

LIS-3353

Rise of the Net and FLOSS

Previously, on “History...”

Microsoft DOMINATES the OS space, probably through the unified Office framework and relative openness (at the time)

How (not) to kill a giant

Direct Competition

- (they just buy you out, or EEE)

Government Intervention

The original “Surface” (2003-2007)



PHOTO: DAVID PAUL MORRIS/GETTY IMAGES

The Microsoft Tablet (2002)



Embrace, Extend, Extinguish

- (I didn't make this up, they used it INTERNALLY)

Either BUY OUT your competition, or E,E,E.

(e.g.)

.Net

ActiveX

- DirectX vs. OpenGL

Attempted with odt.

This prevents you from having to competitively innovate.
(and is kind of understandable.)

Not even the (U.S.) gov't.

United States v. Microsoft, 253 F.3d 34 (2001)
(mostly over IE.)



Europe did, but without much consequence...e

Wow, so how do you kill a giant? (slowly)

- “Non-computer” devices
 - (thank you Moore's Law)

AND

- The Internet

“The Internet”

- “Sometimes we do get taken by surprise. For example, when the Internet came along, we had it as a fifth or sixth priority.”
 - Bill Gates

Wow, so how do you kill a giant? (slowly)

- “Non-computer” devices
 - (thank you Moore's Law)
- The Internet

BOTH POWERED BY:

Free (and not-so-free-but-free-ish) **Software**

A bit more on the whole Free/Open Source thing:
(because English is silly)

“Free as in speech,
not free as in beer.”

No restrictions (libre)

No cost (gratis)

Real hard to sell the idea of making money with something that says “free” (Darn you, English)

So, “Open-Source” is adopted by some, and the definitions are slightly modified.

All free software is open source, but not all open source software is free (as in speech or otherwise)

And so, you get a mix....

This slide is incorrect
(but good enough for now)

Free Software / FOSS / FLOSS

Here's some code, do what you want, but please
share back what you do.

Open Source

Here's some code, do literally whatever you
want.

Open Source (“permissive”/not “free”)

You can do most anything with it, *including locking it back down*.

BSD, Apache Web Server, the MIT License



Free Software

- You can do anything with it yourself, EXCEPT you may NOT re-release it “closed.”

GNU/Linux, Firefox

Which is “primitive?”

```
Last login: Fri Aug 17 16:33:00 on ttys000
Valkyrie:~ whitsongordon$ sh top10.sh
Example Commands:
10. top
9. ifconfig /all
8. chmod +x newtop10.sh
7. ssh -l whitsongordon@192.168.0.12
6. wget http://lifehacker.com
5. vim todo.txt
4. grep top 10
3. ...
2.
1.

Valkyrie:~ whitsongordon$
```



Alternatively...

Is the mouse the worst thing to happen to computing?

Why Command Line?

Because you can very quickly say/relate complex concepts in a concise way, by combining a series of simple symbols.

You know, like talking. Or writing.

Command line is the act of literally talking to the computer....unlike...

What's so bad about the mouse again?

“Caveman interface.”

- Pre-linguistic/animal-like
- “Point and grunt”

(Tablets and even “Minority Report” are cool and fun...but why is Charades a game?)

It's so easy, even...



Intelligence requires Language

Buttons and gestures are frequently convenient for repetitive tasks...

...but to do anything intelligent,
you need LANGUAGE.

TEXT. Numbers and Letters.

Why Linux?

- 1) Free and open
- 2) Language/Text Based

(These two are completely related; newer stuff tries to allow for more of 2 and/or 1; e.g. Mac OS X, Android)

The Unix Way

Write programs that do one thing and do it well.

Write programs to work together.

Write programs to handle text streams, because that is a universal interface.

The Unix Way

*nix/Unix-Like = “Works like Unix, but is not Unix, and is under a different license”

POSIX = Portable OS Interface for uniX
(standardization of *nix or Unix-Like)

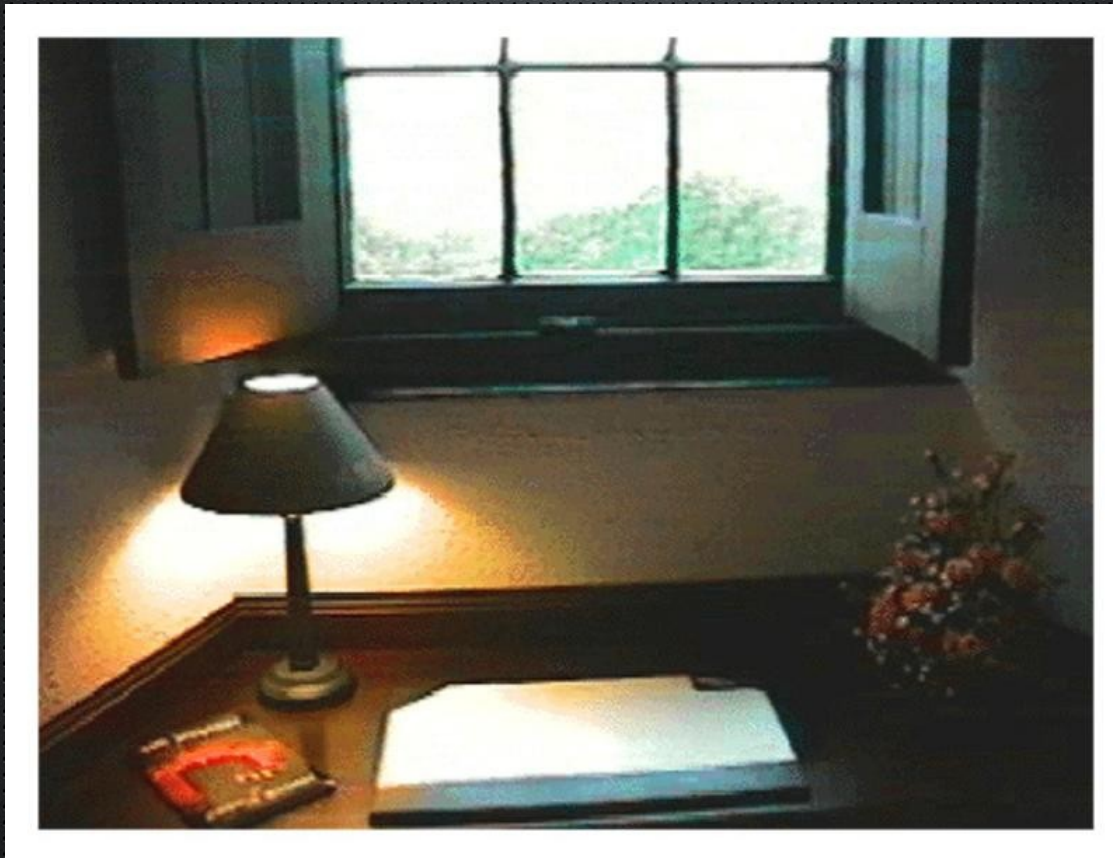
Linux and *BSD (and Mac Os X) are POSIX-compliant and therefore “Unix-Like”

Why “Windows?”

Seriously; kind of a weird metaphor

Why “Windows?”

Seriously; kind of a weird metaphor



Where does the work happen?

Layers of Software in Linux

Window Manager(LXDE in Lubuntu) – pretties it up

“X” – draws the graphics

CLI/Text – text layer

Operating system – electricity and magic

X used to be called
X Windows

X – formerly known as **X Windows**

X Windows (now often just called X) – 1984

Microsoft Windows – 1985

Merely a degenerate version of the original?
Namely:

X – formerly known as X Windows

X provides a WINDOW into either YOUR OWN machine, or into ANOTHER ONE somewhere else.

(and does not differentiate between the two)

Why (X) Windows, part deux

- Because, originally, it was used to look either SOMEWHERE ELSE or HERE too. No difference.

```
ssh -X me@mymachine
```

- (Remoteness, portability, connection between computers ALL BUILT IN) –

Why (X) Windows, part deux

Also, thought about “client” v. “server” differently; as in, in X windows:

Your local X **server** does the job of serving you “windows”

You connect to the remote **client** to get those windows

(opposite of the “usual” – what does this say about power?)