Chasing the Workstation Dream: Exploring Gnome 3

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Boulder Linux Users Group
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Agenda

- **Introduction**
  - A little about me, A little about you.
  - My history of chasing after workstations
- **Why is now a good time for change?**
  - A **Quick** review of the major milestones in desktop GUIs
  - What's so special about Windows 95?
- **Introduction to Gnome 3 and Gnome Shell**
  - Comparison with Gnome 2.x
  - Hands-On Demo: Fedora 18
    - Configured the way Maxwell uses it
    - Configured the way other users might like it
- **Open questions**

About Maxwell

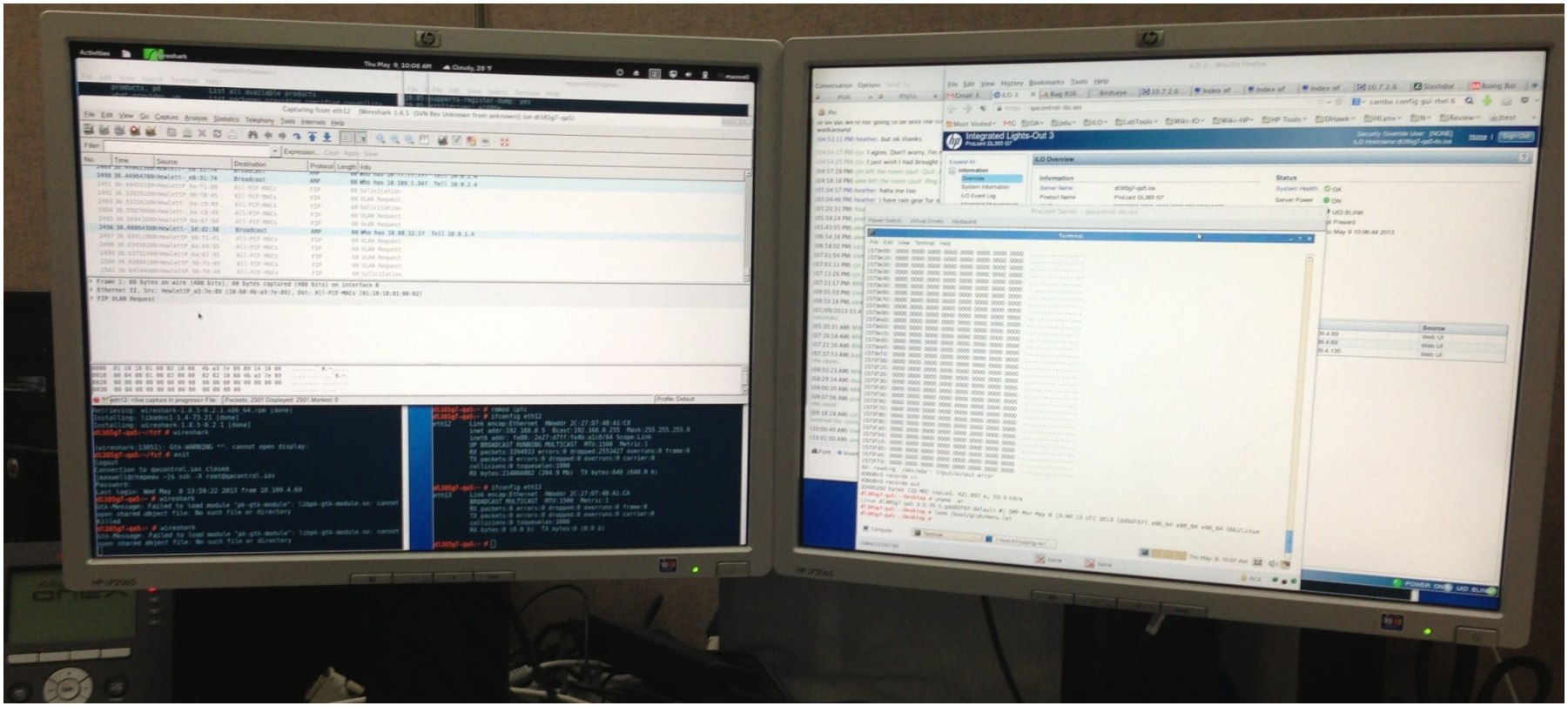
- Computer enthusiast since 1984
- Currently Linux QA Engineer at HP testing Linux on high-end x86 servers
- Fell in love with NeXT, Sun and SGI workstations
  - Had no money for any of them
  - Envisioned Unix platform with sexy, beautiful UI.
- Full time work with SCO UNIX starting in 1992
  - Had no X graphics, just text consoles. Still, Happy to be using Unix!
- Discovered Linux in 1993 as a way to get Unix + X
  - On a budget! Lots of potential! Rapid development!
  - Exciting, enthusiastic user community! World Domination.

About you: the Linux Community

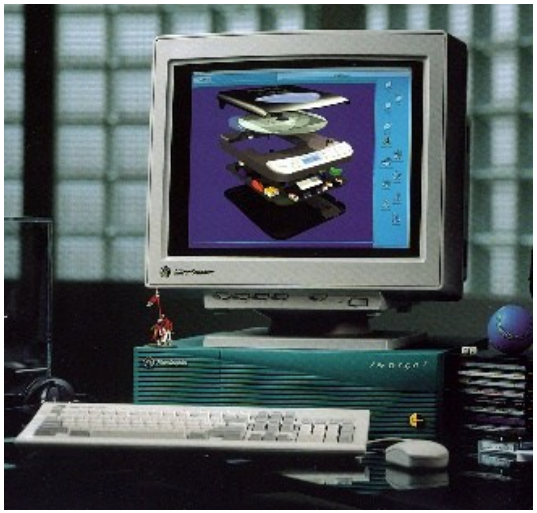
- “Mainstream” Linux users
  - Refugees from Windows, Can’t afford Mac, Want FOSS freedoms.
  - Want friendly, fast, comfortable UI as good as Mac or Windows
- “Linux Power User”
  - “Seasoned” in past ways, interacts with computer confidently and quickly, expecting the computer to keep up and do right.
  - Less impressed with fancy graphics and animation
  - Short temper with bad UI design that makes obstacles
- Who should care about Gnome 3 ?
  - All Linux users deserve a high quality experience
    - Linux is no longer a 2nd-tier “developing” environment
  - Gnome3 will help Linux compete with Mac and Windows
    - now (v.3.8) a high-quality option for mainstream & power users

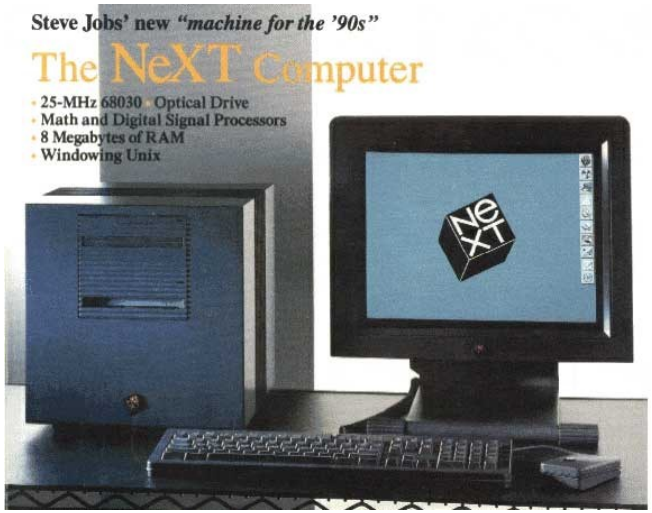
What kind of user is Maxwell?

- Power User
  - HP Workstation running Fedora 18
  - Two 21” monitors, 5 workspaces, 30-50 windows



Past Dream Workstations





- Key features:
  - Large, high resolution monitor
  - 32-bit CPU, many megabytes of memory, fast SCSI disks
  - Unix OS for power, magic and culture
  - **Beautiful, Powerful, Flexible Graphical User Interface**

2013. What actually happened…

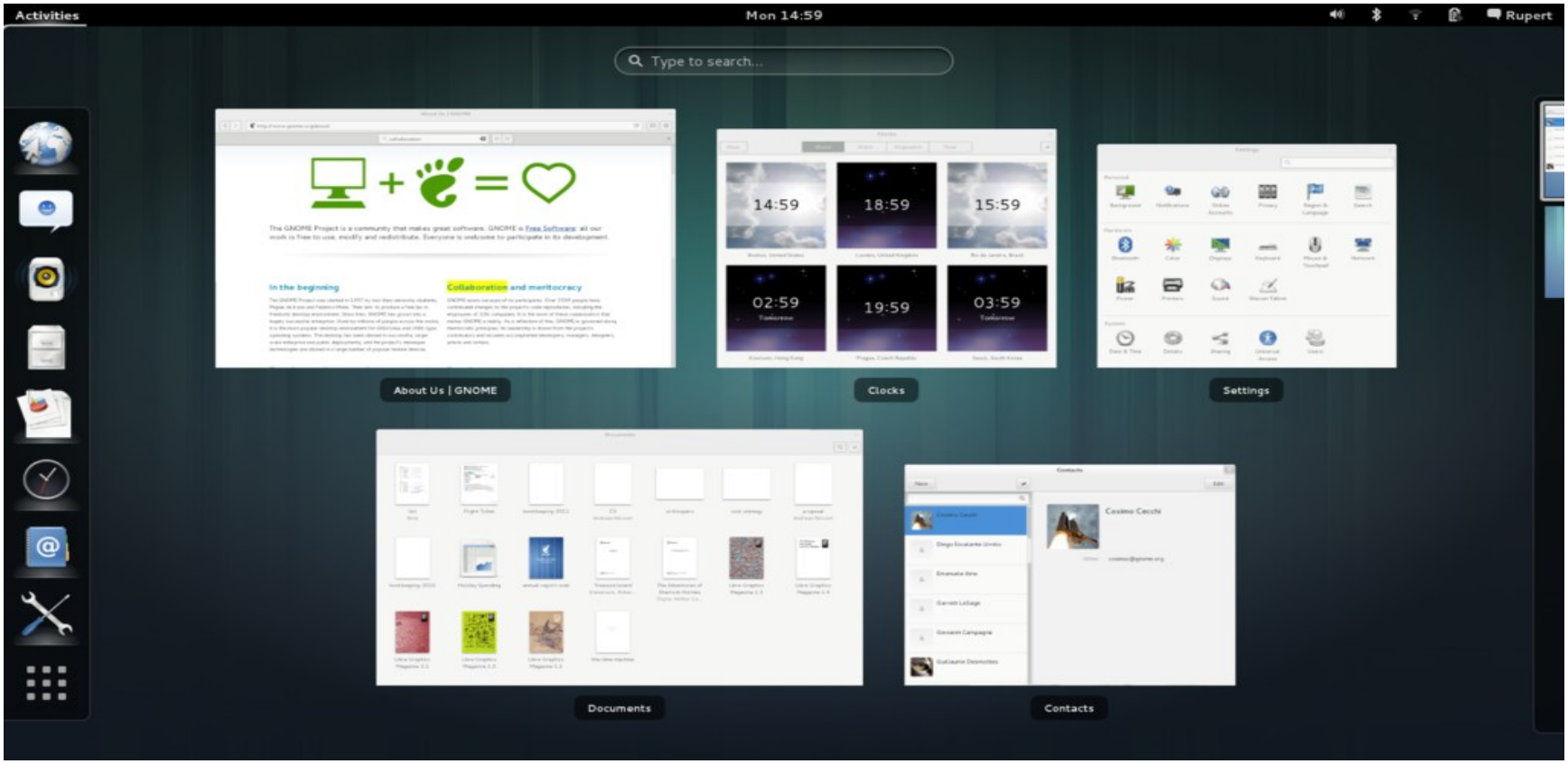
This is not Maxwell! This is Danny Choo of dannychoo.com

2013. Same barrier as 1988: $$$$$

AND YET, Despite the cost many longtime Linux desktop users have switched to Mac because “it just works”. Even with zero-cost Linux still needs to innovate and remain fun and exciting to use.

My 2013 dream workstation

- Inexpensive x86 multi-core CPU, gigs of ram, 3D graphics
- Fedora Linux 19 + Gnome 3.8
- Money for a vacation away from my computer. Sorry, Apple.



Why is now a good time for change?

- **Linux requires continual innovation**
  - Has to compete with Windows and Mac.
  - Has to compete with tablets
  - Many successful companies change too little and become obsolete (Hello, Blackberry!)

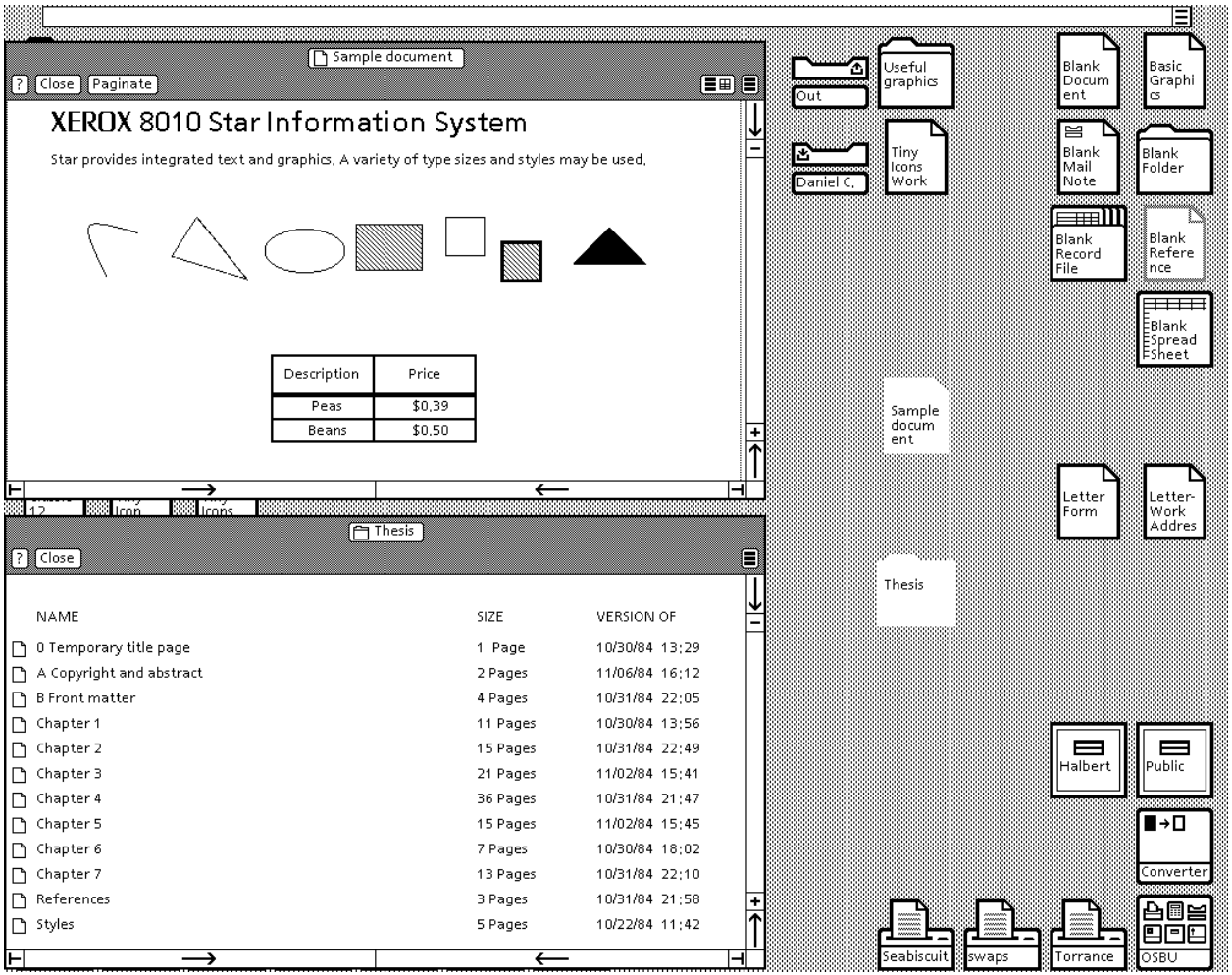
- Let's review 40 years of GUI history to 2013. QUICKLY.
  - Who's really important?
    - Xerox – Genesis of all that is desktop UI.
    - Apple/NeXT – Foundation of Mac OS X.
    - "Unix" – Foundation of Linux X-windows and other fundamentals
    - Microsoft – Foundation of Microsoft Windows, market leader
  - We'll skip a lot of good work that isn't moving forward:
    - Atari (GEM), Amiga (Workbench), Apollo/HP (VUE/CDE)
    - Sun (Sunview, Openlook, OpenWindows, News)
    - SGI (3dm,4dm), OSF (Motif)
    - Be (BeOS), GeOS, IBM (OS/2)

A Desktop GUI review. Start: 1972

Xerox Alto (left) and Star (right.)
Designed to work with new laser printer devices.

1979: Xerox Alto, Star

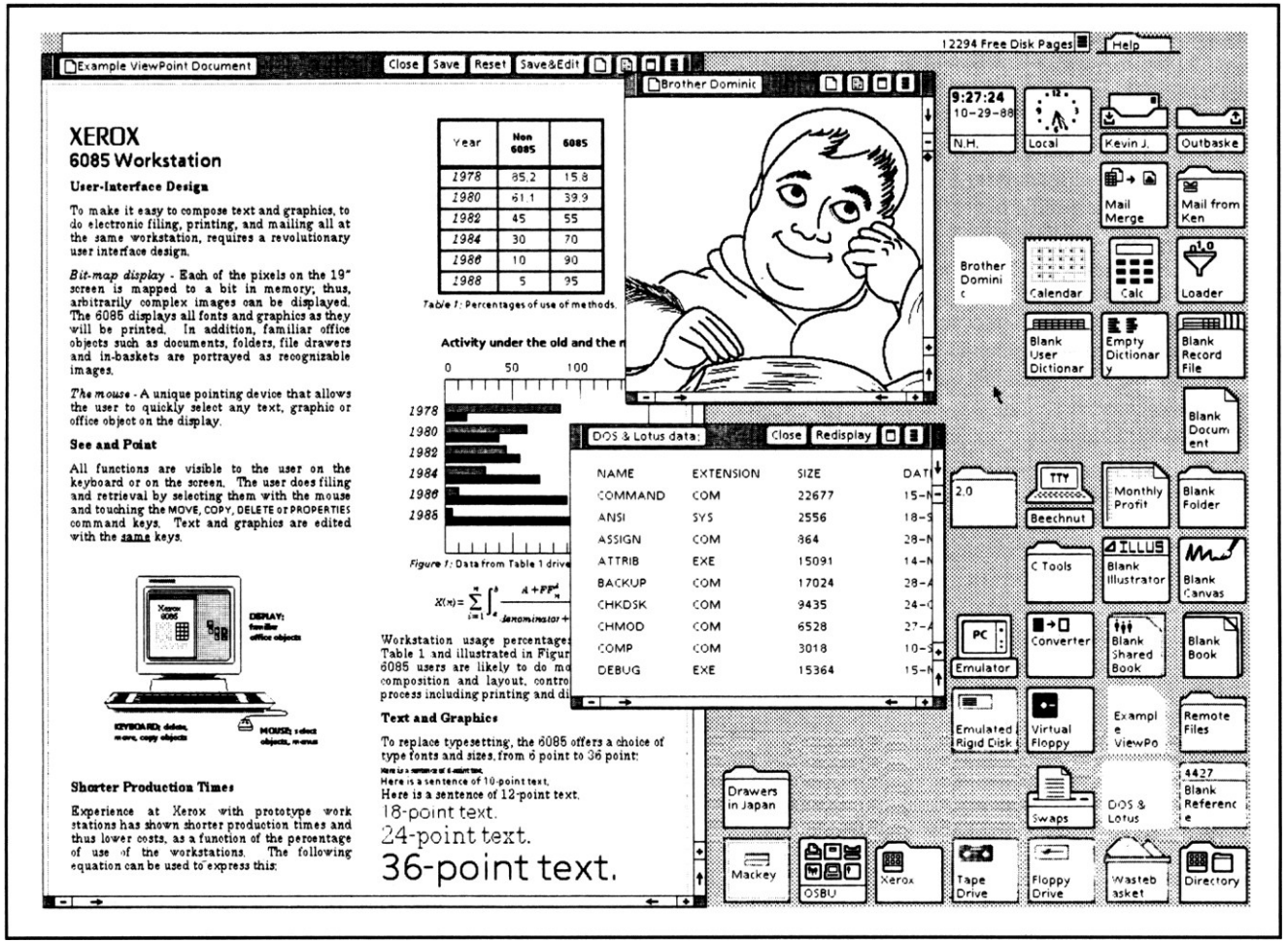
- WIMP Interface fundamentals:
  - **Windows,**
  - **Icons**
  - **Menus**
  - **Pointer**



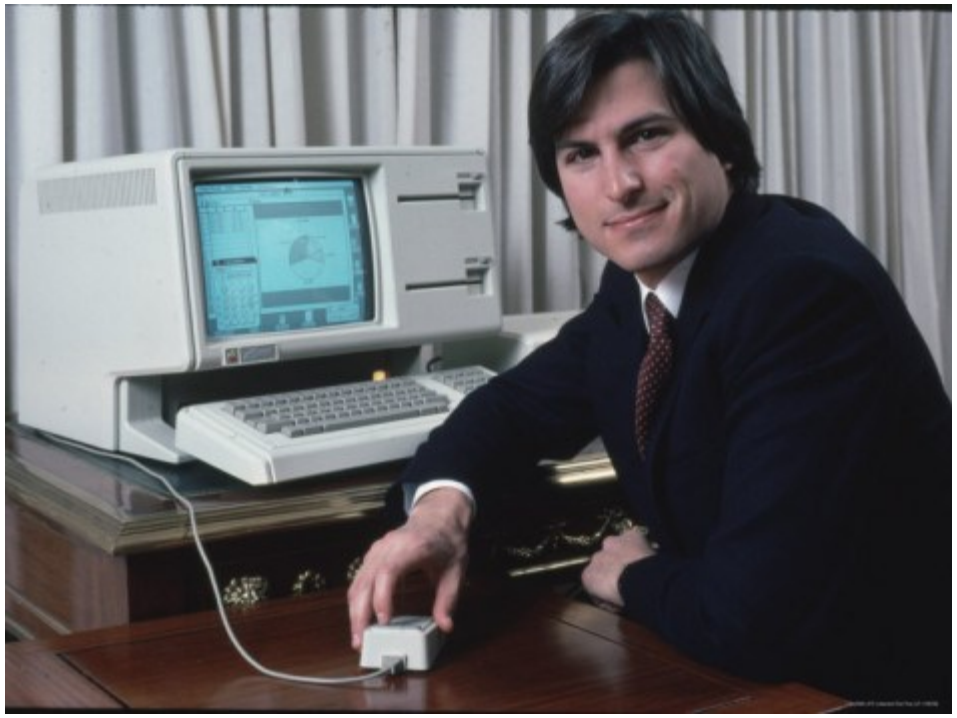
1979: Xerox Alto, Star

- Looks a lot like your Windows XP desktop, doesn't it?

- Icons
- Icons
- More Icons

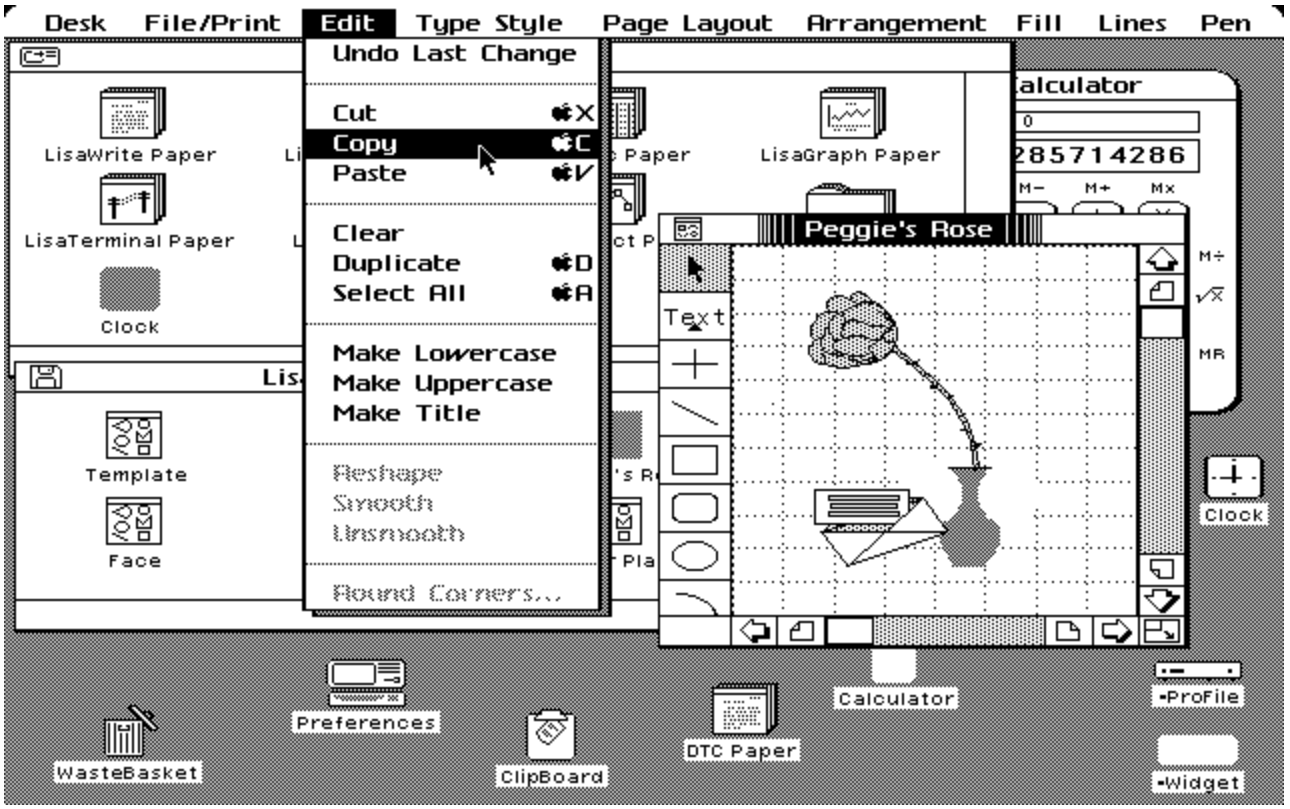


1983: Apple Lisa.



1983: Apple Lisa

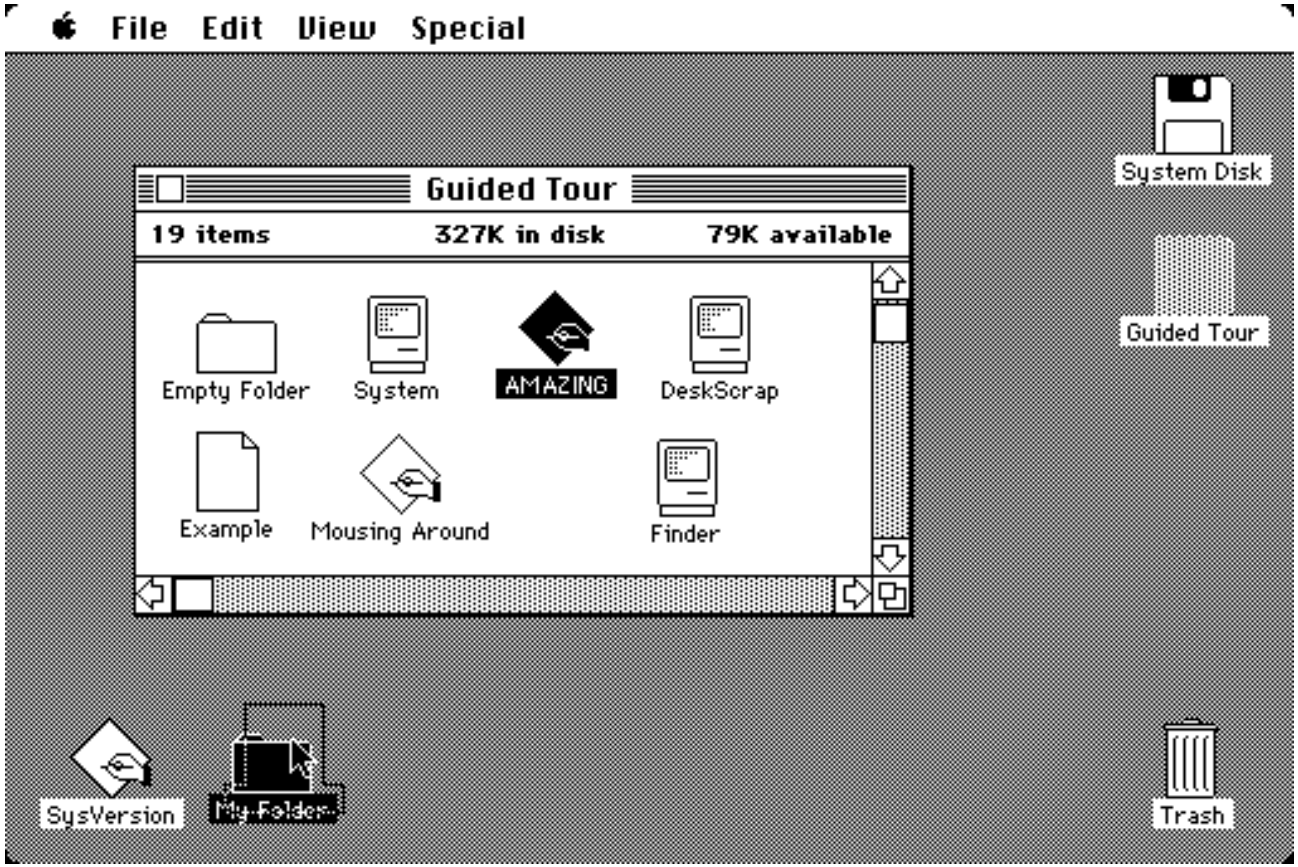
- Developed by Apple and ex-Xerox PARC engineers
- Core WIMP foundation:
- Windows
- Icons
- Menus
- Pointer



1984: Apple Macintosh

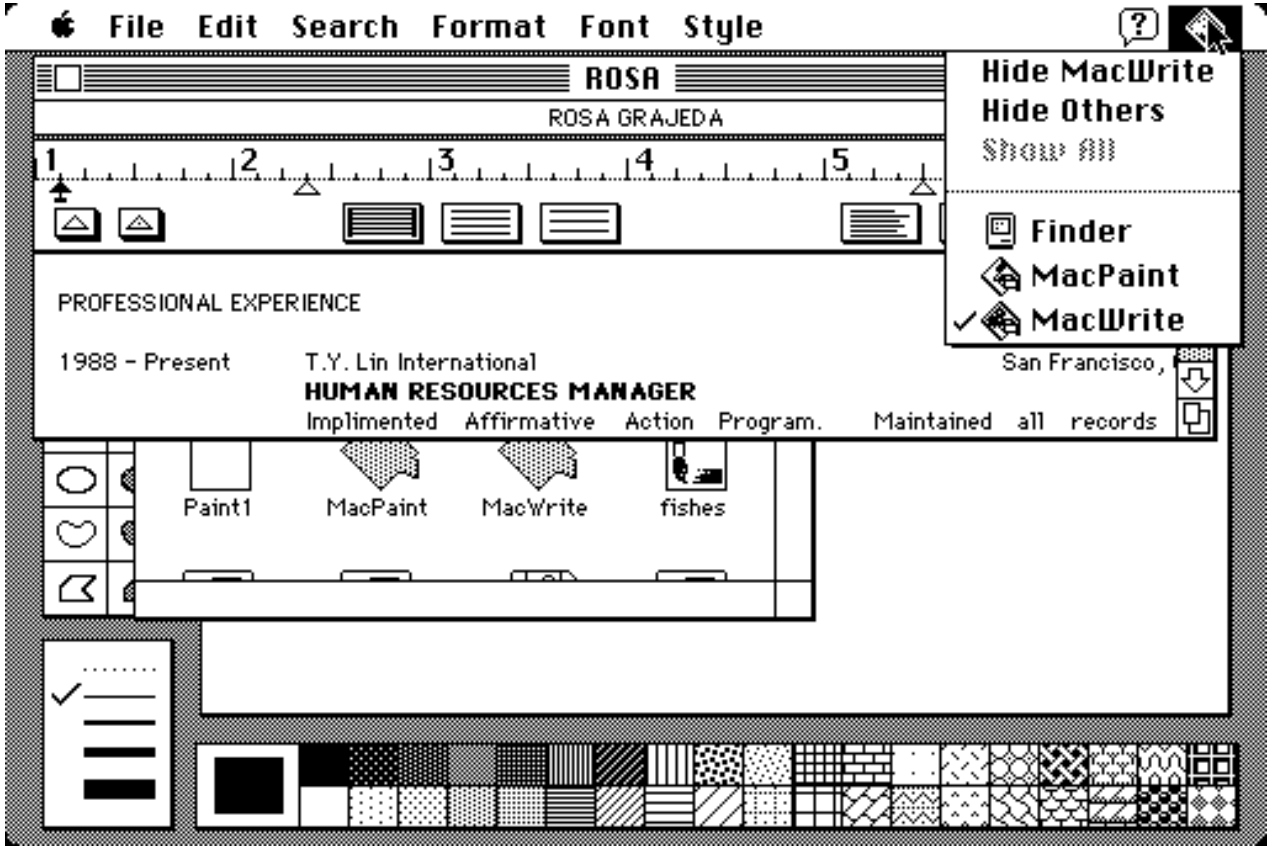
1984: Apple Macintosh

- Separate team from Apple Lisa.
- More polish, strong foundation – years ahead of Microsoft
- WIMP



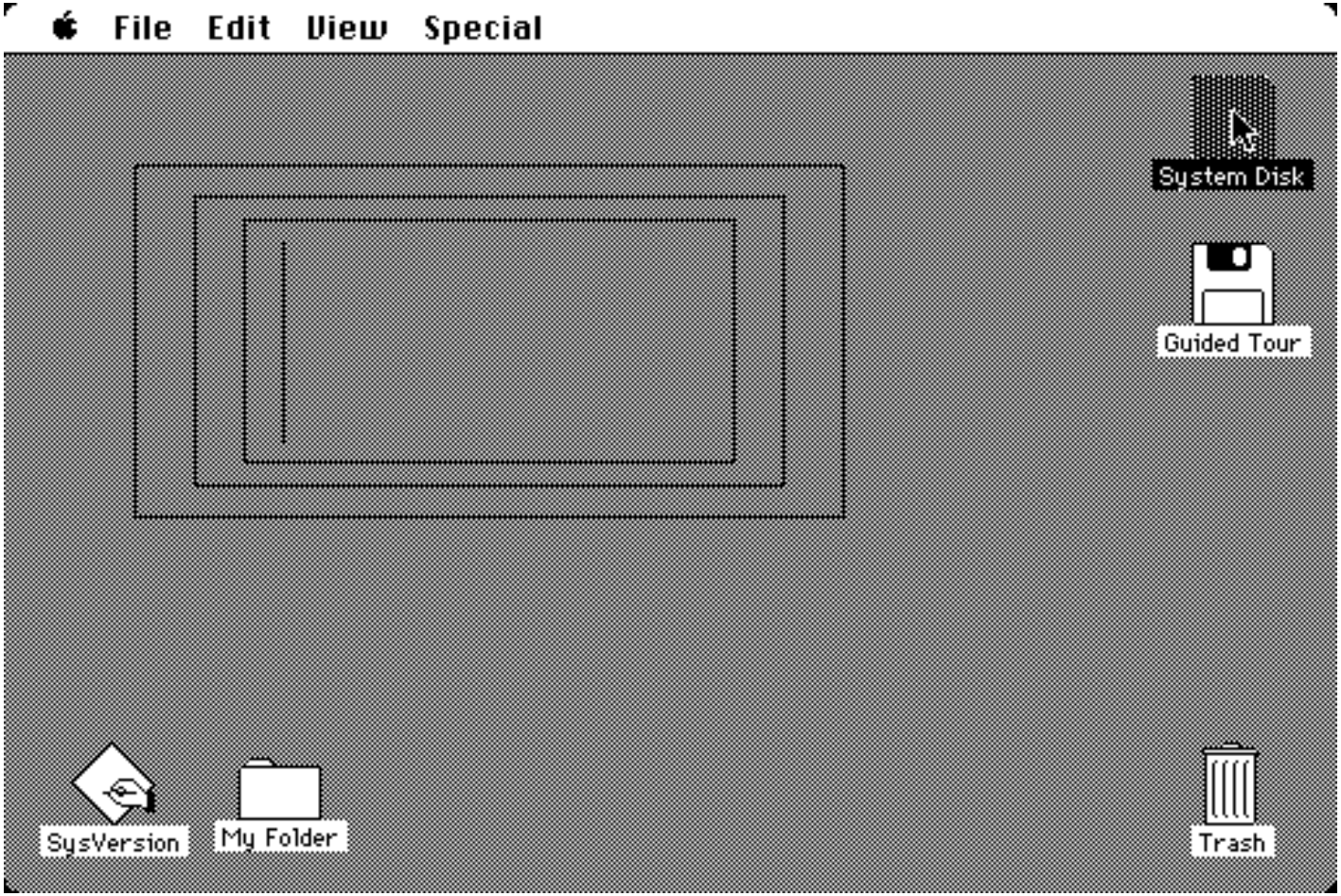
1984: Apple Macintosh

- Multiple applications – Simple window chooser
- Example of more power… but more clutter
  - Not sure if multiple apps was available at 1984 launch.



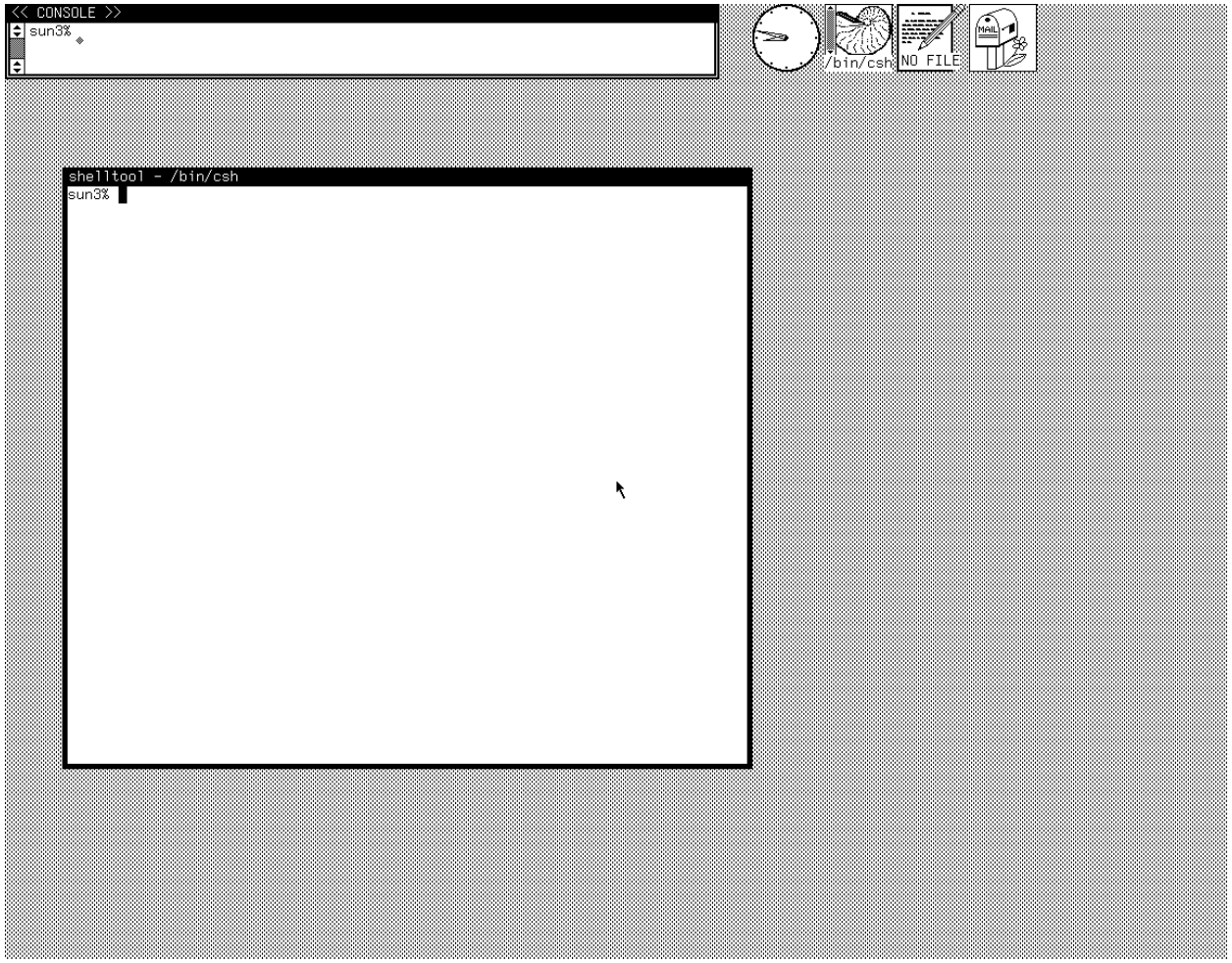
1984: Apple Macintosh

- Even the original Mac had snazzy animations.
- Loved or hated by users *today.*



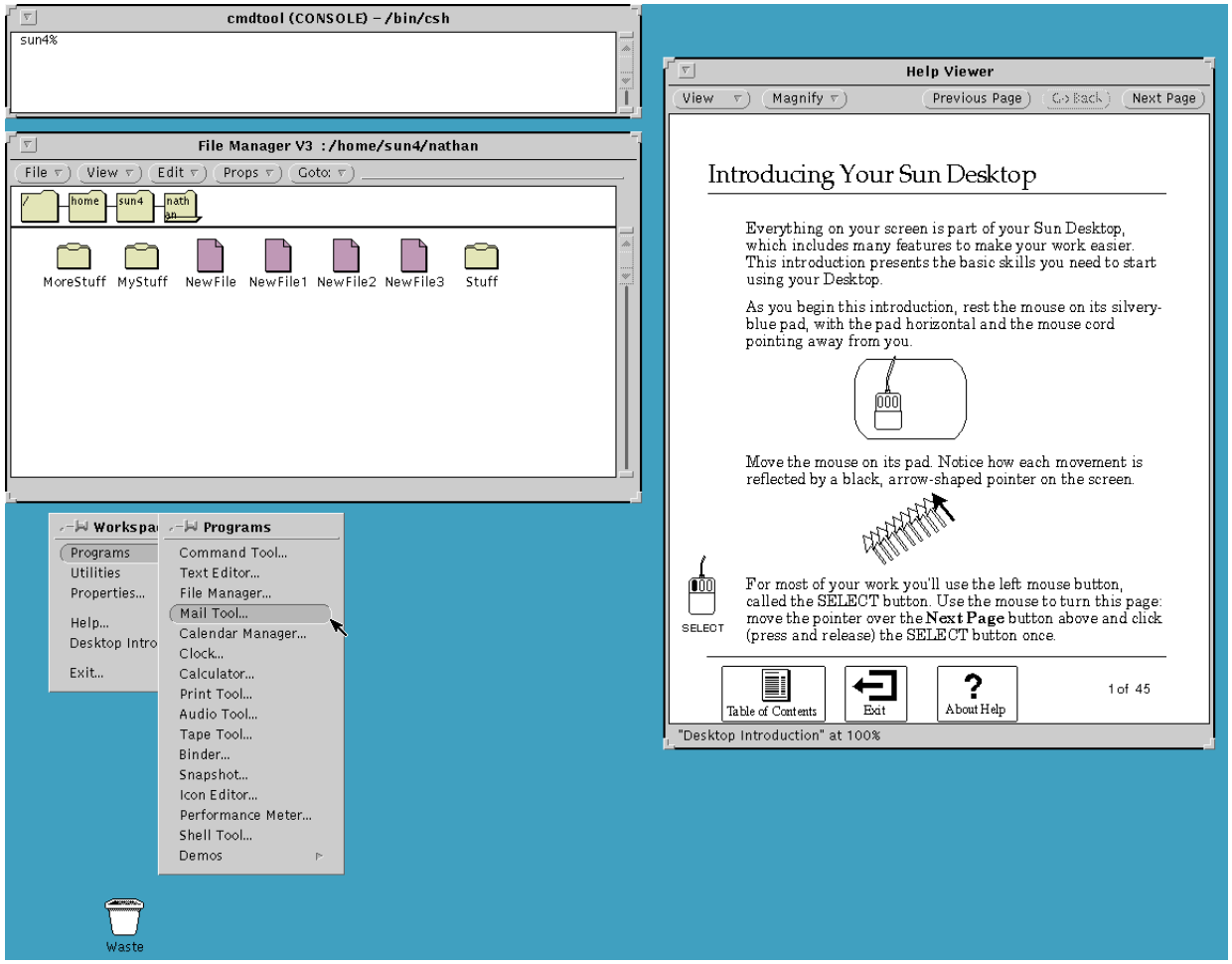
1984: MIT releases “X” windows

- Foundation of what we use in Linux today
- Example: (SunOS 4.1.1)



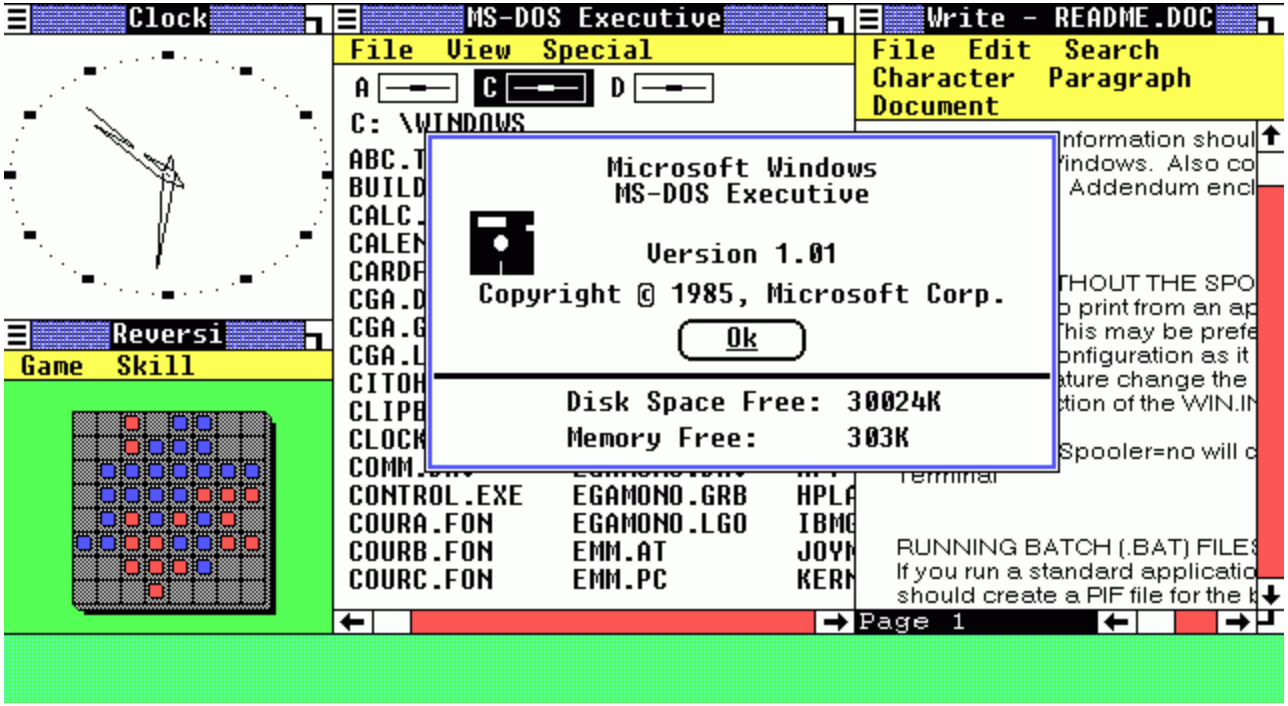
1980s: X Windows

- Original R&D, doesn't follow Mac paradigm
- WIMP
- Example: (OpenWindows)



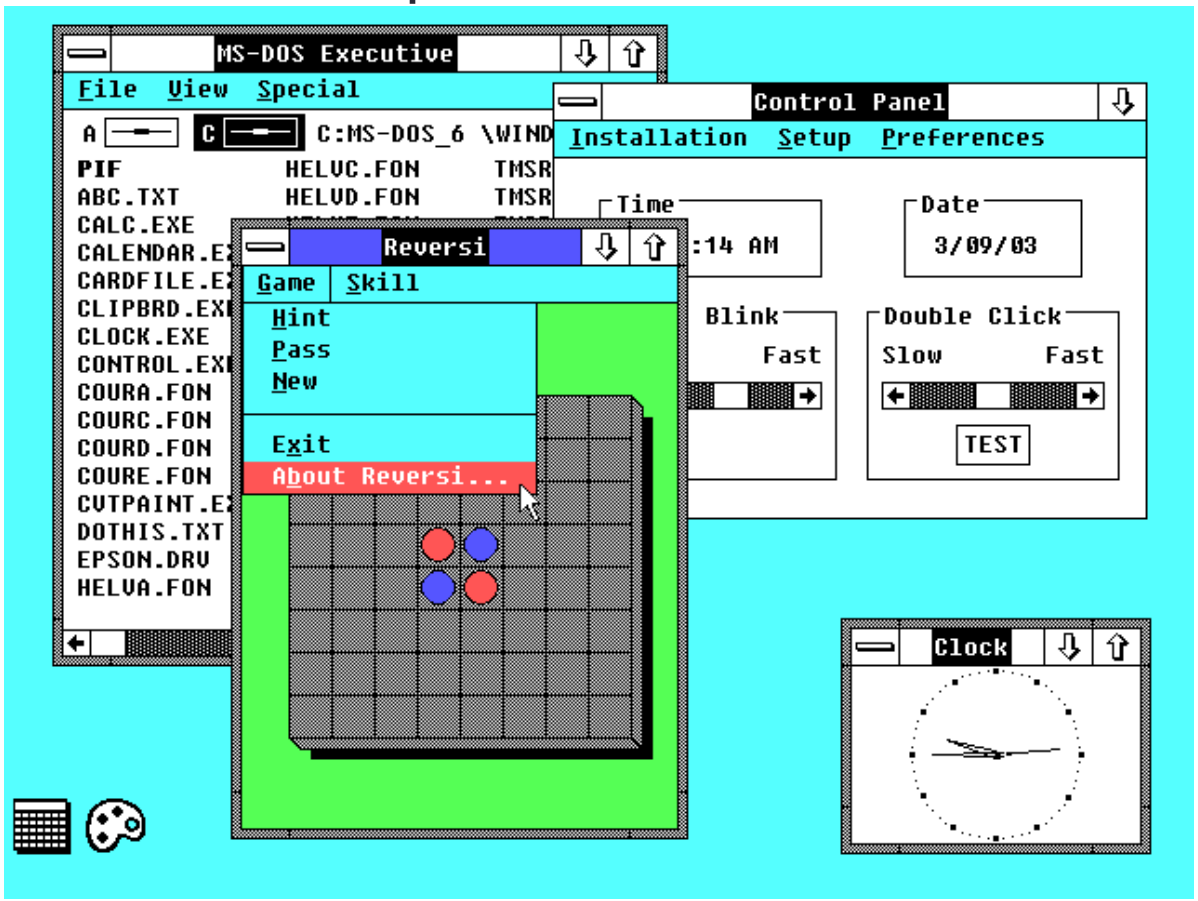
1985: Windows 1.0. Kind of useless

- Primitive and lacking in quality.
- Macintosh much more friendly and comfortable



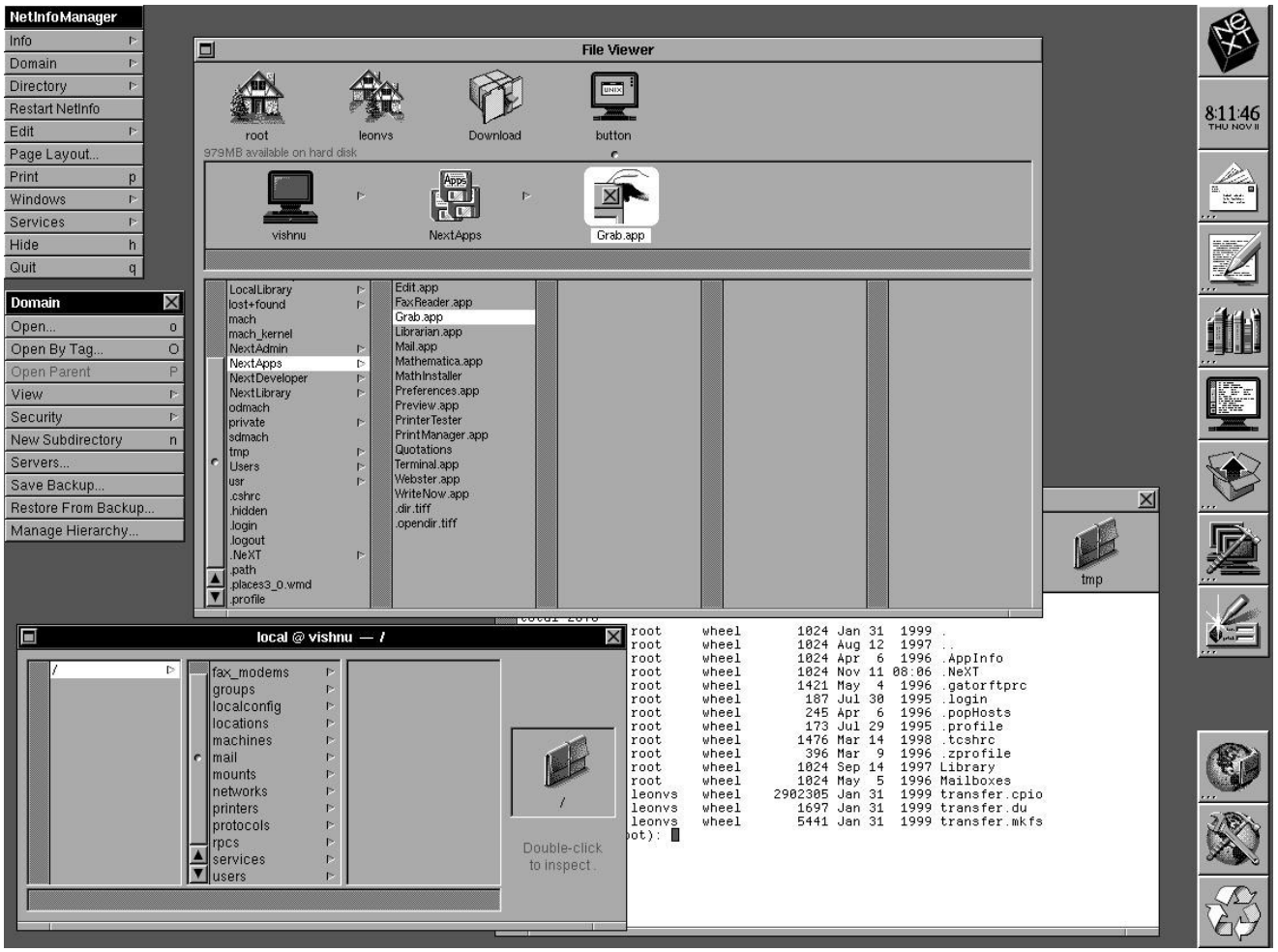
1987: Windows 2.0

- Improved but still lacking features and polish.
- Challenged by PC hardware capabilities



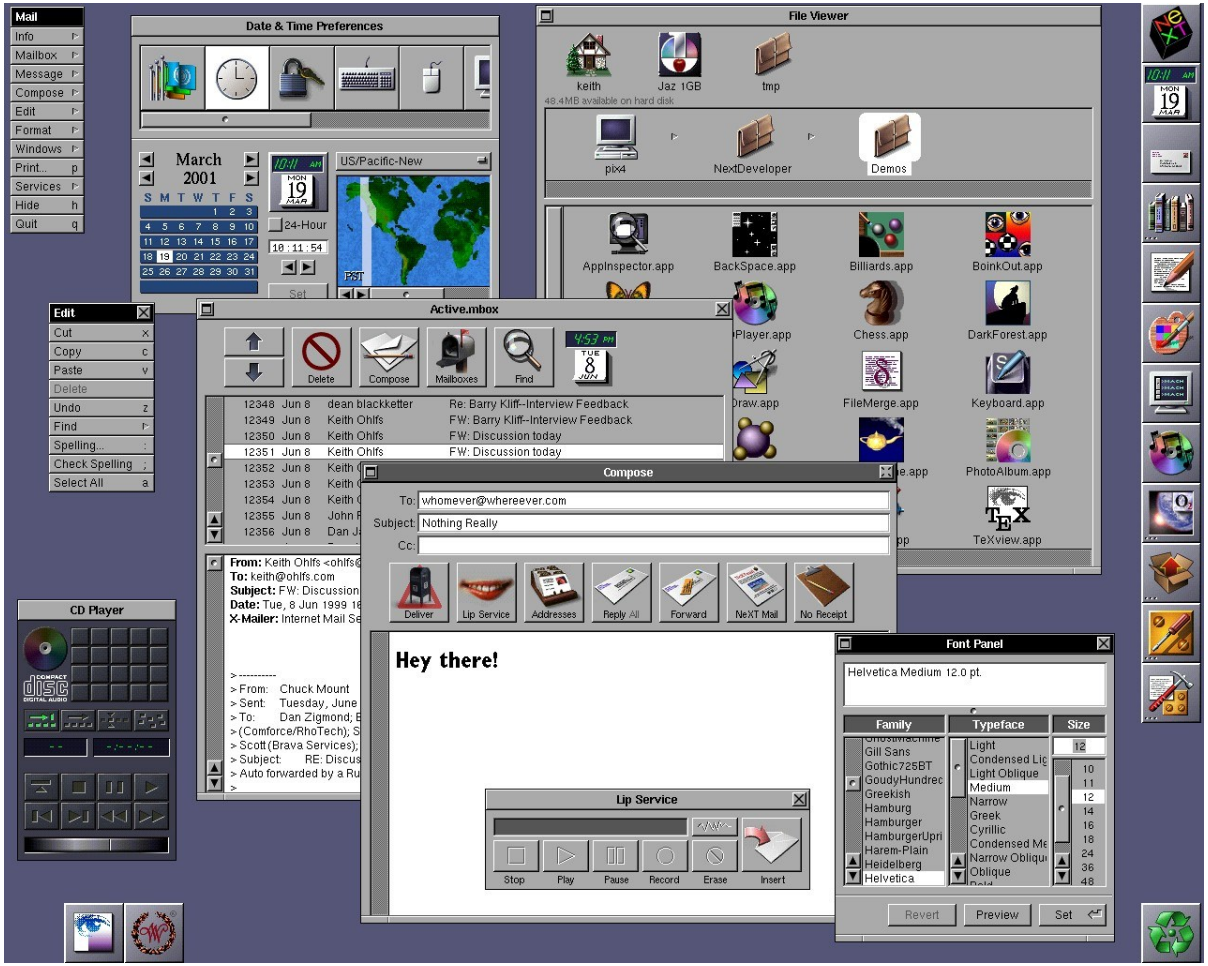
1988: NeXT Computer NeXTSTEP

- Competes with Macintosh and Unix workstations
- Polished
- Object oriented API used today in MacOS X



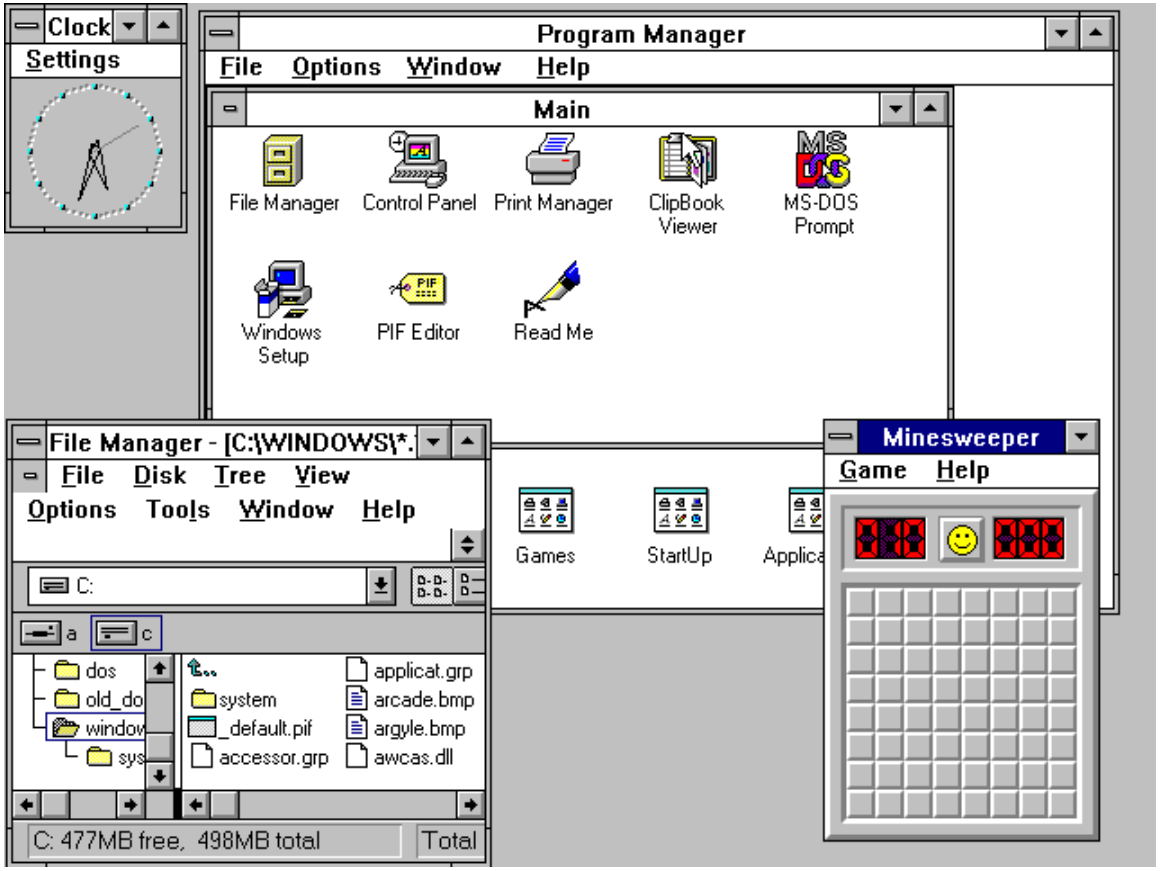
1988: NeXT Computer NeXTSTEP

- Used by Tim Berners-Lee at CERN to create the World Wide Web
- This is MacOS X 25 years ago.
- NeXTStation Color, 1990



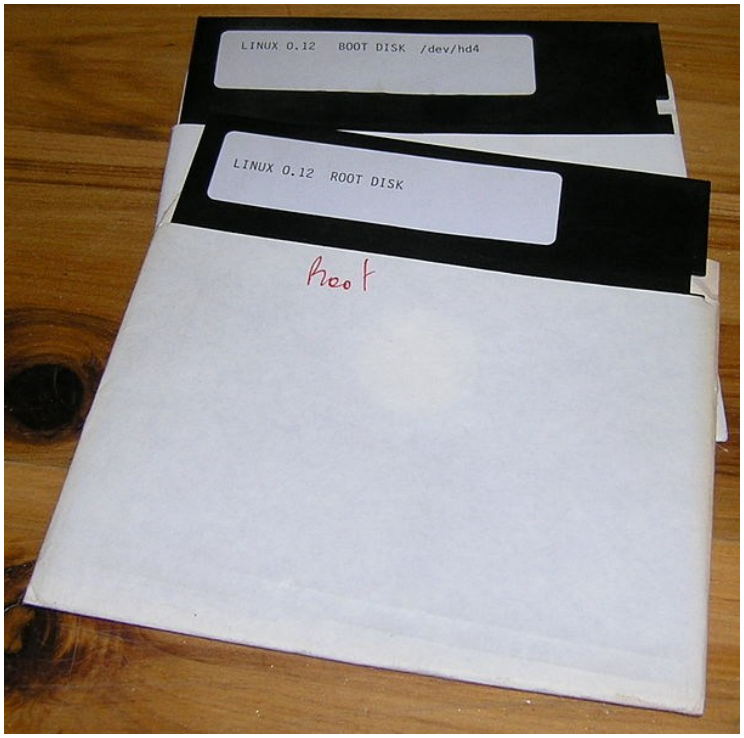
1990: Windows 3.0

- Basic, limited but inexpensive.
- “Good enough” to meet many users needs.
- Pairs with huge rise of generic PC computers
- More interesting than MS-DOS



1991: Linux announced

- Probably won't get far, it's "just for fun"
- Competition for Minix users(already ignored by Unix wizards)



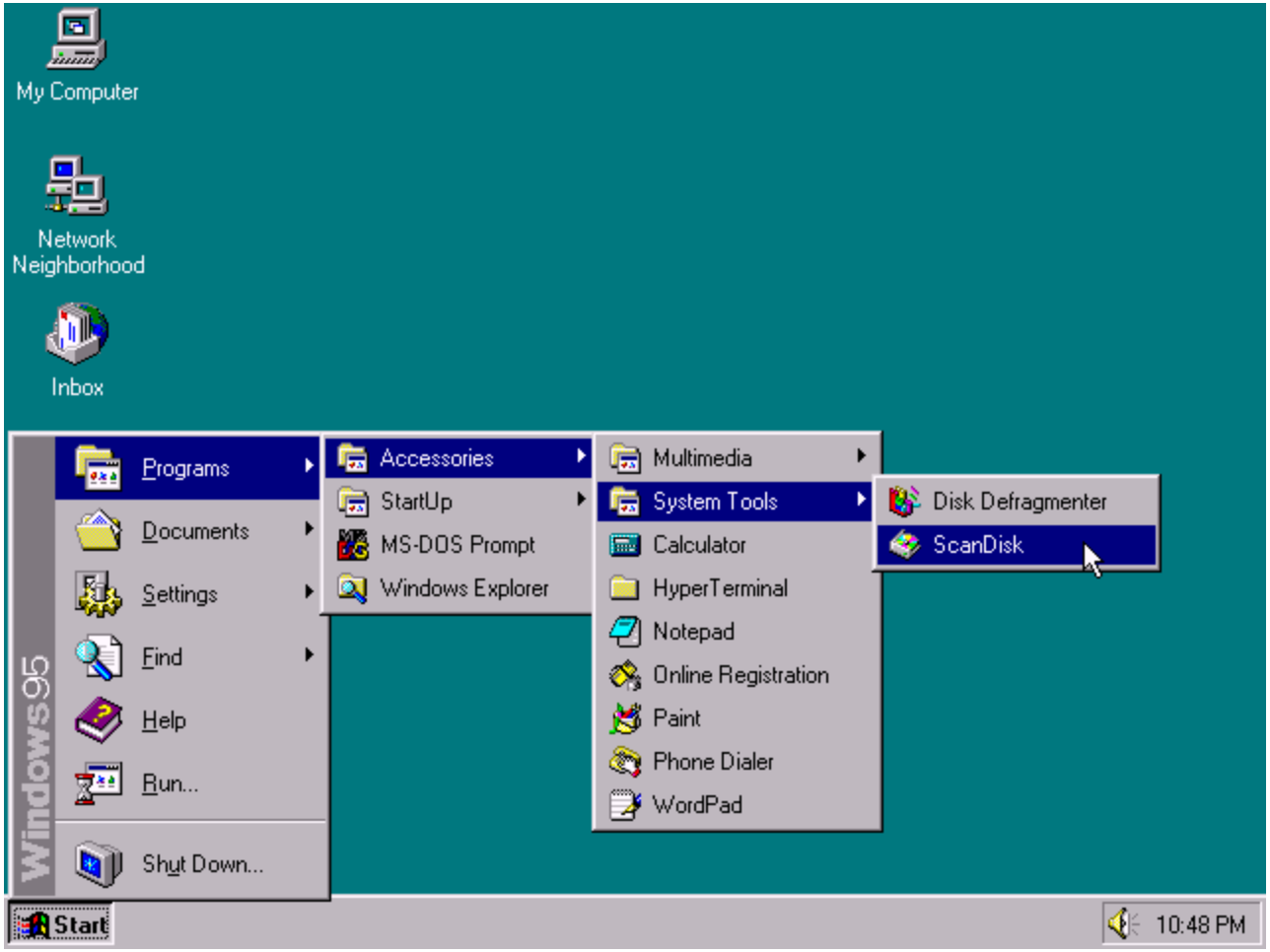
1995: Windows 95. The Model UI.

- Excellent UI fundamentals:
- WIMP
- Attractive Icons
- Start button
- App Menu
- Running App Bar
- Polished look
- Platform:
  - Long filenames
  - 32bit (like unix!)
  - Multitasking

1995: Windows 95. The Model UI.

- The Start Menu is simple, powerful and easy to learn
- 17 years old
- Boring

- Lack of a Start Menu is a common reason why people get frustrated with Gnome3.



1997: GNOME Project Begins

- "**After the introduction of Windows 95**, it was clear that the free software universe was lacking a number of technologies and that we were lagging behind in various areas."

--GNOME Founder Miguel de Icaza

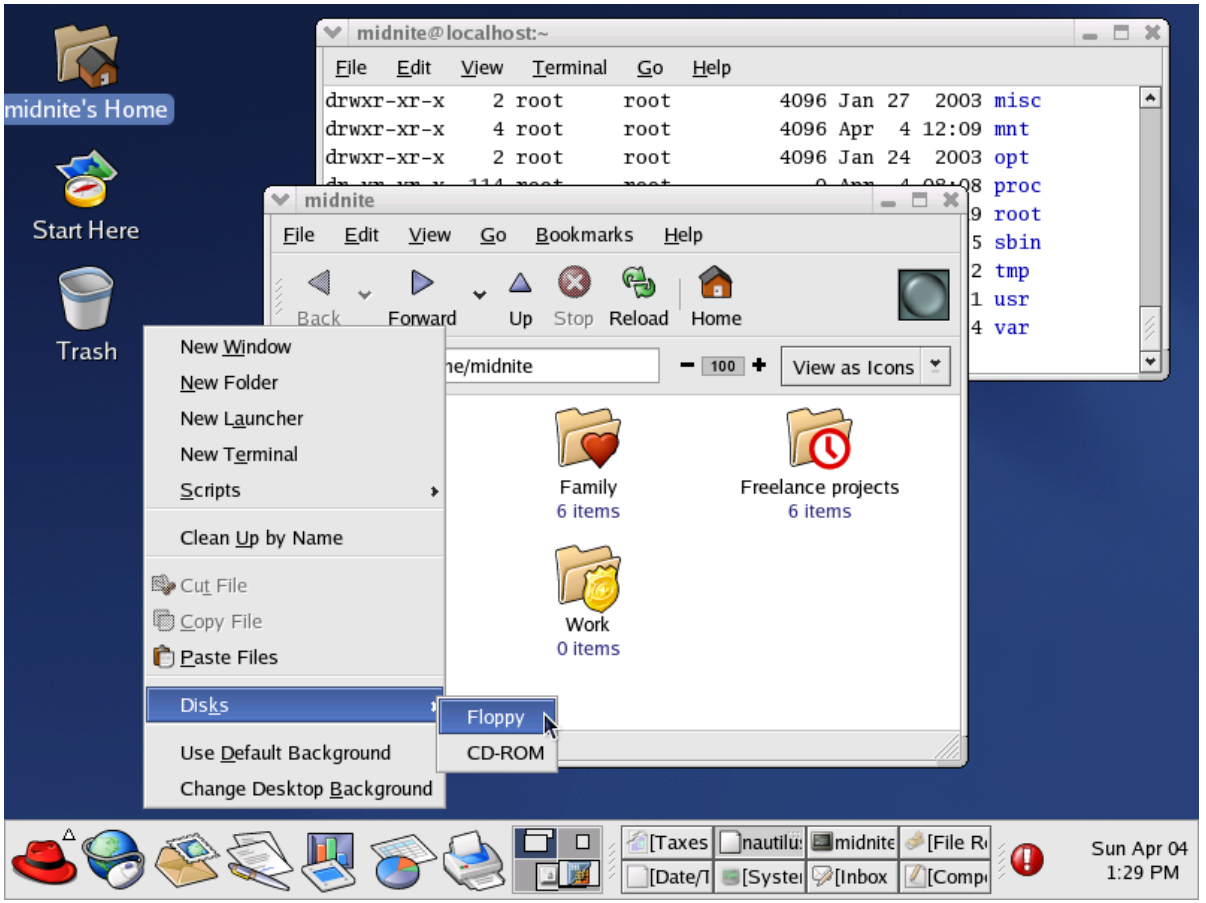
- GNOME was originally focused on an object messaging system to compete with Windows Active-X, COM and OLE
- GNOME 1.0 released in 1999 (ex: Red Hat 9.0)

2001: Mac OS X 10.0 Released

- Resets the Apple desktop using Mac and NeXT technology, style and polish.
- Raises the bar for desktop GUI presentation and polish.
- Builds on strong foundation yet innovates at the same time.

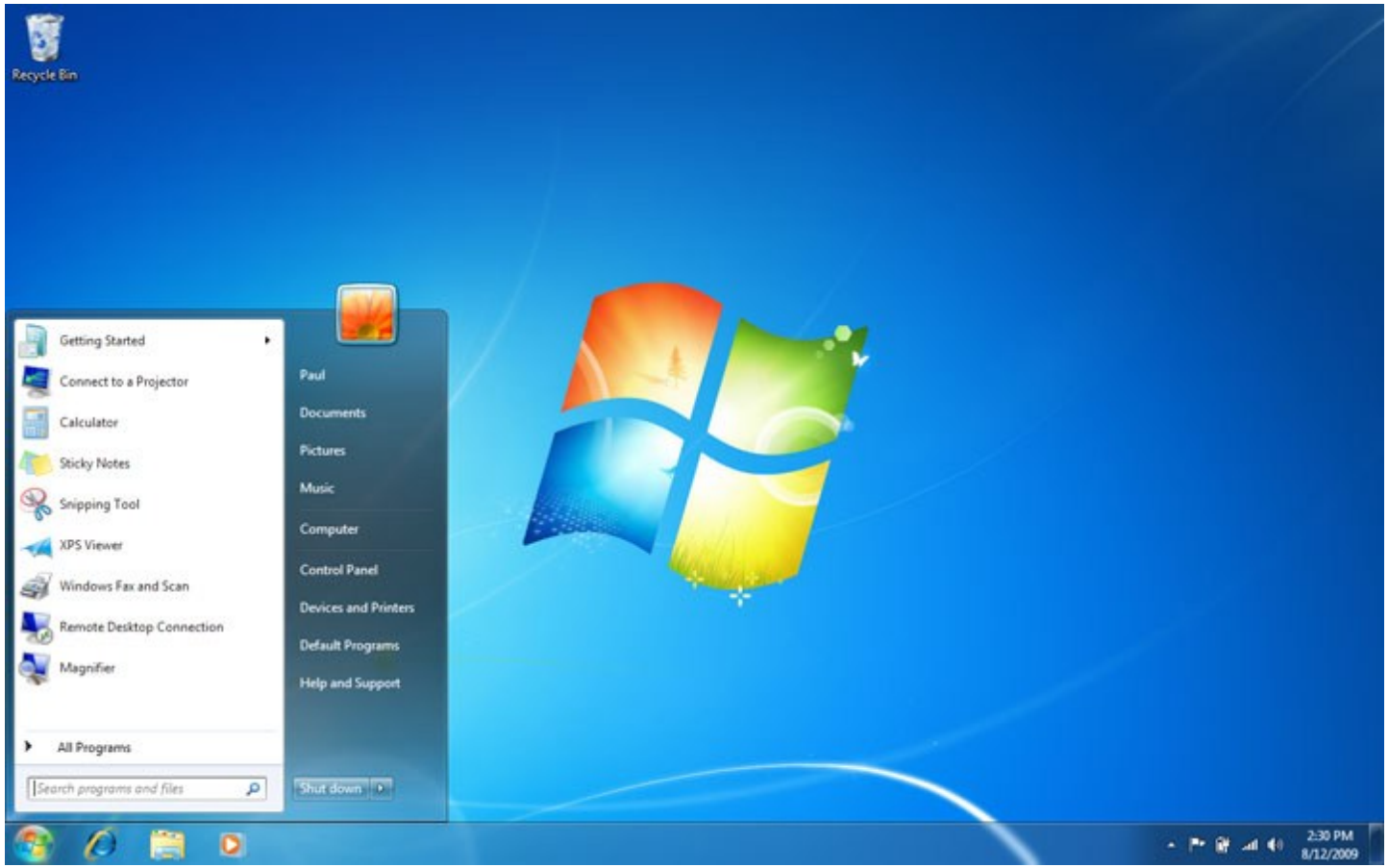
2002: Gnome 2.0 Released

- Gnome 2.x follows the Windows 95 model and is what most users are comfortable with.
- Gnome 2.32 was released in 2010 and is the last officially developed version of Gnome 2.x



2009: Windows 7 Released

- Uses Windows 95 Model with beautiful polish.
- Catching up with Mac OS X for quality.



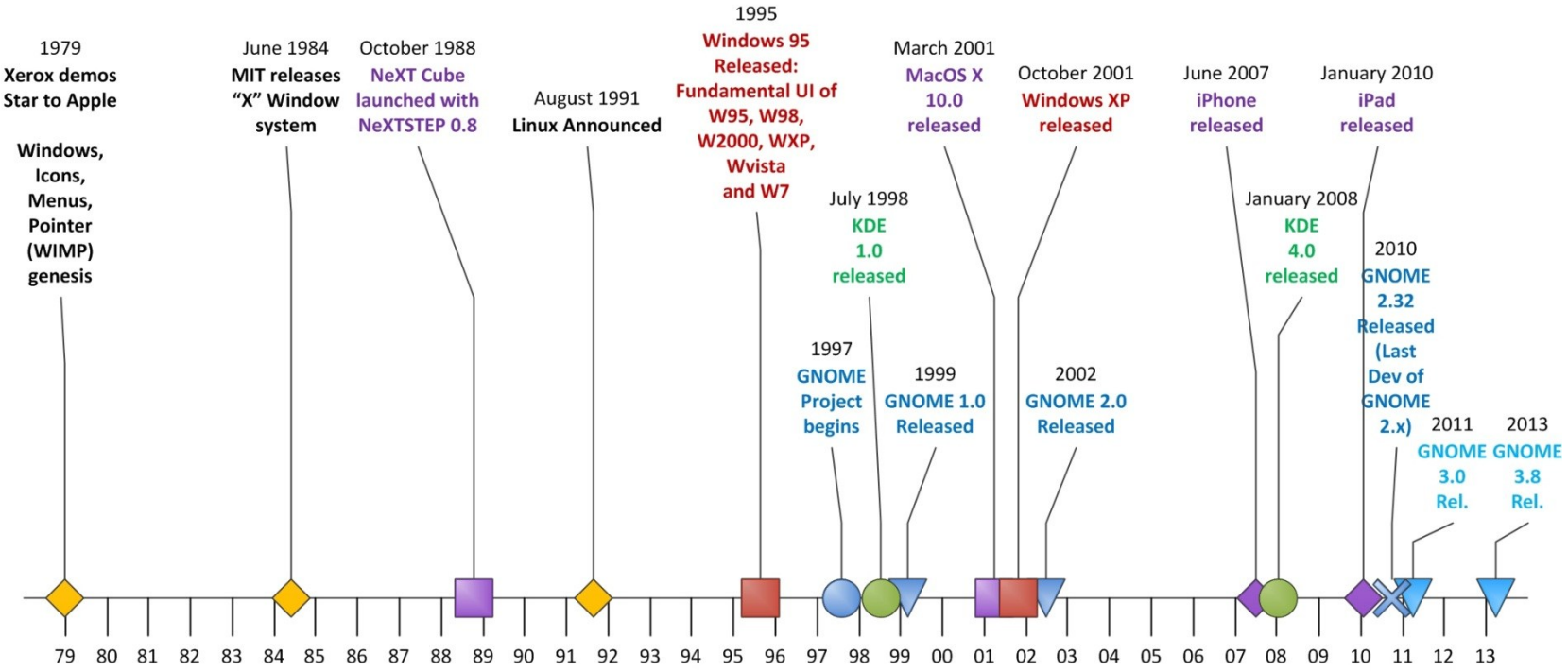
2011: Gnome 3.0 released

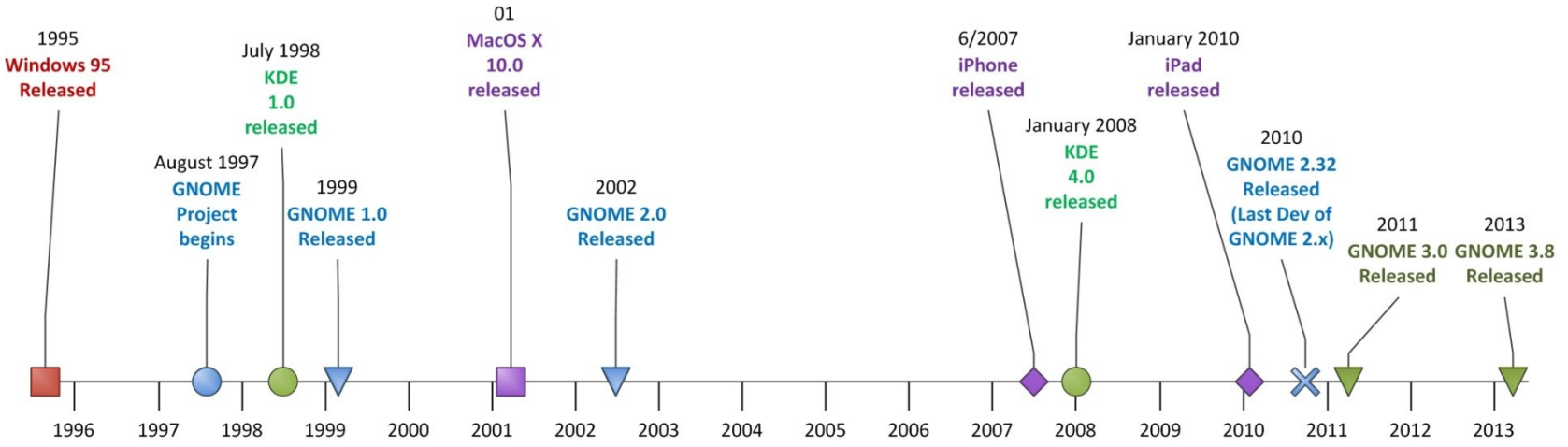
- Veers away from established “desktop” metaphor

- 2011: "The developers have apparently decided that it's 'too complicated' to actually do real work on your desktop, and have decided to make it really annoying to do.“ – Linux Torvalds

- 2012: "I have to say, things are so much better now… I am actually back to using Gnome 3”

Timeline of Major GUI milestones (focusing on Linux, Windows and MacOS)





Introduction to Gnome Shell

- Gnome Shell is the UI in Gnome 3
  - Attractive, clean, minimalist presentation
  - **Focus on actual activities not mimicking a desktop.**
  - Similar to Ubuntu Unity but very different implementation
  - **Not designed for tablets**, is touch-screen friendly.

- Built on forward-looking technologies
  - Multiple components to make up Gnome 3
  - Shell is a collection of many components and layers
  - Javascript used for many parts (including extensions)
  - Cascading Style Sheets (CSS) to be used for future themeing

Gnome Shell New User Guide

- Step 1: Try it.
  - Be open and explore how things work
  - Be specific about what you don't like or need changed.
    - "I don't like it" is not a reason to stick with old things.
- Step 2: Customize it
  - Explore Gnome Shell Extensions
    - Add, Remove and Customize Features and Visuals
  - Explore Gnome Tweak Tool
    - Customize settings
  - Use gconf to customize settings
    - Many features from Gnome 2.x still exist but are not visible or enabled.
- Step 3: Use it or try something else.
  - Keep trying it: Gnome gets better and reacts to community input.

Gnome Hands-On Demo (Intro)

- Introduction to Initial “desktop”
  - Very little to see
    - No desktop Icons
    - Single top panel with limited content
    - No eye candy like CPU monitor
  - Very fast to operate with mouse, keyboard or combination
    - The amount of keyboard control makes shell-oriented power users very happy.

Gnome Hands-On Demo (Activities)

- "Activities" mode:

  Windows Key or Mouse to Top Left Corner

  - "Dash" shows Favorite apps as Icons, running apps as Icons
  - Click to launch. Right-click to select windows or launch more.
    - Useful for apps which will be mouse intensive
  - Drag to launch. Drag icon to workspace to launch on workspace.
    - Useful for launching apps for an upcoming activity
  - Type to launch. Type part of a name to search, then enter to launch.
    - Useful for apps which are keyboard intensive.
  - **Dash shows apps you've used before apps you haven't.**
  - "Show Applications" icon replaces Start Menu.
    - Provides applications in Groups
    - Mouse and Touch-screen friendly

Gnome Hands-on Demo (Activities2)

- “Activities” mode:

  Windows Key or Mouse to Top Left Corner

  - Running Apps on this workspace are shown in Activities Overview
    - Click with mouse to focus
    - Scroll up/down to zoom in/out
    - ALT-TAB to switch between workspace apps.
      - Multiple tab application switchers available as extensions.
    - ALT-~ to switch between windows of selected app

Gnome Hands-On Demo (Workspaces)

- Workspaces
  - Shown with thumbnails in Activities Overview
  - Dynamic number based on your use
    - Can be configured to be static
  - Windows can be dragged from one desktop to another
  - Control-Alt + UP or DOWN to navigate between them
- Message Bar
  - Bottom panel of the screen, normally hidden
  - Provides notifications
    - Integrated into instant messaging, system services, etc.

Gnome Hands-On Demo (Windows)

- Window Placement
  - Traditional window controls (drag, resize, min/max/close) work as expected
  - Drag resizing:
    - Drag to top left or top right: use left or right half.
    - Drag to top middle: use whole screen.
  - Hot keys:
    - Windows + UP: maximize, windows + DOWN: Normal size.
    - Windows + LEFT: Use left half of screen, Windows + Right, Use Right ½
    - Many additional user shortcuts available via Gnome Keyboard Settings
      - Maxwell uses “Menu” key (right side near ALT) as “Lower to bottom layer”

Gnome Hands-On Demo (Tricks)

- Record your screen with Screencast Recording
  - CTRL+SHIFT+ALT+R starts a recording. Makes a .webm file.
  - Press again to stop.
- Restart Gnome Shell if it crashes
  - ALT-F2 or ssh to box
  - Killall -1 gnome-shell
    - Or kill *your* gnome-shell process if you are on multi-user system.
- Run a command (without going to a terminal first)
  - ALT-F2 produces pop-up prompt.

Gnome Hands-On Demo (Customize)

- Gnome Shell Extensions
  - Simple java script applets to change behavior and appearance
  - Recommended:
    - Dash and Overview Fix
    - Recent Items
    - Remove Accessability, Remove Bluetooth
    - Weather
    - Workspace indicator
    - Music Integration
    - All-In-One Places

Gnome Hands-On (Tweak Tool)

- Gnome Tweak Tool
  - Install it from package manager or CLI
    - Customize gconf settings with friendly GUI
  - Maxwell's choices:
    - Show date on clock: ON
    - Arrangement of buttons on title bar: ALL
    - Action on title bar doubleclick: Maximize Vertical
    - Window focus mode: Mouse
    - Dynamic Workspaces: 5
    - Custom fonts: Lucida Grande

Dealing with Change

- Comments made by many Gnome3 &Ubuntu Unity users:
  - **I hated it at first: it doesn't work the way I expect**
    - Where is the Start Button??
  - **I still hate certain features and turn them off**
    - Unity: Global App Menu for Mac-like menus on the top bar only
  - **Now that I've been without feature X, I don't need it back**
    - CPU monitors, Icons on top panel that launch apps
    - Running App bar on bottom of screen
    - Icons all over desktop
  - **Gnome 2 feels *Old* when Gnome 3 users go back to using it.**

Links

- Gnome Shell Tour:
  - https://live.gnome.org/GnomeShell/Tour
- Gnome Getting Started Video:
  - https://www.youtube.com/watch?feature=player_embedded&v=gCaDudSCF7g
- Gnome Cheat Sheet (keyboard shortcuts & tips):
  - https://live.gnome.org/GnomeShell/CheatSheet
- Fedora 18 install guide w/GNOME customizations
  - http://www.maxwellspangler.com/linux/install
- Gnome Shell Extensions:
  - https://extensions.gnome.org/

More Links

- GNOME's Vincent Untz FOSDEM 13 talk "Has the Gnome Community Gone Crazy?"
  - http://www.irill.org/videos/fosdem-2013/main-tracks/Has_the_GNOME_community_gone_crazy_
- Gnome 3.8 (March 2013) Release Notes:
  - https://help.gnome.org/misc/release-notes/3.8/
- Allan Day's Blog about Gnome interface design
  - https://afaikblog.wordpress.com/
- World of Gnome Blog (also on G+ & Facebook)
  - http://worldofgnome.org/

Even More Links

- The Story of the GNOME Project (by Miguel de Icaza)
  - http://primates.ximian.com/~miguel/gnome-history.html