VaTNug News

The Virginia Tech NeXT Users Group

Volume 1, Number 1 Winter 1992

/.NeXT/.NextTrash
(Editors' Notes)

This is the premier issue of the *VaTNug News*, the quarterly newsletter of the Virginia Tech NeXT Users Group. Software reviews, hardware news, Usenet discussions, and programming topics will all be regular features.

This issue features a review of WordPerfect for the NeXT, a feature article on NeXT-related development projects here at Tech, and lots of late breaking news gleaned from the Usenet, Internet, and other sources concerning NeXT hardware, third-party software products, and the future of NeXT, Inc.

VaTNug currently meets twice monthly. The group is open to all Virginia Tech students, faculty, and staff -- whether or not they currently own a NeXT. There are currently no dues. Members and non-members alike are encouraged to submit articles, news, reviews, etc. for the *News.* Send submissions to the VaTNug mailbox in Squires or as e-mail to our Editor, Tim Buck (timbuck@ vtvm1.cc.vt.edu). Anyone interested in joining the user's group may contact Tim or the group's President Pro-tem, Jake Rose (jaker@csugrad. cs.vt.edu). We maintain a VaTNug conference on VTCosy which includes Usenet feeds of comp.sys.next news groups (which are currently ranked 18th in overall Usenet posting volume), plus local discussion topics. Anyone registered on VTCosy may join any of these conferences. As this first issue goes to "press" (well, actually laser printer) it will also be submitted to some of the well known anonymous ftp archives for NeXT related items (See page 2). The electronic version will be distributed as a single PostScript file. NeXT users already know this is a great way to distribute and receive full text and graphics documents. Hopefully, those without access to a NeXT will have a PostScript laser printer handy.

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***VaTNug News* staff**

Editor
Tim Buck
Contributing Editors
Alan Batongbacol
James Powell
Advertising Coordinator
Jake Rose

VaTNug News is produced using WordPerfect 1.01 for the NeXT. The VaTNug logo was created using Stone Design's TextArt.
It is also published electronically and posted to archives at nova.cc.purdue.edu and other anonymous ftp sites.

NeXT Projects on Campus
by
Timothy Buck

NeXT computers are appearing all across the Virginia Tech campus. The powerful but easy-to-use NeXTStep® interface along with the innovative developer's tools make NeXT the obvious choice for a variety of uses, both in research and production. Here's a partial list of projects at Virginia Tech involving NeXT computers:

- A team of Computer Science faculty and graduate students headed by Dr. Marc Abrams is using Interface Builder to quickly build prototype user interfaces for a project for IBM. Though the software will eventually be ported to an RS/6000 system, the NeXT helps speed up the development process.
- The Computer Science department also has two NeXT systems that are used for Information Storage and Retrieval research. Both have 20MB of memory, 400MB of disk space, and one is equipped with a 9600 baud fax modem.
- Dr. Ed Fox of the Computer Science Dept. is supervising a project at Virginia Tech's Computing Center to

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Campus *(Continued from page 1)*

build a library catalog search system that allows users to choose among multiple user interfaces (including NeXTStep and XWindows), using two NeXT computers as its server cluster. One of these servers has 64MB of memory, the other has 32MB, and each has a 400MB and a 1.2GB disk. The project should be completed sometime next year, when records from the University Libraries' online VTLS catalog (which runs on a Hewlett Packard 3000 Series 960 mainframe) will be loaded onto the servers.

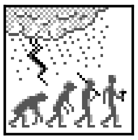
- The Computing Center is using a NeXT computer (nextadm.cc.vt.edu) as one of Tech's Internet domain name servers and as administrative server for the telnet and SLIP services.

And still elsewhere on campus:

- A NeXTstation was spotted in a window of Burruss Hall, home of our beloved student accounts.
- NeXT boxes were spotted in MSL at the Virginia Tech Corporate Research Center and in a 3rd floor Norris Hall (Engineering) window sill..

Editor *(Continued from page 1)*

Wouldn't a true multimedia newsletter with sound, graphics, source code as ready-to-compile attachments, and even ready-to-run executables be exciting!!? Software like NeXT's *Mail.app* and Lighthouse Design's *Diagram!* will make it possible. We'd like to hear your comments and suggestions. Depending on your response, the first multimedia issue of the *VaTNug News*, which will be as far as we know the first newsletter of its kind, should find its way to the FTP archives very soon. In the mean time enjoy this "old-fashioned" issue!!



"It Takes a Licking... "

from Internet sources

[Editor's Note: Don't try this at home!]

Mike Tie at Carlton College phoned NeXT last week to order a new keyboard. It seems there was a major snowstorm that knocked down a tree and broke a window, consequently completely covering a NeXT cube in his lab with snow. When he arrived Monday and dug the cube out, the temperature was 15 below 0 degrees Fahrenheit and the cube was still on....the keyboard was a little soggy, but he thinks it will work when he drys it out.

In related news, a local NeXT owner (who wishes to remain anonymous) reported that his cat knocked his monochrome MegaPixel monitor off its place on his desk, a distance of approximately 3 feet. The monitor proceeded to bounce a couple of times across the (carpeted) floor of his apartment. As far as he can tell, no major damage was done, other than loosening the monitor cable connector.

News & Rumours

compiled from Usenet, Internet, and other sources

- What do **MIPS**, **RS6000**, **80x86**, and **SPARC** have in common? They are all targets for shrink wrapped NeXTstep. Look out Sunsoft!!! Some predict you will be able to purchase a Korean 486 clone with NeXTstep preinstalled within a year or so. I'd settle for an American 486 clone myself... :)
- Lotus Development Corporation has officially announced (in Lotus

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Mein Kampf

or How I Learned To Stop Worrying and Got A Loan

by

Alan Batongbacal

"Now *that's* what I call a sexy machine!"

It was late 1988 and my friend Queena was aghast that I had used 'sexy' and other politically incorrect words to describe a machine. You see, I was reading a review of the NeXT Cube in Unix World--the review had excellent photos of the system from the outside and inside, and I guess she could see that I liked what I saw. This is my new dream machine, I said to myself, and on that day I promised myself, "Someday...."

It wasn't until I came to the States for graduate school that the dream became at least remotely attainable. The arrival of the NeXTstation didn't help--the moment I laid my eyes on it, I knew that I would do almost everything in my power to get my own. For months, I saved and scribbled and calculated just how much it was going to cost me. The thought of spending $4000 all at once gnawed at my conscience. Did I really need to make this purchase, or did I merely want to be cool?

Then, like manna from the sky, an excuse found me. I was enrolled this semester in an artificial intelligence course one of whose requirements was a substantial programming project. I had done my previous semester's programming work on the machines in our department, and had grown tired of having to share CPU cycles and having to leave my warm cozy apartment to go to the lab every night. Here was my chance to end all of that and become way cool in the process. Besides, NeXT had this software deal valid until

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Kampf *(Continued from Page 2)*

the end of October, and hey, that was yet another excuse, so...

But something kept holding me back. I had heard that some big announcements were set for January. Was NeXT going to announce some new machine? Would it be that much faster? Would it be heartbreakingly less expensive? I sought to assuage my fears by asking around, but nobody had any news. I knew then that I had to act decisively.

I took out a loan the NeXT day. I guess my loan officer was excited herself about my getting a NeXT, because by noon I had a check and was driving the 180-odd miles to the regional distributor's retail office. When I got there, I selected my slab and picked out a MegaPixel that had the best-looking display--I had been reading reports on the net about distorted displays and other problems, and was careful to get something for which I wouldn't have to drive three hours to return. I handed the dealer my check, and I loaded everything into the car. I was a bit disappointed that the software package would have to come separately, but was too euphoric to really care.

I went to Washington, DC that weekend and had to wait until Monday to set up my precious. That was probably the longest weekend I had had until then, but DC was a blast, so that helped.

I set up my machine immediately upon my return. Finally, the moment of truth. The realization of a dream. The fulfillment of a fantasy. I spent that night, playing with my new NeXT. I had bought it with a programming environment as my target; however, all my $4000 got me was the basic system, so I had to spend the next few days reconfiguring my drive. I saved Digital Webster to a Syquest cartridge I had bought for the purpose and started loading up the development goodies from the NeXT Cube we have at school.

Today, I have a development system on my NeXT. I don't have the manuals or the demo programs, and will have to wait until I can afford to buy an external drive and some additional memory. However, I am *happy* with it. I can do probably all the programming I'll need to do to finish my degree, and then some. Already I'm itching to start work on a shareware project I'll put out on the archives. I'm going to need the money.

And oh yes, that programming project? I aced it.

Acknowledgment: I take this space to thank my girlfriend Lucia without whose car, external drive and understanding much of this would have been impossible.

NeXT-related anonymous FTP sites

There are a number of anonymous FTP sites on the Internet where you can find software, technical information, and other NeXT-related files. Here are the Internet addresses of a few of the more well-known sites and the focus (if any) of the files found there:

nova.cc.purdue.edu (128.210.7.22)	General
cs.orst.edu (128.193.32.1)	General
princeton.edu (128.112.128.1)	Music
otter.stanford.edu (36.21.0.104)	*Mathematica*
ccrma-ftp.stanford.edu (36.49.0.84)	Music
sutro.sfsu.edu (130.212.15.230)	General
f.ms.uky.edu (128.163.128.6)	General
prep.ai.mit.edu (18.71.0.38)	*XNeXT*

WordPerfect for NeXT Computers : One Subjective Review

by James Powell

WordPerfect on a NeXT? I knew from talking with coworkers that the software- consuming public feels a platform has some legitimacy when a company like WordPerfect ports to its hardware. I felt that same way when I found out a version of WordPerfect was coming out for the NeXT. I've had an ongoing love/hate relationship with the DOS version of WordPerfect.. I concede it provides an exhaustive list of features. But then carry the manual around to learn how to use these features and you'll end up, well exhausted. It is not easy to use. Does anyone like having to call up the Print menu to view the page as it will appear? Silly color codes do not help and Reveal Codes makes more of a mess on that cluttered little PC screen. So I began to think maybe WordPerfect just decided they had found an easy platform for developing a prototype WYSIWYG version of their word processor. I thought then maybe NeXT is doing WordPerfect a favor instead of vice versa.

Well, I think they both did each other a favor. WordPerfect for the NeXT is stable and complete enough a port to sell some NeXT computers. It also appears that WordPerfect for Windows bears more than a passing resemblance to its NeXT cousin, including a file viewer that bears a remarkable resemblance to the NeXTstep File Viewer. So undoubtedly WordPerfect Corp. was also bitten by the NeXTstep bug!

WordPerfect for the NeXT is very much a NeXTstep application. It exchanges data nicely with other

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WordPerfect *(Continued from page 3)*

applications - as long as it is ASCII text or graphics, and provides access to all the usual services most other services-aware provide. Some capabilities are buried fairly deeply in the menu system but the inspectors for things such as graphics manipulation are modular so that you are not overwhelmed when you first call one of them up.

This is still WordPerfect, with all its power and quirks. If you open enough inspectors, font panels, etc., while editing a complex document with graphics, you will find the cursor lagging a character or two behind you as you type. Anyone who has used WP 5.1 on an 8088 machine is familiar with this annoying effect, but of course there is a lot more going on here. Reveal codes is still here, now called the Inspector. All fonts and special codes are displayed as very NeXTish three-dimensional tiles. I was surprised to find that I still wanted to see this information in a WYSIWYG environment, but now I feel lost when I use WriteNow and have no way of viewing this sometimes hidden data. Other useful features include merge codes, a spell checker and thesaurus, line and page layout, styles, and more extended characters than I'll ever use.

One of this version of WordPerfect's best features is the macro language. Macros are easily recorded from mouse events. An editor is also provided, based on the same dubious notion as that of DOS WordPerfect: creating a macro by selecting commands from a menu. This editor is more attractive than the DOS version, with little three-dimensional tiles representing macro commands, and more flexible, providing several macro tracing options and functioning in a window separate from any open documents. But like its DOS counterpart, you cannot print the macro commands, and most inexplicable of all, only commands show up in the macro edit window when you edit a recorded macro, not their arguments. Perhaps it was never intended for recorded macros to be edited. The macro editor provides a substantially larger and different set of macro commands than the DOS version. The two languages are incompatible. User defined macros may become part of the menu structure by choosing the Macro Menus... option. This is really an impressive feat, completely integrating user macros into the NeXTstep environment, one Lotus could surely learn from for a future version of Improv! This feature was carried over to WordPerfect for Windows which provides a limited version of this capability allowing 9 macros to be accessible from the macro menu.

Compatibility with DOS is fairly good. I've been disappointed several times with graphics. WordPerfect doesn't always really bring a graphic into a document, but just sort of links to it. This is fine under NeXTstep, but try taking the document to a DOS machine and printing it. The graphics will be missing. Your only clue will be Reveal Codes claiming the graphic is on the Pasteboard. Documents from DOS which contain line drawing characters do not display correctly on the NeXT version. And as mentioned above, the two macro languages are incompatible and NeXT WP will usually crash if you try to execute a DOS macro.

There is at least one bug in the software - sometimes the pull down list of save formats just disappears. This is very annoying. Also annoying, slow graphics updating and the appallingly skeletal online documentation. But many activities are so much more straight forward, and intuitive than with WriteNow (I never thought I'd call WordPerfect intuitive!), and there are so many more options here than with WriteNow, that I'd choose WordPerfect any day. It is kind of like moving from DOS to UNIX, you know you have power because you can't possibly learn all the commands.

I recommend this software. This is what WordPerfect intends for its word processor of the future, and once again those of us in the NeXT world get it first!!!

Rumours *(Continued from page 2)*

magazine) that is is porting its revolutionary *Improv* spreadsheet to a "graphical environment" on "two or more other platforms", and "putting more resources behind *Improv* development than ever before." Hmmm, I wonder what other platforms Lotus is referring to?

• NAL (the National Agriculture Library) has purchased *VTLS InfoStation*, a NeXTstep front-end and connectivity package for use with the VTLS OPAC software (which runs on HP 3000 Series mainframes). *InfoStation* provides access to multimedia data stored on the HP computer, along with information search and retrieval from the VTLS online catalog. Look for an article about VTLS and *InfoStation* in the next issue of the *VaTNug News.*

• NeXT may announce a downsized product line in January intended to set new price-performance levels. How can you downsize a product that's already a pizza box? Get rid of the screen, for one thing, replacing the CRT with a ferro-electric flat panel display from Canon. These screens are fast and bright and, because they aren't literally active matrix, scoot right past the U.S. trade restrictions on active matrix displays. Look for Canon to also contribute a 3½ inch, 256 megabyte magneto-optical disk with 20 millisecond access times to the new NeXT machines. In fact, look for Canon to build the entire system!

[from a recent InfoWorld column]

```
#import <appkit/appkit.h>
#import <assert.h>

@interface nugView : View
{
}
- drawSelf:(NXRect *)rects :(int)rectcount;
@end

@implementation nugView
- drawSelf:(NXRect *)rect :(int)cnt
{
        int count;
        float currcolor;

        PStranslate(300,300);
        PSmoveto(0,0);
        PSselectfont("Times-Roman", 40.0);

        for (count=15; count<360; count+=15)
        {
                currcolor=((float) count + 0.05)/ 360.0;
                PSsetgray(currcolor);
                PSgsave();
                PSrotate(count);
                PSmoveto(0,0);
                PSshow("VaTNug");
                PSgrestore();
        }

        PSsetgray(NX_BLACK);
        PSmoveto(0,0);
        PSselectfont("Times-BoldItalic", 60.0);
        PSshow("VaTNug News");
    return self;
}
@end

id nugobj;
void main()
{
    id nugwindow;
    NXRect aRect={{300.0, 300.0}, {800.0, 600.0}};

   [Application new];
   nugobj = [[nugView alloc] init];
    nugwindow = [[Window alloc] initContent:&aRect
         style:NX_RESIZEBARSTYLE
         backing:NX_BUFFERED
         buttonMask:NX_MINIATURIZEBUTTONMASK
         defer:NO];

   [nugwindow setContentView:nugobj];
   [nugwindow display];
   [nugwindow orderFront:nil];
     [NXApp run];
}
```

nugdisplay.m

```
cc -o nugdisplay nugdisplay.m -lNeXT_s
```

Programming Notes: **Magic**

by
James Powell

[Editor's Note: Do try this at home!]

To paraphrase a famous quote from Arthur C. Clarke, any programming language sufficiently advanced is indistinguishable from magic. As I move from the relative safety of Ansi C into the world of Objective C,I feel like I am mastering magic. A subclass here, an instance or two there, a couple of carefully phrased messages and suddenly I have a NeXTstep application.

This application makes use of the Window and View object classes. These classes belong to a set of "master" classes responsible for everything from interacting with the Window Server and Mach (Window), to drawing to a window on the screen (View).

An **instance** of Window is declared as nugwindow. View is first subclassed to nugView (a subclass is a new object based on others), which inherits all the functionality of the View class and adds the drawself **method** (think function for now) to do some PostScript drawing into the application window. The instance of the nugView subclass is nugobj. For each instance of an object, there must be a variable of type **id** declared. Instantiation occurs when a message is sent to the object to allocate memory space for itself and copy itself to memory. This code is then represented by its id variable throughout the program. All methods defined in this object which can receive messages are called **delegates**. Work that is accomplished by objects is performed by delegates when they receive an appropriate message.

Still seems like magic to me. Can the cave man hack it in Manhattan? Stay tuned...