Chasing the Workstation Dream: Exploring Gnome 3

Maxwell Spangler Boulder Linux Users Group May 9, 2013

Northern Colorado Linux Users Group May 14, 2013

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



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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

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1979: Xerox Alto, Star

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



1983: Apple Lisa.



1983: Apple Lisa

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





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



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

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• Even the original Mac had snazzy animations.



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)

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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 CNOME

 "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"



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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 ¹/₂
 - 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:
 - <u>https://www.youtube.com/watch?feature=player_embedded&v=gCa</u>
 <u>DudSCF7g</u>
- 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?"
 - <u>http://www.irill.org/videos/fosdem-2013/main-</u> <u>tracks/Has_the_GNOME_community_gone_crazy_</u>
- 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