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This booklet is intended to contain introductory information on our Sun network setup and new applications installed.

Suggestions may be e-mailed to
sysadm@its.brooklyn.cuny.edu



General Information

1.

Sun computers are available in both the Atrium (1306 Plaza) and the Wolfe (1300 Plaza) Labs, located on the central corridor of the Plaza building. The Sun classroom is located in the Atrium Lab. If you are enrolled in a class that is currently meeting, inform the lab monitor at the front counter.

There are thirteen Sun workstations in the Atrium open area and 17 in the Wolfe Lab. When there are no classes in session, the Sun classroom is used as an open lab. Have suitable identification (see Rules and Guidelines) ready, and submit it at the front counter to be assigned a Sun workstation when your class is not in session.

2. How do I learn the basics of using a Sun computer?

There are several methods of learning the basics. If you apply all of them, you will find yourself comfortable with using the computers.

A. Your course instructor should spend 20-30 minutes explaining some of the details of the applications you will be using. This information will probably be of a detailed nature not covered by this manual, so you should listen carefully and take notes.

B. Your textbook may explain how to use your application, and those parts of the operating system that apply to the use of your application. If it does, this will be your best source of information, since it is the most specific.

C. RTFM, Unix shorthand for Read The Fine Manual.

4. What materials do I need to purchase before class?

Students will need to purchase one or more 1.44Mb 3.5" diskettes for archival purposes. You can purchase diskettes at the Brooklyn College Bookstore or a computer store. Diskettes are NOT available for borrow or purchasing at any of the Brooklyn College computer facilities.

5. What special preparations need to be made?

An account and password must be obtained prior to using a Sun workstation for the first time. Read "Getting Started User Accounts" for information.

Since you will have a personal account on the Sun network, it is very important that you remember to logout before you leave your computer. If you forget to do so, others would have access to your account, and could take your work, or erase your work. Please be sure to read "Getting Started: User Accounts."

7. What are lab monitor, tutors and experts?

Lab monitors are the computer lab staff assigned to work in the main area of the Atrium facility, and behind the front counter. The lab monitors are responsible for assisting students in the use of equipment and in accessing applications only. They cannot help in the use of specific programs, or with class assignments.

Tutors are specialists who assist students in the use of

certain applications or programming languages. They can assist students with specific problems within the scope of their knowledge.

Lab experts are individuals that work with a specific type of computer. These individuals install software and maintain the computer network. They can often help with complicated problems that other staff members may not be able to solve.

If you are having a problem getting started, saving or printing, first read the Troubleshooting section of this manual. Then, if you cannot solve your problem request assistance from a lab monitor. If you require assistance with the use of a specific program, speak to a lab consultant. If none of these individuals can solve your problem they will refer you to the lab expert, if one is on duty.

8. What are the lab hours?

The Atrium lab is open from Monday through Thursday from 8 AM to 10:45 PM, and from Friday through Sunday from 9 AM to 4:45 PM.

Summer hours are 8 AM to 9:45 PM Monday through Thursday and first session only Friday 9 AM to 3:45 PM.

The Wolfe lab is open:

Monday - Thursday 9 AM - 6:45 PM

Friday 9 AM - 4:45 PM

These schedules are subject to change. Please call the lab at 951-5787 for further information.

Getting Started

WARNING: the Sun computers should NEVER be turned off. When leaving a station, leave the computer on. The sun workstations are networked and interdependent, and therefore, all workstations must be left on.

Screen Blanker:

The Sun computers run a screen blanker, which is a program that electronically dims the display when the mouse and keyboard are idle for an extended period of time. Hitting the return key will restore the screen.

Locking and Unlocking:

When using the computer, you may notice that the computer refuses to accept any keyboard input. The keyboard may have become locked (accidentally). CTRL-Q may be used to unlock the keyboard. CTRL-S will lock a window. The sequence CTRL-Q is used to indicate holding the control key (left side of the keyboard under the tab key) while pressing the q key.

Special Keys:

The Sun keyboard has a variety of keys in addition to the standard "typewriter" keys. Some keys are slightly different. Below is a list of important keys, along with a description of their use.

RETURN : The return key is the most important key. It is like the period on a sentence. The computer needs to know when you are finished typing something. In most operations, it will wait until you have pressed the return key, before taking any action. The return key has return on it and an arrow pointing down and to the left.

Function keys: The function keys are used by many programs. The specific action performed depends on the program or application currently running. These keys are located on the top of the keyboard. They are F1 through F12.

Cursor keys: These keys are part of the numeric keypad on the right side. They are used to move the cursor (an underscore on the screen indicating the keyboard input area) around.

The newer keyboards have a separate set of arrow, delete, home and page up & down keys.

The NUMLOCK key toggles between numeric and applications use of this keypad. PageDown (PgDn) is the same key as the number 3. If num is on, PageDown does not work, a 3 will appear instead. Press the numlock key again to remove num.

Backspace/Delete: These keys will remove characters from the screen. Both keys will remove the character to the left of the cursor. Note that one of these keys may not work correctly in various shells and applications, while the other will function normally.

Caps Lock: Caps Lock will cause all alphabetic keys to produce upper case letters' the other keys will not be affected.

Shift/Ctrl/Alt: These are modifier keys. These keys are different from any other type of key. You must hold down the modifier key, then press another key. The modifier key will change the function of the second key. Use of the modifier keys, like the function keys is dependent on the application used. In addition, the Shift key in combination with the alphabetical keys will pro-

duce uppercase letters, and in combinations with keys that have two symbols (such as the number keys) will cause the upper symbol to appear.

Copy, Cut & Paste keys on the left side of the keyboard. Used in the openwin GUI: click select mouse button at start of selection; click adjust mouse button at end of selection; Copy key; move mouse pointer to insertion point; click selection button; Paste key. The Cut key will delete text from Textedit style windows and some applications.

Front key on the left side of the keyboard. Used in the openwin GUI: Brings selected window to the front; pushes front window to the rear.

Open key on the left side of the keyboard. Used in the openwin GUI: Closes window to an icon; opens icon to a window.

User Accounts:

The ITS department will provide user accounts and passwords for classes using Suns. The individual agreement forms will be available at the front counter of the Atrium computer Lab, 1306 Plaza.

Contact the ITS office at 951-5787 for other accounts and passwords.

When you are initially given an account on the Suns, we give you a randomly generated password which you will be forced to change when you first log on.

When you've logged into your account for the first time, all you are able to do is change your password. Follow the program's instructions on changing the password. If you do not change your password at your initial login, the account will be disabled to ensure system security.

If you will be taking another class that requires a Sun workstation account, you will get the same account. You should copy all of your files to 3.5" disks before the end of the semester. Faculty members may request extensions of student accounts, typically for incompletes or special projects.

Changing your password.

You should pick a password with a minimum length of 6 characters, and a maximum length of 8 characters. You can enter a password of more than 8 characters, but only the first 8 characters will be used. Passwords are case sensitive, meaning that the password "mYpswd" is different from "myspwd." Your password should not be something obvious like your name, birthday, or friend's name, yet you will need to remember the password (in addition to your login name) to login in the future. We run a "Facist" password checking program, npasswd, which will **disallow** passwords it can find in dictionaries, combinations based on your name, all lower case letters, all numbers and other arcane rules.

Type `npasswd` at any shell prompt and press RETURN. Several prompts will then appear, asking you to enter:

1. Your old password.
2. Your new password.
3. Your new password (again for verification).

Wait about 20 minutes before logging in again. This is because when you do make a password change it doesn't take effect right away. The password maps are updated every 20 minutes. Individual machines also cache password map information for 10 minutes.

Home Directory

Unix provides each user with a home directory. This will be your current directory upon logging in. Your files may be saved in this area and its subdirectories. Also in the home directory there are customizable startup scripts, which dictate which programs to run and your screen arrangement.

Storage Space

Student users have a quota of **3.5 megabytes** and a maximum of **5 megabyte** of disk storage space available. This extra space is for temporary use only.

IMPORTANT: You are responsible for copying off and/or deleting your files to maintain your directory size. Instructions for deleting and copying files are found on pages 8 and 14. If you are not careful in managing your directory size, you could lose your work. Always make sure you have enough free storage **BEFORE** you start to work. Also make sure you copy your files to floppy diskette before you log off.

We have a good tape backup system, but there is at best, a single backup in the early morning hours. There is no "undelete system" here and "rm" is permanent.

du -k

will list the space used by your current and sub directories in kilobytes.

cd will return you to your home directory.

quota -v will show your total, used, and available space

Logging In:

The "atrium# login:" prompt should be present. If not, press the return key, if a previous user is still logged on, enter CTRL-D to log them off. If OpenWin has been left on the computer, hold down the RIGHT mouse button when the pointer is anywhere in the background (on the shaded area NOT in a window), and select EXIT. Click the left mouse button on Confirm in the requester (The requester is the box that is brought up on the screen, which contains selections to click on with the mouse. The requester is the computer's way of asking for more information. The mouse pointer is also moved onto the requester).

Step1. Type your login name (imauser) and press RETURN.

Step 2. At the Password prompt type your password

and press RETURN. `atrium#/users#/st/imauser>` should appear if the login was successful. A valid account number and its password must be entered to use the system.

At this point you are in a UNIX Korn shell, `ksh`, in your home directory. The student home directory would typically be `"/users2/st/imauser"`. The shell is the program which interprets your commands, performing pattern matching input/output redirection, history logging and more.

Logging Out:

Exit or CTRL-D will logout from the bottom UNIX shell. Exit or CTRL-D will logout from a remote shell (`rsh`) to the previous shell.

WARNING: If you leave the computer without logging out, the next person at the machine may read, tamper with or erase all of your files. Therefore, to protect your work you **MUST** remember to log out before leaving the computer.

"Manual pages"

For most UNIX commands we have manual entries available. Simply type "`man xyz`" for the `xyz` command (substitute the name of the command for `xyz`). Also you may want to print some manual entries out on the laser printers when you're here in the Atrium lab. To do this enter "`man -t xyz`".

The UNIX `man` command searches each section (eg, 1 for UNIX commands, 2 for UNIX system calls, 5 for files, etc.) in a specific order (it is not what you'd think). And for each section it searches the manual directories listed in your `MANPATH` environment variable in the order given. This is how "`man`" works, a double loop doing linear searching. The first manual entry found will be returned. To alter this behavior you can give the exact section number (ie, "`man -s 3v getenv`" to limit searches to section 3v of the manual, see below). Another thing you can do is specify an override to the `MANPATH` with "`man -M <list>`" where `<list>` is a colon (":") separated list of manual page directories. This way only the paths you've specified via "`-M`" will be searched.

For example, there are at least two `getenv` (3) functions: Fortran's (`getenv.3f`) and C's (`getenv.3v`). The "C" `getenv` function is found in `/usr/share/man/man3/getenv.3v`, but, instead the Fortran version which is in `$$SOFTDIR/fortran/man/man3/getenv.3f` is returned as the first one found. Why? Because section 3f is searched before 3v even though `/usr/share/man` precedes `$$SOFTDIR/fortran/man` in the `MANPATH`. There are three solutions, (1) type "`man 3v getenv`" or (2) type "`man -M /usr/share/man getenv`", (3) easiest "`man -a getenv`"

man -k keyword ... Print out one-line summaries from the `whatis/windex` databases (table of contents) that contain any of the given keywords.

man -a command to display all matching pages.

Printing

We have a laser postscript printer in each lab. The printer name "hp" refers to the printer in the same lab. "hpa" is the Atrium printer when using the Wolfe Lab. "hpw" is used for the Wolfe Lab printer from the Atrium.

To print any file out on the laser printer, type "lpr xyz". Typing "lpr -p xyz" will paginate the printout (as if you had entered "pr xyz | lpr").

We have four small scripts (laser*) using `enscript(1)` for fancier printing. "laser1" and "laser1c" print with a heading with (laser1c) or without (laser1) pagination. "laser1" has a smaller sized font than lpr's and line wrapping capability. "laser2" prints in landscape mode with 2 column output. "laser2c" does this with pagination differing from "laser2" in a similar way to how "laser1c" differs from "laser1".

GUI

For use on the Sun workstations on campus we prefer a Graphical User Interface (or GUI - pronounced "gooey"). We prefer the OpenWindows GUI (called as " openwin"). Some use Xterm windows (but that is not standardized here). Xterm windows have a nice cut and paste feature using only the mouse, without the copy and paste keys.

The Sun optical mouse must be used on its grid pad.

"helpinfo"

Typing this command at the unix prompt will bring up a text only version of the html document, [http://acc6\(or acc4 or atrium69\).its.brooklyn.cuny.edu/~help](http://acc6(or acc4 or atrium69).its.brooklyn.cuny.edu/~help)

"dialinfo"

Typing this command at the unix prompt will bring information on the screen about the dialing in procedures, specifically the dialin password. "dialinfo" only works on the physical console (before openwin, or rsh).