# Using your dual-boot setup

When you turn on your computer, you will see a screen that looks like this:

GNU GRUB version 1.89-1ubuntu7
Ubuntu, with Linux 2.6.32-24-generic Ubuntu, with Linux 2.6.32-24-generic (recovery mode) Ubuntu, with Linux 2.6.32-21-generic Ubuntu, with Linux 2.6.32-21-generic (recovery mode) Memory test (memtest86+) Memory test (memtest86+, serial console 115200) Windows Recovery Environment (loader) (on /dev/sda3) Microsoft Windows XP Embedded (on /dev/sda5)
Use the $\uparrow$ and $\downarrow$ keys to select which entry is highlighted. Press enter to boot the selected OS, 'e' to edit the commands before booting or 'c' for a command-line.

This is called a "boot loader" and it lets you choose which operating system you'd like to use. By default, it selects the latest version of the Linux kernel installed in your Ubuntu setup. It gives you 10 seconds to select a different option.

The option on the top is what you should select to boot Ubuntu. The "recovery mode" options can help repair your Ubuntu system if something has gone wrong.

The "memory test" options will perform tests on the RAM memory of your computer.

To boot Windows Vista, select the option highlighted above. It doesn't say "Vista" anywhere on the screen, but the key part is where it says "loader". This will tell the computer to access the small part of the hard drive that is set aside to actually load Vista.

The "Microsoft Windows XP Embedded" option is Vista's repair console, and can be accessed to fix problems that might arise with booting Vista.

The GRUB boot loader settings can be changed with an application in Ubuntu called "StartUp-Manager". You can change the amount of time that GRUB will wait for you to select an option, and you can change which option will be highlighted first. If you want your computer to load Vista by default, then you can change that setting here.

4	StartUp-Manager	
Boot options Advanced		
Timeout		
Timeout in seconds:	8	A (7)
Default operating system		
Windows NT/2000/XP (on /dev/sda1)		
Display		
Resolution:	640x480	Ψ.
Color depth:	8 bits	
Misc.		
Show boot splash		
Show text during boot		
Help		Close

Changing other settings like display resolution and colour depth may make it impossible to read what's on the screen during boot, so these settings should be left alone.

## Changing themes (appearance) in Ubuntu

Once you have booted into Ubuntu, you can click on the top menu and navigate to **System/Preferences/Appearance**. That will bring up this interface:

1		Appearance Prefere	ences	×
T	heme Background Fonts	Interface Visual Effects		
	DarkRoom	Dust	Dust Sand	
	<ul> <li>↓ ↓ ↓ ×</li> <li>↓ ↓ ↓ ↓ ↓</li> <li>↓ ↓ ↓ ↓ ↓</li> <li>↓ ↓ ↓ ↓ ↓</li> <li>↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓</li></ul>	▼       □       ○         ✓       ○       ○         ✓       ○       ○         High Contrast Large Print Inverse	Image: Constraint of the second	
	Delete	Save <u>A</u> s	C <u>u</u> stomize	зII
	Delp			Close

You can choose from the options already present, or you can customize and make your own themes. Click on the **Customize** button and you will see this:

👔 Customize Theme 🗙		
Controls Colors	Window Border Icons Pointer	
Qpen 🗹 💿	Human	
<u>□</u> <u>O</u> pen ☑ ●	Human-Clearlooks	
<u>□</u> <u>o</u> pen <	Industrial	
<u>⊇</u> open ☑ ⊙	Inverted —	
<u>□</u> <u>O</u> pen • ⊙	Mist	
<u>⊇</u> Qpen ⊻ ⊙	New Wave	
<u>□</u> <u>O</u> pen	New Wave Dark Menus	
<u>□</u> <u>O</u> pen   ⊙	Raleigh	
	· · · · · · · · · · · · · · · · · · ·	
	<u>Delete</u>	
<u>e</u> Help	Close	

You can mix and match the elements you desire to make a theme of your own. Some of the elements enforce their own colour schemes, and some colour schemes may make text and features in other applications unreadable. Any theme can be saved and deleted though, and selecting a different theme will change the way your system looks right away.

## Accessing Windows Vista files

In order to allow your computer to boot more than one operating system, the hard drive has been "partitioned". It now has 6 distinct portions:

#### 1. Dell Utility partition

A small partition installed by Dell for first-time setup and maintenance.

#### 2. Recovery partition

Allows Windows Vista to be reinstalled, along with all of the applications and settings installed by Dell.

#### 3. Windows Vista (OS)

The operating system and user files that make up Windows Vista. Everything Vista saves to the hard drive is in this partition. Its size is now set at 156.2 gigabytes, and 36% of that space is currently used.

#### <u>4. Ubuntu</u>

The operating system and user files that make up Ubuntu Linux. The size of this partition is 60.7 GB, and 9% of that is currently used.

#### 5. Linux-swap

This is a part of the hard drive that Linux-based operating systems use for "virtual memory". If the OS ever runs out of space in RAM memory, more room is available in swap. Linux will also use this hard drive space while going into sleep or hibernation mode. The swap partition is small, and its use by a Linux OS is completely automated.

#### 6. Mediadirect

A small partition installed for use by an application called Mediadirect in Vista.

While using Ubuntu, you will be able to access a drive called "**OS**", which is the Windows Vista partition. This will allow you to access and use files you have worked on in Vista, like documents, photos, songs and videos. You can copy and then paste files from OS to your desktop or home folder, and even use applications from inside Ubuntu (like Open Office) to edit them where they are.

However, if you move, rename or delete Vista system files, you may not be able to boot into Vista any more, so extreme caution needs to be taken while browsing and working inside the OS drive. It's best to just copy the files (not cut) from OS and paste them to your home folder or desktop so you can use them there.

You can also use the additional space available in the OS folder when working inside Ubuntu, but it's a better idea to buy an external hard drive when you need more room.

## Mounting and Unmounting drives

When connecting hard drives, USB drives and memory cards to a computer, those devices need to first be "mounted", and then "unmounted" in order to remove them. Most Windows computers will mount devices automatically and even open them in the file manager (Explorer) for you. Ubuntu will do this too in most cases, and open its file manager (Nautilus) for you to be able to see and use the files.

In Windows, when you need to remove or unplug a device, you must first click on the "safely remove hardware" icon that appears on the right side of the taskbar. In Ubuntu, you can right-click on that drive's icon on your desktop, and select either "safely remove drive", "unmount", or "eject". This can be done with CDs and DVDs if needed, like users do on Apple computers.

An easier way of doing this is to look for a small up-arrow icon in Nautilus:



In the example above, a Vista "OS" partition is mounted, and the arrow icon next to the brown highlighted OS label will automatically unmount the drive for you.

# **Applications**

There are a number of excellent and totally free applications to use in Ubuntu.

For internet browsing there is the popular Firefox, which can handle online video, flash games and almost everything else that browsers in Windows can do. Internet browsing in Linux is safer than in Windows because malware that resides on attack pages on the internet can not infect a Linux computer.

For POP3 email (from your internet service provider) there are Thunderbird or the more full featured Evolution. Thunderbird is suited for simple emailing while Evolution is like Microsoft's Outlook. It integrates with Open Office, has a calendar feature and can handle almost all email protocols.

For chat, there are Pidgin and Empathy. Pidgin is a simple and lightweight chat client that can connect to popular networks like MSN, Yahoo and AIM. Empathy is like Pidgin, but it has functionality integrated directly into Ubuntu. There is also Gwibber for social networks like Facebook and Twitter.

For webcam use, there is Cheese. For photo viewing there are F-Spot, gThumb, and Eye of Gnome.

Many other applications have been installed, such as educational software and games, DVD and CD copying, and music and video editing.

# Ripping DVDs with AcidRip

AcidRip is an application that allows you to make video files (avi) from DVDs. When you insert a DVD and load the application, you will see this screen:

acidrip	
General Video Preview Queue Settings General	Video source Path /dev/dvd
Track title abc   Filename /home/gjw/video/%T   File size   1700   # Files   1   Info   name   Audio   Language   < Default> English   \$   Codec   mp3lame   \$   Gain	<ul> <li>▶ 1: 1:40:08</li> <li>▶ 2: 0:00:01</li> <li>▶ 3: 0:01:54</li> <li>▶ 4: 0:00:00</li> </ul>
Options abr:br=128	Selected Track 1 - 1:40:08
Other stuff Subtitle <none> Sub File Misc.</none>	Chapter: 0 (0/0) Size: 0mb Encoding status Real time left: 0min Encoding speed: 0fps Estimated filesize: 0mb
Queue     Stop       Compact     Quit	Time encoded: 0:00:00 Average bitrates: 0:0
title has been set to abc	// Debug

You can choose which portion of the DVD to rip by using the small window in the top right. The example above has a DVD with four "tracks", and the longest of these is automatically selected.

The other settings allow you a great amount of choice in what kind of video file you make. The default settings will create a small, low quality copy. To get a better quality file, follow these steps:

- 1. Change the number 128 in the Audio "Options" field to 320
- 2. Add three zeros to the "File size" field.
- 3. Click the "Video" tab at the top

X		acidrip	SOFTI	PEDIA" -X
General Video P	review Queue S	Settings	Video source	uedia.com
Video	II		Path /dev/dvd	🤣 Load
Codec lavc	Passe	s 1		Â
Options vcodec	=mpeg4:vhq:v4m	v:vqmin=2		
Bitrate 0	Lock Bits/P	×		=
Crop Width	0 Horiz	0		
Detect Height	0 Vert	0		
🗹 Scale 🛛 Width	480 🛓 🗹 Loc	k aspect	No track selected	
Height	0		Cache status Chapter: 0 (0/0)	Size: Omb
🗹 Pre filters	pp=de		Encoding status	
			Real time left:	Omin
D Post filters			Encoding speed:	Ofps
B. C			Estimated filesize:	0mb
P Queue	• <u>•</u>	etart	Average bitrates	0:00:00
🕹 Compact	20	Quit	werage binates.	0.0
AcidRip 0.14, "Written" by C.Phillips <acid_kewpie@users.sf.net></acid_kewpie@users.sf.net>				

- 4. Change the Codec from "lavc" to "x264"
- 5. Uncheck the "Crop" and "Scale" check boxes
- 6. Click the "Start" button near the bottom

This window will then appear:

o acidrip	- 14% 🗙
Cache status	
Chapter: 0 (0/0)	Size: 0mb
Encoding status	
Real time left:	0min
Encoding speed:	0.00fps
Estimated filesize	: 0mb
Time encoded:	0:00:17
Average bitrates:	0:0
	W
Encoding film	
	Full view

This will produce high-quality video files from a DVD. Other codecs and settings can be used to lower file size and even split long videos into two or more files. Finished videos will be found in the Home folder.

## ClamAV Virus Scanner and other security features

Since Linux is immune to Windows malware (viruses, trojans, spware, etc), programs like antivirus and anti-spyware are not needed. ClamAV is a linux application that scans files from inside Linux for Windows viruses. It can be used to scan an entire drive (like Vista's OS drive), a specific directory (like a "Downloads" folder) or an individual file. If you are using Ubuntu and downloading Windows files and programs from the internet, ClamAV can be used to check that they are virus-free.

The way that Linux connects to the internet and to other computers is fundamentally different from the way that Windows does. Because of this, you don't need to run a software firewall when you use your computer like you need to when you use Windows.

Of course, since Windows malware will not work on Linux, neither will legitimate applications and programs. Software that exists for Windows only will have to be run in Vista.

### Installing software

Installing software in Linux is not like installing software in Windows. In Windows, an exe or msi file is downloaded and executed. The program automatically installs (and sometimes downloads) the application, and icons are added to the Start Menu and desktop.

In Linux, programs should be installed using "package management" software. The best of these is called the "Ubuntu Software Center", and it works like the App store on an iPhone or an iPad. You can browse through different programs and choose to install them or uninstall them. The vast majority of these programs are free, and they will leave icons to launch them in your "Applications" menu.

Another more complex but more powerful package management tool is Synaptic Package Manager. You shouldn't need to use it, but it's there if you need it.

Linux does not use a "Registry" like Windows does to keep track of installed applications, but it does use the package management system to do that. As long as you install and uninstall applications using Ubuntu Software Center or Synaptic, you will not have to worry about unused, outdated and obsolete system files taking up space on your computer and slowing it down.

### File Systems

A file system is how the computer uses the hard drive to read and write data. Windows computers use a file system called "NTFS", and your Ubuntu setup uses "ext4". About once a week, windows computers need to be "defragmented" or they start to become sluggish and sometimes unusable. This is because of the way that NTFS writes files.

ext4 does not have this problem, and your Ubuntu partition will never have to be defragmented.

# Command Line / Terminal

Linux has a feature similar to the "Dos prompt" in windows. The Terminal is a place where Linux commands can be typed (or pasted) in to directly affect the system and tell it what to do. This is a very powerful tool, and should only be used if you know what you are doing. Again, you should never have to use the Terminal in day-to-day operation of Ubuntu.