

Mac OS X

*Unix whether you like it or
not*

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Preamble

- Unix My background
user...programmer...administrator

1987

1988

1990

- Oxford Physics 1994 -
- Sun (BSD), Alpha, NeXT, Linux,
others
- Mac OS X most recently
- But **Not** a traditional Mac person

Nor a Windows one!
And this is my first time using any presentation
software!

U nix w he ther you like it or not

A quick poll before addressing the theme of the
talk

- Are you a liker, or a hater?

- Mac? Unix? Windows?
Linux?

- Already using OS X?
Or have you tried it before?

- Now back to the talk!

M a c O S X

U n i x w h e t h e r y o u l i k e i t o r n o t

- It **is** a Unix: but with appeal for all
- Unix likers: it **really is** Unix
w h e t h e r y o u b e l i e v e i t o r n o t
- Unix haters: a Unix you can like (really!)
*y o u d o n ' t e v e n n e e d t o k n o w i t **is** U n i x*
- Novices: a powerful reliable easy fun
system
t h e y w o n ' t h a v e e v e n h e a r d o f U n i x !

Talk scope

- Current OS X version only: 10.2
"Jaguar"
- *Very* big subject!
 - OS X is a rich and varied system
 - includes many technologies at many levels
- Won't even scratch the surface in 40 mins
- So will skim over a small cross-section
- Plenty of demos *easier than writing a talk!*

Talk structure

- Preamble and preliminaries
- **About the talk**
- Demos of some OS X apps
- About OS X
- Basic OS X admin and *more demos!*
- Conclusion and Questions

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App dem os

something for everyone

Likers: Terminal.app & */Applications/Utilities*

Everyone: Network Utility & Unix commands
top & Process Viewer
Calculator & units

Everyone: TextEdit & font panel

Windows: MS Office v. X & Internet Explorer

Old Mac: Classic running MacOS 9 & Outlook Express

Fun: iTunes, QuickTime

Not forgetting that this
is a demo of an OSX
app...

Keynote

Pause for dem os...

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- # All change at Apple
- "All Apple Macs are Unix systems"
An incredible statement 5, or even 3 years ago!
 - And Apple Hardware is getting serious:
Xserve, and latest G5 (IBM 970)
systems
Now genuine Unix workstations and servers
 - How did this happen?
 - Key event was merger in 1997 with NeXT
and return of its (and Apple's) founder

Mac OS X Pedigree

- Mac OS X is a direct evolution of NeXT and in turn of original Xerox OO GUI system
- NeXT's NeXTSTEP comprised:
Mach+BSD Unix; DPS graphics; OO GUI, development env & user apps (Obj-C)
- OS X has:
Mach 3+BSD 4.4 (FreeBSD) - Darwin (OSS); DisplayPDF based graphics - Quartz;
OO API Cocoa (Obj-C, and Java);
Many apps and GUI influences from

Mac OS X Architecture

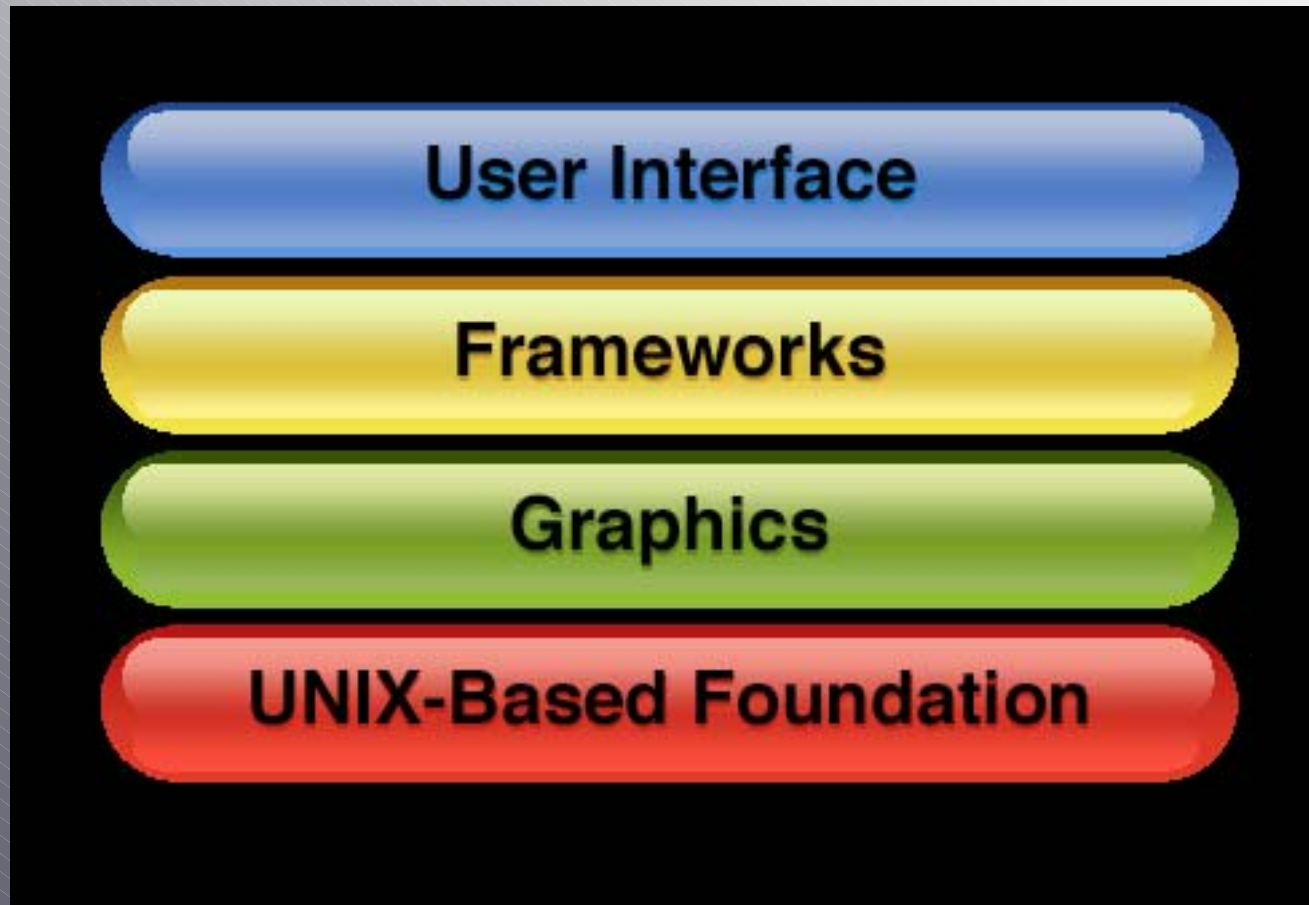
Apple's *Boiled Sweets* diagram

<http://developer.apple.com/macosx/architecture/>



Mac OS X Architecture

Simplified diagram



- ~~Graphics are clearly not X11, but X11 is available as an optional (Beta) installation~~
O S X Unix differences
- Netinfo (and now LDAP) used instead of flat files in /etc
- SystemStarter rather than /etc/rc* or SysV init
- HFS+ case-insensitive
many other filesystems supported incl UFS
- UK keybds: get # using Alt-£

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Basic Admin

- Many simple admin tasks performed via GUI tools
especially System Preferences
In most cases, can also still be managed from cmd-line

- Demo

Network, Accounts, Date & Time, SWUpdate
NB. Network Sharing toggles Apache, ssh, Firewall!

Heterogeneous Integration

- OS X arguably most inter-operable system
- Works with Unix (standard BSD tcp/ip; NFS, NIS LDAP and many many other buzzwords!)
- Works with Windows: SMB via Samba supports file-sharing as server and client *10.3 will improve much further: printing + Active Dir.*
- Comprehensive AppleTalk support (unsurprising!)

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- OS X is a rich and compelling Unix-based system

Conclusions

- It benefits from mature and robust Unix with latest open source developments and Apple's own OS innovations (eg Rendezvous -> IETF Zeroconf)
- It has a powerful, intuitive and consistent GUI Supports a wide selection of apps from all existing areas of computing (ie Unix, X11, Office, classic Mac); and a sophisticated range of new consumer and multimedia apps
- It can satisfy most computing requirements of any class of user from



Bill Gates demonstrating Athens, a next-generation Windows PC prototype. That GUI looks strangely familiar...

Q uestions?