

Gooney: Soft & Sticky

Introduction and History

GUI, Gooney

- A graphical user interface (or GUI, sometimes pronounced "gooney") is a method of
 - **interacting with a computer** through a metaphor of
 - **direct manipulation** of
 - **graphical objects** (images and widgets) in addition to text.

-- wikipedia

GUI = WIMP?

- **W**indows, **I**cons, **M**enus, and
- **P**ointing device.
- Yes? Why?
- No? Why?

Operating systems

- File management
- Memory management,
- Task/Process/Thread scheduling
- Device management
- Network system

File Management

- Flat structure (no longer exists)
- Tree
 - DOS, Windows: Disk – Tree
 - Unix, MacOS: Tree (Disk as a branch) + Links
=> A Network

Memory management

- History
 - Exclusive memory use: DOS
- Now
 - Shared memory
 - Virtual memory

Task/Process/Thread scheduling

- Multiple users, single tasks
- Single user, single task
- Single user, multiple tasks
- Multiple users, multiple tasks

Device Management

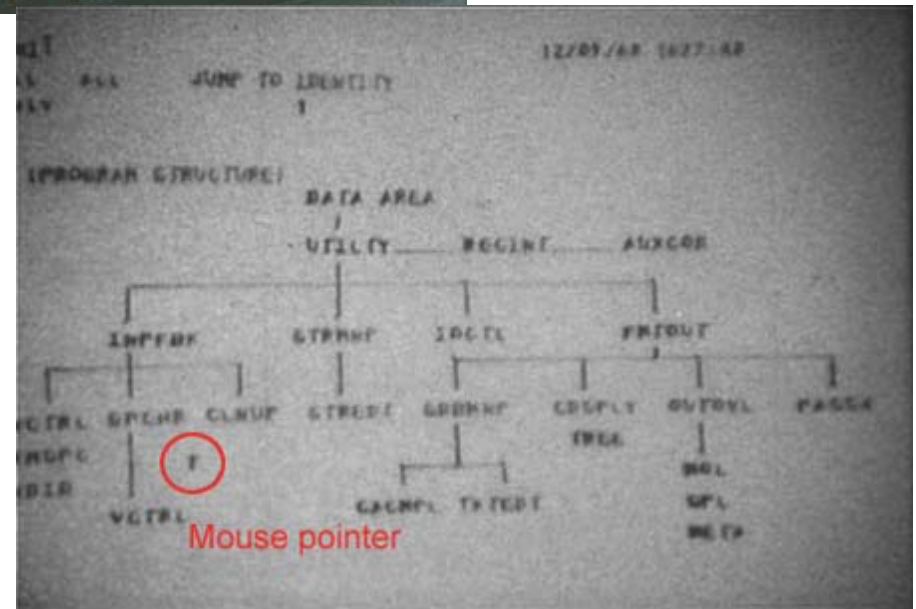
- Devices are different beasts: windows
- Devices are just different files: unix
- Drivers
- Plug and Play

Network systems

- ISO's OSI
 - Open Systems Interconnection
- Network file systems: NFS, SAMBA, ...
- Remote shells and desktops
- And...

Application	HTTP, SMTP, FTP, Telnet
Presentation	MIME, HTML, XML, ASCII
Session	Setting up, tearing down TCP/IP
Transport	TCP
Network	IP
Data Link	Bridges, switches, MAC
Physical	Cables, hubs, pins, ...

60s: Douglas Englebart



1973: Xerox PARC Alto



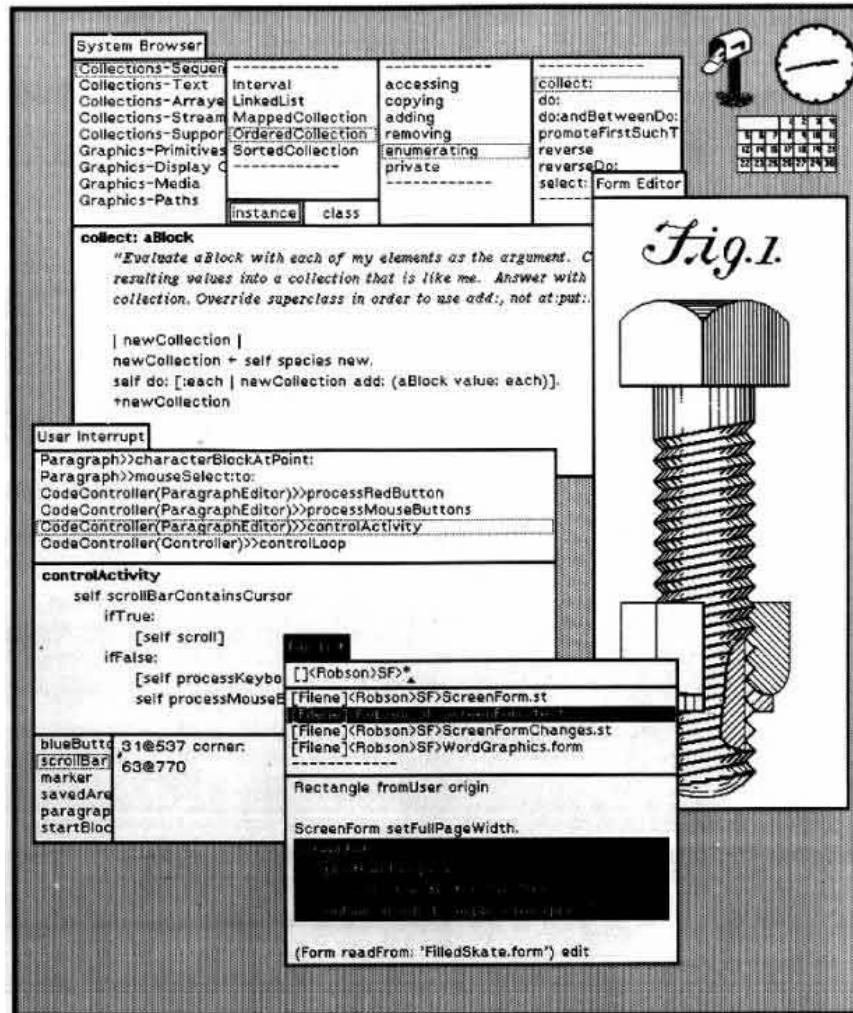
Start	Ready: Select file names with the mouse Red-Copy, Yel-Copy/Rename, Blue-Delete Click 'Start' to execute file name commands	Quit
		Clear
		Type

Pages: 832	Log
Files listed: 60	
Files selected: 0	Delete: 0
Copy/Rename: 0	Copy: 0
DP0: <SysDir.> *.*	
~~ BEGINNING ~~ 1012-AstroRoids.Boot. Anonymous.l. BattleShip.er. BattleShip.RUN. BlackJack.RUN. BuildKal.cm. CalcSources.dm. Calculator.RUN. Chess.log. Chess.run. Com.Cm. CompileKal.cm. CRTTEST.RUN. DMT.boot. EdsBuild.run. empres.run. Executive.Run. Fly.run. galaxian.boot. Garbage.\$. Go9.run. GoFont.AL. Invaders.Run. junk. junk.press. Kal.bcpl. Kal.cm. KalA.asm. KalMc.mu. Kinetic4.RUN. LoadKal.cm. MasterMind.RUN. maze.run. Mesa.Typescript. Missile.run. NEPTUNE.RUN. othello.run. Pinball-easy.run. POLYGONS.RUN.	

Pages: 0	Log
Files listed: 0	
Files selected: 0	Delete: 0
Copy/Rename: 0	Copy: 0
No Disk: <SysDir.> *.*	

- 606 X 808 screen
- Two column file manager
- Full screen applications
- Three-button mouse
- Bravo word processor

1974:Smalltalk,1981:Xerox Star



- Windows with borders
- Title bar
- Icons
- popup menus
- Scroll bars
- Radio buttons
- Dialog boxes

XEROX 6085 Workstation

User-Interface Design

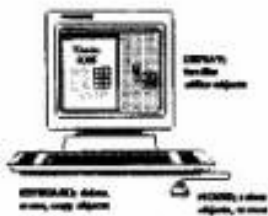
To make it easy to compose text and graphics, to do electronic filing, printing, and mailing all at the same workstation, requires a revolutionary user interface design.

Bit-map display - Each of the pixels on the 19" screen is mapped to a bit in memory; thus, arbitrarily complex images can be displayed. The 6085 displays all texts and graphics as they will be printed. In addition, familiar office objects such as documents, folders, file drawers and in-baskets are portrayed as recognizable images.

The mouse - A unique pointing device that allows the user to quickly select any text, graphic or office object on the display.

See and Point

All functions are visible to the user on the keyboard or on the screen. The user does filing and retrieval by selecting them with the mouse and reaching the MOVE, COPY, DELETE or PROMPT keys (command keys). Text and graphics are edited with the **TABLE** keys.



Shorter Production Times

Experience at Xerox with prototype work stations has shown shorter production times and thus lower costs, as a function of the percentage of use of the workstations. The following equation can be used to express this:

Year	Item 6085	6085
1978	95.2	15.8
1980	41.1	59.9
1982	45	55
1984	30	70
1986	10	90
1988	5	95

Table 1: Percentages of use of the 6085.

Activity under the old and the new

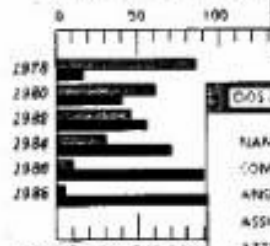


Figure 1: Data from Table 1 drive

$$10000 \sum_{i=1}^n \frac{1}{i^2} = 6.4494 \dots$$

Workstation usage percentages Table 1 and illustrated in Figure 6085 users are likely to do the composition and layout, create process involving printing and filing.

Text and Graphics

To replace typesetting, the 6085 offers a choice of type fonts and sizes from 6 point to 36 point.

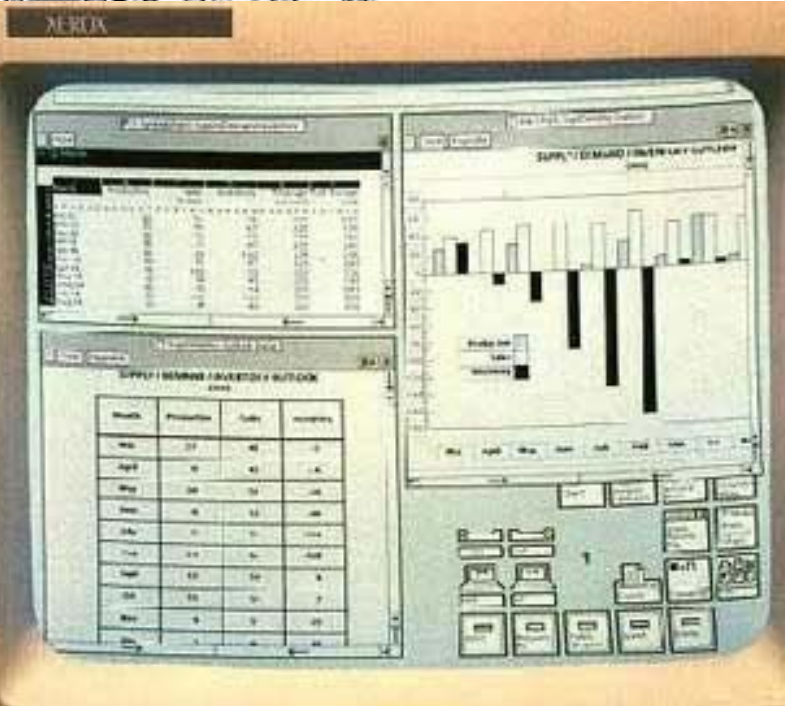
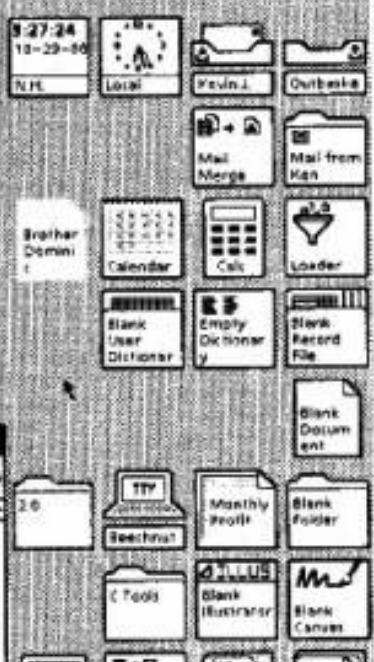
Here is a sentence of 6 point text.
Here is a sentence of 12 point text.

18-point text.
24-point text.
36-point text.



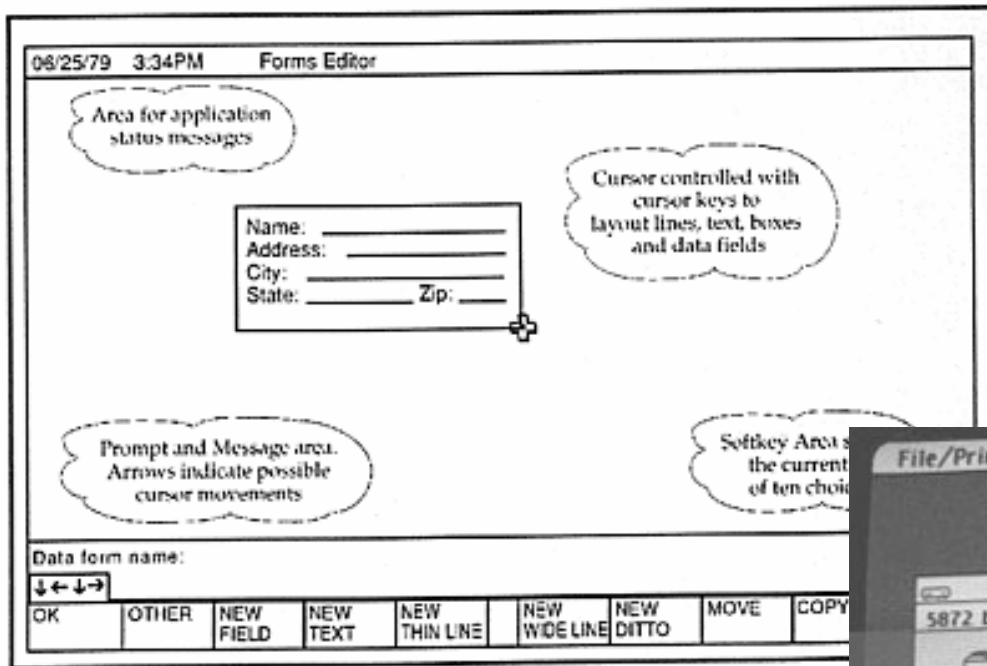
COB & Lotus data: Close Redisplay

NAME	EXTENSION	SIZE	DATE
COMMAND	COM	22677	15-1
ANG	SYS	2556	18-1
ASSIGN	COM	984	20-1
ATTRB	EXE	15091	14-1
BACKUP	COM	17024	20-1
CHKDSK	COM	9435	24-1
CHMOD	COM	6520	
COMP	COM	3018	
DEBUG	EXE	15964	

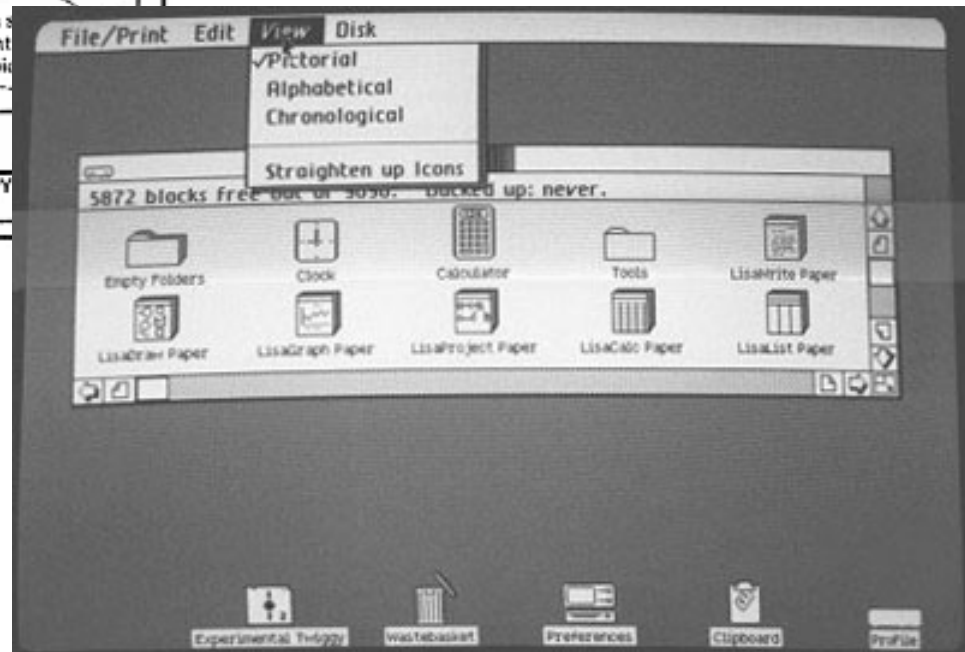


- Two-button mouse
- Tiled windows for a stupid reason
- icons

1979-1983: Apple Lisa

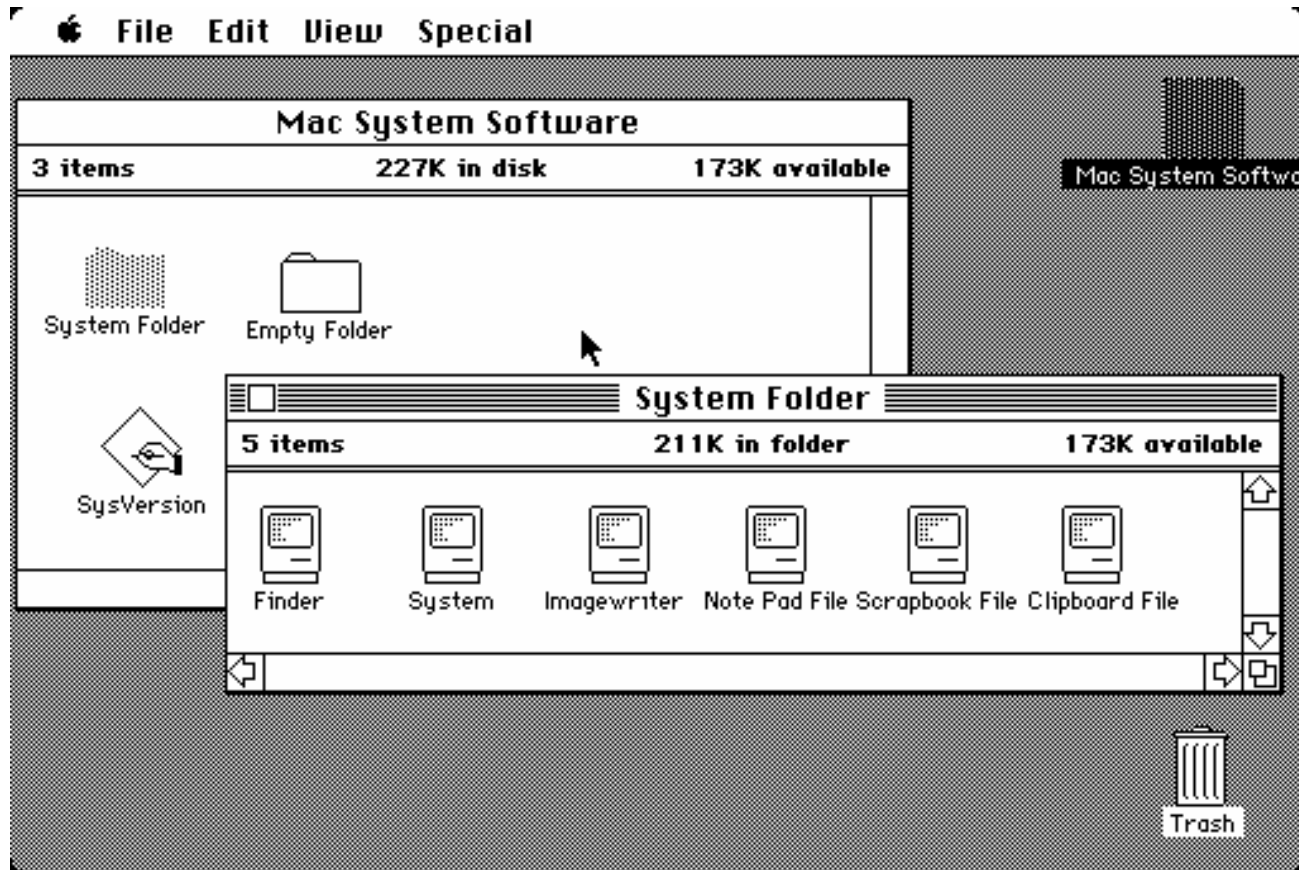


- Pull-down menu bar
- Checkmarks for menu items
- Shortcut keys
- Fix-height scroll bar
- One-button mouse
- Double clicking



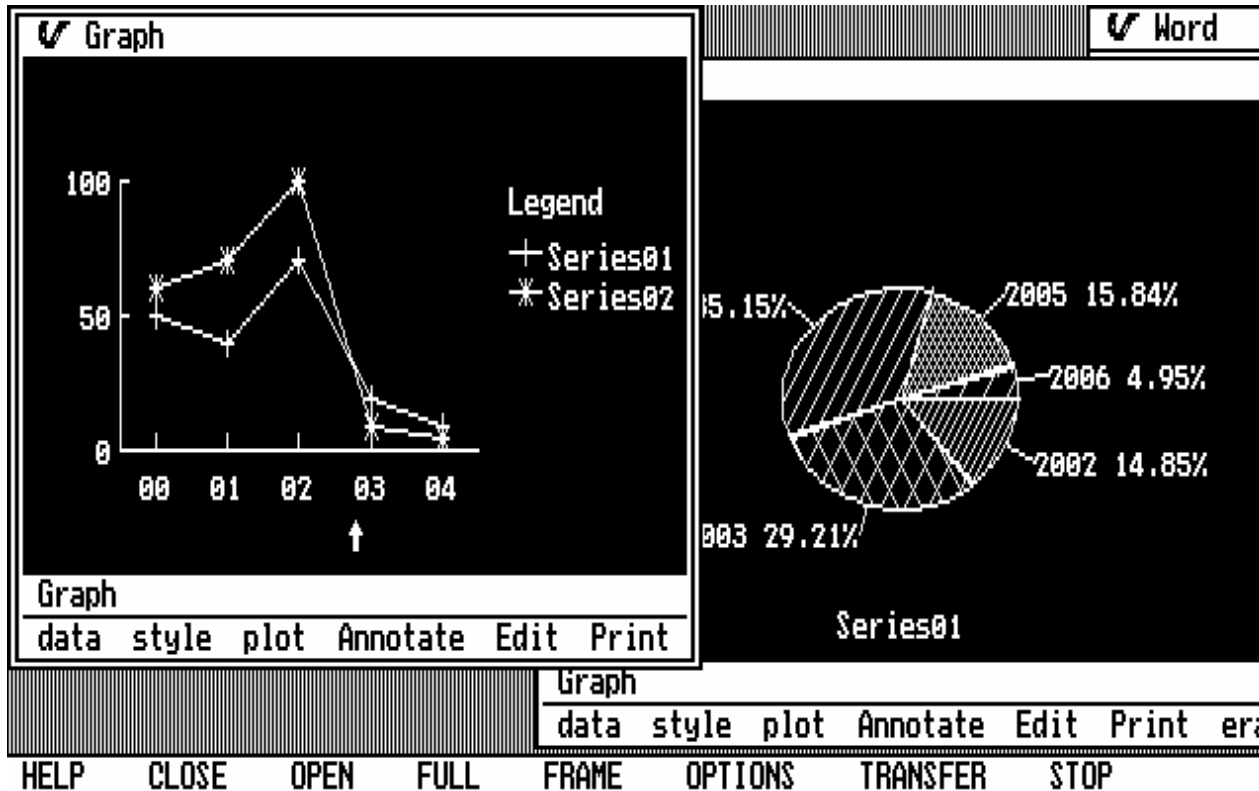
- Icons represent all files and applications
- new window open for opened directory
- Drag-n-drop
- trash
- Region-based redraw
- \$10, 000

1984: Macintosh System 1



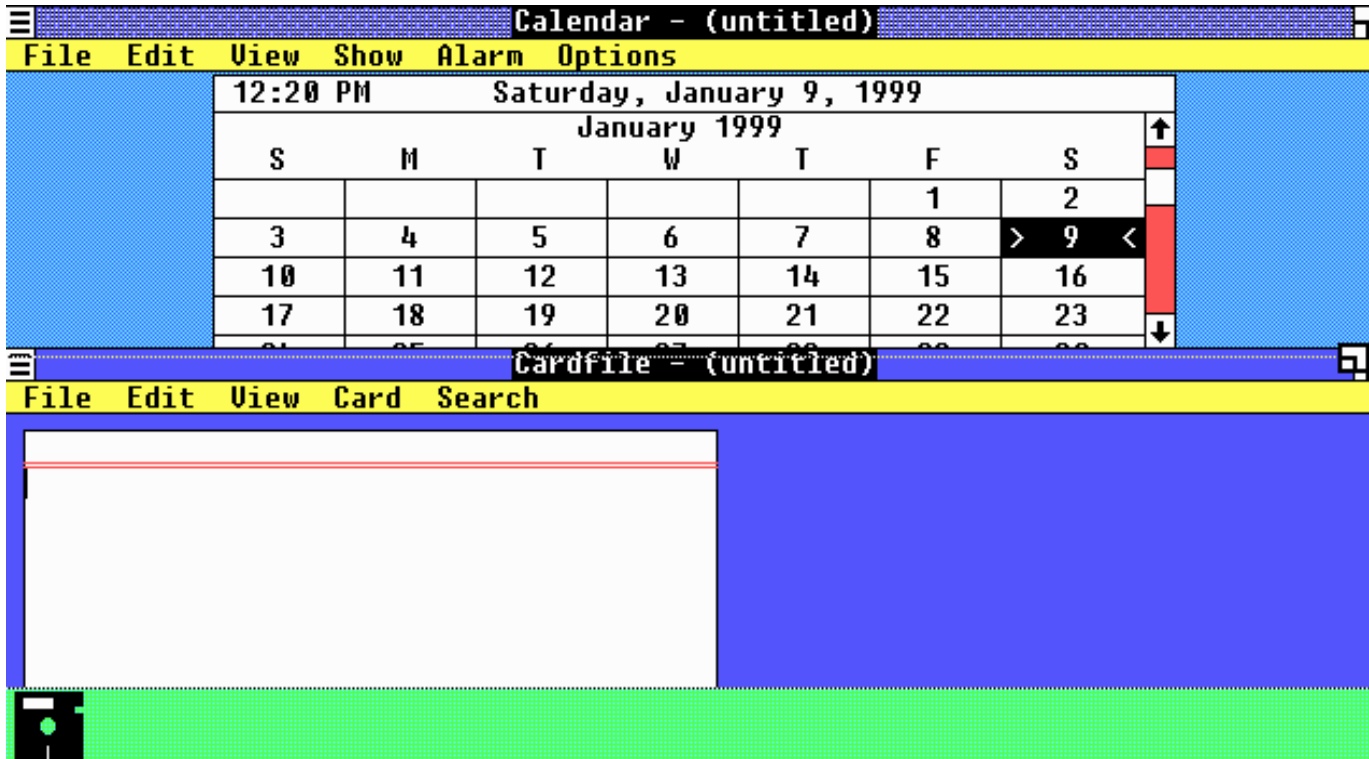
- Little brother of Lisa
- 512x384 screen
- \$2, 495 only

1983: VisiCorp VisiOn



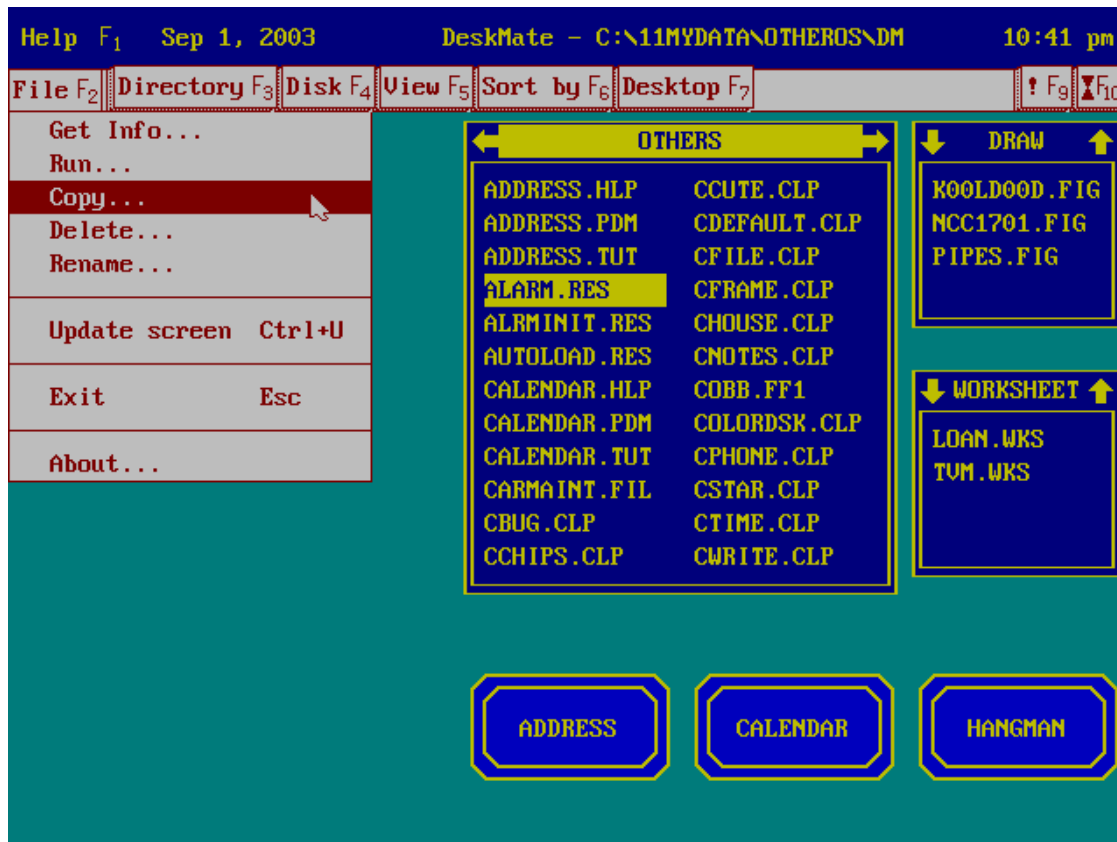
- Text labels
- mouse
- 640x200 screen
- PC-XT, 512K memory
- \$1,500 for software only

1983:Windows 1.01



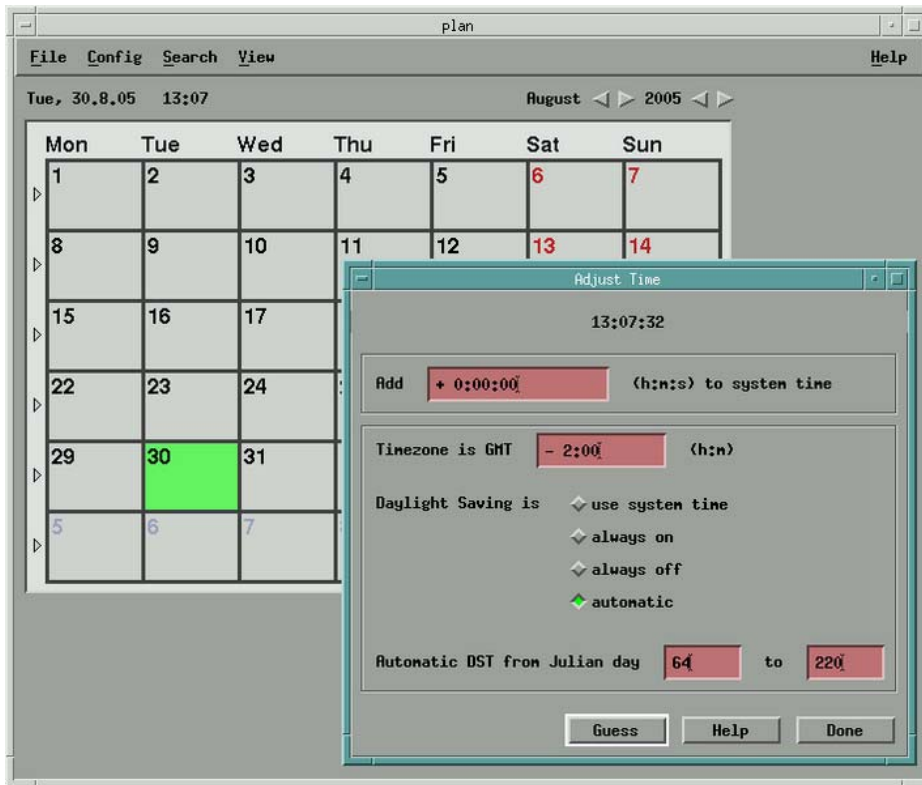
- Inspired by VisiOn
- Tiled windows for the same stupid reason
- Microsoft Word
- Color!
- Menu bar for each window

1984: Tandy DeskMate



- No overlapping windows
- Function keys as shortcut
- Mouse, but designed primarily for keyboard

1984: X Window systems



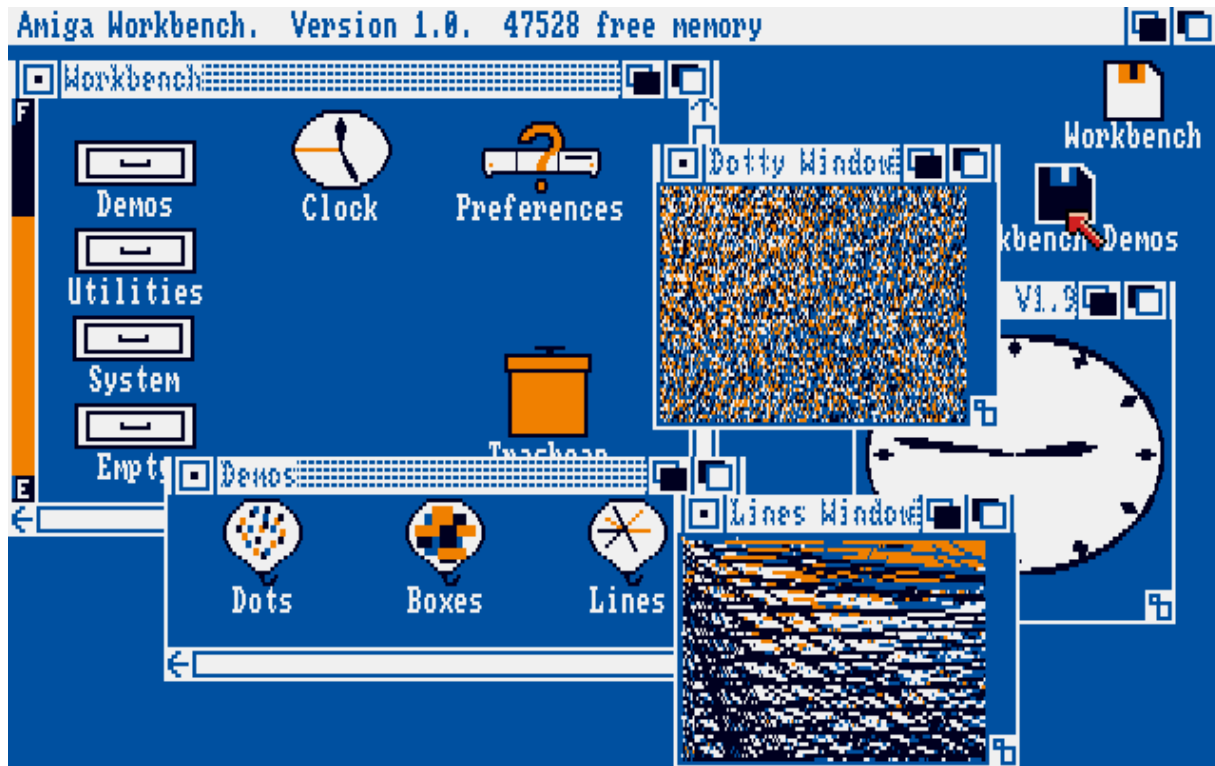
- Totally new architecture
- X server
- Window manager
- Desktop environment

1985: DR GEM



- GUI for dos
- Lisa was not happy and she won

1985: Amiga Workbench



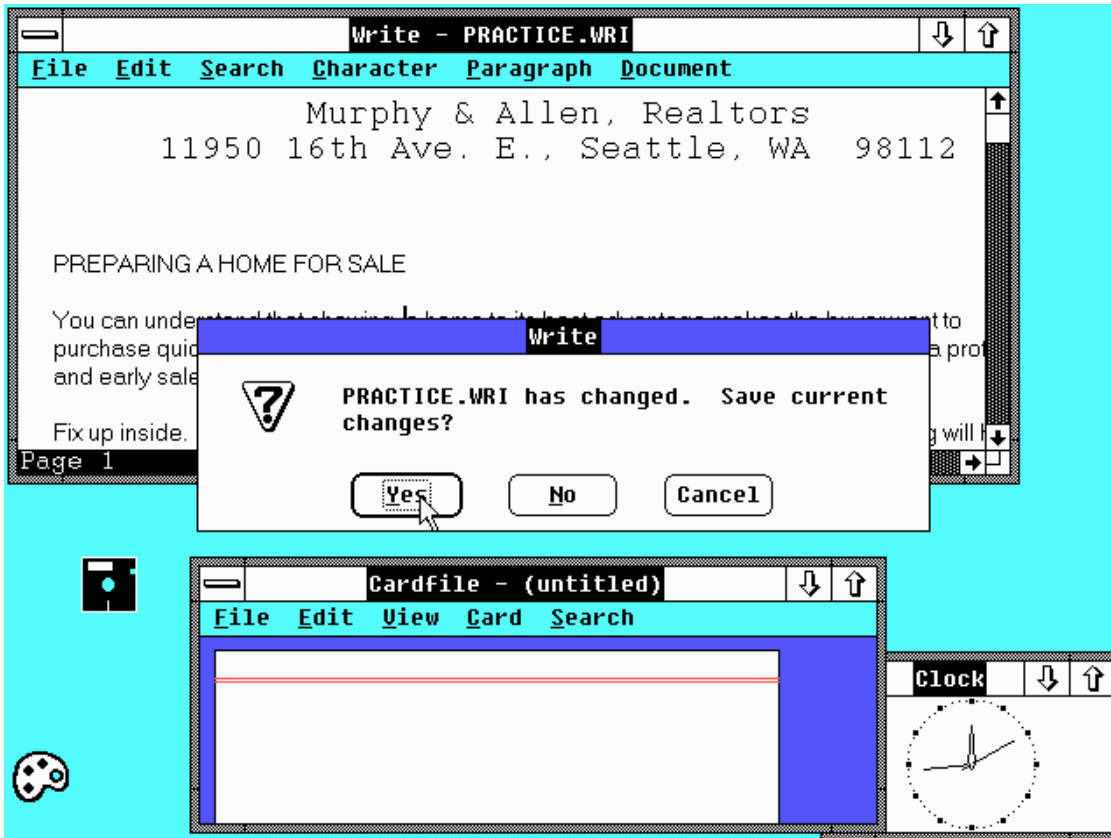
- Commodore's Amiga computer
- Move windows up and down the stack
- Top menu bar, but normally hidden
- Work in a background window without bringing it to the front

1986: Berkely Softworks: GEOS



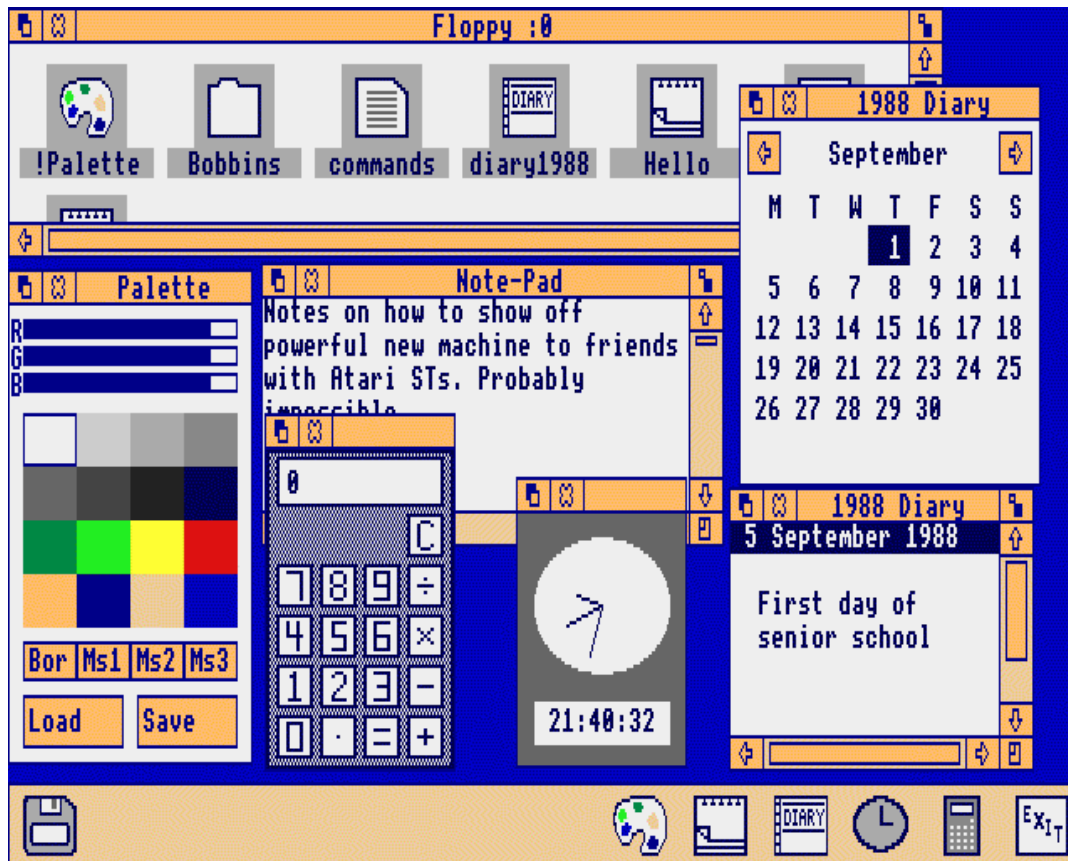
- For Comodore 64 and Apple II
- GeoWorks for PCs to beat Microsoft Windows

1987: Windows 2.0



- Overlapping windows
- Lisa was not happy again, but she lost the game

1987:Acorn, RISCOS: Arthur



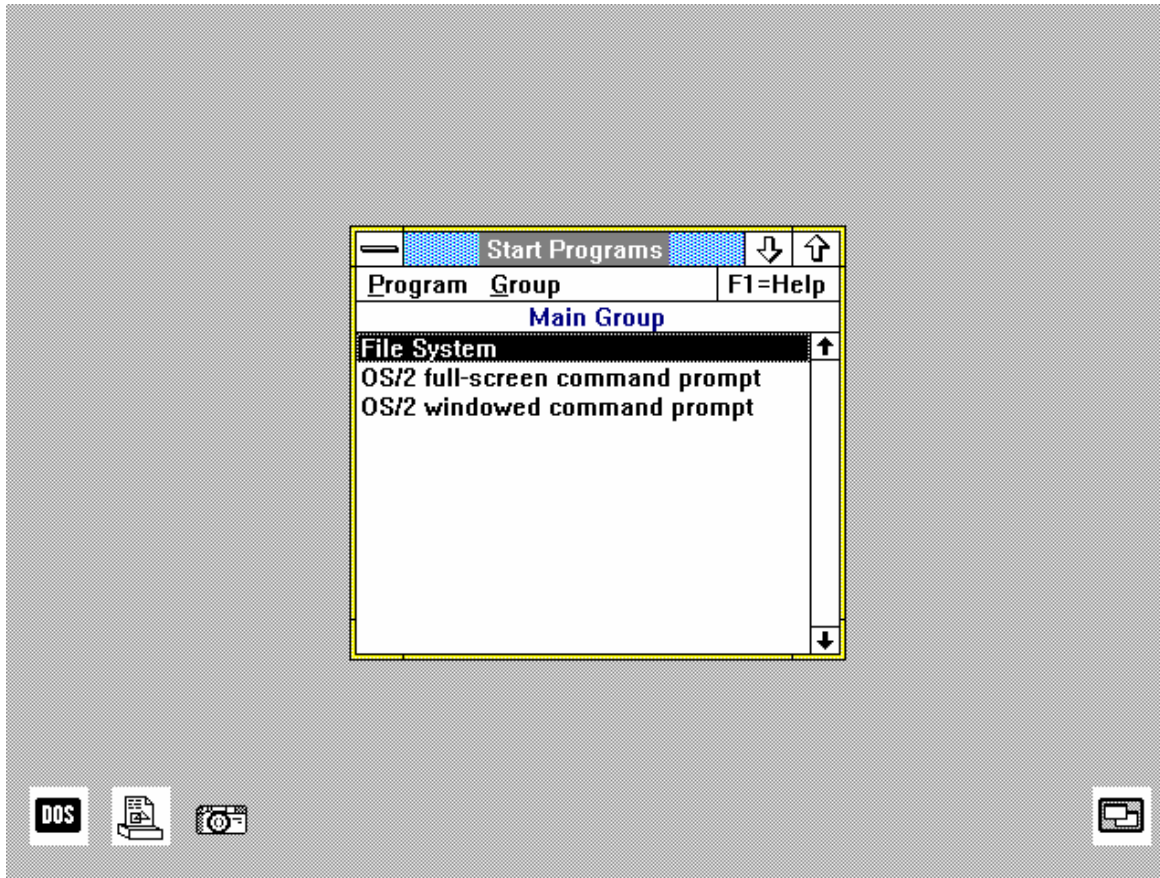
- A UK company!
- RISC computer!
- Proportionally-sized scroll bar
- A “Dock” bar at the bottom

1988: NeXTSTEP



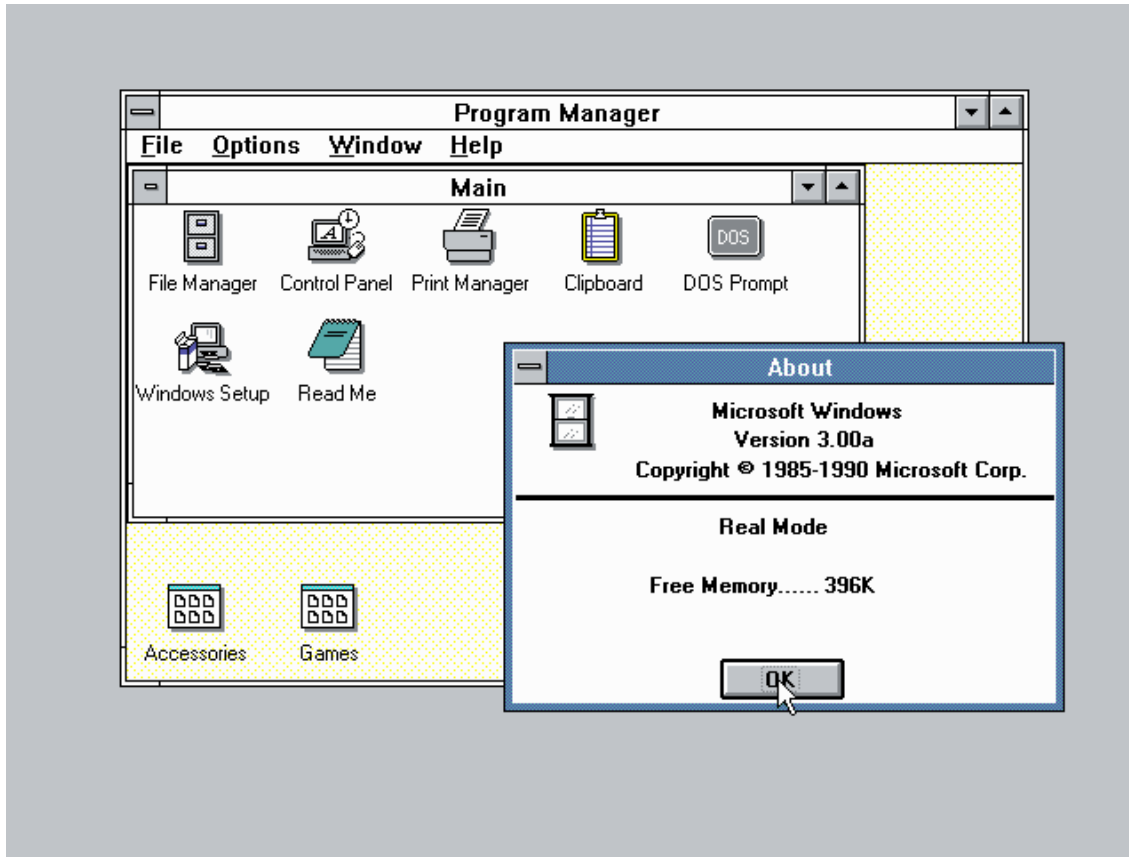
- Steve Job's NeXT
- 3d beveled look
- "X" to close a window
- Vertical menu strip
- A "Dock" on any side of the screen

1988:OS/2



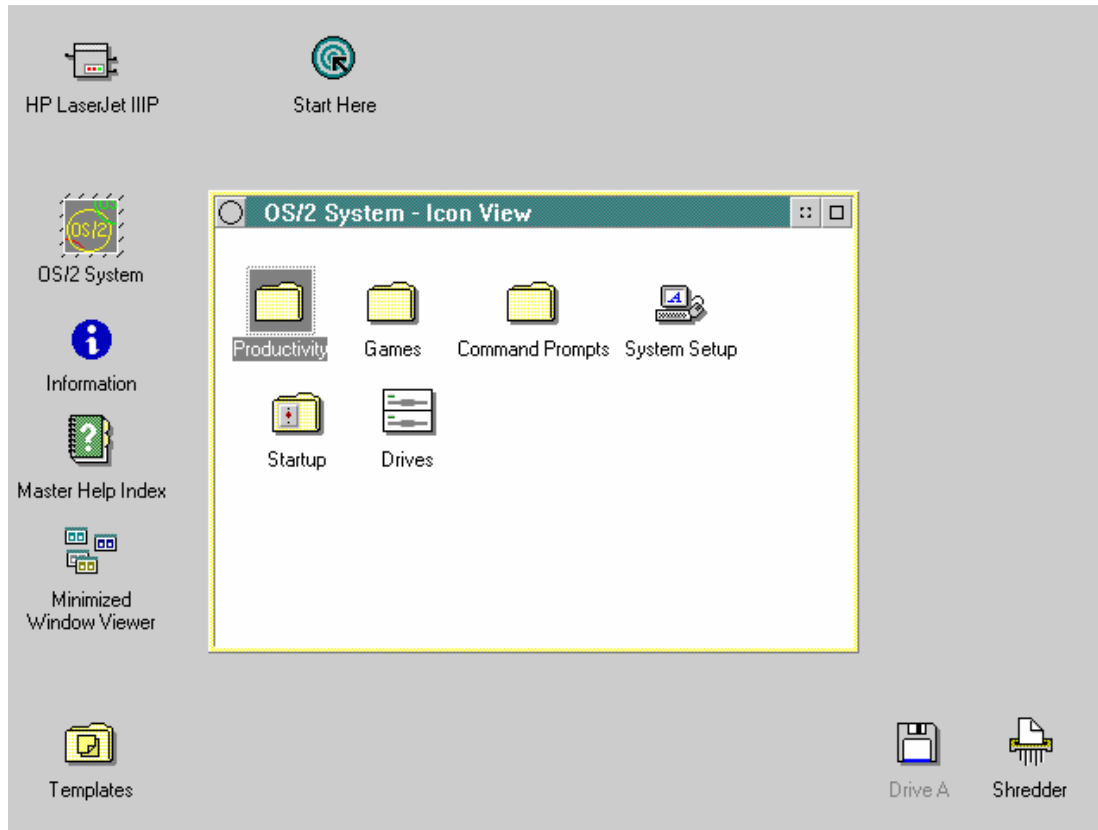
- To replace DOS
- Presentation Manager
Similar to windows 2.0

1990: Windows 3.0



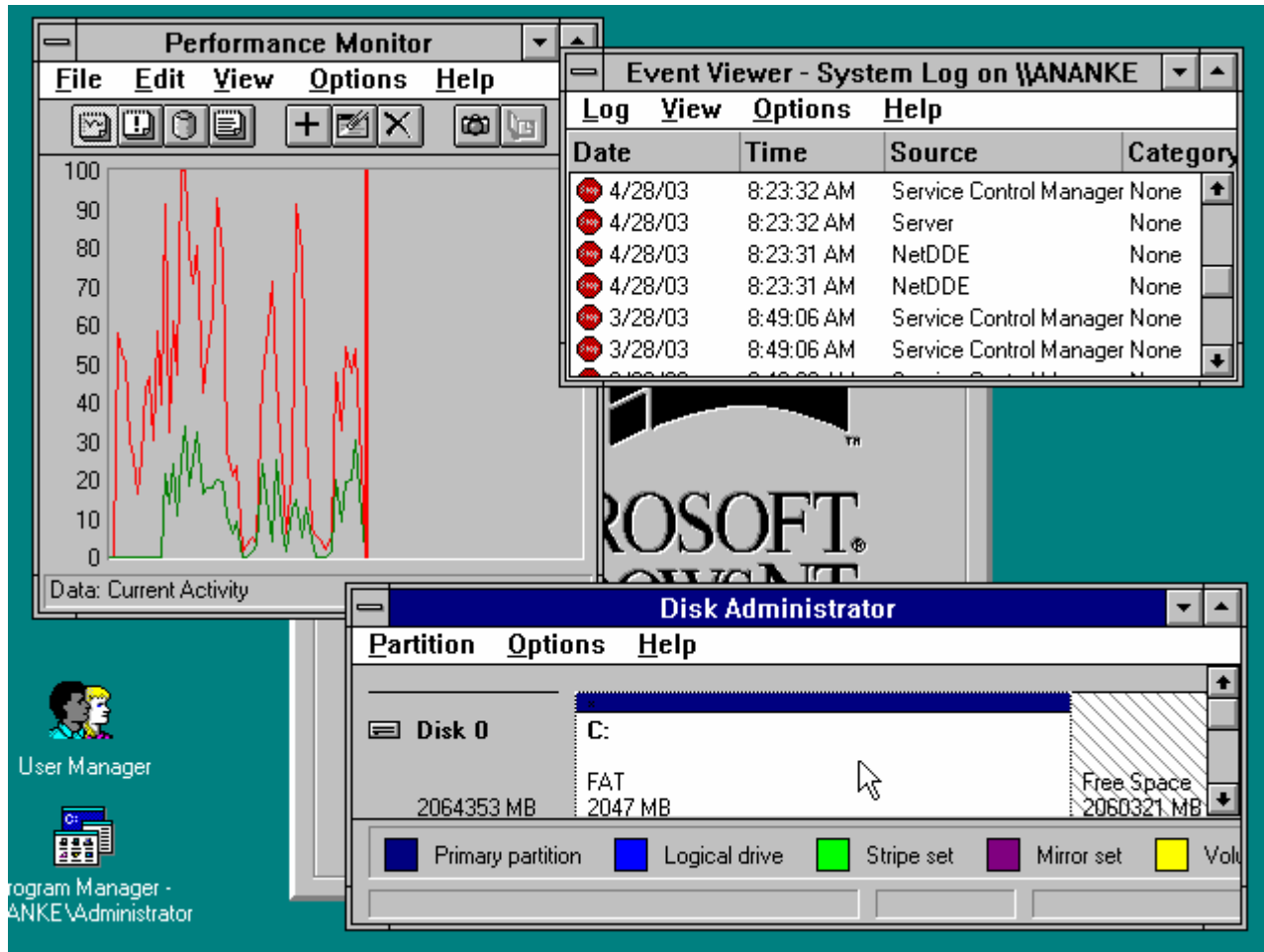
- This release make microsoft Microsoft.

1992

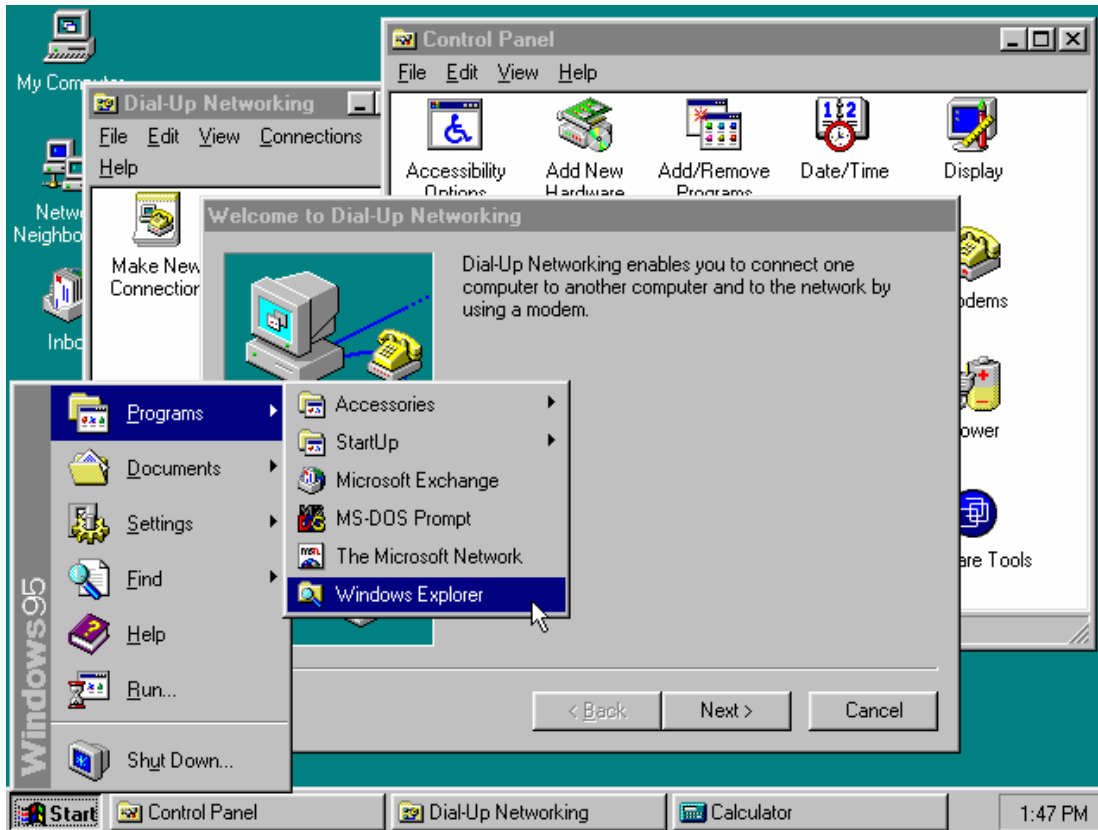


- Workplace shell
- Many ideas from NeXTstep

1993: Windows NT 3.0

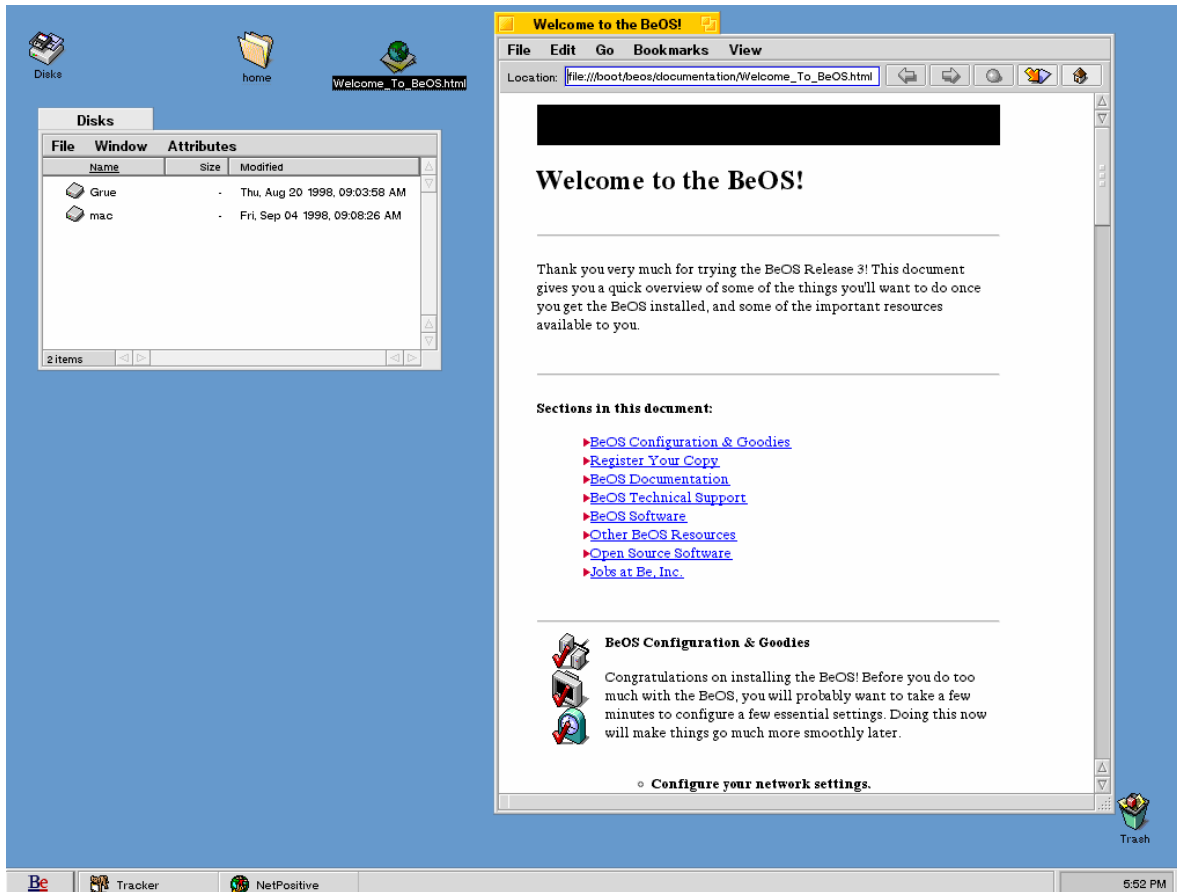


1995: Windows 95



- Start menu
- Task bar

1995: BeOS

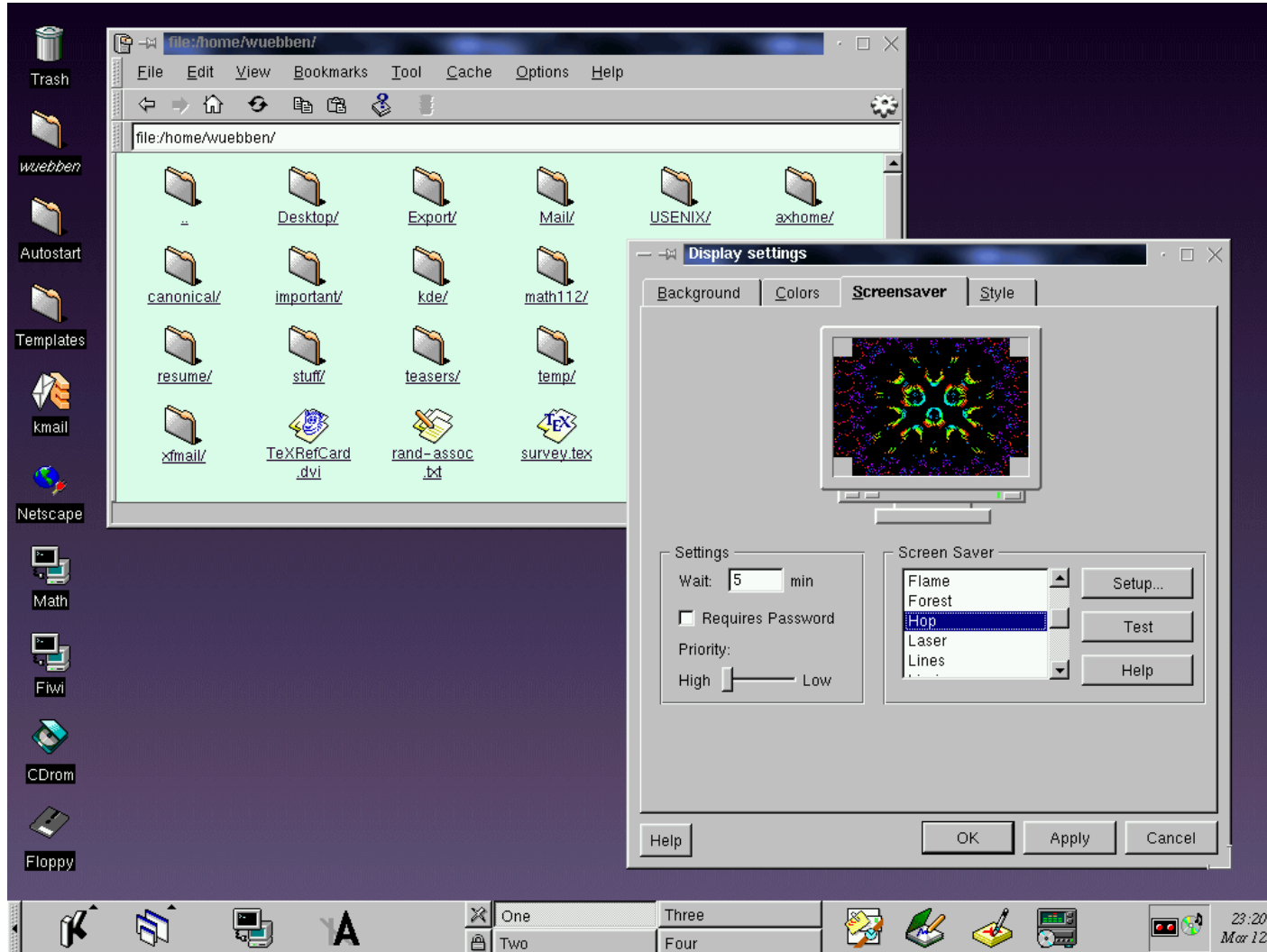


- Taskbar grouping
- Smalltalk-like title bar

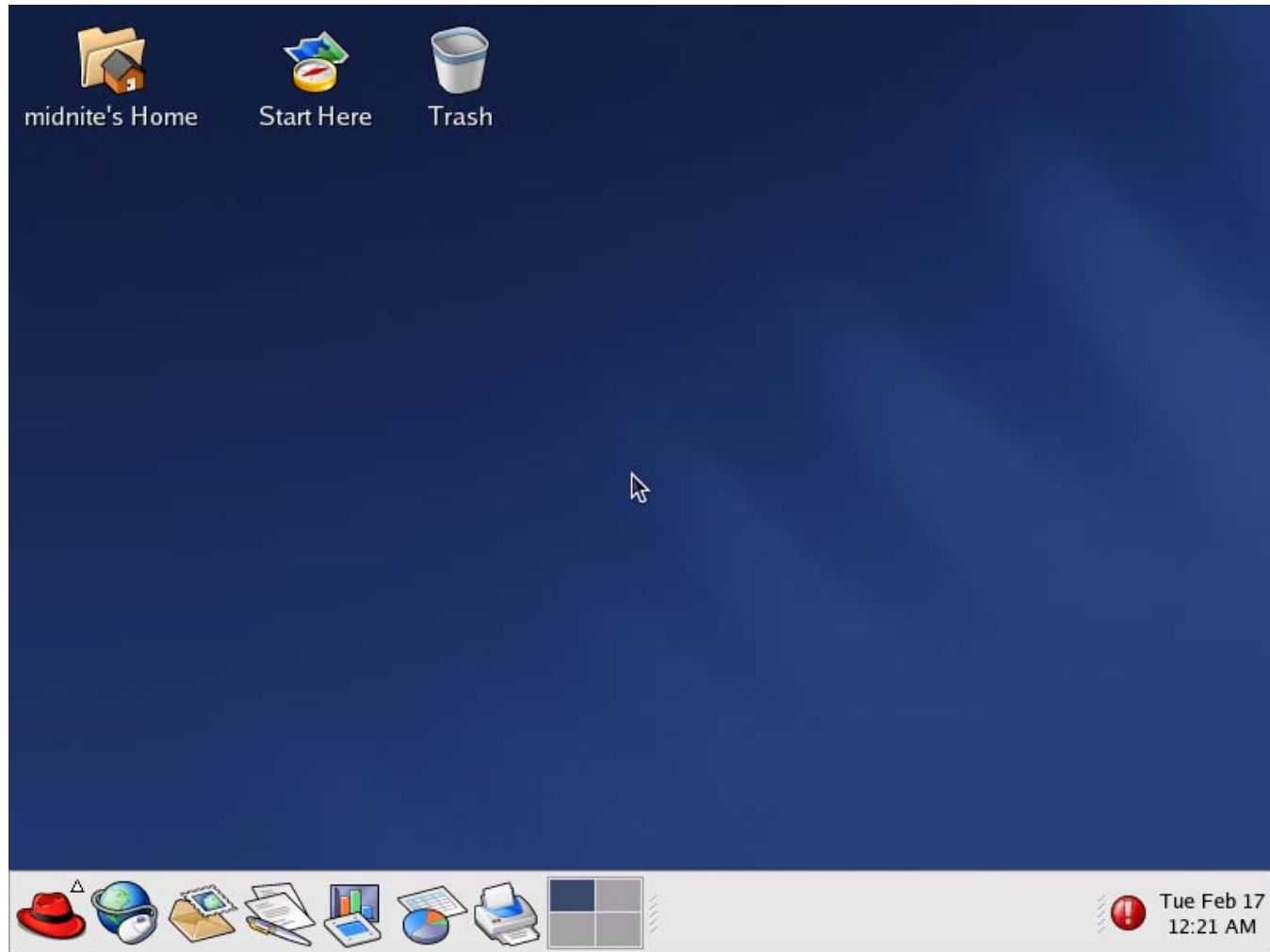
1996: Windows NT 4.0



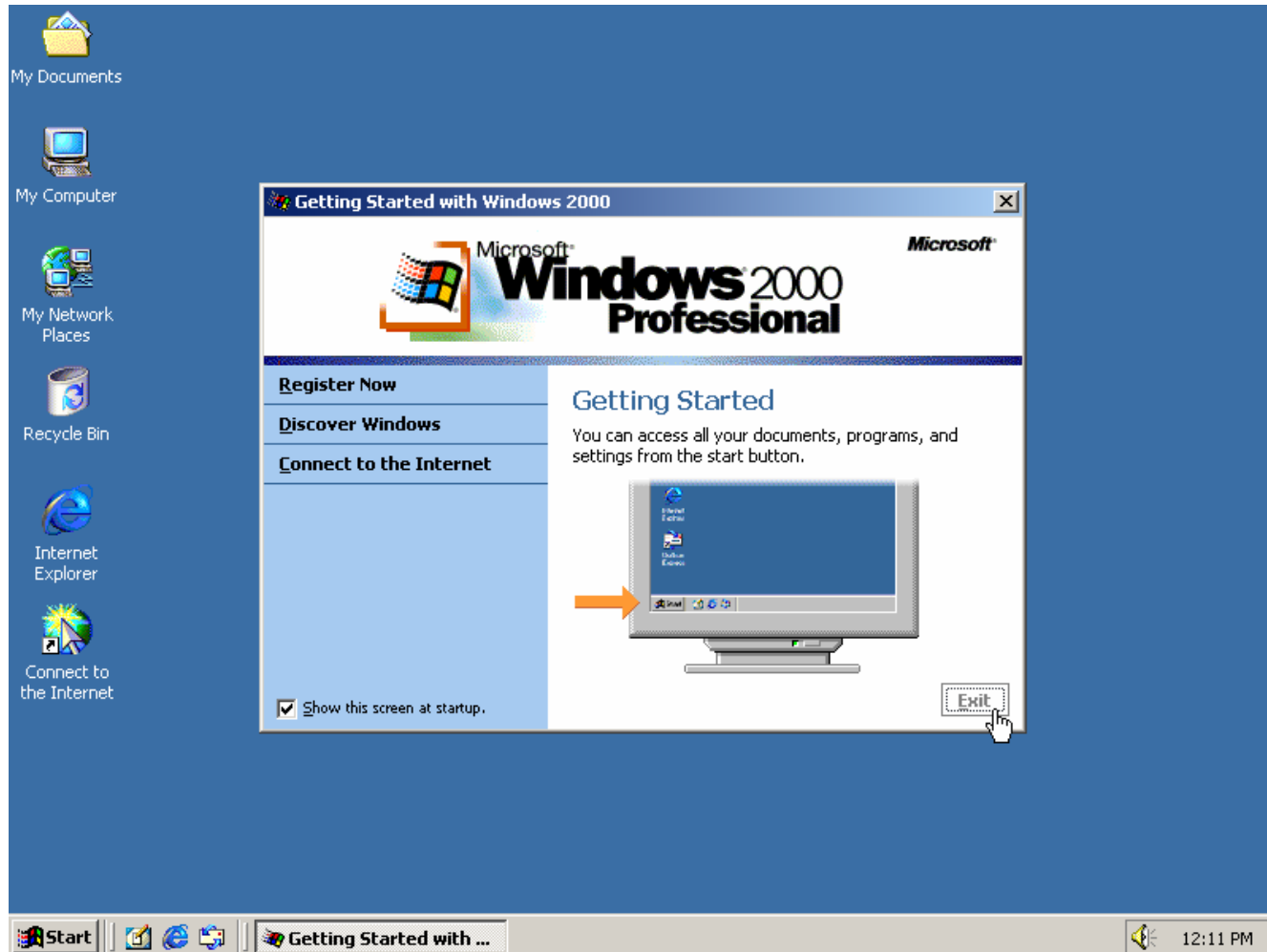
1998: KDE



1998: GNOME



2000: Windows 2000



2001: Mac OS X



- Result of merger with NeXT and NeXTSTEP
- Doublebuffer redraw
- Eye-candy

