you compile the program you will see the formation of a rap. Enjoy!!

Our last meeting was hosted by Eric Carsted and the topic was Open Desktop. The meeting was well attended and was so interesting that Eric had trouble finishing the session. He says that he will probably hold another

session as there are many topics he could still cover.

The April meeting will be held at the UNISYS office and will discuss termcaps and will also include tips on regular expressions and pattern matching. This is very helpful if you are learning or working with utilities such as grep and sed.

A final mention is about the CIPS meeting to be held on Tuesday, April 16th. There will be a presentation of UNIX in the 90's. If you are interested in this meeting call Al at 986-2143.

Keep in touch!!

Group Information

The Technical Unix User Group meets at 7:30 pm the second Tuesday of every month, except July and August. The newsletter is mailed to all paid up members 1 week prior to the meeting. Membership dues are \$20 annually and are due at the October meeting. Membership dues are accepted by mail and dues for new members will be pro-rated accordingly.

The Executive

President:	Eric Carsted	1-883-2570
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ANNOUNCEMENT...

Meeting Location:

The April meeting location will be provided by UNISYS Canada, Inc. UNISYS is located in the UNISYS Building at 1000-1661 Portage Avenue. Please enter at the front door. Please sign in and use the company name of TUUG. See you at the meeting.

Navigating Usenet

By Dave Taylor

Reprinted from *lusr/group CommUNIXations March 1991*

The UNIX File Structure

The UNIX operating system environment opens up a sea of communications. Through electronic mail, a small UNIX site can connect into a global network of tens of thousands of people. Many observers believe it is this factor that has been key in the explosive growth of UNIX.

Electronic mail offers instant delivery and eliminates the need for paper copies. UNIX electronic mail is powerful and easy to use. As a result, many applications have sprung up for harnessing the power of UNIX electronic communications. The key network for UNIX communications is Usenet.

Usenet is much like a very large gathering. Individuals band together into special interest groups to discuss common interests. With thousands of people reading and participating in each of the different divisions of the network, there's a tremendous base of knowledge available on almost any subject.

Unlike services such as CompuServe and Prodigy, however, Usenet articles are actually shipped from computer to computer, bringing the news to the reader, rather than requiring a connection to a central computer to peruse the information. This means that megabytes of disk space are taken up on each Usenet system. The advantage of this scheme is that articles are locally processed, locally perused and can be accessed without a direct system-to-system connection of any type, which is especially useful for smaller sites that lack networking capability. The disadvantages are that bidirectional computer-based connections to other sites are required (versus user-level interaction, as on CompuServe) and that all Usenet sites require additional disk space for information to be stored locally.

As a result of this scheme, there is no central repository of articles on Usenet; all articles are disseminated to all machines. A user entering a new contribution to a newsgroup simply creates the new article on their computer and submits it to the local netnews software. That article is then sent to the computers that are directly connected to that host, those machines send out to their adjacent systems

and so on, gradually distributing the article throughout the network. Propagation time varies widely, from a few minutes to travel across the nation to a day or two just to reach a site up the street. Typical propagation delays, however, are an hour or two per "hop," or system, and the average number of hops per article is about eight.

Usenet's Beginnings

As UNIX evolved on relatively few mini-computers across the United States in the early 1970s, programmers and users came to depend on exchanging files via the medium of electronic mail. As increasing numbers began to participate in this electronic interchange, they often found themselves sending several copies of a single message to different people on the same computer. These mailing lists became more formalized and grew to the point where it was possible for one person to send a single message and have hundreds of copies of it spread throughout the network, even though the network itself was comprised of only a couple of dozen computers. While this was extremely efficient, it wasted a greater amount of disk space.

The problem was solved by beginning Usenet as a simple "distributed news system" modeled after the original "news" command that informed users of news bulletins on their machine from the system administration staff. However, as dozens of computers swapped files back and forth in a single discussion forum, organizing them became an unmanageable mess. Some modifications to the software allowed the single forum to expand into multiple "topic" forums, each given a descriptive name.

Over the years, programmers and volunteer system administrators proposed a reorganization that broke the groups into seven new hierarchies: "comp," "news," "soc," "misc," and "rec," for topics related to computers, network news, social issues, politically sensitive topics like abortion and gun control (hence "talk"), science, miscellaneous topics and recreation.

Recently, two new hierarchies have been added to the Usenet - "alt" (alternate native topics) and "biz" (for commercial business announcements). Today,

Usenet is made up of more than 650 groups and well over 10,000 participants. These participants discuss everything from UNIX system questions to baseball to romance.

Originally written for early version of AT&T UNIX, the Usenet software (called *netnews*) is now available from user groups and similar organizations for a wide range of hardware, from mainframes to personal computers. The transport mechanism for netnews has traditionally been *uucp*, the UNIX-to-UNIX Copy Program, which was designed for slow-speed connections, typically via modem and telephone line. Most implementations of UNIX include the *uucp* package.

While *uucp* still works admirably for many, larger sites can take advantage of the higher bandwidth offered by a TCP/IP local-area network connection. There are several ways to utilize that bandwidth: having a central machine that is the "news home," which users either explicitly log in on or implicitly use as an information server; having a central file server that contains the `/usr/spool/news` directory and therein all articles currently active on the network; or utilizing more sophisticated network client/server software, such as the Network News Transport Protocol (NNTP) package, to allow users to retrieve articles on demand in real time.

Obtaining, configuring and installing the software, and actually bringing up Usenet is a complex task. However, there are some ways to simplify it. Perhaps the best solution is to obtain the software from your hardware vendor and then find someone, perhaps through a local UNIX user group, with expertise to help you install the software on your computer. Software and assistance can be obtained through the technically oriented Usenix user group based in Berkeley, CA, or through vendor-specific user groups, which have contributed software libraries that include the netnews software suite. Some commercial services also offer assistance and even news feeds, most notably UUnet Communications Service of Falls Church, VA.

The standard netnews site tends to exploit the natural organization of the hierarchical file system, so a group such as "comp.sys.sun" (for systems-level discussion of Sun Microsystems computers) would have its own directory within the Usenet article tree. All dots in group names signify descending levels of directory hierarchy. Netnews organizes all groups of a similar topic into a separate sub-tree. For example, "comp.sys.ibm.pc" and

"comp.sys.ibm.pc.programmer" are grouped under "comp/sys/ibm/pc", which itself is found in "comp" sub-tree.

Sailing Around

The first hurdle for someone who wants to begin accessing Usenet is coping with the many different groups. One of the best initial approaches is to delve into the group "news.announce.newusers" and find the article with the subject of "list of Active Newsgroups." This list will contain lots of helpful information, including an explanation of the seven branches of the Usenet group organization mentioned above.

The sidebar "Finding A Specific Newsgroup" shows the interaction required to find the "list of Active Newsgroups," read the list and search for a specific group. Once you've found the list article, you can read through the brief descriptions of each group or search for keywords that describe your area of interest. The list of groups is exemplified by this sample:

comp.dcom.lans

Local-area network hardware and software

comp.dcom.modems

Data communications hardware and software

comp.dcom.telecom

Telecommunications digest (moderated)

comp.doc

Archived public-domain documentation (moderated)

comp.doc.techreports

Lists of technical reports (moderated)

comp.dsp

Digest signal processing using computers

comp.edu

Computer science education

comp.emacs

Emacs editors of different flavors

comp.fonts

Typefonts - design, conversion, use, etc.

comp.graphics

Graphics, art, animation, image processing

The range of discussion forums is remarkably broad. If you're interested in programming languages, for example, each of the following is represented by its own "comp.lang" newsgroup: Ada, APL, C, C++, Eiffel, Forth, Fortran, Lisp, Modula-2, Objective-Pascal, Postscript, Prolog, Scheme and Smalltalk 80.

Piloted or Not

While most newsgroups on Usenet are public forums where anyone can join in to discuss any topic under the purview or mission of the group, a growing number of groups are moderated. Moderators are volunteer individuals or groups who have exclusive permission to add articles to the specified group. Participants' submissions are mailed automatically to the moderator, who acts as a filter, removing duplicate articles, inappropriate articles and those that the moderator judges should be improved (for example, by toning down what started as a hostile note).

Moderated groups range from, distributing useful, tested UNIX software ("comp.sources.unix") to humor ("rec.humor.funny") to the discussion of technology and society ("comp.society"). Of this tendency, Doug Gwyn, a longtime UNIX programmer and Usenet participant, says, "I suspect that more and more newsgroups will resort to moderation in order to weed out much of the noise."

Old Sailors Speak

When asked why they use the net, active Usenet participants (who customarily identify themselves by name only, not job title or location) give different answers. Steve Kinzler says, "The immediate access to high-level technical expertise and tools has saved me many months of work and educated me far faster and further than would have been possible in isolation. Also, its open, relatively unregulated structure, which allows experiments and diversions, is the fertile ground of innovation and discovery."

Bib Kelley values the net's social potential. "Participants of Usenet are representative of intellectuals throughout the world," he says. "With television, radio and newspapers our only source of nonregional contact with alternate opinions, it is refreshing to hear well-articulated ideas regarding social, political and technical events. Usenet is the source for many ideas."

Charles Larson sums it up: "For me, the net is like a big party where I can talk to anyone without fear, be anyone I want without trouble and never lose my anonymity."

If you can imagine a relatively unstructured conversation among hundreds of people, some of them experts, on a specific subject, you have a good idea of what Usenet is like. It's a maelstrom of information.

Much of the job of dredging up useful tidbits is left to each user but the value of this information makes the task worthwhile. Just like looking up a word in the dictionary, you can get the specific information you want and leave, or you can spend time browsing and learning about new things.

Dave Taylor is president of Intuitive Systems, a consulting firm in Los Altos, CA, which specializes in internationalization, user interface design and software marketing. He is a contributing editor of CommUNIXations.

Selected Usenet Contacts

Connecting to Usenet
UUnet Communications Service
3110 Fairview Park Drive, #570
Falls Church, VA 22042
(703) 876-5050

User groups with contrib tapes

Usenix: The Technical UNIX Users Group
2560 Ninth St., #215
Berkeley, CA 94710
(415)528-8649

Sun Users Group
2550 Garcia Ave., M/S 10-16
Mountain View, CA 94043
(415) 336-4112

Interex - HP Computer Users
585 Maude Ct., P.O. Box 3439
Sunnyvale, CA 94088
(408) 738-4848

Rap Song Generator

Submitted By Gilbert Detillieux

```
#include <stdio.h>
#include <time.h>
#include <ctype.h>

static char col1[6][30] = {
    "Move it",
    "Get up",
    "Pump it up",
    "Get down",
    "Shake it",
    "Pump the jam"
};

static char col2[6][30] = {
    "to triple beat ",
    "get body heat ",
    "feel the beat ",
    "get around ",
    "the joint is jumpin' ",
    "feet are stompin' "
};

static char col3[6][30] = {
    "in the city streets\n",
    "you'll be humpin'\n",
    "'til the night is over\n",
    "shake your meat\n",
    "I'm bustin' loose\n",
    "with disco heat\n"
};

main()
{
    int chor[2][3];
    int i,j,getpid();
    long now;

    /* Generate random seed */

    now = time(&now) / rand();
    srand(getpid() + (int)((now >> 16) + now +
time(&now)));

    /* Generate chorus and title */

    for (i = 0; i < 2; i++)
        for (j = 0; j < 3; j++)
            chor[i][j] = rand() % 6;
    printf("by\n\n%s\n")
```

```
Mixmastermeatbeaters\n\n",col1[(chor[0][0])]);

/* Print out song */

    verse();
    chorus(chor);
    verse();
    chorus(chor);
    lastline(chor);
/* printf("——\n"); */
}

chorus(chor)
int chor[2][3];
{
    int i;

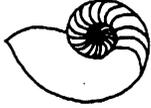
    printf("\n(chorus)\n");
    for (i = 0; i < 2; i++) {
        printf("%s",col1[(chor[i][0])]);
        printf("%s",col2[(chor[i][1])]);
        printf("%s",col3[(chor[i][2])]);
    }
    printf("\n");
}

verse()
{
    int i;

    for (i = 0; i < 4; i++) {
        printf("%s",col1[rand()%6]);
        printf("%s",col2[rand()%6]);
        printf("%s",col3[rand()%6]);
    }
}

lastline(chor)
int chor[2][3];
{
    int i;

    /* for (i = 0; i < 17; i++) { */
    for (i = 0; i < 3; i++) {
        printf("%s",col1[chor[1][0]]);
        printf("%s",col2[chor[1][1]]);
        printf("%s",col3[chor[1][2]]);
    }
    /* printf("\n"); */
    printf("(etc.)\n");
}
}
```



Technical UNIX® User Group

TUUG Business Meeting Minutes

Tuesday, March 12, 1991

Attendance:

15 present, including 3 new members and 3 guests.

Minutes of February Meeting:

Date should have read February 12, 1991. Accepted as amended.

Membership Secretary's Report:

Four new members since last meeting (3 at the meeting itself), for a total of 30 members before tonight. Membership fees are \$20 per year, pro-rated, and are due in October of each year. Cost for the balance of the year is \$10.

Newsletter Editor's Remarks:

Susan Zuk was absent, and could not report. Our president mentioned that we are always in need of more material for the newsletter, and that any contributions are welcome. Please contact Susan Zuk if you have anything to submit.

Treasurer's Remarks:

We currently have about \$900 in the bank, which will carry us to the end of the year and leave a surplus. Financial statements will be included in the newsletter by June at the latest.

New Business:

A few possibilities and options for setting up UUCP, Usenet, and/or Internet connections were discussed. The general idea is that having a system available for members to sign on to, and have access to the Unix user community at large, would be of great benefit to some. Cost and method of implementation were great concerns. It was suggested that conducting a survey of Unix users in the city might be a good way to determine demand for, and feasibility of, such a system.



Agenda
for
Tuesday, April 9, 1991
7:30pm
UNISYS Canada, Inc.
UNISYS Building
1000-1661 Portage Avenue
(See Page 2 - Announcements for Details)

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|---|------|
| 1. Round Table | 7:30 |
| 2. Business Meeting | 8:00 |
| a) Minutes of March's Meeting | |
| b) Membership Secretary's Report | |
| c) Newsletter Report | |
| d) Treasurer's Report | |
| 4. Break | 8:30 |
| 5. Presented Topic | 8:40 |
| Termcaps, regular expressions, pattern matching | |
| Presented By Eric Carsted | |
| 6. Adjourn | 9:30 |