

Linux Web Dev



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Download the presentation and files at:
github.com/shofetim/Linux-Web-Dev-tools

Why I develop on Linux

"If you want to learn to program, learn linux"

Why I develop on Linux

It was good advice

Do other people develop on linux?

I found a very wide range of stats, alot of them disagree, these numbers are an educated guess from what I found, and my experience

Do other people develop on linux?

Websites

80% + deployed on Linux

Do other people develop on linux?

Languages

For many (most?) tools and languages posix is the only first class citizen

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- Node.js

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- PHP

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Languages

For many (most?) tools and languages posix is the only first class citizen

- Node.js
- PHP
- etc.

Do other people develop on linux?

What about .NET?

Do other people develop on linux?

What about .NET?

Mono

Do other people develop on linux?

Other things

- epoll/kqueue

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- Support from virtualization providers

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- Cost

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- Ease of remote administration

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- etc.

Other *nix systems

I recently looked at alternative *nix systems

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- Memory footprint

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- Speed

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Stayed with linux

Alot of people use Mac



Alot of people use Mac



Its pretty

Alot of people use Mac



Its pretty
it "Just Works"

Alot of people use Mac



Its pretty
it "Just Works"
(maybe)

I use:

I use:

+ Mutter

I use:

+ Mutter

+ AWN

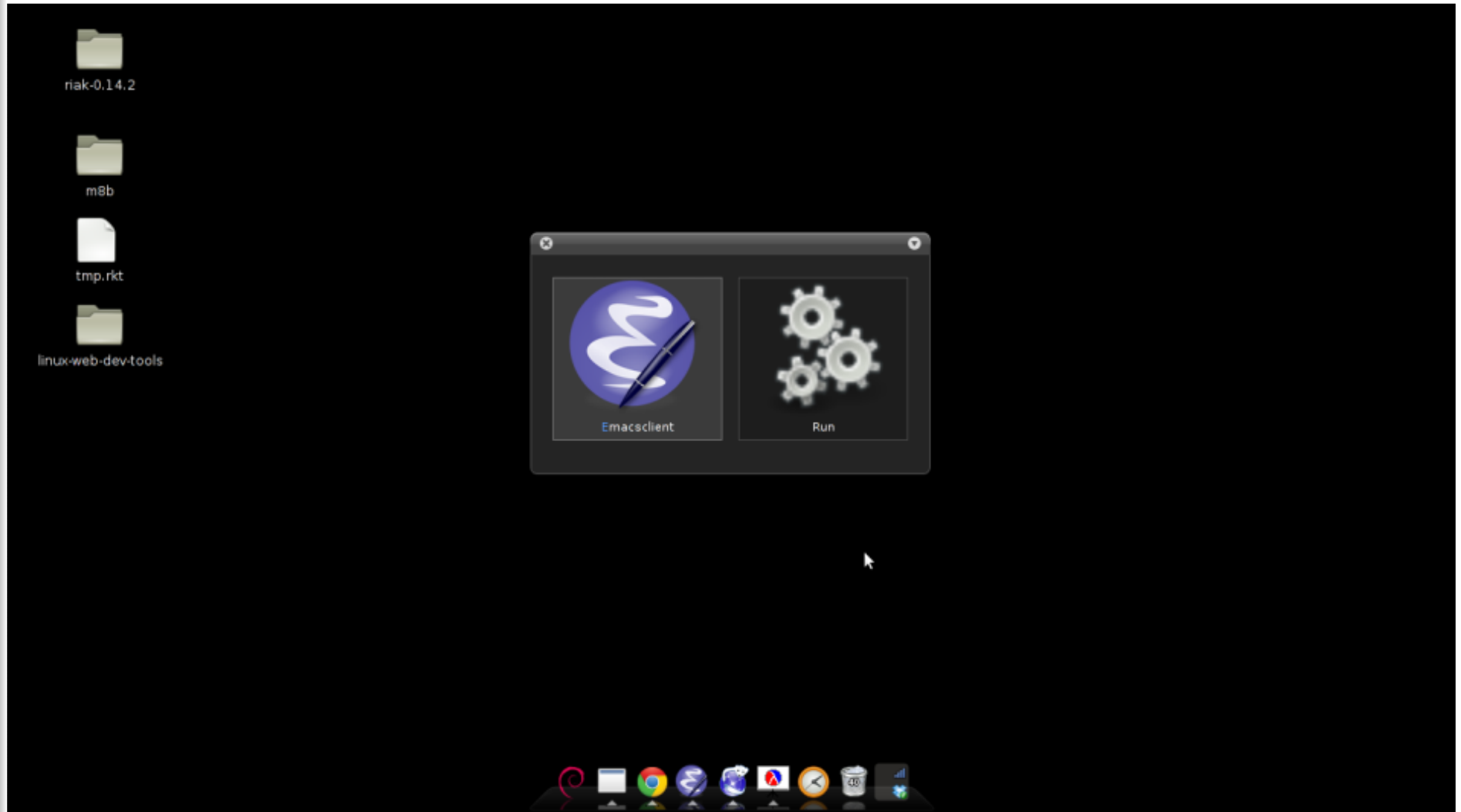
I use:

- + Mutter

- + AWN

- + Gnome Do

Pretty Enough



It Works

A developer's tools



A developer's tools

Or maybe



But that isn't a full toolbox



Tools

- Firebug / Developer Tools
- HTTPFox
- Curl
- Pagespeed / ySlow
- htop + nameless python script

Tools

- rxvt-unicode + screen
- Gimp & Inkscape
- SLOCC
- CutyCapt
- Cl Joe

Firebug / Developer Tools

Demo

HTTPFox

A packet sniffer (as a Firefox Extension)

Demo

Curl

Manipulate HTTP

Great for seeing what a site is running...

```
curl -I montanalinux.org
HTTP/1.1 200 OK
Date: Fri, 02 Dec 2011 01:02:27 GMT
Server: Apache/2.0.52 (CentOS)
X-Powered-By: PHP/4.3.9
Set-Cookie: PHPSESSID=53a9e91ed4d4f495755ee870ab132b43;
expires=Sun, 25-Dec-2011 04:35:59 GMT; path=/;
domain=.montanalinux.org
Expires: Sun, 19 Nov 1978 05:00:00 GMT
Last-Modified: Fri, 02 Dec 2011 01:02:39 GMT
Cache-Control: no-store, no-cache, must-revalidate
Cache-Control: post-check=0, pre-check=0
Pragma: no-cache
Connection: close
Content-Type: text/html; charset=utf-8
```


Pagespeed / ySlow

Measure why pages are load slowly

Demo

Memory Usage

Htop

```
1  [||||] 2.0% Tasks: 123, 192 thr: 2 running
2  [|||] 0.0% Load average: 0.21 0.15 0.08
3  [|||||] 4.0% Uptime: 2 days, 06:12:23
4  [|||] 0.0%
Mem [|||||] 1287/3756MB
Swap [|||] 4/9538MB

PID USER PRG  PG  VIRT  RES  SHR  S  CPU  MEM  TIME+ Command
1412 root 20 0 211M 42280 14804 S 0.0 1.1 51:30.30 /usr/bin/Xorg :0 -br -verbose -audit 0 -nolisten tcp vt1
10955 jordan 20 0 15628 1772 1112 S 1.0 0.0 0:00.10 htop
22479 jordan 20 0 718M 135M 48216 S 1.0 3.6 4:32.14 /usr/lib/iceweasel/firefox-bin
1 root 20 0 16396 692 648 S 0.0 0.0 0:02.22 init [2]
453 root 16 -4 21536 716 424 S 0.0 0.0 0:00.33 udevd --daemon
1319 root 20 0 115M 1664 1124 S 0.0 0.0 0:00.96 /usr/sbin/rsyslogd -cS
1320 root 20 0 115M 1664 1124 S 0.0 0.0 0:00.14 /usr/sbin/rsyslogd -cS
1321 root 20 0 115M 1664 1124 S 0.0 0.0 0:00.00 /usr/sbin/rsyslogd -cS
1318 root 20 0 115M 1664 1124 S 0.0 0.0 0:01.12 /usr/sbin/rsyslogd -cS
1340 root 20 0 13.2K 37212 2120 S 0.0 1.0 0:21.08 /opt/leguin-hamachi/bin/hamachid
1359 messageb 20 0 23902 1600 764 S 0.0 0.0 0:11.06 /usr/bin/dbus-daemon --system
1381 root 20 0 147M 4896 3924 S 0.0 0.1 0:00.01 /usr/sbin/NetworkManager
2561 root 20 0 147M 4896 3924 S 0.0 0.1 0:00.00 /usr/sbin/NetworkManager
1369 root 20 0 147M 4896 3924 S 0.0 0.1 0:13.08 /usr/sbin/NetworkManager
1380 root 20 0 64252 2356 2112 S 0.0 0.1 0:00.03 /usr/sbin/modem-manager
1388 root 20 0 120M 4040 2924 S 0.0 0.1 0:00.50 /usr/lib/policykit-1/polkitd
1383 root 20 0 120M 4040 2924 S 0.0 0.1 0:01.02 /usr/lib/policykit-1/polkitd
1394 root 20 0 28272 2740 2384 S 0.0 0.1 0:01.09 /sbin/wpa_supplicant -u -s
1411 root 20 0 72508 2704 2504 S 0.0 0.1 0:00.00 /usr/sbin/gdm3
1400 root 20 0 72508 2704 2504 S 0.0 0.1 0:00.03 /usr/sbin/gdm3
1413 root 20 0 95700 3804 3384 S 0.0 0.1 0:00.00 /usr/lib/gdm3/gdm-simple-slave --display-id /org/gnome/DisplayManager/Display1
1410 root 20 0 95700 3804 3384 S 0.0 0.1 0:00.02 /usr/lib/gdm3/gdm-simple-slave --display-id /org/gnome/DisplayManager/Display1
1414 root 20 0 3916 644 500 S 0.0 0.0 0:03.73 /usr/sbin/acpid
1447 root 20 0 253M 13632 7192 S 0.0 0.4 0:04.04 /usr/sbin/apache2 -k start
1458 daemon 20 0 16436 424 280 S 0.0 0.0 0:00.00 /usr/sbin/atd
1472 avahi 20 0 35904 1756 1448 S 0.0 0.0 0:00.15 avahi-daemon: running [zen.local]
1473 avahi 20 0 33780 528 300 S 0.0 0.0 0:00.00 avahi-daemon: chroot helper
1528 root 20 0 20152 1044 812 S 0.0 0.0 0:00.33 /usr/sbin/strm
1543 udev-data 20 0 268M 24072 3904 S 0.0 0.6 0:01.03 /usr/sbin/apache2 -k start
1544 udev-data 20 0 268M 24268 3916 S 0.0 0.6 0:00.62 /usr/sbin/apache2 -k start
1559 root 20 0 75056 2880 2152 S 0.0 0.1 0:00.00 /usr/sbin/cupsd -C /etc/cups/cupsd.conf
1583 root 20 0 121M 3960 2656 S 0.0 0.1 0:00.00 /usr/sbin/console-kit-daemon --no-daemon
1584 root 20 0 121M 3960 2656 S 0.0 0.1 0:00.00 /usr/sbin/console-kit-daemon --no-daemon
1585 root 20 0 121M 3960 2656 S 0.0 0.1 0:00.00 /usr/sbin/console-kit-daemon --no-daemon
1586 root 20 0 121M 3960 2656 S 0.0 0.1 0:00.00 /usr/sbin/console-kit-daemon --no-daemon
1587 root 20 0 121M 3960 2656 S 0.0 0.1 0:00.00 /usr/sbin/console-kit-daemon --no-daemon
1588 root 20 0 121M 3960 2656 S 0.0 0.1 0:00.00 /usr/sbin/console-kit-daemon --no-daemon
1589 root 20 0 121M 3960 2656 S 0.0 0.1 0:00.00 /usr/sbin/console-kit-daemon --no-daemon
1600 root 20 0 121M 3960 2656 S 0.0 0.1 0:00.00 /usr/sbin/console-kit-daemon --no-daemon
1601 root 20 0 121M 3960 2656 S 0.0 0.1 0:00.00 /usr/sbin/console-kit-daemon --no-daemon
1602 root 20 0 121M 3960 2656 S 0.0 0.1 0:00.00 /usr/sbin/console-kit-daemon --no-daemon
1603 root 20 0 121M 3960 2656 S 0.0 0.1 0:00.00 /usr/sbin/console-kit-daemon --no-daemon
1604 root 20 0 121M 3960 2656 S 0.0 0.1 0:00.00 /usr/sbin/console-kit-daemon --no-daemon

F1Help F2Setup F3Search F4Invert F5Tree F6SortBy F7Nice F8Nice F9Kill F10Quit
0 bash 1-$ bash | Dec 01 17:26 jordan@zen
```

Memory Usage

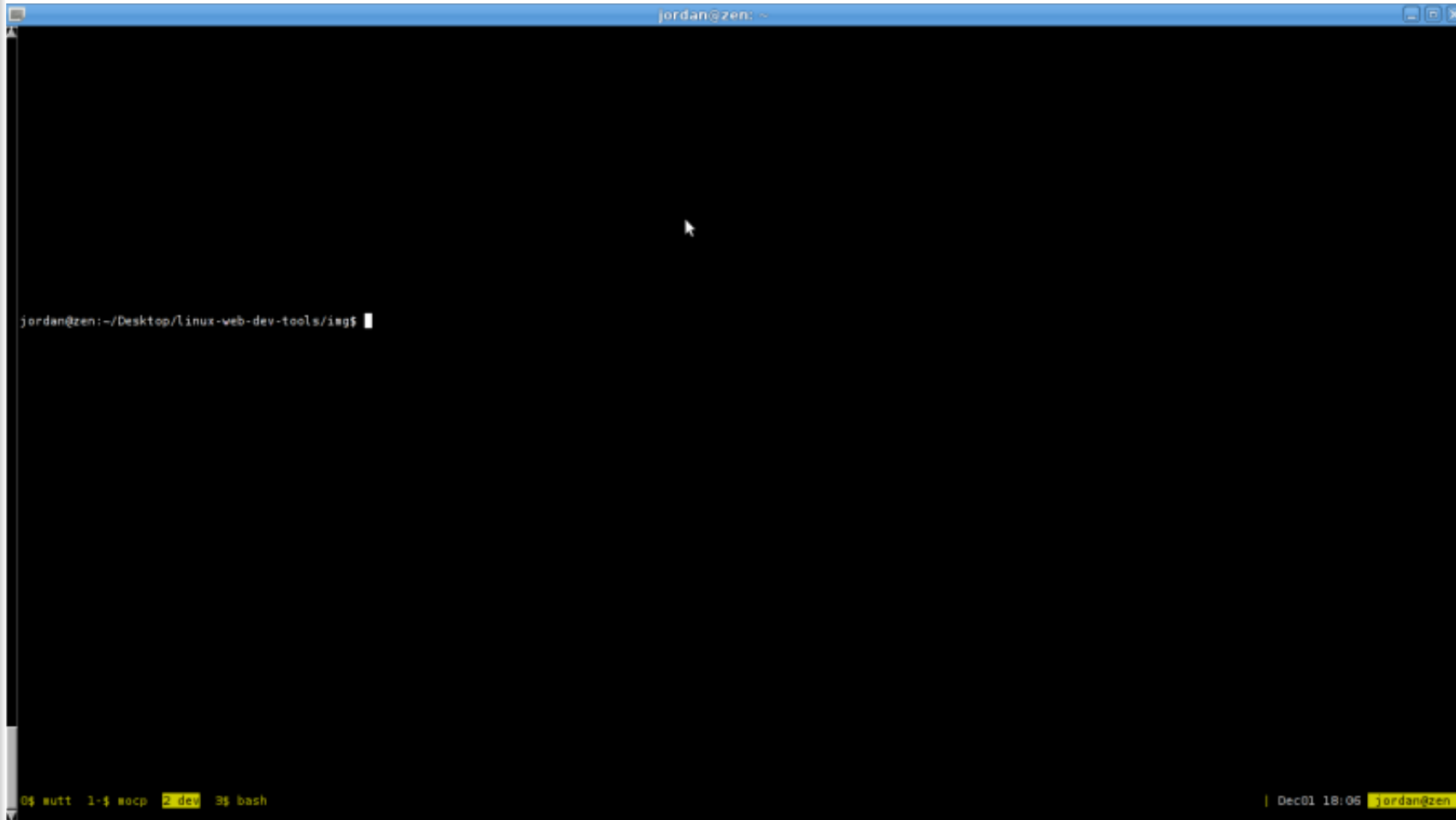
ps_mem.py

Private	+	Shared	=	RAM used	Program
22.2 MiB	+	1.1 MiB	=	23.3 MiB	mutter
27.7 MiB	+	106.0 KiB	=	27.8 MiB	mysqld
33.2 MiB	+	1.3 MiB	=	34.5 MiB	gnome-do (2)
31.8 MiB	+	4.0 MiB	=	35.9 MiB	Xorg
35.3 MiB	+	1.7 MiB	=	37.0 MiB	hamachid
48.1 MiB	+	839.5 KiB	=	49.0 MiB	emacs-23.3
68.2 MiB	+	655.5 KiB	=	68.8 MiB	dropbox
96.5 MiB	+	823.5 KiB	=	97.3 MiB	racket
104.7 MiB	+	7.4 MiB	=	112.0 MiB	firefox-bin
110.5 MiB	+	10.8 MiB	=	121.3 MiB	apache2 (11)
620.5 MiB	+	42.2 MiB	=	662.7 MiB	chrome (14)

				1.4 GiB	
=====					

rxvt-unicode & screen

A good / memory lite terminal + screen



Gimp & Inkscape

- Gimp works well as a Photoshop replacement
- Inkscape is a great vector graphics editor
- Imagemagic is also handy, particularly from the commandline or scripts

SLOCC

Source Lines of Code Count

- <http://www.dwheeler.com/sloccount/>
- Knows most common languages
- You should know how big your own codebase is...
- Great for getting the feel for a new codebase
- Helpful in picking which app to use for your CMS
etc

SLOCC

CakePHP

SLOC	Directory	SLOC-by-Language (Sorted)
115375	cake	php=115364,sh=10,xml=1
220	app	php=220
20	top_dir	php=20
0	plugins	(none)
0	vendors	(none)

Totals grouped by language (dominant language first):

php:	115604 (99.99%)
sh:	10 (0.01%)
xml:	1 (0.00%)

Total Physical Source Lines of Code (SLOC)	= 115,615
Development Effort Estimate, Person-Years (Person-Months)	= 29.32 (351.87)
(Basic COCOMO model, Person-Months = $2.4 * (KSLOC^{**1.05})$)	
Schedule Estimate, Years (Months)	= 1.93 (23.20)
(Basic COCOMO model, Months = $2.5 * (person-months^{**0.38})$)	
Estimated Average Number of Developers (Effort/Schedule)	= 15.16
Total Estimated Cost to Develop	= \$ 3,961,015
(average salary = \$56,286/year, overhead = 2.40).	

CutyCapt

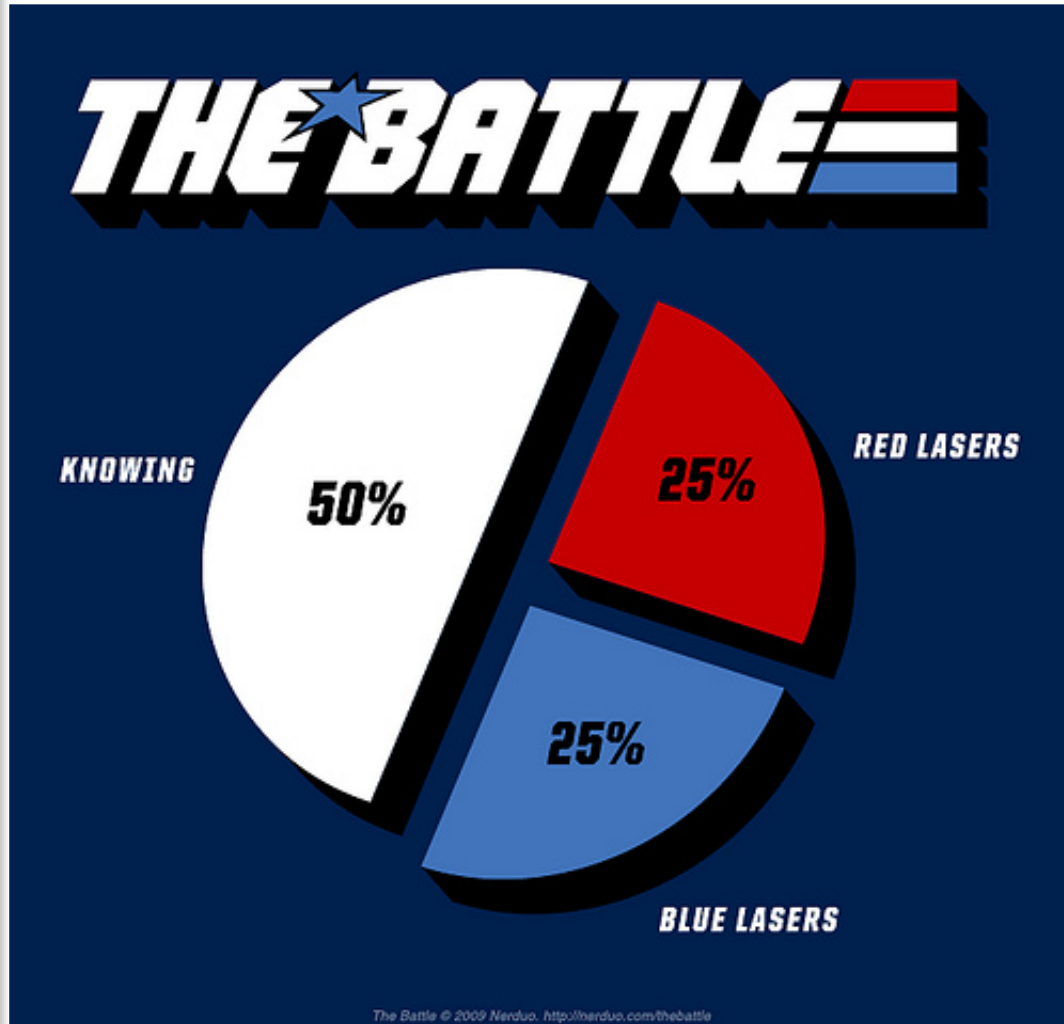
Scriptable, full page, website screen capture tool

PNG or PDF output...

<http://cutycapt.sourceforge.net/>

CI Joe or Git Hook

<https://github.com/defunkt/cijoe>



CI Joe or Git Hook

or a simple githook

```
#!/bin/sh  
cd ..  
env -i git reset --hard
```

End