

Parental Controls using Edubuntu

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```
$ modprobe pcspkr
```

- * Senior Security Advisor at a major-4 .au bank
- * CompTIA Advisory Committee (Linux+)
- * Sessional university lecturer
- * Member of Ubuntu Australian Team, Edubuntu advocacy and GchildCare projects
- * Once an unrestrained child on the Internet :-/
- * Now a parent twice over :-)

Overview

- ◆ What is Edubuntu?
- ◆ Safer browsing
- ◆ WebContentControl & GChildCare
- ◆ Locking down Gnome
- ◆ Time-based quotas
- ◆ Remote view and control
- ◆ Questions/debates/flames?



- this is **NOT** an exhaustive talk
- this is **NOT** a lockdown guide
- focus is technical parental controls
- most effective control is physical presence



Edubuntu

- ◆ Ubuntu-based distro targeted at schools
- ◆ Office-suite, web browser, many educational apps
- ◆ Check out Gcompris, childsplay, marble, kalzium, kturtle, ktouch, kgeography
- ◆ Itsp-cluster for classroom (DHCP/TFTP/PXE)

- Own self-contained distro up until 9.04
- 9.04 was an apt repo add-on over the top of a standard Ubuntu install
- 9.10 has gone back to being own distro (yay!)

Edubuntu



- **Demo (physical host: br0 192.168.2.201)**
Edubuntu server (VirtualBox bridged on br0: .202)

```
apt-get install ltsp-server thin-client-manager-gnome \
    openssh-server dhcp3-server tftpd-hpa
```

```
sudo ltsp-build-client (puts stuff into /opt/ltsp)
```

```
sudo ltsp-update-sshkeys
```

```
sudo ln -sf /opt/ltsp/i386/etc/lts.conf
/var/lib/tftpboot/lts.conf
```

```
gksu webcontrolcontrol &
```



Edubuntu - LTSP Demo

Edubuntu client

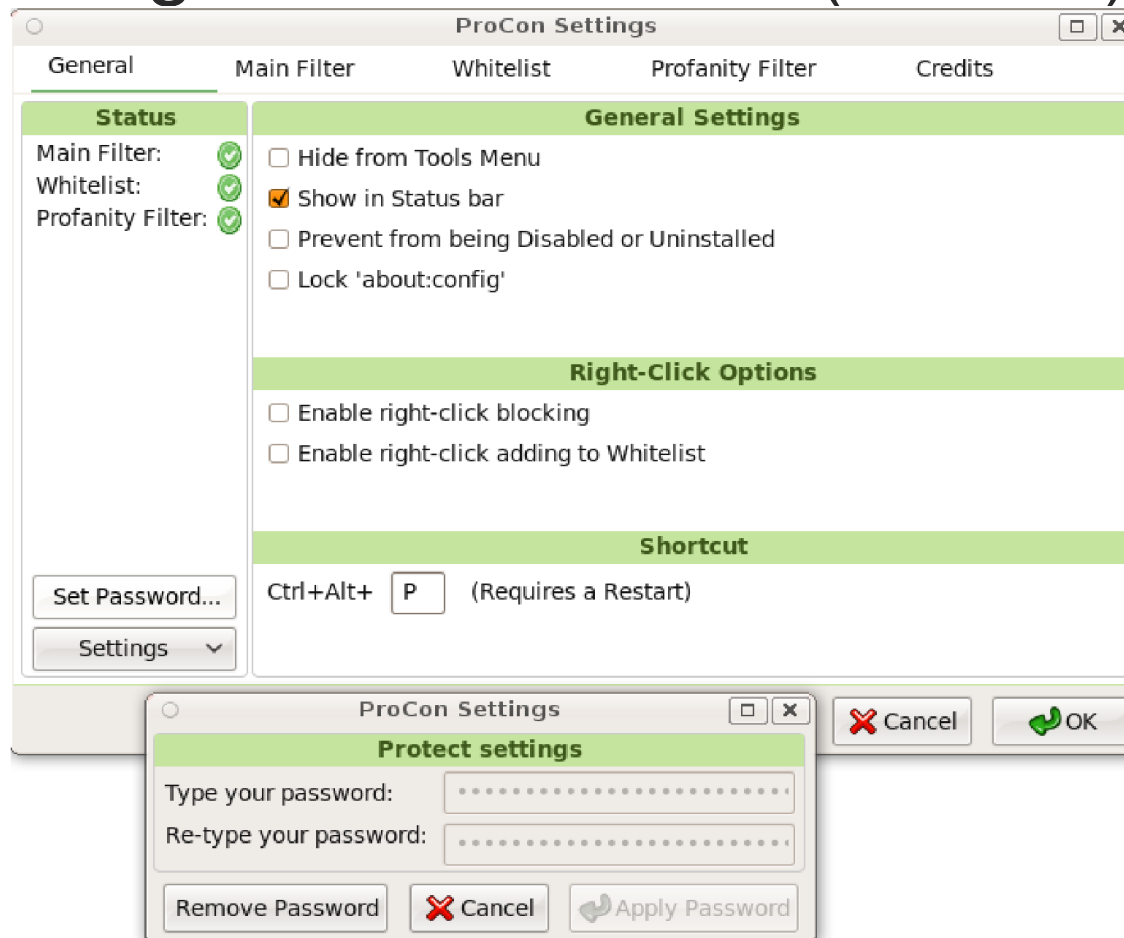
```
sudo ./qemu-system-x86_64 -enable-kqemu -kernel-kqemu  
-boot n -net nic,model=e1000,vlan=0 -net  
tap,vlan=0,ifname=tap0,script=/etc/qemu-ifup  
-localtime -m 512 -no-acpi -smp 2  
-vnc 127.0.0.1:0 -k en-us
```

```
#!/bin/sh  
echo "Bringing up $1 for bridged mode..."  
sudo /sbin/ifconfig $1 0.0.0.0 promisc up  
echo "Adding $1 to br0..."  
sudo /usr/sbin/brctl addif br0 $1  
sleep 2
```

```
# The bridge network interface(s)  
auto br0  
iface br0 inet static  
address 192.168.2.201  
network 192.168.2.0  
netmask 255.255.255.0  
broadcast 192.168.2.255  
gateway 192.168.2.1  
bridge_ports eth0
```

Safer browsing

◆ Whitelisting – ProCon Latte (Firefox)



Safer browsing

- ◆ **Tactical: (several releases)**

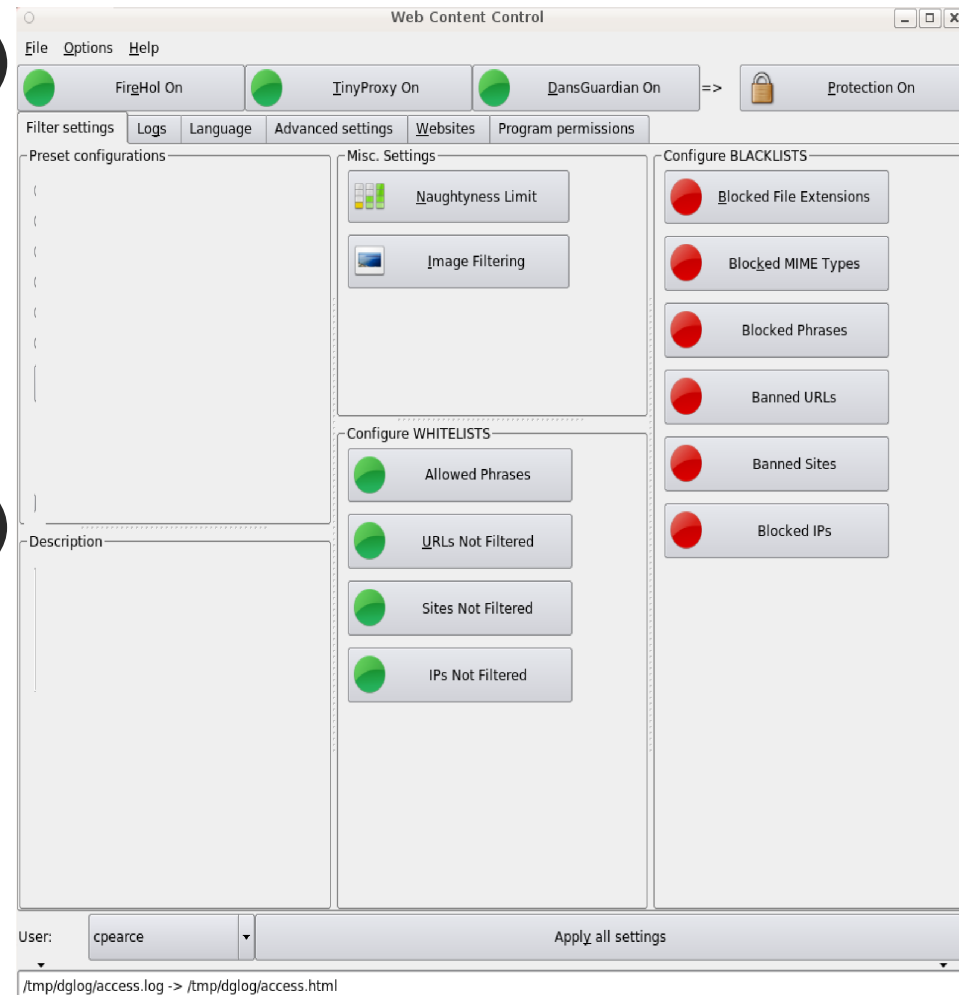
[dansguardian+
tinyproxy+
firehol] GUI'ed

= WebContentControl

- ◆ **Strategic: (blueprints only)**

GChildCare

- ◆ Front-end (QT, GTK)
- ◆ Backend (hooks into several mechanisms)



Safer browsing - Firehol

```
iptables -t filter -I OUTPUT -d 127.0.0.1 -p tcp --dport 3128 -m  
owner ! --uid-owner dansguardian -j DROP
```

```
transparent_squid 8080 "proxy root"
```

```
# Accept all client traffic on any interface
```

```
interface any world
```

```
policy drop
```

```
protection strong
```

```
client all accept
```

```
# lazy - all LAN services (including DHCP, NBP, TFTP, SSH, ... )
```

```
group with src "192.168.2.0/24"
```

```
server any accept
```

```
group end
```


Time-based quotas

- ◆ Browser-level:
LeechBlock

LeechBlock Options

Block Set 1 | Block Set 2 | Block Set 3 | Block Set 4 | Block Set 5 | Block Set 6 | General

Enter the domain names of the sites to block (one item per line):

<insert time wasting sites here>

Load from URL:

Actively block pages on these sites once time period is entered or time limit is exceeded

Prevent access to options for this block set at times when these sites are blocked

Prevent access to about:config at times when these sites are blocked

Enter the time periods within which to block these sites (e.g. 0900-1230,1330-1700):

0800-2130

Enter a time limit after which to block these sites: minutes in every

Select when to block these sites:

Select the days on which to block these sites:

Sun Mon Tue Wed Thu Fri Sat

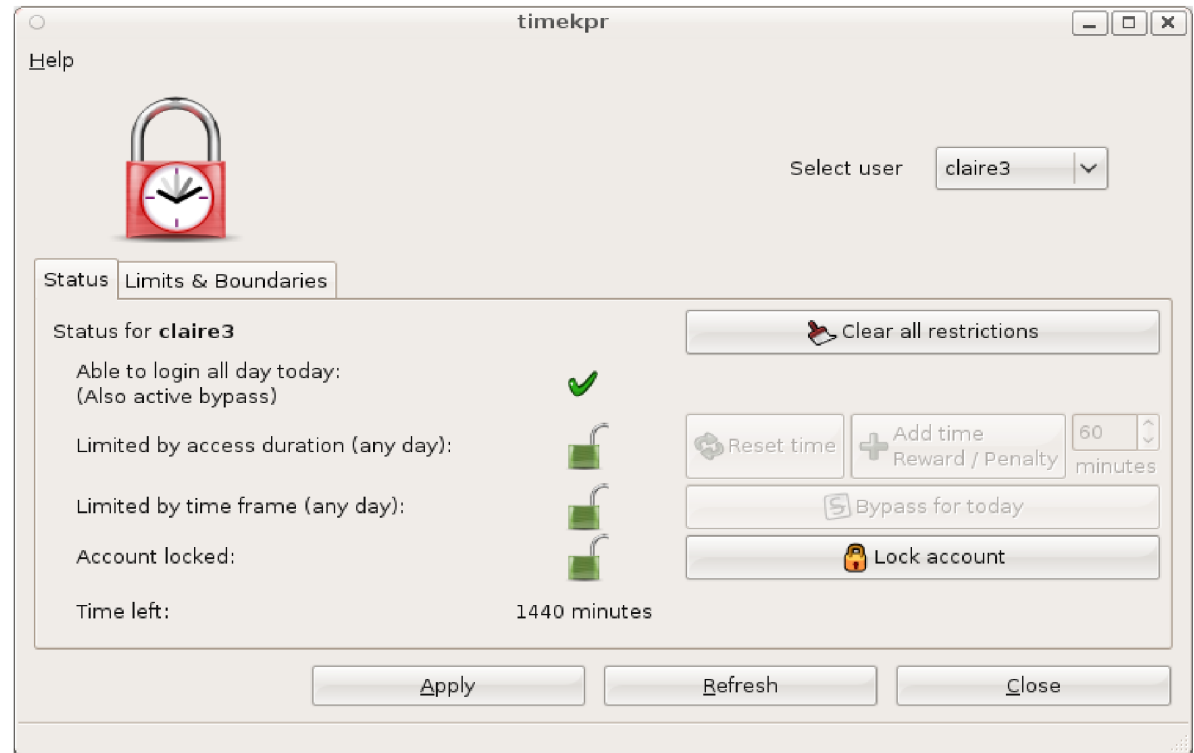
Enter the fully specified URL of the page to show instead of these blocked sites:

Predefined URLs:

Enter a custom name for this block set (optional):

Time-based quotas

- ◆ Terminal **timekpr**



GUI front-end for PAM `/lib/security/pam_time.so`

Time-based quotas

- ◆ X11 and shells

timeoutd

Format: TIMES:TTYS:USERS:GROUPS:MAXIDLE:MAXSESS:MAXDAY:WARN

or: TIMES:TTYS:USERS:GROUPS:LOGINSTATUS

craig is allowed **240**min/session, **480**min/day on **ttyS7** (X11)

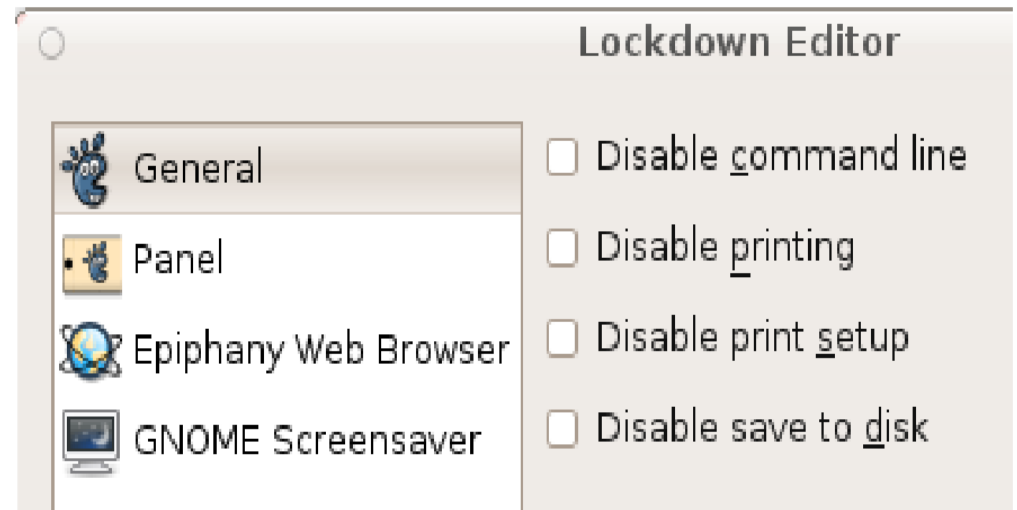
Al:**ttyS7**:craig:*:20:**240:480**:5

others allowed **60**min/session, **120**/day across **all terminals**

Al:*.~.*:20:**60:120**:5

Gnome lockdown

- ◆ Pessulus – Kiosk style !



Remote view and control

Install the Real VNC 'x11vnc' on each of the machines.

Install 'xvncviewer' on your own machine.

Log onto the child's machine (eg 192.168.2.220) and as the root user create a stored VNC password for future authentication.

```
ssh 192.168.2.202
$ sudo x11vnc -storepasswd /root/.vnc/passwd
```

Create a local SSH port forward to the child's machine and run VNC as the root user locally:

```
ssh -t -L 5900:localhost:5900 192.168.2.202 \  
"sudo x11vnc -localhost -rfbauth /root/.vnc/passwd -auth \  
/home/toddler/.Xauthority -display :0 -ncache 10"
```

Watch the session remotely (without -ViewOnly you can take control):

```
xvncviewer -ViewOnly localhost
```

Or use iTalc ... remote view/control, sent messages, lock desktops and more

The end?

- ◆ Questions/debates/flames?
- ◆ Other ideas – eg mythtv controls



Resources

Edubuntu: <http://edubuntu.org>

GChildcare: <http://launchpad.net/gchildcare>

ProCon Latte: <https://addons.mozilla.org/en-US/firefox/addon/1803>

LeechBlock: <https://addons.mozilla.org/en-US/firefox/addon/4476>

WebContentControl - <https://launchpad.net/webcontentcontrol>

Dansguardian - <http://www.dansguardian.org>

Squid - <http://www.squid-cache.org>

Timekpr - <https://launchpad.net/timekpr/>

Me: <http://launchpad.net/~craig-w-pearce>