

More On Categories

by Robb A. Allan

In the last issue, Nick Christopher explained the use of Objective-C categories to help add functionality to classes in the AppKit without having to extend the class structure unnecessarily. Categories are an NeXT extension to Objective-C that permit the programmer to add methods to an existing class without having to subclass it.

Unfortunately (or perhaps, fortunately, since it allows me to elaborate on the technique here), Nick misstated one aspect of the category issue, and I failed to catch it while editing his article. Nick stated, "categories can not override an existing method." This is only partially true: NeXT explains it better in its developer documentation:

"The methods added in a category can be used to extend the functionality of the class or override methods the class inherits. A category can also override methods declared in the class interface. However, it cannot reliably override methods declared in another category of the same class. A category is not a substitute for a subclass. It's best if categories don't attempt to redefine methods the class defines elsewhere; a class shouldn't define the same method more than once."

This means that a category can re-implement an inherited method. A perfect illustration of this is the Object class method, "printForDebugger:", which prints to the standard output. This method can be highly useful when running GDB, since a command in the GDB interpreter ("print-object anObject") will send the printForDebugger: command to anObject and display the output. However, as defined in the Object's implementation, it merely returns the classname and the instance's address in memory – not especially useful.

But the printForDebugger: method can be put into a category for an object to learn more about it. This can be done for any object, including those in the AppKit. Consider the Storage class, which allows for a variety of different object types to be dynamically added to an array in memory. The Storage object's methods can add, delete, or modify these objects, return the size and dimension of the Storage object itself – in fact, everything except tell you about the contents of the objects stored in the Storage object itself! But this can be overcome with – you guessed it – printForDebugger:, as follows.

In your project, create two files called "StorageDebug.h" and "StorageDebug.m".

In StorageDebug.h put the following:

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

@interface Storage(Debugger)    /* this is
the category declaration */

- (void)printForDebugger:(NXStream *)stream;

@end
```

In StorageDebug.m put the following:

```
#import "Storage.h"

@implementation Storage(Debugger)

- (void)printForDebugger:(NXStream *)stream
{
// This will print the general Storage object
info

printf("numElements = %u\n", numElements);
printf("maxElements = %u\n", maxElements);
printf("elementSize = %u\n\n", elementSize);

// This prints the info on each object in the
Storage object
// Note that this assumes each object is a string

{char*stringPtr[numElements];
intloop;

for (loop = 0; loop < numElements; loop++)
{stringPtr[loop] = dataPtr + (elementSize *
loop);
printf("dataPtr[%i] = \"%s\"\n", loop,
stringPtr[loop]);
}
}

// This prints the info defined in Object

[super printForDebugger:stream];
}

@end
```

This method will return the size and dimension of the Storage object, and then loop through the data array of the object and print the value of each of its contents (assuming, in this case, that they are strings).

Not only can this method be called from GDB, it can also be called directly from another object's own `printForDebugger`: method. For example, in the above routine, if the Storage object's contents are not strings, then you might change the `"printf(...)"` call in the for-loop with a call like `"[stringPtr[loop] printForDebugger:stream];"` which asks each object in the Storage object to execute its own `printForDebugger`: routine. Or these commands can be used to print object information to the Workspace console while the program runs.

ADB Compatible Keyboards from NeXT

Starting October 1, 1992, NeXT is standardizing on ADB-compatible hardware. Because of the advantages of the new ADB keyboard and mouse, NeXT has decided to support this system enhancement across the entire product family. The NeXTstation, NeXTstation Turbo, NeXTstation Color, NeXTcube Turbo systems along with the NeXTstation Color Turbo system are now fully compatible with NeXT's new ADB Keyboard and Mouse.

Effective late October, NeXT will begin shipments of a new ADB-compatible MegaPixel 17" monochrome display. This ADB-compatible 17" monochrome display will replace the old 17" monochrome display. Along with the Sony 17" MegaPixel Color Display and the Hitachi 21" MegaPixel Display, now all NeXT displays are completely ADB-compatible.

Now that all products are ADB compatible, the ordering process is very straightforward. All displays work with the same keyboard. There is one Starting Point Kit for all systems, Starting Point Kit 3.0A. The old kit Starting Point Kit 3.0 (N8504-5216) has been taken off the price list. For color systems, the Sound Box 2 supports all color monitors. Note: Because of the need for NeXTSTEP Release 3 to support ADB, new NeXT systems are not downgradable to prior NeXTSTEP releases. You can only run Release 3 on new systems shipped from the factory.

Disk Ejection Bug in 3.0

by Robb Aley Allan

No doubt those of you who already have installed NeXTSTEP 3.0 are already aware of this bug :-o but for those of you who aren't, a subtle error was introduced in the final release of 3.0 that prevents removable media from being ejectable in the Workspace Manager under certain circumstances. The symptom is that the Initialize and Eject menu items are greyed and not selectable even though the removable media is highlighted. According to Matt Watson at NeXT:

"This is a known bug that isn't specific to Engage! It has to do with auto-launched apps requesting icons from the Workspace. Try to see if not autolaunching some apps on your dock fixes this problem."

In addition, NeXT has distributed on the internet a fix that patches the OS to overcome this problem. Again, according to Matt Watson:

"NeXT has made available an RTFD document containing a brief description along with a workaround for a 3.0 Workspace bug affecting the Disk->eject menu. It is available via anonymous FTP at NeXT.COM (129.18.1.2) in the /pub/Binaries directory as DiskEjectFix.compressed. It will uncompress into an RTFD document which includes the executable program, and a description of how to install it. A checksum (using /usr/bin/sum) of DiskEjectFix.compressed returns:

64183 8

Briefly, it is an executable that installs itself in the (undocumented) Workspace LaunchPaths default the first time it is launched. Subsequent logins will cause this daemon to be executed, tickling the Workspace to initialize data which, when uninitialized, leads to this bug.

If you are writing an application that requests icons from the Workspace, and don't want to depend on this workaround, you can use the NXWorkspaceRequest protocol (as described in /NextLibrary/NextDev/GeneralRef/02_ApplicationKit/Protocols/NXWorkspaceRequestProtocol.rtf) and send a "getInfoForFileSystemAt : isRemovable: isWritable : isUnmountable : description : type : " message to [Application workspace] in or after the `appDidInit`: method."

New NeXT Products

17" Megapixel Monochrome Display (N4000B)

- ADB compatible keyboard connector
- 3 pounds lighter (13 pounds lighter than the "original")
- Higher reliability
- New footprint

17" MegaPixel Color Display - Fimi (N4001F)

- Compatible with the new ADB keyboard and mouse

Products Introduced September 1, 1992

17" MegaPixel Color Display - Trinitron (N4006)

- Compatible with the new ADB keyboard and mouse
- Higher contrast
- Flatter display
- Universal power supply

- Industry leading focus and convergence
- 72Hz for rock solid image (compatible at 68Hz with small adjustment)
- Fully compliant with NPR-2 regulations for ELF and VLF emissions

Starting Point Kit 3.0A (N8504-4996)

- For use with all systems
- Includes new ADB Keyboard/Mouse
- Release 3.0 documentation

Sound Box 2 (N4004A)

- Re-designed audio board with ADB keyboard connector

NeXTSTEP MiniExample Release Available - September 1992

NeXT Developer Support

MiniExamples are small programming examples provided by NeXT Developer Support. Each one contains its own README file. If you are interested, you can get the examples via anonymous ftp (file transfer protocol) from one of the following Internet archive servers.

```
cs.orst.edu
  pub/next/documents/NeXTanswers/
  MiniExamples/3.0Release (may still be in pub/
  next/submissions)
sonata.cc.purdue.edu
  pub/next/docs/MiniExamples (may still be in
  pub/next/submissions)
```

The September 92 Release contains 8 miniexamples for the 3.0 NeXTStep

Release. 7 of them are DBKit MiniExamples.

AssociationExample shows how you can attach a qualifier to your fetch on the detail fetchgroup in the case of a one-to-many relationship.

BarChart demonstrates how to use the DBCustomAssociation protocol with your UI object to retrieve or set values to your database.

BooleanFormatter shows how to translate 0/1 values of your database into YES/NO strings.

OrderByTest shows how to change the sort order every time the columns in your tableview are rearranged.

QuickApp is a simple workaround for fetching records with a qualifier built from one-to-one relationship attributes.

RadioAssociation provides an extension to the Matrix class so that you can connect radio buttons to integer attributes of your module.

TableViewExample shows how you can set up your own tableview programmatically without using Interface Builder.

TIFFand EPS shows how to open EPS or TIFF images and save them back as EPS or TIFF, converting the image in the process. This version has been upgraded to 3.0.

FTP Archive Sites for NeXT Public Domain Apps and Tools

Here are the major ftp sites for NeXT for public domain apps and demo apps:

Table 1: Major sites (USA):

cs.orst.edu (Oregon State)	<i>pub/next</i>
otter.stanford.edu	<i>(mathematica)</i>
pellns.alleg.edu	<i>pub (academic apps)</i>
pellns.alleg.edu (Allegheny College)	<i>pub (academic apps)</i>
sonata.cc.purdue.edu (Purdue)	<i>pub/next</i>

Table 2: Major sites (foreign):

atlas.physchem.chemie.uni-tuebingen.de	
etlport.etl.go.jp (Japan)	
fiasko.rz-berlin.mpg.de	
ftp.informatik.uni-muenchen.de	<i>/pub/next</i>
iesd.auc.dk	<i>pub/next</i>
nic.funet.fi	<i>pub/next</i>
roxette.mty.itesm.mx (Mexico)	<i>pub/next</i>
rusvm1.rus.uni-stuttgart.de	<i>/pub/next</i>
src.doc.ic.ac.uk (UK)	<i>(mirror of nova/sonata)</i>

Table 3: Minor Sites :

141.14.140.32	<i>(Berlin, Germany)</i>
aeneas.mit.edu	
akbar.cac.washington.edu	
archive.umich.edu	
athena-dist.mit.edu	<i>(XNeXT, athena)</i>
boombox.micro.umn.edu	<i>pub/gopher/NeXT</i>
budapest.math.macalstr.edu	
calvin.stanford.edu	<i>NeXT and pub/Khoros</i>
cameron.egr.duke.edu	<i>pub/NeXT</i>
ccrma-ftp.stanford.edu	<i>(music)</i>
cica.cica.indiana.edu	
coyote.cs.wmich.edu	<i>pub/NeXT</i>
cs.orst.edu	<i>pub/next</i>
cs.ubc.ca	<i>tmp/NeXT (Bible)</i>
csus.edu	<i>pub/NeXT/sounds</i>
dagon.acc.stolaf.edu	
ee.uta.edu	
eesun1.arl.utexas.edu	<i>public/NeXT</i>
emx.utexas.edu	<i>pub/next</i>
etlport.etl.go.jp	
f.ms.uky.edu	<i>pub/next</i>
fiasko.rz-berlin.mpg.de	
forwiss.uni-passau.de	<i>pub/next</i>
ftp.byu.edu	<i>(Apple IIe/NeXT)</i>
ftp.informatik.uni-muenchen.de	<i>pub/next</i>
ftp.ncsa.uiuc.edu	
ftp.uni-kl.de	<i>pub/next</i>
ftphost.cac.washington.edu	

Table 3: Minor Sites :

greyrock.mso.colostate.edu	
heplib.slac.stanford.edu	
iesd.auc.dk	<i>pub/next</i>
isca.uiowa.edu	
iuvax.cs.indiana.edu	<i>pub/graphs/NeXT</i>
j.cc.purdue.edu	
java.cc.mcgill.ca	<i>pub/NeXT</i>
kalikka.jyu.fi	<i>pub/next</i>
math.utexas.edu	<i>pub/next</i>
media-lab.media.mit.edu	<i>pub/next</i>
midway.uchicago.edu	<i>pub/NeXT</i>
ncar.ucar.edu	<i>ncarg/unix3.01/NeXT</i>
nic.funet.fi	<i>pub/next</i>
nic.stolaf.edu	<i>pub/ps</i>
nisca.acs.ohio-state.edu	<i>pub/next</i>
nova.cc.purdue.edu	<i>pub/next</i>
nugget.rmug.org	<i>pub/NeXT</i>
otter.stanford.edu	<i>(mathematica)</i>
plethora.media.mit.edu	<i>pub/next (GNU)</i>
prep.ai.mit.edu	<i>pub/gnu (GNU)</i>
princeton.edu	<i>(music)</i>
ronin.css.itd.umich.edu	<i>pub/next</i>
sachiko.acc.stolaf.edu	
saqqara.cis.ohio-state.edu	<i>next</i>
slc2.ins.cwru.edu	<i>pub/next</i>
snekkar.ens.fr	<i>pub/next</i>
solaria.cc.gatech.edu	<i>pub/next</i>
sonata.cc.purdue.edu	<i>pub/next</i>
spinner.gac.edu	<i>pub/next</i>

Table 3: Minor Sites :

src.doc.ic.ac.uk	<i>next</i>
sumex.stanford.edu	<i>pub</i>
sutro.sfsu.edu	<i>pub</i>
ucbvax.berkeley.edu	<i>pub/tiff (tiff)</i>
uhunix2.uhcc.hawaii.edu	<i>pub/next</i>
umaxc.weeg.uiowa.edu	<i>pub/next</i>
umd5.umd.edu	<i>NeXT</i>
uvaarpa.acc.virginia.edu	
venera.isi.edu	

To find what software is at other sites that have NeXT public domain apps or to find your favorite NeXT software on archive sites, use "Archie." You say, "What is Archie and how do use it?"

Archie is a special server that keeps file listings from different FTP sites. You can Telnet to a server or use a client program to search for specific files. There are sites which do not appear in an Archie server and you can use the lists for these.

For more information, send mail to 'archie@site_listed_below' for a help file -or - telnet <site_listed_below> with login of "archie."

- archie.ans.net (North America)
- archie.sura.net (North America)
- archie.mcgill.ca (Canada)
- archie.funet.fi (Finland/Mainland Europe)
- archie.au (Australia/New Zealand)
- archie.doc.ic.ac.uk (Great Britain/Ireland)
- archie.unl.edu (North America)
- cs.huji.ac.il (Israel)

NeXT In The News

by Eric Rosenthal

Short takes (item in News Shorts), *Computerworld*, September 7, 1992, p. 16. NextStep 3.0 ships, with client support for NetWare and AppleShare, object program tools, database development tools, and ISDN.

Next workstations get SNMP monitoring (item in Pipeline), *InfoWorld*, September 7, 1992, p. 35. Ridgeback Solutions's Simple Network Management Protocol Agent and ServerWatch.

Rick Blum, Who's Next?, *Computerworld*, September 14, 1992, p. 130. A version of the "Who's on First" comedy routine, based on confusion about the word "NeXT" and other product names.

Cate Corcoran, Axil showcases commercial Sparc-compatible

systems, *InfoWorld*, September 14, 1992, p. 31. Mentions that frogdesign, the designer of new systems from Hyundai Electronics American workstation division, Axil Workstations, also designed the Macintosh and Next computers.

Nathalie Welch, NeXTstep 3.0 steps up Mac interoperability, *MacWEEK*, September 14, 1992, p. 5. NeXTstep 3.0 includes an AppleShare client and support for Mac floppies and Mac hierarchical file system CD-ROMs.

Quabidur Safi and Eamonn Sullivan, NextStep Upgrade Improves Network Connections, *PC Week*, September 14, 1992, p. 6. "NeXT Computer Inc.'s NextStep has long been the most approachable of the Unix operating systems available. NextStep version 3.0, with transparent connections to NetWare- and AppleShare- based networks, is much easier to integrate into standard corporate networks. Corporations looking for an extraordinarily powerful development system with an elegant interface, built-in multimedia, and strong PostScript-based output control should give NextStep 3.0 a serious look."

Paul M. Sherer, NeXT Ships NextStep Version 3.0, *PC Week*, September 14, 1992, p. 18. NextStep 486 will support MS-DOS and Windows applications.

Untitled item in Pipeline, *InfoWorld*, September 21, 1992, p. 15. Short Product announcement for Software Ventures Corp.'s MicroPhone Pro.

Brian Livingston, Enter Livingston's Incredible Indescribable Doohickies contest, *InfoWorld*, September 21, 1992, p. 22. Playroom Software's Makeover can make Windows look like Next.

Torsten Busse, Printers in spotlight at Seybold, *InfoWorld*, September 21, 1992, p. 28. Next Color Printer to be shown at Seybold conference.

Next Delivers OS Upgrade, *UniNews*, September 21, 1992, pp. 1-2. The recently shipped Nextstep 3.0 follows the strategy of supporting developers of custom applications with the database, indexing, 3-D graphics, and phone kits. Next hopes to recover some development costs from Nextstep 486.

John Markoff, Toiling in Microsoft Shadow, Rivals Voice Awe and Anger, *New York Times*, September 22, 1992, pp. D1, D19. Jobs attends industry meeting, at which dominance of Microsoft was discussed.

Short takes (item in News Shorts), *Computerworld*, September 28, 1992, p. 16. Chrysler Financial will buy 2,500 copies of NextStep 486.

Christopher Lindquist, Seybold takes vendors, publishing industry to task, *Computerworld*, September 28, 1992, p. 24. Jobs demonstrates NextStep Version 3.0 at Seybold San Francisco, emphasizing "operation productivity" over "management productivity."

Christopher Lindquist, Microsoft sound card dressed to impress, *Computerworld*, September 28, 1992, pp. 37, 42. Microsoft's

Windows Sound System supports the Next sound format.

Sun, SGI make imprint at Seybold, *MacWEEK*, September 28, 1992, pp. 1, 119. Jobs promotes NeXTstep 3.0, NeXT color printers, and RightBrain Software's PasteUp at Seybold San Francisco.

Appsoft Ships Graphics, WP Apps for NextStep (item in News Briefs), *PC Week*, September 28, 1992, p. 40. Appsoft Inc. ships Appsoft Draw and WriteNow.

Steven Burke, NeXT, Chrysler Financial Strike NextStep 486 Deal (item in News Digest), *PC Week*, September 28, 1992, p. 142. Chrysler Financial will place the first major order of NextStep 486, for 2,500 copies. The \$995 price of NextStep 486 will be reevaluated in light of the PC price war.

Michael J. Miller, The Compatibility Curse, *PC Magazine*, September 29, 1992, pp. 81-82. "There are plenty of 32-bit, multitasking, multithreaded systems, and more are moving to the PC platform: OS/2 2.0, SCO Unix, and new Unix derivatives, including UnixWare, Solaris, and NextStep."

Untitled item in Nanobytes, *BYTE*, October 1992, p. 34. Jobs "came out on top" in Object World panel discussion on "The Strategic Role of Object Technology" which became a forum for demonstrations, announcements, and criticism. When Microsoft's Cairo had to be rebooted through MS-DOS, Jobs asked "If it takes Microsoft 10 years to get rid of the mess when you boot, why should we believe that you can make Windows easy to program in only two years?" mocked Jobs. "Can the horse evolve into the automobile?"

Untitled item in Nanobytes, *BYTE*, October 1992, p. 34. Jobs demonstrated NextStep 3.0 at Object World panel discussion, describing Next as the leading object-oriented computer. When Microsoft's vice president of advanced systems, James Allchin, said NextStep was not a true object-oriented system and NextStep 3.0 was due in June, Jobs responded "OK, so we slipped 60 days, but at least we have a product to slip."

Untitled item in Nanobytes, *BYTE*, October 1992, p. 42. Next expects NextStep 486 to begin beta testing in October or November and ship in late 1992 or early 1993.

John Donovan, Operating-System Trends, *BYTE*, October 1992, pp. 158-160, 162, 164, 166. NextStep among desktop operating systems profiled which "combine the best of the mainframe/minicomputer world with the best of the desktop world."

Tom Yager, NextStep: The Sleeper, *BYTE*, October 1992, pp. 190, 192. "The beauty of the Next is far more than skin deep. Its standard operating environment, NextStep, is probably the most respected piece of software on the planet. The reason it attracts so much attention is that, unlike almost every other popular operating system, NextStep doesn't short-change anyone. Users, developers, and integrators all reap the benefits of NextStep's object-oriented scheme.... The combination of NextStep's interface features makes it, by far, the easiest Unix system to use. It reigns as the best example of Unix done right: It's aimed at ordinary users rather than traditional Unix users...."

Next has the advantage of already being where most other workstation manufacturers would like to be. While everyone is reportedly making ease of use and developer support priorities now, Next had those primary goals from the start. There isn't any high-performance machine that offers as many benefits for so little money and effort."

Alice Hill, Object-Oriented Programming to Reshape Software Field, *Computer Shopper*, October 1992, p. 64. NeXT listed among suppliers of technology for object-oriented programming.

Kelly Gillespie, Internationalize Your Applications with Unicode, *Data Based Advisor*, October 1992, pp. 136-137. NeXT is preparing to support Unicode.

Michael Swaine, Confessions and Conversations, *Dr. Dobb's Journal*, October 1992, pp. 133-137. NeXT's ObjectWare Catalog lists a hundred objects. The object market may make catalogue sales more important.

Lee Sherman, Virtuoso, *New Media*, October 1992, p. 61. Review of Altsys Corp.'s Virtuoso.

Andrew Binstock, Doug Michels' Shoes, Part II, *UNIX Review*, October 1992, p. 5. "USL, Univel, Sun, and possibly NeXT are all seriously committed to getting their UNIX on desktops."

Next Ports Nextstep to DG (item in Industry News), *UNIX-World*, October 1992, pp. 16, 18. Next to port Nextstep to servers from Data General, a company with a 2% market share and recent financial losses.

Rik Farrow and Frank Hayes, The PC UNIX Explosion, *UNIX-World*, October 1992, pp. 48-52. Survey of PC UNIX implementations notes: "And there's a wild card in the UNIX deck: Next Computer Inc.'s Nextstep for PCs. Nextstep has perhaps the best development system available today, but its applications are incompatible with every other UNIX version."

Gary Andrew Poole, From Blue to Pink, *UNIXWorld*, October 1992, pp. 61-62, 64. Profile of Taligent CEO Joseph M. Guglielmi compares Apple and IBM's installed base to Next's. "Analysts laud [Nextstep] as being ahead of its time, but users haven't flocked to buy it. It has gained acceptance on Wall Street for programmers who write custom applications, but it hasn't made dents in other industries. Still, IBM believed Nextstep was important enough that it bought the rights to the software in 1988, but bickering between Jobs and IBM executives killed the project."

Being Objective About Next (item in New Products), *UNIX-World*, October 1992, p. 125. Object libraries from Next's Object Catalog.

Michael Swaine, The Evolutionary War, *MacUser*, November 1992, pp. 43-44. "One company making good on the promise [of object-oriented programming] is NeXT, which has arguably the best object-oriented development environment currently available on any computer and which now distributes a catalog of objects to its developer customers."

About GUN...

Board

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The BULLETin

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

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 (\$1000 +)

Organizations who have contributed material or equipment:

Athena Design
Mesa

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

Electronic Directions
use of facilities for general meetings

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

Stone Design
DataPhile database software, Diagram!, Create, and TextArt

Telebit Corporation
T3000 Modems, NetBlazer Router

Uninet Peripherals, Inc.
SLAT Adapter

Corporate Sponsors (\$100 – 1,000)

Organizations who have contributed \$100 or more this year:

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

Communications

Individual Email

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 dues-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 connect to this host to send and receive email. Mail from the outside can be addressed to `user@gun.com`. Mail you send appears to originate from the `gun.com` domain, and is addressed as if you were 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 dues-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 area 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, and can share resources, mount each other's file systems, etc. Becoming a member of the GUN WAN gives you unrestricted access to all Internet resources, including mail services, netnews (with thousands of special interest groups), hundreds of archive servers, Archie (a database of software/documents stored on the archives), library card catalogues, the Internet White Pages (X-Windows-based email directory service), and value-added services (AP news feeds, stock market data, vertical market information, etc.). GUN maintains a local archive to mirror the most important NeXT-related sites in the world.

- Eligibility:** All dues-paying members
Cost: \$80/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 individual aliases allow individuals to be reached by sending mail to `Firstname_Lastname@gun.com`.

- Eligibility:** 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.

- Eligibility:** 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.

- Eligibility:** 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

