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Free Objective-C Compiler

by Nick Christopher

As a developer on the NeXT and an advocate, Objective-C has always been somewhat of a mixed blessing. I hold with the belief that Objective-C is a far better development language then C or C++. It offers the simplicity of C with true object oriented capabilities. The down side is that only NeXT and Stepstone offer it. NeXT is already branded as too proprietary and Stepstone is very expensive and even less financially secure than NeXT. Its hard to evangelize a language that is almost unavailable.

Things have begun to change. NeXT's Objective-C, along with several other tools, is based on a product from the Free Software Foundation, Inc (FSF). The FSF (known for its product moniker GNU) has long produced good quality Unix software distributed for only the cost of the media. NeXT took its Objective-C enhancements to the GNU C compiler (gcc) and gave them to the FSF. And the FSF incorporated them into gcc 2.0. What this means is that any platform that can run gcc, (about 100+ machines I would guess) now have access to a free Objective-C compiler. I said that this is only the beginning of the change because a runtime library which provides everything from the basic Object class clear through the Appkit is not yet publicly available. I have heard rumblings that one is in the works, and I have to believe that its only a matter of time.

Since I felt that the advent of a free Objective-C compiler was very important, as soon as I heard that gcc now had Objective-C rolled into it I would get a copy and test it out. This was not a decision to make lightly based on my passed experience with GNU products. The tend to be multiple megabyte compressed tar files, they are interdependent (you need the FSF's version of YACC called bison to get gcc to compile for example) and they are usually fairly tricky to compile. But I had a mission.

Getting GCC

The site I was working at when gcc 2.0 was made available had a already received a version of the four plus megabyte copy of the source. That saved me a fair amount of effort. They also had the newest bison so that too was not a problem. So I was faced with the ugly task of building the compiler. In the past I had spent entire days of tinkering to get previous versions of the FSF's C++ compiler to work on a SUN. Well C++ is rolled into gcc now and that was all behind me I hoped.

Surprisingly enough the installation procedure was straight forward. Configuring the compiler for the NeXT was a simple one line command. The entire compilation procedure, which did involve over an hour, worked without a hitch from start to finish and the resulting compiler worked! However, the effort was not without its problems. It turns out that gcc 2.0 has two bugs on the NeXT, it whines about #import, and can't link to NeXT cc compiled objects. Luckily patches for both the bugs are available and when applied the compiler can be used as a direct replacement for the standard NeXT compiler.

To be thorough, I had gcc compile the GNU C++ runtime library (libg++). You see NeXT has a C++ compiler in their Developer Edition but it lacks a runtime library. If you want to use C++ to its full extent you need the runtime library. I have clients who use C++ so I thought that I should try gcc out on this. Well it appeared I found another bug in gcc 2.0. Compiling the newest libg++ on the NeXT generated some strange errors.

Well I was told that in fact I should use gcc 2.1, I was a version out of sync, with one additional patch. I got the patches that advance gcc 20 to gcc 2.1 and the additional patch and applied them all and then recompiled gcc. Without any problems gcc 2.1 was born and this time the newest version of libg++ compile with only a couple of problems.[1] While there were a few hitches I was really impressed with the simplicity of creating the new versions of gcc. The fact that a top quality compiler is free and was far easier to create and install than many commercial packages is a real testament to the hard work of the FSF, and as of this article I will be joining the League for Programming Freedom[2] an organization recommend by the FSF as being dedicated to making sure that efforts like their own can continue in this, the age of software patents and look-and-feel lawsuits.

The Real Test NeXT cc v. GNU gcc

First let my say that in some sense this is a bit of a mute test since NeXT's cc is basically a modified gcc 1.36. But nevertheless, here is what I found in a very limited testing. The times below represent an average of a couple of runs, in random order testing.

First I tried compiling a smallish application I wrote.

		make debug	make
Compile Time (sec)	cc	28.3	24.3
	gcc 2.1	32.1	29.9
Size of Result (kb)	cc	447894	447666
	gcc 2.1	450311	450737

Consequently gcc 2.1 was sightly less efficient but not by much. Next, I compiled a fairly CPU intensive compression program with both compilers. I turned on as much optimization as I could for each. Once I had a resultant program, I compressed a 4.3 meg file.

Size of Program(kb)	cc	16364
	gcc 2.1	16384
Compression Time (sec)	cc	90.2
	gcc 2.1	87.8

As a result the programs were of the same size but gcc 2.1 produced a bit faster program.

So gcc 2.1 Works But Should You Switch?

I did. The statistics above might not merit the change but I considered other things when I decided to start doing my work with gcc 2.1. First, I use it because it is a newer version of gcc than NeXT's cc and so it can compile the newer versions of other FSF products (i.e. NeXT's cc could not have compiled libg++ 2.0). The second reason I switched to it because of what it represents. Objective-C needs a free compiler and I want to take an active role in moving towards that goal. I can't say that I would push non-serious NeXT developers to switch though. Its a fair amount of work and resources for something that does not represent a real improvement.

[1] libg++ had a few function definitions that disagreed with the NeXT, mostly to do with sockets and also the library tried to replace strtol() with its own version - NeXT's don't take kindly to having their system functions replaced.

[2] For information about the League for Programming Freedom write:

League for Programming Freedom
1 Kendall Square #143
P.O.Box 9171
Cambridge, Massachusetts 02139

NeXT IN THE NEWS

by Eric Rosenthal

Gary Walker, Why the Choice Must Be C++, *C++ Journal*, 1992, no. 1, pp. 52-61, 63-65. One company chose C++ as its object-oriented programming language because its status as a de facto standard will bring better development environments, tools, training, and support. Six other languages with commercial support were also evaluated. Objective-C was criticized because weak static type checking makes many errors hard to find, performance may not be adequate for real-time applications, and few vendors support it. However, it was called "fairly successful" for applications involving a graphical user interface.

Inside Lines, *Computerworld*, March 30, 1992, p. 114. After hearing a voice-mail message from H. Ross Perot during a NextStep demo, Steve Jobs told an audience "He'd be a really awesome president."

InterActive Author for Next workstations (item in Pipeline), *InfoWorld*, March 30, 1992, p. 18. Imagine Multimedia Inc.'s multimedia authoring software.

NeXT names president, COO (item in Business Briefs), *MacWEEK*, March 30, 1992, p. 24. NeXT Computer Inc. names Peter van Cuylenburg president, chief operating officer, and board member.

Jean-Louis Gassée, Open systems that are open for business, *MacWEEK*, March 30, 1992, p. 27. Microsoft says MS-DOS and Windows are more open than Unix, and when Windows NT is POSIX-compliant it will be compatible with Unix. "NeXT Computer Inc. calls NT a 'Unix wannabe' and says it delivers the kind of NT goods today. But, while Chairman Steve Jobs can fight it off with Chairman Bill on rhetoric, there is the nagging installed-base question."

Cara A. Cunningham, Unix Standards Ease ISVs' Burden, *PC Week*, March 30, 1992, pp. 61, 73. Lists NeXT Inc. among companies planning new versions of system software in 1992.

Christopher Stetson, Still Complex, Unix Puts on a Prettier Face, *PC Week*, March 30, 1992, p. 105. NeXT Computer Inc. is the only major UNIX workstation vendor not using an interface based on X Windows. When Jobs decided to combine the ease of use of the Macintosh with the power of Unix, X Windows was still a research project.

Unix Graphical Workstations, *PC Week*, March 30, 1992, pp. 108, 110. Product directory includes NeXT.

Workstation Warriors Square Off, *UniNews*, March 30, 1992, p. 3. Next and Sun Microsystems are targeting each other. Next compared the two development environments in its videotape *Next vs. Sun: A World of Difference* and in the Booz-Allen & Hamilton survey it commissioned. A Sun presentation attacking Next's financing and Jobs triggered a detailed rebuttal from Next.

Robert Pool, Software for solving equations, *Science*, April 3, 1992, p. 55. NeXT's chief scientist, Richard Crandall, believes symbolic mathematical software can give more than number-crunching programs.

OnDuty provides productivity tools for Next computers (item in Pipeline), *InfoWorld*, April 6, 1992, p. 24. Digital Instrumentation Technology Inc.'s OnDuty 1.0 is shipping.

Gary M. Bradfield, If it acts like a NeXT, then it must be a NeXT (letter), *MacWEEK*, April 6, 1992, p. 44. The descriptions of future Taligent and Microsoft products sound like NeXTstep, which is already available. "If poeple want an operating system like a NeXT, an imaging system like a NeXT and a development system like a NeXT, maybe they should be aware that there is a NeXT."

Mac the Knife, That'll work (item in Phone-in-the-Mac potential), *MacWEEK*, April 6, 1992, p. 118. Apple is developing a new Macintosh help system with NeXT-like windows.

Robert X. Cringely, Stick to PCs, Mikey (item in Notes From the Field), *InfoWorld*, April 13, 1992, p. 110. Dell's NeXT PC will ship this summer when NextStep 3.0 is available.

Solaris goes after volume sales with Intel version, *InfoWorld*, April 20, 1992, p. 102. SunSoft president Ed Zander calls NextStep inadequate because it is tied to the hardware and predicts it will not run as well on Intel hardware.

Matt Kramer, PCShare's Plans To Boost PC Clients with Unix Need Work, *PC Week*, April 20, 1992, pp. 49, 56. Review of Helios USA's PCShare describes linking a Dell 333D PC to a NeXTstation Turbo Color, allowing the PC to log on to the NeXT, mount Unix volumes as DOS devices, and redirect DOS output to the NeXT PostScript printer.

Briefly Noted (item in Late News), *PC Week*, April 20, 1992, p. 138. Frame Technology and BOSS Logic will jointly market and distribute a Windows version of BOSS's Document Manager, now available for NeXT.

William F. Zachmann, 32-Bit GUI Alternatives: No Contest, *PC Magazine*, April 28, 1992, p. 192. Discussion of 32-bit GUI operating systems for Intel chips includes NeXTstep 486.

LuAnn Vitalis, New in the Resource Center, *BCS Update*, May 1992, p. 19. The Resource Center now has Illustrator 3.0 from Adobe and Ragnarok: Twilight of the Gods from David S. Joerg Productions.

Albert Willis, Apple Introduces QuickTime (item in The View from the BCS), *BCS Update*, May 1992, p. 21. Apple's QuickTime Movie Exchange Toolkit will support many platforms. "I think it's interesting that there isn't support for NeXT."

FORTRAN Math and Statistical Programming, *BYTE*, May 1992, p. 84. Product announcement for Absoft Corp.'s IMSL FORTRAN Libraries fror the Next.

Bruce Schneier, Untangling Public-Key Cryptography, *Dr. Dobb's Journal*, May 1992, pp. 16-18, 20, 22, 24, 26, 28. Sidebar "Public-Key Cryptography Meets the Real World" describes recent implementations. Next Inc.'s Fast Elliptic Encryption (FEE) algorithm may be more secure than RSA, although some researchers believe it is vulnerable to mathematical advances. Next plans to use the algorithm for security and authentication, pending NSA approval, to patent its speedups (although other patent applications could present complications), and to license the algorithm without royalties.

Create 1.1, *New Media*, May 1992, pp. 44-45. Product announcement for Stone Design's Create 1.1, listing new features of upgrade.

TypeView 1.0, *New Media*, May 1992, p. 47. Product announcement for Vivid Publishing's TypeView 1.0

Jeff Duntemann, Application Frameworks and Tools, *PC Techniques*, April/May 1992, pp. 43-44. Review of The Stepstone Corporation's APIpac V1.0, "a set of Objective C classes that, taken togeher, comprise an application framework.… Low-level system access is encapsulated in an object called a *context*, so that different platforms can be supported simply by linking in the appropriate context.… Objective C has an elegance about it that makes C++ look random and frazzled by comparison, and APIpac shares in that elegance. Give it an objective look."

Joe Hutsko, Susan Kare: The Face Behind the Interface, *Publish*, May 1992, p. 108. Interview with Susan Kare, the artist who was Next's creative director in 1986-88.

C. James Galley III, Inside, *PC Magazine*, May 12, 1992, p. 4. Strategies for testing Apple, NeXT, and Sun workstations for the issue's cover story.

Michael J. Miller, A Long Way from VisiCalc, *PC Magazine*, May 12, 1992, pp. 81-82. Discussion of advances in spreadsheets mentions Lotus Improv and Computer Associates' CA-Compete for NeXT (but soon for Windows) as supporting multiple views of a single model.

Jim Seymour, Platforms: How the PC Stacks Up, *PC Magazine*, May 12, 1992, pp. 113-117, 120, 122, 125. Introduction to cover story comparing PC, Mac, Sun, and NeXT. "Templation abounds. You want the power of a Sun workstation, the ease of a Macintosh, the cool elegance of a NeXTstation. But when it comes to getting your work done, you come back to the PC."

Jon Zilber, The Macintosh: The Choice for Graphics, *PC Magazine*, May 12, 1992, pp. 127-128, 141. Analysis of Macintosh for the issue's comparison of platforms mentions that the configuration tested was comparable in cost to a NeXTstation Turbo Color.

M. Keith Thompson, The NeXT Generation, *PC Magazine*, May 12, 1992, pp. 153, 161, 165. Analysis of NeXT for the issue's comparison of platforms. "NeXT combines Unix's power with the Macintosh's ease of use in an elegant, well-designed system. Here is one solution for companies that need custom applications, vertical-market solutions, and multimedia presentation tools running alongside standard productivity applications."

Julie Cohen, PCs: A Matter of Choice, *PC Magazine*, May 12, 1992, pp. 167, 170-171. Conclusion of this issues comparison of computing platforms. "Don't worry: You have chosen the right computer. No other platform has the widespread acceptance, the vast library of software, or the affordability of the Intel-based PC."

Executive Interview with Steve Jobs, *Oracle Magazine*, Spring 1992, pp. 10-14. Mission-critical custom applications interoperating with shrinkwrapped productivity applications and interpersonal computing will be added to the paradigm of the '80s. Object-oriented programming is a way to encapsulate complexity with clean interfaces, which provides greater code reuse, speed, and flexibility during development. Interpersonal computing is a new form of organization independent of geographic location and management hierarchy. A complete object-oriented development environment, which is not just a language but also includes a rich set of objects, allows the management of greater complexity. NeXT's Database Kit, which was developed in response to customers' request for objects to make database programming even easier, includes tools to work with several databases. Corporate data centers will move applications from mainframes to reduce costs and improve the user interface, and shift their emphasis from data management to application development because the bottleneck with data is the lack of applications. The computer industry is technology-driven: Apple was driven by the technology which made the PC possible and later by graphical user interfaces, IBM by Winchester drives, Sun by workstation and UNIX technology, and Oracle by database tech-

nology. "The most recent amd most profound technology shift I have seen since the Macintosh is object-oriented system software, which goes far beyond C++ and the simple things that people think it is." The business risk of adopting NeXT is exceeded by the technology risk of adopting technology that will not support desired applications. NeXT's customers are focusing on rapid custom application development. NeXT supports many standards, and as the shipper of a majority of object-oriented computers it is the de facto standard for object-oriented computers. NeXT's automated factory demonstrates that world-class domestic manufacturing is possible.

An X Above the Rest, RS/Magazine, April 1992, p. 10. Mentions Pencom Software Inc.'s co-Xist.

Keeping count (item in Tech Talk), *Computerworld*, April 27, 1992, p. 26. Next, Inc., part of team verifying largest known prime 2^{756389}-1 discovered at AEA Technology's Harwell Laboratory with 19 hours of calculation on a Cray-2 supercomputer.

Mark Brownstein, Beta testing begins for NextStep 3.0, *InfoWorld*, April 27, 1992, p. 8. NextStep 3.0 began beta testing last week, according to Steve Jobs at Federal Computer Conference West.

Robert X. Cringely, Dollars and Sense (item in Notes From The Field), *InfoWorld*, April 27, 1992, p. 98. According to the May issue of *Upside* , Next sales are one-tenth of the amount claimed.

Peter Coffee, Corporate Buyers Face Monstrous PC Decisions (editorial), *PC Week*, April 27, 1992, p. 72. "And with most corporate users now networked, buyers are 'free' (i.e., forced) to consider alternatives such as Macintosh, SPARC, NeXT and RS/6000 that are readily intermixed via the network. In some cases, they can even share floppy disks. Vendors attack the critical price point of $5,000 from all directions, each claiming a different advantage: ready availability of software and skills with PCs, mature ease of use with the Macintosh, multivendor networking with SPARC machines, ease of software development on the NeXT, raw power on the RS/6000."

POET, *C++ Report*, May 1992, p. 65. Product announcement for BKS Software's POET (Persistent Objects and Extended Database Technology).

Barry Gerber, The Bottom Line: Interoperability Means Saving Resources, *Network Computing*, May 1992, pp. 178, 180. The author declines to support other Unix systems (including NeXT) to avoid software differences.

Marcy J. Gordon, NeXTStep Stepped Over (letter), *Software Magazine*, May 1992, p. 8. NeXTStep, the only available object-oriented operating system, should not have been omitted from the March article "Object Technology Means Object-Oriented Thinking."

Rick Farris, DEC Challenges PC Pricing, *UnixWorld*, May 1992, pp. 71-72, 74. Review of Digital Equipment Corp.'s DECstation 5000/25. "Still, the 5000/25 is affordable. It deserves consideration if your business is waffling between DOS and UNIX and weighing PCs against low-cost Suns against Next systems against Sun clones."

Hardware & Software Support, *UnixWorld*, May 1992, p. 125. Listings for Absoft Corp.'s IMSL Complete Fortran Libraries Group of mathematical subroutines and RDR Inc.'s Powerpalettes for Interface Builder.

NeXT's Latest Step, *Workstation News*, May 1992, pp. 34, 38. NeXTstep Release 3.0 has additional connectivity software, tools for developing database and 3-D graphic applications, enhanced interpersonal computing, and integrated foreign language support and help systems. NeXT also announced NeXTstep 486, Turbo systems, a color printer, and a CD-ROM drive.

Clair Whitmer, NeXT, Taligent could be headed on collision course, *MacWEEK*, May 4, 1992, pp. 20, 22. NeXT "is beginning to find its niche" but Apple's Pink and RISC projects could give it competition. Apple says Taligent's object-oriented Pink software is for "large companies to develop custom software for network workgroups," NeXT's targeted market. NeXT's vice-president of marketing, Mike Slade, credits Taligent for legitmizing NeXT's position that the "object is the advantage." Analysts say NeXT has at least an eighteen-month window to exploit its object-oriented advantage.

Quabidur R. Safi, SoftSolutions Eases Retrieval, *PC Week*, May 4, 1992, p. 38. MS-DOS text retrieval software tested by search for "NeXT."

Mark B. Bundick, Next on the Agenda (letter), *PC Week*, May 4, 1992, p. 84. Response to March 23 review of Turbo Color, report on Windows problems, and column advocating porting Windows to Unix praises NeXT.

NextStep Versions in the Works (item in Late News), *PC Week*, May 4, 1992, p. 150. Beta test of NextStep 3.0, due in June, has begun. Beta test of NextStep 486 will follow.

Rumor Central: Beam Me Up, Scotty! I Think We've Seen This Movie Already, *PC Week*, May 4, 1992, p. 150. At Hambrecht & Quist conference, Steve Jobs discussed NT. "It's Microsoft's second attempt at [being] a Unix wannabe. It's better plumbing for Windows. You're still stuck with the worst development environment."

Rich Karlgaard, Upside's side (letter), *InfoWorld*, May 11, 1992, p. 38. *Upside* response to Cringely's April 27 column about its cover story on Next states article states the $350 million figure appeared in another publication and reminds readers that the cover art is a caricature.

Robert X. Cringely, Menage a Trois? Not! (item in Notes From The Field), *InfoWorld*, May 11, 1992, p. 106. Next may replace the 88110 by IBM and Motorola's PowerPC because it does not expect Motorola to be able to simultaneously develop all its microprocessor families.

Jon Swartz, Microsoft, NeXT discussions reported, *MacWEEK*, May 11, 1992, p. 24. Microsoft and NeXT are discussing a deal in which Microsoft would port its Word and Excel programs to NeXT in exchange for partial rights to NeXTstep.

Steve Rosenthal, Developer tools reach out across platforms, *MacWEEK*, May 11, 1992, pp. 28, 30, 32. A paragraph about Abacus Research and Development Inc.'s Executor will cost $80 per application on a list of 28 major applications, but may be used to run other compatible Macintosh applications.

Mitzi Waltz, The state of Mac development tools, *MacWEEK*, May 11, 1992, pp. 28, 30, 32. "Gregory Dow, chairman of the board at BMUG Inc. of Berkeley, Calif.., and leader of its Programming Special Interest Group, said: 'Every year there are machines that are twice as fast as the machines before them, yet people are developing software with the same programming languages and tools they were using five, 10, even 20 years ago.' Innovations such as the NeXTstep Interface Builder from NeXT Computer Inc. get industry raves but are slow to spread, he added. Object-oriented programming, once hailed as the panacea for speeding up Mac development, can't do the job alone. '[Ap-

ple's] object-oriented stuff is nice,' [Objective Software's vice president for Objective Software Inc.] Mashima said, 'but it doesn't solve [the problem]. I wish Apple had an environment like the NeXTstep Interface Builder, because we spend over half of our time doing interface work. It would help our prototyping process.'"

Paul M. Sherer, SoftPC Emulation Software To Let Users Run Win 3.1 on SPARC PCs, *PC Week*, May 11, 1992, p. 62. The new SPARC version of SoftPC from Insignia Solutions will emulate an 80286 in protected mode, supporting Windows 3.1. According to Insignia's director of OEM sales, Douglas Reid, "there are very meaningful discussions going on" with NeXT and other vendors.

Paul M. Sherer, NeXT Sends NextStep 3.0 into Beta, Readies Version for Intel-Based 486s, *PC Week*, May 11, 1992, p. 62. NextStep 3.0 went into beta test in April, and NextStep 486 will enter beta test in June. According to Steve Jobs, OEM deals for NextStep 486 have already been finalized.

Orrin C. Kerr, NeXT Is Worth a Look (letter), *PC Week*, May 11, 1992, p. 68. Response to March 23 "Looking Forward" column. "Take a close look at NextStep. It has all of the practical capabilities of Windows, but it is better design.... I have 12 years' experience in the computing industry, and this is the finest interface I have run across. Never have I seen a platform that so smoothly insulated the end user from the intricacies of the operating system. Windows is positively clumsy in comparison. And with all the objects included with the system check out Interface Builder to see true added value), it is truly a delightful bargain."

Jim Seymour, A Game-Software Ruling That's Deadly Serious, *PC Week*, May 11, 1992, p. 69. Sega's lawsuit against game-software publisher Accolade for producing software without a license from Sega demonstrates an attitude different from the traditional view that a wide variety of software helps the hardware vendor. "Steve Jobs' evangelism among developers for the NeXT platform is legendary."

Mark L. Van Name and Bill Catchings, Computer, Do What I Say, Not What I Type!, *PC Week*, May 11, 1992, p. 72. Discusses voice I/O on PCs. "If this sounds too blue-sky to you, check out a NeXTstation. These systems, which we first tested more than 15 months ago, allow exactly the kind of operation we just described, and each comes standard with a microphone built into its monitor."

On deck (item in Short Takes), *PC Week*, May 11, 1992, p. 131. Apple may follow NeXT with an operating system for Intel processors.

Bob Metcalfe, We're stuck in the third age of computing: What's next?, *InfoWorld*, May 18, 1992, p. 49. "It's just a bit amusing that there are now several million young computer users who tend to think that the entire history of computing can usefully be divided into the times 1) before Windows, 2) before Windows 3.1, and 3) the grand future, the latest computer revolution. Let's get those people to visit the Computer Museum, in Boston. They'll see that Bill Gates did not invent everything after binary arithmetic and that Steve Jobs had a company before Next—back when Apple computers were still called PCs."

Jon Swartz, Quorum suit challenges Apple, *MacWEEK*, May 18, 1992, pp. 1, 98. The article about Quorum Software Systems Inc.'s Latitude Macintosh emulator does not mention a NeXT version, although NeXTstep is listed among the Unix interfaces it could use.

Don Crabb, A/UX 3.0: Promises delivered and the future revealed, *MacWEEK*, May 18, 1992, p. 33. "A/UX 3.0 actually is a pleasure to use; having the Finder and desktop as your Unix graphical user interface beats Motif, Open Look, X Window or whatever else you might find in the Unix world (except, of course, for NeXTstep) hands down."

Christopher Stetson and Eamonn Sullivan, Adobe Illustrator 4.0 Not Quite Picture-Perfect, *PC Week*, May 18, 1992, p. 13. Review of Adobe Systems Inc.'s Illustrator 4.0 for Windows finds it slower than the Macintosh or NeXT versions.

Jane Morrissey, Third-Party Software Crucial To NeXT's Step into 486 Turf, *PC Week*, May 18, 1992, pp. 189, 192. NextStep 486 will only be a "niche player" because of its price and lack of applications. NeXT is expected to demonstrate NextAStep 486 and announce the first OEMs at PC Expo. Chrysler Financial Corp. is choosing between NextStep 486 and Windows for 3000 systems. Jobs says all third-party applications will be ported to the 486.

Simson L. Garfinkel, Let's not forget the NeXT! (letter), *BCS Update*, June 1992, p. 5. John Xenakis told *NeXTWORLD* senior editor Garfinkel that he did not mention NeXT in his March *BCS Update* article "Unix on Your Desktop" because "NeXT is in a class by itself."

LuAnn Vitalis, New in the Resource Center, *BCS Update*, June 1992, pp. 19-21. BCS Resource Center adds Adobe Illustrator 3.0.1.

Michael Nadeau, The 1992 Readers' Choice Awards, *BYTE*, June 1992, pp. 121-124, 126. "The third item [of four worth noting] is Next's Nextstation, which tied for first place in the workstation category with IBM's RISC System/6000. Sales figures do not reflect this result, of course. You don't have to own a product to vote for it (after all, state of the budget usually takes precedence over state of the art). Perhaps Next's fortunes are about to take a turn for the better."

Barry Nance, Windows NT and OS/2 Compared, *BYTE*, June 1992, pp. 359-360, 362. "Many in the shrink-wrap camp will divide into two or more teams and write versions of their products for both NT and OS/2, with perhaps versions for Unix, NextStep, and the Mac."

Sydney S. Weinstein, You asked for it—X, *The C Users Journal*, June 1992, pp. 63-64, 66, 68-69. Recent postings to comp.sources.misc include new versions of the IOzone I/O benchmark and IScreen windowing package for character terminals with NeXT support added.

Larry Press, Collective Dynabases, *Communications of the ACM*, June 1992, pp. 26-32. Mentions NeXT client software for Thinking Machines's wide area information servers.

Lee Sherman, Industrial-Strength Multimedia from NeXT, *New Media*, June 1992, pp. 16-19. Survey of NeXT hardware platforms and multimedia authoring software notes shortage of vertical products for animation, MIDI, and image manipulation and lack of standard movie format like QuickTime. Thoughtful Software's HyperCube, Xanthus International AB's CraftMan, and Imagine Multimedia's MediaStation and InterActive Author are the authoring systems discussed.

Dan Lavin, Imagine's MediaStation: NeXT Multimedia Jack of All Trades, *New Media*, June 1992, pp. 36-37. Review of Imagine Multimedia Inc.'s MediaStation. "Despite its drawbacks, MediaStation is ideal for a broad range of multimedia purposes, including education, authoring and presentations. Imagine is

just getting started and MediaStation is a good bet for the future."

Richard P. Friedman, Publisher's Note, *Object Magazine*, May/June 1992, p. 12. Mentions that speakers at Object Expo include Bud Tribble, a founder of NeXT.

Correction, *Object Magazine*, May/June 1992, p. 48. Correction to source code in January/February article "NextStep and Me."

Michael Kei Stewart, Copy-free software: is superdistribution a better way to sell?, *Object Magazine*, May/June 1992, pp. 65-67. Brad Cox, one of the creators of Objective-C, has proposed charging for software based on the amount of its use.

POET, *Object Magazine*, May/June 1992, p. 81. Product announcement for BKS Software's POET.

Phil Lemmons, Tool Up for New OS/2, Windows, Spreadsheets, *PC World*, June 1992, p. 13. Introduction of Contributing Editor John Walkenbach, author of a report on new spreadsheets, mentions experience using NeXTstep.

The Next Step And Beyond, *UniForum Monthly*, June 1992, pp. 8-10, 12. Interview with Steven Jobs. Corporate developers buy Next to develop quickly, driving Next sales. Next maintains price/performance with custom VLSI, factory automation, and lower costs for 68040s, disks, and memory. You either introduce a new system without applications or sell clones at low margins. MIS groups have become more sophisticated and are moving their development from mainframes to the desktop. "Open" has many definitions, many of which Next satisfies. "If the top three [operating systems, DOS, Mac, and Sun's] aren't open, maybe being open isn't such a good idea." The government should adopt commercial standards. Object orientation will allow Nextstep 2 applications to use new Nextstep 3 features. Internationalization is done with multiple nib files. The only companies which build system software are Microsoft, Apple, Sun, and Next. The standards committees should consist of the few people "who are actually going to do it." Object-oriented software allows you to hide and manage great complexity and build software faster and more reliably. Next's goal is to "make the best desktop computers in the world." Next must communicate its advantages more effectively. Jobs will avoid company growing pains because he owns much of the company and the people are "more collegial."

X For Nextstep, *UniForum Monthly*, June 1992, p. 53. Product announcement for Pencom Software's co-Xist, version 2.1.2.

Next Takes Bigger Steps (item in Industry News), *UnixWorld*, June 1992, p. 13. NeXT Computer Inc. is getting more respect. It has won sales from Sun on Wall Street, hired a new "operations-oriented" president, and International Data Corp. reports it has matched IBM's workstation shipments. Analysts say Next has to exploit its head start in object–oriented software. New president van Cuylenburg says Next will move to a more vertical software strategy, customizing Nextstep for many vertical markets. He hopes to increase Next's market share with the software strategy. Van Cuylenburg was originally reluctant to join Next because of its hardware-oriented strategy and feels Jobs has matured after Apple. Jonathan Seybold, now more optimistic about the company, says "van Cuylenburg must clearly believe the company's going to do well if he's willing to defy the odds and work with Steve Jobs."

Overheard (item in Inside News), *UnixWorld*, June 1992, p. 18. Steve Jobs explained that Next's reference account, the Los Angeles sheriff's department is not the Los Angeles police department and described Microsoft NT as "better plumbing under Windows." Vice president of marketing Mike Slade dismisses rumor Jobs might be Perot's running mate.

Mike Burgard, Popular Software Heads for Windows, *UnixWorld*, June 1992, pp. 67-68. Analysis of migration of products to Microsoft Windows discusses Lotus Development's Improv and Nextstep.

Scott Raney, Porting Your Way to Interoperability, *UnixWorld*, June 1992, pp. 77-78, 80, 82. Nextstep is listed among the variety of graphical user interfaces, but neither of the products reviewed supports it.

Scott Raney, Porting Your Way to Interoperability, *UnixWorld*, June 1992, pp. 77-78, 80, 82. Nextstep listed among interfaces developers must choose among, although neither of the products reviewed support it.

Bernoulli Drives for NeXT, SGI, *Workstation News*, June 1992, p. 40. Product announcement for Iomega Corp.'s enhanced Bernoulli WorkStation Transportable 90 and WorkStation Dual 90 removable 90Mb disk drive systems and interface kits for NeXT and Silicon Graphics workstations.

Robert A. Wyatt, One former Mac user has seen the NeXT future (letter), *MacWEEK*, May 25, 1992, p. 38. Former Mac user praises May 4 story about competition between NeXT and Taligent. "The things NeXT users enjoy today are unfulfilled promises made by Apple, IBM Corp. and Taligent. The computer world can be certain that NeXT will seize the next two years to deliver the best operating system on the market today to as many platforms as possible."

Peter Coffee, The Time Has Come For Truly Integrated Communications, *PC Week*, May 25, 1992, p. 63. Towers Perrin has standardized on Rolm phone mail, so Sun, NeXT, and Macintosh are unsuitable.

John Markoff, Computer Feud Enters a New Phase, *The New York Times*, May 26, 1992, pp. D1, D5. Analysis of Microsoft's Windows NT operating system surveys its competition. "Next Inc. has its own version of Unix that in many ways is the technically most advanced operating system today."

Barbara J. Dyker, NeXTWORLD Expo, *login:*, May/June 1992, pp. 6-8. NeXT is doing well in specialized markets and universities, with sales growth of 400% in 1991. NeXT is emphasizing custom application development with NeXTSTEP and has found Sun its major competitor. Jobs announced and demonstrated the NeXTstation Turbo, NeXTSTEP 3.0, color printer, and NeXTSTEP for the 486. While the rest of the UNIX community debates standards, NeXT is shipping features others are just talking about or experimenting with. NeXT already provides full WYSIWYG with Display PostScript, multi-media, GUI object libraries and development tools, threads, distributed processing, and CD quality sound. NeXTSTEP 3.0 will add PostScript Level 2, Pantone colors, Renderman, Novell and AppleShare client support, ISDN support, localization, public key encryption, database object kit, and unrestricted object messaging. The most popular new third-party product was HSD's Simon Says voice recognition.

Michael E. McCarthy, Why Sun will win in the '90s, *SunWorld*, June 1992, p. 6. Sun, SGI, and NeXT have an advantage because their workstations do not compete against their own minis.

Barry D. Bowen, Tuplex: A C-Linda implementation for Sun, NeXT, Mac, *SunWorld*, June 1992, pp. 30, 32, 34. Review of Torque Systems Inc.'s Tuplex implementation of the C-Linda parallel processing extensions to C.

Dave Taylor, Indigo: Impressive by any standard, *SunWorld*, June 1992, pp. 53-57. Review of Silicon Graphics Inc.'s SGI Indigo. NeXT's use of grayscale or color (but not monochrome) displays allows an attractive interface.

Maryfran Johnson, War rages over DECstation's loss of OSF/1, *Computerworld*, June 1, 1992, p. 4. One Usenet posting about DEC's decision not to use OSF/1 on its DECstation line said "Stop bothering to deal with a company that has accomplished nothing but utter confusion in years, and go with someone who has shown some consistency and dedication. Sun maybe, or Next."

Key Engineer Leaving Next Computer for Sun, *The New York Times*, June 3, 1992, p. D5. Sun Microsystems hires Guy (Bud) Tribble, a key engineer and a founder of Next Computer, as a vice president of Sunsoft Inc. Next executives did not want Tribble as general manager of a new software division, and Tribble has been on a leave of absence for four of the last nine months. Sun is a major competitor to Next, and has been hiring executives known for developing easy-to-use computers.

Next loses key executive (item in News Shorts), *Computerworld*, June 8, 1992, p. 6. Guy L. "Bud" Tribble, a key engineer behind Next software, will become vice president of end-user software at Sun Microsystems subsidiary SunSoft, Inc. Jobs said Tribble left because Next's software engineers did not want Tribble as general manager of the new software division. Only two of five co-founders with Jobs in 1986 are left.

Jon Swartz, NeXT co-founder Tribble to join SunSoft, *MacWEEK*, June 8, 1992, p. 5. Guy "Bud" Tribble will become vice president of end-user software at SunSoft Inc., the software subsidiary of Sun Microsystems Inc. Tribble was a co-founder of NeXT Computer Inc. and a key figure in the design of NeXT and Macintosh system software. He said the position "gives me the opportunity to develop innovative end-user environments to propel users into the second half of the 1990s."

Manzi plays up Lotus' future in communications, *InfoWorld*, June 8, 1992, p. 118. Lotus Development chairman Jim Manzi hopes the Windows version of Improv, which he called a reinvention of the spreadsheet, will appear this year.

Mac the Knife, Recurring karma (item in Purloined press release saga), *MacWEEK*, June 8, 1992, p. 142. Jobs offered NeXTstep architect Bud Tribble free time and money to stay, and now NeXT lawyers are "rattling … sabers" at Tribble and Sun. The founders of NeXT were similarly threatened when they left Apple.

Beth Freedman and Cara A. Cunningham, Symantec To Buy Whitewater Group for OOP Strategy, *PC Week*, June 8, 1992, pp. 1, 7. Symantec's Bedrock multiplatform graphical API library supports Windows, Macintosh, and OS/2, and eventually Unix and NeXT.

Jane Morrissey, NeXT Co-Founder Tribble Leaves After Dispute with CEO Jobs, *PC Week*, June 8, 1992, . Vice presdient of software engineering and co-founder Tribble leaves NeXT after dispute with Steve Jobs. He will become vice president of end user software,, a new position supervising almost one hundred employees creating end-user components of Solaris and reporting to Steve MacKay, vice president of user-environment software. He is expected to play an important role in the development of Solaris. Jobs minimized Tribble's importance to NeXT and said he left after being passed over for general manager of the new software division.

Galen Gruman, FrameMaker for Windows is true to its predecessors, *InfoWorld*, June 15, 1992, p. 113. Review of Frame Technology Corp.'s FrameMaker for Windows 3.0 mentions the Next version.

Dan Guenst, Reader isn't swallowing NeXT threat arguments, *MacWEEK*, June 15, 1992, p. 34. Most users do not need NeXT's superior development environment. "Real improvements and changes are evolutionary, nor revolutionary."

William F. Zachmann, Another Windows for DOS on the Horizon?, *PC Week*, June 15, 1992, p. 99. Microsoft may give Windows a more powerful shell with features similar to those in Macintosh, NewWave, NextStep, and OS/2. One source even claims Microsoft and NeXT have made a deal.

Next Gets $65 Million of Additional Financing, *The New York Times*, June 20, 1992, p. D5. Next secures a $55 million credit line from Canon Inc. and a $10 million credit line from Steven P. Jobs. The financing indicated that there will not be a public stock offering this year.

James Daly, Steve Jobs, *Computerworld*, June 22, 1992, supplement, pp. 8-9. Interview with Steve Jobs, one of "twenty-five people who changed the world" in the twenty-fifth anniversary edition of *Computerworld*. Jobs describes himself as a tool builder and identifies Bill Hewlett and Dave Packard as his heroes. The PC industry was started by creative people, but now there is too little risk taking with just safe, incremental improvements to products. Accelerating technology change provides opportunities for great products. Increased computer speed will be used for better graphics and communications, and "the '90s will be the decade everybody gets connected." Companies will get competitive advantage by writing custom applications and increasing group productivity. Entering the industry takes more money today, so he and Steve Wozniak could not succeed by building full systems today. Small companies will continue to do R&D for large companies. It is important to keep the computer industry in America. Jobs is proud of his family and reflects upon his life.

Alan Alper, H. Ross Perot, *Computerworld*, June 22, 1992, supplement, p. 18. Interview with H. Ross Perot, one of "twenty-five people who changed the world" in the twenty-fifth anniversary edition of *Computerworld*. Mentions that his Perot Group holding company holds a stake in Next, Inc.

Paul Gillin, Bill Gates, *Computerworld*, June 22, 1992, supplement, p. 32. Interview with Bill Gates, one of "twenty-five people who changed the world" in the twenty-fifth anniversary edition of *Computerworld*. "I admit a lot of people who are around today.… [Steve] Jobs has done a lot."

Joseph Maglitta, Mitch Kapor, *Computerworld*, June 22, 1992, supplement, pp. 46-47. Interview with Mitch Kapor, one of "twenty-five people who changed the world" in the twenty-fifth anniversary edition of *Computerworld*. "There is a dawning realization in the industry that the interest of computer firms like Apple, IBM and Next and so on are very much tied up in what we do with communications infrastructure. If there is no network, there is no market for these [computer] engines."

Spreading 0ut (item in Inside Lines), *Computerworld*, June 22, 1992, p. 166. Steve Jobs will attend the Securities Industry Association show.

Jon Swartz, Sun set to rise on Solaris 2.0, but Intel-based version delayed, *MacWEEK*, June 22, 1992, p. 4. SunSoft's Solaris for Intel-based systems has been postponed until the fall, delaying competition with NeXTstep and other operating systems.

Five years ago in MacWEEK, *MacWEEK*, June 22, 1992, p. 56. "June 22, 1987: 'Steve Jobs, the keynote speaker at the USENIX

conference held [in Phoenix], warned 1,6000 Unix professionals that the multitasking Unix operating system must join the mainstream by 1990, or it will start to die.' In retrospect: NeXT?"

Dale Coleman, T/Maker styles great upgrade in WriteNow 3.0, *MacWEEK*, June 22, 1992, pp. 61, 63. T/Maker Co.'s WriteNow 3.0 for the Macintosh has a new export filter with a format readable by all WriteNow versions, including the NeXT version.

Nice split (item in Short Takes), *PC Week*, June 22, 1992, p. 239. Frame Technology reorganizes into two business units, including the Unix Systems Division responsible for Unix and NeXT product lines.

Short takes (item in News Shorts), *Computerworld*, June 29, 1992, p. 6. Next, Inc.'s NextStep will comply with POSIX and GOSIP this year.

Lafe Low, Fiscal Dimension crunches numbers on Next computer, *InfoWorld*, June 29, 1992, p. 21. Axsys's Fiscal Dimension series of accounting packages will appear in personal, small business, and commercial versions.

David Field, Computing in the '90s, *BCS Update*, July 1992, pp. 11-14. The trend toward multiplatform applications could bring more programs to NeXT. NeXT has experimented with turning a network into a parallel computer.

LuAnn Vitalis, New in the Resource Center, *BCS Update*, July 1992, p. 20. Users of NeXT and other systems should compare them with Macintosh System 7.

Untitled item in Bulletin, *LAN Technology*, July 1992, p. 14. NeXTInfo source code will be licensed for third-party products, including Codex Corp.'s NetInfo for Sun.

Peter Jensen and Becky Waring, Unix-based Workstations Make Multimedia Inroads, *New Media*, July 1992, pp. 28-32. Multimedia on Sun, Silicon Graphics, and NeXT systems.

Hardware & Software Support (item in New Products), *UnixWorld*, July 1992, p. 127. Brief listings for Cullamartin Co.'s Guillamartin Calculator set and Point of View Computing Inc.'s Elegance clip art software.

Paul E. Schindler, NT: A UNIX 'Wannabe?', *Windows Magazine*, July 1992, p. 14. NeXT Inc.'s Steve Jobs called Windows NT Microsoft's "second UNIX wannabe. It will be a useful server. But you are stuck with Windows on the client. That is the worst development environment on Earth.… Windows NT is just better plumbing under Windows." He compared the six months it took three programmers to produce the NeXT version of WordPerfect to the two and one half years it took twenty-four programmers to produce the Windows version and said Windows will come to NeXT machines through Insignia Solutions, Inc.'s SoftPC. Jobs also said NeXT was the best-selling workstation on college campuses and the number two computer at leading universities and the productivity of NeXTStep for custom applications would make the 1990s a good decade for NeXT. Developers are hesitating to add NeXTStep 3.0 features to their applications.

NeXTcube Turbo workstations (item in Product Track), *Object Magazine*, July-August 1992, p. 75. Product announcement for NeXTcube Turbo workstation.

OTProvide (item in Product Track), *Object Magazine*, July-August 1992, p. 76. Product announcement for Objective Technologies, Inc.'s OTProvide.

Joseph Schmuller, Interview, *PC AI*, July/August 1992, pp. 54-55, 64. Interview with EXSYS president Dustin Huntington. "In the fall, I plan to work on a version [of EXSYS] for the NeXT Computer. This is a personal interest of mine, because I feel the NeXT is a fabulous machine. The NeXT project may eventually lead to an object oriented version of EXSYS—which we have been considering."

Eric J. Adams, Creativity Cubed, *Publish*, Summer 1992, pp. 60-61. Bozell, the world's 14th-largest advertising agency, is using NeXT in a pilot project which could lead to most of its employees moving to NeXT. Bozell computer-graphics specialist Tony Ammerman says, "We're not stopping in between for Macs or IBMs. We're going right for the gusto."

Vivid Publishing's TypeView

reprinted courtesy Jiro Nakamura

John Seybold wasn't kidding when he said that the NeXT was one of the best machines for desktop publishing. The simple fact that the whole display system is built on Display PostScript makes it the graphic designer's dream tool. The NeXT lets you precisely lay down text and graphics and what you see on the screen will be EXACTLY what will be printed out on your NeXT laserprinter in spanking 400 DPI.

Which brings up the problem of resolution. The MegaPixel display is a fine monitor by current standards. Yet, even its 92 DPI doesn't always show as much resolution as you might want. Especially when using fonts -- the subtle nuances of typographic design get lost on the screen. For example, even though Times Roman and New Century Schoolbook have totally different characteristics and "personalities" in print, when they are viewed at 12.0 point on the screen, they don't look that terribly different.

Those who have stuck to NeXT's measly standard fonts might not have come across this problem and certainly don't need to read further in this article (they need to go out and buy more fonts!) but most of us have snarfed the shareware/public domain fonts on the FTP sites or have gone out and bought some Adobe or other commercial fonts.

And perhaps like me, you've printed out charts of these fonts using huge point settings to use when you're laying out a document. Eventually someone must have figured out that this was a slow and inefficient way of doing things, especially when all of the fonts were already in the computer. Two companies have put forward solutions to this problem: TypeView by Vivid Publishing and TouchType by Adobe Systems.

Unfortunately, Adobe has never returned my (numerous) phone calls for a review copy of TouchType, so that product is not being reviewed. I hope that their callousness to reviewers does not extend to their customers (although I have had trouble getting information from them in the past as a user).

Vivid Publishing is nowhere near as big as Adobe and it shows in their attitude. They were extremely helpful in sending me TypeView and making sure that I fully understood the program. I admit to having a bias towards small companies: they are friendlier, nicer, and more innovative. Vivid hasn't proven to be

an exception so far.

Installation

Installing the program simply involves dragging and dropping the TypeView.app (270K) from the 1.44Mb disk to your LocalApps directory.

An online help function that covers all of the main features of the program is included. The printed manual is very well produced, has an index, and simply put -- looks beautiful. The manual also includes a very good article from Ken Fromm on typeface design, a glossary, and a gallery of typefaces.

General Impression

TypeView first presents you with a window with all the characters in a typeface, for example Palatino Roman, neatly aligned in rows and columns. This default typeface is of course settable. You can double-click on any character in the matrix and the character will “zoom” to fill the window. Usually the zoom size is quite adequate for screen previewing (it looks like 128 point or so).

A nice feature of TypeView is that you can have a number of different typefaces in different Character Set windows up at the same time. Moreover and more importantly, you can “link” the windows together. That means when you “zoom” into a characters do other such operations on one window, all of the other windows will follow suit. For example, if you are trying to choose just the right `T' character for a book, you could have windows for Times Roman, Trajan, Palatino, and other good book fonts up at the same time. Click on a `T' on one window and all of the other windows will show you their versions of `T'. This makes differentiating between fonts a breeze and is obviously a very well thought out feature of TypeView.

The list of characters that TypeView presents you is also useful. How many people know that within Helvetica you have all sorts of printers bullets, strange punctuation characters, ligatures, characters with diacritics, 1/2, 1/4 and other symbols, etc? TypeView allows you to make 100% use of your typefaces. Even the boring fonts that NeXT provides will take new life, and you'll have fun investigating your other fonts.

You can view all of the ligatures and kerning tables for each character(s) through the Inspector Panel. Additional character information such as how to type the character "Alt 6" for example, the typesetter's name for the character (“bullet” or “paragraph”) and the encoding for the character are shown.

Also available through the Inspector panel is information about the typeface: the version, copyright information, number of characters and kern pairs, etc.

Additional panels include the Text Panel and Keyboard Panel. The Text Panel is really useful for seeing how the font will look in context. It has 9 standard options:

-Alphabet
- Numerals
- Punctuation
- Characters
- Character Set
- Kern Pairs
- Lorem Ipsum
- Shakespeare
- Custom Text

What it shows you is the typeface in different contexts. Want a font that will make you accounting figures look nice? Click on “numerals” and then select the font that has the prettiest numerals. Or laying down a poem or some prose? Look at “Shakespeare” as set in that font. “Kern Pairs” will give you an idea of how well the font kerns. “Characters” will show you most of the commonly used characters while “Character Set” will give you all of the characters (including ligatures) in the typeface. This window is resizable, along with the fonts, and is unbelievably useful when you want to make your final choice between two or more fonts.

The Keyboard Panel is a life-saver. How many times have you had a character that you just COULD NOT find? I have both NeXT's keyboard mappings and FrameMaker's bizarre keyboard mappings printed and pinned up next to my desk, yet I occasionally come across characters that are impossible to find. Especially so when I use Zapf Dingbats, Symbol, or other fonts that don't map well to keyboards. The keyboard panel works similarly to the Macintosh Keyboard or to the Keyboard that is in the Preferences App.

However, there is a key difference since the Keyboard panel is strongly linked into the TypeView program. If you select any character on the Character Set panel, the keyboard panel will instantly show you exactly which alternate or shift sequence you need to produce the character. Using this, you can easily find your way around bizarre typefaces. Or if you are lazy, you can simply copy and paste from either the Keyboard panel or the Character Set panel the characters that you need and not bother with the keyboard at all. In fact, some of the stranger ligatures and symbols aren't even typeable from the keyboard! You have to use TypeView in order to access them.

TypeView also lets you view the outline paths of characters. This is great for both students of typography and those who want to fiddle with typefaces. You can save the outlined font as an EPS file to fiddle with further in Illustrator or Create, although you can't edit the outline. This could be useful for designing logos and design work with fonts since the character is now “freed” from the typeface, you can print it on any printer even if the printer doesn't have the font. This is the same as Illustrator's “Create Outlines” feature, by the way.

What else is great about TypeView? Ever try to find a dingbat or a foreign character in a Dingbat or foreign font? Learned the true meaning of frustration? I had a absolutely wonderful time when I made my cheat sheet for ITC Zapf Dingbats -- the keyboard map for that must have been made by a bloody sadist. NONE of the circle-numbers (billiard balls) are in ANY order, etc. Rather than ranting about the idiocy of the typeface, I should say that TypeView happily solved that problem for me. I don't have to look up the characters through the keyboard map anymore, but can find them quickly and simply in the Characters View and then copy/paste them into my document. This supposedly works real well with foreign languages as well, though I

didn't try it. I also don't know if TypeView is compatible with composite fonts (Kanji).

TypeView is well integrated into the NeXTStep environment. As mentioned before you can copy/paste characters from the windows or panels into your own applications. Unfortunately, a lot of applications do not allow you to paste RTF text (which is what TypeView places on the Pasteboard) into their documents. This is a bug in the receiving program. Most notably, WriteNow does not support pasted RTF (anyone who has tried to paste from Quotations into WriteNow has come across this bug). FrameMaker* will correctly paste the character and the font size and style, but not the actual font family itself. The pasted RTF will come up in the Default Font. I do not have WordPerfect so I could not check its behavior. Edit pastes RTF just fine. So do most of the drawing programs such as Diagram! and Create**. Hopefully AppSoft and Frame will correct the deficiencies in their products.

TypeView is available through the Services feature which means that you can select a character/typeface in another application and immediately bring it up in TypeView. You can also set TypeView to be the default application when you double-click on.font files.

Bugs

There were a number of small bugs in the program which isn't surprising since this is the first release. Most of the bugs were minor such as sometimes supposedly linked Text panels would not update automatically or the Set Font button in the Preferences... panel would not de-highlight itself and would close the panel improperly. Vivid is aware of (and somewhat embarrassed) by these bugs and promises to have them fixed Real Soon Now.

There was one major bug when it tried to render Adobe Trajan. First of all, there was a lot of screen “noise” on the Q and R characters. Worst, when I tried to enlarge the R character once, the Workspace Manager crashed. I don't know if it was TypeView that crashed the server or if there is a bug in the server, but it was disconcerting not to mention annoying. Luckily I didn't have any unsaved documents at that time since I would have lost them. I couldn't reproduce this bug later.

Vivid tells me that this may not be their bug, but a bug in the font itself. This doesn't sound like passing the buck since all the other programs can't render Trajan properly either (although it prints correctly). Furthermore, it's NeXT's fault for allowing programs to crash the Window Server (my pet peeve against NeXT).

Another bug appears when you try to save an entire character set's outline to EPS. The bounding box is calculated incorrectly so the character set becomes thumbnail size and virtually unusable. I had to zoom 1000% and almost thrash the window server to get it to appear in Create. This is a serious bug in the outline feature. Vivid's policy of upgrading is excellent. For minor releases (1.1, 1.2, etc.) it will be free by NeXTmail or the cost of the media/shipping/etc. Major releases (2.0, 3.0, etc.) will be around $20-$30. Microsoft bashing time: does anyone know what the fee is for upgrading from Word 4.0 to Word 5.0? It's a “measly” $129. See why I don't like large companies?

Problems

One thing that is frustrating about TypeView is that although it lets you view kerning tables that are present in the AFM (Adobe Font Metric) files that are included with fonts, it doesn't let you manipulate them like TouchType does. This is bad since Adobe's standard kernings are usually perfect for any design EXCEPT the one that you are doing and often you want to change the kernings. Good programs such as FrameMaker, Illustrator, and Create let you change the kerning on the fly, but it would still be nice to be able to define your own standard kerning tables.

However, Vivid maintains that the TypeView is a font *previewer* and nothing more. And being the self-proclaimed demagogue of Keep It Simple, Stupid and the Unix philosophy of “one idea, one tool,” I'll eat my foot on this. But I'd still like to be able to set the kerning tables since Adobe's idea of kerning and mine are different.....

Other nitpicks are: the online manual is not indexable/searchable via Digital Librarian (nor does it allow keyword search). Otherwise, the online manual is very good. The printed manual is excellent. It even has an index, something missing in most other manuals. The “Font Gallery” is nice but way too incomplete -- it misses such notables as Palatino and New Century Schoolbook. One wonders why they even bothered to include it except to show off a bit.

There needs to be more key equivalents for the program. Since it will be used often by the people who buy it, we really need to be able to use it rapidly and efficiently, which calls for key equivalents for all of the major panels and options. Also, TypeView needs to remember major options such as “Show Titles” and whether or not the user likes to link Texts and Characters together.

Conclusion

I really like this program. Then again, I love playing with fonts. I've found a lot of characters tucked away in fonts that I hadn't ever found before. It's a great program for both graphic designers and graphic-designer wanna-be's (such as myself). People who think fonts are a frivolous waste of time have wasted their time reading this article (I warned you in the beginning!). But ahhh..... to bask in the purity of Palatino's `P'.... that is the true sign of the font connoisseur. Some more work could be done with TypeView, it needs to be able to change kernings for example. Also, it would be nice if they had a more powerful font organizer than the standard font panel. I don't really know what I want, but it'd be nice if they would allow me the option to organize my fonts under “Bookfaces” or “Sans serif” or “Avant garde”, for example. That's how I currently structure my printed font list and it makes searching for the *right* font a whole lot easier. I think the addition of this feature would greatly strengthen this program.

I also wish it would automate the making/printing of typeface books. These are the font cheat sheets that I mentioned before. No matter how well TypeView can show fonts on the screen, I still want to be able to look at the printed text. I'd like it if TypeView facilitated the production of something like the font pages provided by Adobe when you buy their Plus Pack. On the other hand, the manual is excellent. It is easily the most well produced manual for any NeXT product I have seen. The graphic design is good, but more importantly, it is easy to find information. The screenshots are well done and very legible. The glossary is very good and informative. Vivid wins high marks from me on the quality of their manual.

The product itself is easy to use and intuitive. It still has some rough edges, but once you get the hang of it, you can literally spend hours playing with fonts. When you are working on a project and need to find an appropriate font *quickly*, TypeView also takes that task in hand well. It is an excellent product for comparing different fonts against each other. It is both a great play and work tool for graphic designers.

In any case, this is a product with a lot of features that fits a definite niche in the NeXT marketplace. The golden question is always, is it worth $100? If you work with fonts a lot, it could well be worth it. If love playing with fonts, it is definitely worth it. if you've already shelled out $500 for Create or Illustrator and have bought some font sets, then an extra $100 won't hurt your wallet and it will greaten the value of your other investments. If you run a graphic design group or a printing bureau, take advantage of the site license.

On the other hand, it needs to have some more features -- a way to organize fonts, as mentioned above. Since it is something that you can do “well enough” with a font cheat-sheet, I think Typographer needs to give us the organization advantage of computers in order to prove itself. I have great faith that Vivid will fix the bugs and work on more features.

Summary for Vivid Publishing's TypeView

Application Type: PostScript font previewer
Version Tested:1.0 (review copy)
JiroRating:****1/2 (Very Good to Excellent)

Languages Supported:English (only)
File Formats Supported:.font for opening
Can save to.rtf and.eps

Price:Normal list price$129
NeXTConnection price$99

Group PricingAvailable in quantities
from 10 to 1000 copies
Academic PricingNot available yet, contact
RightBrain for details.

Contact for information:
Vivid Publishing
Post Office Box 0271
Los Altos, CA 94023
Tel:+1 415 949 4933
Fax:+1 415 949 5450
Email:typeview@vivid.com

Jiro Nakamura
jiro@shaman.com
Group Leader
FuNK -- Finger Lakes NeXT Users Group

* You need to paste with the Edit->Paste RTF menu item.
** You need to paste into Paragraph Text. The Super Text tool does not understand RTF.

#include <std_disclaimer.h>
I have no connections with Vivid Publishing or RightBrain Software.
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3rd Party Support for Neuron Modems

from NeXTWatch

Two vendors will be offering support for the Neuron 1414 modem, according to a survey of modems in the June NeXTwatch
(Skylee Press, POB 471645, San Francisco, CA 94147-1645, editors@skylee.com, (415) 474-7803), an issue devoted to NeXT communications.

ZyXEL ((800) 255-4101/(714) 693-0808), the modem OEM not responsible for Neuron's behavior, has a $35 ROM upgrade for the Neuron 1414. Another upgrade, due in July, will support caller ID, distinctive rings, and quicktrain fax mode. B&W Software (South Hill Rd., Moretown, VT 05660, nxfax@bandw.com, (802) 496-8500) will offer software for ZyXEL modems to distinguish incoming data and fax calls and support caller ID, distinctive rings, and other new ROM features.

ABOUT GUN...

Board

Paul Murphy, president	Paul_Murphy@gun.com
Robb Allan, founder	Robb_Allan@gun.com
Tim Reed, founder	Timothy_Reed@gun.com
David Bressler	David_Bressler@gun.com
Nick Christopher	Nick_Christopher@gun.com
Jim Cornacchia	James_Cornacchia@gun.com
Ken Biller	Ken_Biller@gun.com
Mike McMahon	Mike_McMahon@gun.com

The BULLETin

The GUN BULLETin is produced monthly (more or less) using *FrameMaker* 3.0 on a Color NeXTstation, with headlines created by Adobe *TouchType*. Article text is written directly in *FrameMaker*, with *WordPerfect*, or imported from other platforms (ugh!).

If you are interested in working with the newsletter crew, contact Robb Allan or Jim Cornacchia at the email addresses above.

Pulled From The Net

Pulled From The Net is a service designed to provide a synthesis of important NeXT-related Usenet information to those without network access and to those too busy to keep up with Usenet. Usenet, or Net News, is a bulletin board service available free of charge to anyone with Internet access. It includes hundreds of special-interest posting areas (groups), read by hundreds of thousands of people across the planet.

All GUN members receive *Pulled From The Net* with their membership. It is emailed to those capable of reading Next Mail as soon as it is available; ASCII copies are sent to those capable of reading only ASCII mail; paper copies are sent to everyone else, along with the newsletter.

Pulled From The Net tracks the following groups:

comp.sys.next.misc
Miscellaneous NeXT related information

comp.sys.next.announce
NeXT related announcements

comp.sys.next.admin
NeXT administrative information

comp.sys.next.programmer
NeXT programming information

Discounts

Many vendors are willing to give user group members discounts on their hardware and software. GUN does everything possible to ensure that its members have access to these savings. Every month, GUN compiles a list of currently available discounts. If you are interested in an unlisted item, write to discounts@gun.com or call GUN at 718-260-9848 and ask for the person in charge of group discounts. If possible, we will add the item to the list. Vendors are encouraged to contact GUN to participate in this program.

Membership & Sponsorship

Individual Dues

- $25 per year (tax deductible)
- newsletter
- email alias and inclusion in group email list
- eligible for group discounts (contact Ed Wright)
- eligible for individual UUCP services
- eligible for individual Internet connectivity
- NeXTWORLD disount

Corporate Sponsorship

- $100 per year (tax deductible)
- newsletter
- email alias and inclusion in group email list
- employees are eligible for group discounts
- eligible for corporate UUCP services
- eligible for corporate Internet connectivity
- employee NeXTWORLD disount
- sponsorship is recognized in every issue of the newsletter

GUN Sponsors

Corporate Benefactors

Organizations who have contributed material or equipment to GUN:

BoxHill Systems Corp.
760 Mb Hard Disk Storage System for GUN Archive Server

Frame Technology Corp.
FrameMaker 3.0 Page Composition Software

Marble Associates, Inc.
Consulting Services, Marble Teleconnect communication software, Designer Labels labeling software

Stone Design
DataPhile database software

Telebit Corporation
T3000 Modems, NetBlazer Router

Uninet Peripherals, Inc.
SLAT Adapter

Corporate Sponsors

Organizations who have contributed $100 or more this year:

AGS Informations Services, Inc.
American General Information Services, Inc.
Athena Design, Inc.
Charles River Computers
CS First Boston (Japan) Limited
Executive and Technical Recruiters, Ltd.
Marble Associates, Inc.
NorthStar Technologies, Inc.
Nova Works Computer Systems, Inc.
Objective Technologies, Inc.
Custom Word Processing, Inc.
Light Printing Co., Inc.

Communications

GUN maintains a list of all members who can be reached via email. All mail sent to gun-members@gun.com is redistributed to everyone on the list. In addition, GUN assigns an alias to every member of the list making it possible for that person to be reached by sending mail to Firstname_Lastname@gun.com.

Individual E-Mail

GUN maintains a list of all members who can be reached via e-mail. All mail sent to gun-members@gun.com is redistributed to everyone on the list. In addition, GUN assigns an alias to every member of the list making it possible for that person to be reached by sending mail to Firstname_Lastname@gun.com.

Eligibility
All "due-paying" members.
Cost
Included in membership.
Timetable
Available immediately.

Individual UUCP

GUN maintains a server connected to the Internet. UUCP service allows members' machines to transparently connect to this host in order to send and receive email. Mail from the outside world can be addressed to user@gun.com. Mail you send appears to originate from the gun.com domain. It can be addressed as if you were directly on the Internet (i.e., user@next.com). Mail volume is not limited. A GUN volunteer will help you set up and maintain the UUCP connection.

Accounts will be given on a first-come, first-served basis. Once our current maximum capacity is reached, we will need to purchase additional lines and modems. This could cause a slight delay in obtaining service.

Eligibility
All "due-paying" members.
Cost
$10/month.
Timetable
2,400 - 57,600 bps (v.22, v.32, v.32bis – v.42 & v.42bis) -- Available immediately.

Individual Internet Connectivity

The gun.com domain is a wide are network (WAN). Machines are connected via the Serial Line IP protocol (SLIP). Any machine on the network can connect to any other as if it lived on the local ethernet. Machines on the network can share resources, mount each other's file systems, etc. Best of all, becoming a member of the GUN WAN gives you complete, unrestricted access to all Internet resources. This includes access to Internet mail services, News (which includes thousands of special interest groups), hundreds of archive servers, Archie (a database of software/documents stored on the archives), hundreds of library card catalogues, the Internet White Pages (X-Windows based email directory service), and a fast growing numbers of value added services (providing things like AP news feeds, stock market data, databases of vertical market information, etc.). Finally, GUN will maintain a local archive that will mirror the most important NeXT related sites in the world.

Eligibility
All "due-paying" members.
Cost
$10/month.
Timetable
2,400 - 57,600 bps (v.22, v.32, v.32bis – v.42 & v.42bis) -- Available immediately.

Corporate Email

Corporations can request either a corporate alias or ten individual aliases. The corporate alias allows an unlimited distribution of GUN mail within the organization. The ten individual aliases allow the individuals to be reached by sending mail to Firstname_Lastname@gun.com. All corporate sponsors with email access are eligible for this service.

Eligibility
All corporate sponsors with e-mail access are eligible for this service.
Cost
Included in sponsorship.
Timetable
Available immediately.

Corporate UUCP

Identical to Individual UUCP. Limited to ten employees. All corporate sponsors are eligible for this service.

Eligibility
All corporate sponsors with e-mail access are eligible for this service.
Cost
$15/month.
Timetable
2,400 - 57,600 bps (v.22, v.32, v.32bis – v.42 & v.42bis) -- Available immediately.

Accounts will be given on a first-come, first-served basis. Once our current maximum capacity is reached, we will need to purchase additional lines and modems. This could cause a slight delay in obtaining service.

Corporate Internet Connectivity

Identical to Individual Internet Connectivity. All corporate sponsors are eligible for this service.

Eligibility
All corporate sponsors with e-mail access are eligible for this service.
Cost
$80/month. $500 sign-up fee.
Timetable
2,400 - 57,600 bps (v.22, v.32, v.32bis – v.42 & v.42bis) -- Available immediately.