

COVERS
UBUNTU 12.04

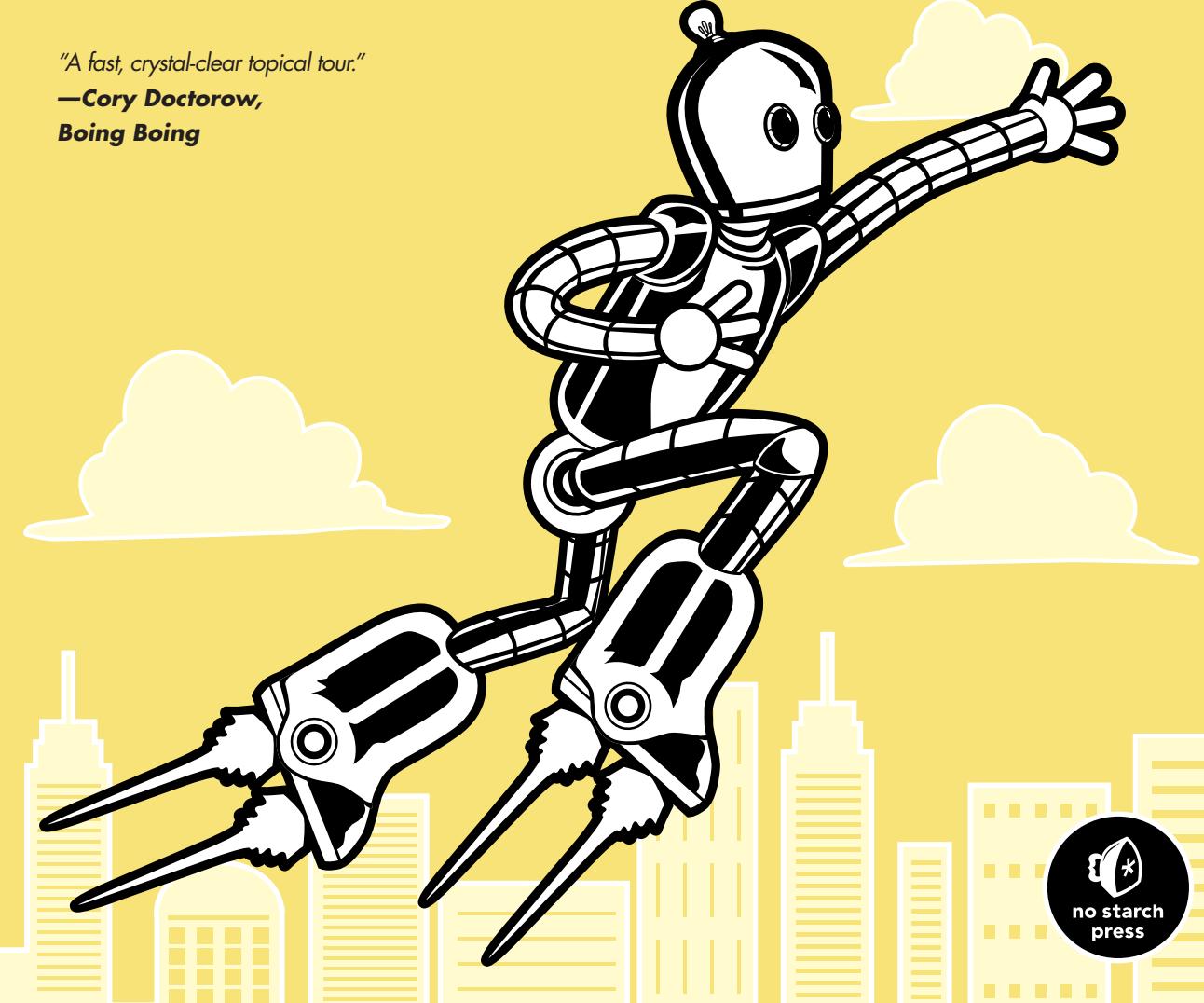
UBUNTU MADE EASY

A PROJECT-BASED
INTRODUCTION TO LINUX

RICKFORD GRANT WITH PHIL BULL

"A fast, crystal-clear topical tour."

—Cory Doctorow,
Boing Boing



C O N T E N T S I N D E T A I L

ABOUT THE AUTHORS	xxiii
Rickford Grant	xxiii
Phil Bull	xxv
ACKNOWLEDGMENTS	xxvii
INTRODUCTION	xxxi
Version Compatibility	xxxii
Concept and Approach	xxxii
How to Use This Book	xxxvi
About the Conventions Used in This Book	xxxvi
About the Projects in This Book	xxxvi
1 BECOMING A PENGUINISTA	1
Welcome to the World of Linux	
What Is Linux?	2
About the Penguin	3
Should You Use Linux?	3
What Is a Distribution?	4
What Is Ubuntu?	5
Why Ubuntu Then?	5
Hardware Compatibility	6
When Research Is Required	6
Hardware Requirements	7
Good News for 64-Bit Machine Users	8
Mixed News for Mac Users	8
Speaking Ubuntu	8
Where Do I Go from Here?	9
2 WADING AND DIVING	
Running and (If You Like) Installing Ubuntu	11
Going for a Dip	12
Choices, Choices, Choices—Installation Options	13
Going for a Swim—Installing Ubuntu Inside Windows (the Wubi Installer)	13
Taking the Full Plunge—Installing Ubuntu Outside of Windows	17
Getting Ready for Action	17
Doing the Deed	18
How Can I Get Back into Windows?	23
Oh No, My Computer Won't Boot!	23

3		
A NEW PLACE TO CALL HOME		
Getting to Know the Desktop		25
Welcome to the Desktop	26	
Parts of the Unity Desktop Environment	27	
The Panel	27	
The Desktop	29	
The Launcher	29	
Working with the Launcher	29	
The Dash	31	
Lenses	31	
Filters	33	
Finding and Running Apps with the Keyboard	34	
Head-up Display	34	
Navigating a Sea of Open Windows	35	
Workspace Switcher—Virtual Desktops	37	
Why Doesn't My Desktop Look Like That?	38	
Keyboard Shortcuts	39	
Shutting Down	40	
4		
MORE THAN WEBBED FEET		
Connecting to the Internet		41
How Do You Connect?	42	
Setting Up a Wired Connection	43	
Checking Your Connection	43	
Setting Up a Cable or Ethernet Connection for Providers Not Using DHCP	43	
Setting Up a Wireless Connection	45	
Hardware	45	
Activating Your Wireless Card	46	
Switching Off or Refreshing Your Wireless Connection	49	
Connecting with a DSL or ADSL Modem	49	
Setting Up a Dial-up Connection	50	
What to Do If Your Modem Isn't Compatible	51	
Mobile Broadband Connections	52	
I'm Connected . . . So Now What?	54	
5		
SLIPPING AND SLIDING		
Exploring the Internet, Linux Style		55
Firefox: Your Internet Browser	55	
Controlling Browser Window Clutter with Tabs	56	
Save It for Later: Using History and Bookmarks	57	
Keeping Up-to-Date with Live Bookmarks	61	
Pop-up Manager	62	
Multimedia Plug-ins	62	

Project 5: Installing Firefox Extensions	65
5-1: Downloading and Installing the ScribeFire Extension	66
5-2: Setting Up the ScribeFire Extension	67
Email with Thunderbird	67
The Messaging Menu	69
Chatting with Your Friends via Empathy	70
Starting a Chat	70
Telling People When You Don't Want to Chat	72
Microblogging—Twitter and Friends	72
Other Internet Applications	76

6 ROUNDING OUT THE BIRD Downloading, Installing, and Updating Programs the Easy Way **77**

Project 6A: Installing Applications via the Ubuntu Software Center	78
6A-1: Selecting Applications for Installation	80
6A-2: Searching for Applications	81
6A-3: Uninstalling Applications	82
6A-4: Commercial vs. Free Software	83
Performing System Updates via Update Manager	84
How Often Should You Install Updates?	85
If an Update Ruins Your Day . . . or System	86
Adding Extra Software Repositories	88
APT-URL: Installing from Websites	90
Project 6B: Installing Software from a PPA—Turtle Arena	90
Project 6C: Installing DEB Packages Not Available via the Ubuntu Repositories— Google Earth	92

7 A TIDY NEST File and Disc Handling in Ubuntu **95**

Find It Fast—Searching for Files with the Dash	96
Recent Files and Downloads	96
Finding More Elusive Files	96
A Closer Look at Lenses and Filters	97
Nautilus: The Fully Featured File Manager	99
The Sidebar	100
Now You See It; Now You Don't	101
File Handling in Nautilus	101
Creating, Naming, and Renaming Folders	101
Moving Files and Folders	102
Copying Files and Folders	102
Navigating in Nautilus	102
Browsing with Breadcrumbs in Nautilus	102
Spelling It Out—Typing File Paths in Nautilus	103
Bookmarks Within Nautilus	104

Understanding the Linux Filesystem	104
What's in All Those Other Folders?	105
Using Nautilus as a Network Browser	106
Using Nautilus as an FTP Client	107
File and Folder Permissions Within Nautilus	108
Changing File and Folder Permissions in Nautilus	108
Keeping Your Home Folder Private	109
Reading Data CDs and DVDs	110
Burning Data CDs and DVDs	111
Dealing with CD-RWs	112
Burning ISO Images to Disc	113
Creating Your Own ISO Images	113
Burning Multisession CDs	114
Burning Subsequent Sessions	115
Duplicating CDs and DVDs	115
USB Storage Devices	116
Working with Bluetooth Devices	117
Pairing Devices	117
Sending Files by Bluetooth	118
Receiving Files by Bluetooth	119
Backing Up Your Files	120
Recovering from a Backup	122
Removing Unwanted Files	122
Project 7: Creating and Extracting Compressed Files	123

8 SIMPLE KITTEN WAYS Getting to Know the Linux Terminal and Command Line . . . and the Cool Things It Can Do **125**

Meet the Terminal	126
Some Goofy yet Useful Fun with the Command Terminal	128
Nontoxic Commands	128
\$ whoami	128
\$ pwd	129
\$ df	129
\$ ls	130
\$ calendar	130
\$ exit	130
Commands with Some Teeth	130
\$ mkdir	130
\$ mv	131
\$ cd	131
\$ cp	132
\$ rm	132
\$ rmdir	132
\$ chmod	133
\$ sudo	135
\$ locate	135
\$ apt-get	136
\$ finger	137

A Couple of Other Commands You'll Be Using Soon	139
\$ ln	139
\$ tar	139
Project 8A: Creating a Plan	141
Project 8B: More Command Practice with pyWings	142
8B-1: Getting Ready for pyWings (Installing Tkinter)	143
8B-2: Getting pyWings	144
8B-3: Creating a LocalApps Folder for pyWings	144
8B-4: Extracting the pyWings Tarball	144
8B-5: Moving the pyWings Folder to Your LocalApps Folder	145
8B-6: Running pyWings	145
8B-7: Creating a Launchable Link for pyWings	145
8B-8: Running pyWings Again	147
Project 8C: Command Practice Review with Briscola	147
8C-1: Getting Briscola	148
8C-2: Extracting the Briscola Tarball and Renaming the Briscola Folder	148
8C-3: Preparing the Briscola Script	148
8C-4: Moving the Briscola Folder to a Global Location	149
8C-5: Creating a Launchable Link for Briscola	150
Can You Do the Same Thing with pyWings?	150
Playing Briscola	150
Project 8D: Compiling and Installing Programs from Source—Xmahjongg	151
What Is Source?	151
The Basics	152
8D-1: Installing the Tools You Need	152
8D-2: Downloading and Extracting the Xmahjongg File	152
8D-3: Running configure and make for Xmahjongg	154
8D-4: Installing and Running Xmahjongg	155
8D-5: Cleaning Up and/or Uninstalling Xmahjongg	155
Customizing the Terminal	156
Tabbed Shell Sessions in the Terminal	157

9		
DRESSING UP THE BIRD		
Customizing the Look and Feel of Your System	159	
Project 9A: Creating a New User Account	160	
9A-1: Creating the Account	160	
9A-2: Logging In to Your New Account	161	
Customizing: The Basics	162	
Changing the Desktop Background	162	
Changing Themes	164	
Changing Your Launcher Icon Size (Unity 3D Only)	164	
Autohiding the Launcher	164	
Stretching Desktop Icons	164	
Taking Screenshots	166	
Customizing Your Desktop Environment: The Next Level	167	
Customizations with MyUnity	167	
Customizing Visual Effects with CompizConfig Settings Manager	172	

Project 9B: Customizing Your Desktop Environment—There's No Place Like GNOME	175
9B-1: Installing the GNOME Desktop Environments	176
9B-2: Switching to the GNOME Desktop Environments and Back Again	176
Project 9C: Switching from Unity to Cinnamon	177

10 **GUTENBIRD** **Setting Up and Using Your Printer and Scanner** **179**

Printers	180
Confirming That Your Printer Is Supported	180
Getting Ubuntu to Automatically Recognize and Set Up Your Printer	180
Manually Configuring Printers	182
Setting Up Wireless-Enabled Printers	183
Setting Up Printers Connected over a Network	184
For the Driverless Among You	185
Printing Details	186
Project 10: Installing TrueType Fonts	190
10-1: Getting the Font Files	190
10-2: Installing Fonts Locally	191
10-3: Installing TrueType Fonts Globally	192
Scanners	193
Scanning, No Questions Asked, with Simple Scan	193
Not-So-Simple Scanning with XSane	194
Unrecognized Scanners	196
Why Are My Scanned Images So Big?	196
Which Resolution Should I Use When Scanning?	197

11 **POLYGLOT PENGUINS** **Linux Speaks Your Language** **199**

ReadOnly Language Support	200
Typing Nonstandard Characters	201
Using the Compose Key Option	201
Adding Keyboard Layouts	203
Chinese, Japanese, and Korean Input	205
Chinese	205
Japanese	205
Korean	206
Project 11: Setting Up Asian-Language Support	207
11-1: Installing IBus Input Methods	207
11-2: Selecting Input Method Modules	207
11-3: Typing Asian Languages with IBus	208
Setting Up IBus to Automatically Start Up When You Log In	209
Viewing Your System in Another Language	210

12		
PENGUINS AT WORK		
Getting Down to Business in Linux	213	
Where the Apps Are	214	
LibreOffice	214	
LibreOffice Applications	214	
Microsoft Office and LibreOffice File Compatibility	217	
LibreOffice Features	218	
Getting to Know the Buttons	218	
Word Processing Done Lightly with AbiWord	222	
FocusWriter	222	
Some Other Cool Productivity Apps	223	
Dlume	223	
gLabels	224	
Tomboy	224	
FreeMind	226	
Scribus	227	
13		
RIGHT-BRAIN PENGUINS		
Linux Does Art	229	
Where the Apps Are	229	
Project 13A: Importing Images from Digital Cameras	230	
13A-1: Importing Images from Camera to Computer		
Somewhat Automatically via Shotwell	230	
13A-2: Transferring Images from Camera to Computer		
via the File Manager	231	
Project 13B: Working with Digital Images in Shotwell	232	
13B-1: Publishing Images to Online Albums and Galleries	233	
13B-2: Sending Images by Email via Shotwell	235	
13B-3: Organizing Your Photo Collections with Tags	236	
A Few Other Graphics Apps to Consider	237	
RawTherapee	237	
Getting Arty with the GIMP	238	
Phatch Photo Batch Processor	240	
MyPaint	242	
Inkscape	242	
gThumb Image Viewer	243	
Blender	244	
14		
TUX ROCKS		
Music à la Linux	245	
Where the Apps Are	246	
Audio File Formats	246	
Installing MP3 Support for Audio Apps	247	

Rhythmbox—Ubuntu’s Default Audio Player	248
Adding Songs and Albums to the Rhythmbox Library	248
Ripping Audio CDs with Rhythmbox	249
Browsing the Rhythmbox Library	250
Creating Playlists in Rhythmbox	250
Ubuntu One Music Store via Rhythmbox	251
Other Cool Features in Rhythmbox	252
Project 14: Listening to Streaming Media with Rhythmbox	253
14-1: Adding Radio Streams to Rhythmbox	253
14-2: Changing a Stream’s Title and Information in Rhythmbox	253
Creating Audio CDs	254
Burning Audio CDs with Rhythmbox	254
Burning Audio CDs Directly with Brasero	254
Other Cool Audio Apps	255
Alternative Players	255
Streaming Music with Streamtuner2	255
Ex Falso and EasyTAG	257
Apps for Music Makers	257
Audacity	257
Ardour and LMMS	258
MuseScore	258
Amping It Up with PLUG	259
Hydrogen & Mixx	260

15 **PLUGGIN’ IN THE PENGUIN** **Working with Your iPod, iPhone, and** **Other Digital Media Devices** **263**

Knowing Your Limits	264
Mounting and Ejecting Your iPod, iPhone, or iPad	264
(Not) Auto-updating Your iPod or iPhone	265
Working with Android-Based Devices	266
What About Kindles, NOOKs, and Android 3.0+ “Honeycomb”-Based Devices?	267
Working with Other Digital Media Players and Cell Phones	268
Managing Your Audio Device’s Audio Files with Rhythmbox	269
Copying Songs from Your Audio Device to Your Hard Disk	270
Ejecting Your iPod or Other Digital Device from Within Rhythmbox	271
Problems Writing to Your iPod	271
Working with Photos on Your Digital Device	271
Converting Audio File Formats	272
Playing Locked AAC (M4P) Files	274
Linux on Your iPod, iPad, or Android Device?	274

16 **COUCH PENGUINS** **Video and DVD Playback in Ubuntu** **275**

Where the Apps Are	275
DVDs	276

Project 16: Installing Support for Encrypted DVDs	276
Can I Play Foreign DVDs?	276
Watching Video Files with Movie Player	277
Using Movie Player to Play DVDs, VCDs, and Other Multimedia Files	278
Movie Player as an Audio Player?	278
A Couple of Other Cool Movie Player Features	279
An Alternative (and Arguably Better) Video Player: VLC	280
Transferring Movies from Your Digital Camera to Computer	281
Transferring Video Files from a Camera with a Storage Card	281
Transferring Video Files from a Cell Phone or Another Mobile Device	281
Capturing Digital Video from Cameras with Tape Storage	282
Editing Digital Video with PiTiVi	285
Other Video Apps	286

17 FEATHERED FLIPPERS **Linux Gaming** **289**

Where the Apps Are	290
Project 17A: Expanding Your Game Collection via the Ubuntu Software Center	290
17A-1: Installing Classic GNOME Games	290
17A-2: Installing Some Linux Classics: Frozen Bubble, Tux Racer, and Pingus	291
3D Games	293
Checking for Hardware Acceleration	293
Shooting Games	294
Strategy Games	296
Simulators	297
Beyond the Ubuntu Software Center	300
Commercial Games	300
Project 17B: Installing a Java-Based Game: Schnapsen	302
17B-1: Installing the Java Runtime Environment	303
17B-2: Getting and Extracting Schnapsen	303
17B-3: Running and Anglicizing Schnapsen	304
Online Gaming	305
Searching for More Games	305

18 SWEET HOME ANTARCTICA **Linux Around the House** **309**

Where the Apps Are	309
HomeBank	310
Project 18A: Installing a Recipe Lens	310
Personal Health	311
Fun (but Educational) Stuff	313
Kids' Stuff	315
Project 18B: Installing Parental Controls	317
Other Home-Related Applications	319

19		
PENGUINS AT THE GATES		
Working with Ubuntu in a Windows World	321	
Project 19A: Accessing Files on Your Windows Partition (for Dual-Booters)	322	
19A-1: Mounting Your Windows Partition	322	
19A-2: Unmounting Your Windows Partition	323	
Accessing a Linux Partition While Running Windows	324	
Project 19B: Installing Microsoft Windows Core Fonts	325	
Dual-Booting: Changing the Boot Order and Timeout	326	
Linux Equivalents to Your Windows Applications	328	
Project 19C: Running Windows Programs	329	
19C-1: Installing and Testing Wine	329	
19C-2: Installing a Windows Application in Wine	330	
19C-3: Getting Windows Apps to Work in Wine with PlayOnLinux	331	
Installing Windows Inside Ubuntu	333	
Sharing Files with Windows Users on Your Network	336	
Accessing Files Stored on a Windows Computer	336	
Making Your Files Accessible from a Windows Computer	337	
20		
DEFENDING THE NEST		
Security	339	
Does My System Need Protection?	340	
The First Line of Defense	340	
Software Firewalls	341	
Taking Control of Firestarter	343	
Confirming That Firestarter Runs Automatically	344	
Finding Out More	344	
ClamAV: Antivirus Software, Linux Style	344	
Project 20A: Encrypting Your Files	345	
20A-1: Creating an Encrypted File Folder	346	
20A-2: Recovering Encrypted Files If Something Goes Wrong	347	
Project 20B: Shredding Documents Digitally	348	
20B-1: Trying the shred Command	348	
20B-2: A Graphical Equivalent to the shred Command	349	
21		
A COLONY OF PENGUINS		
The Ubuntu Community	351	
Take Me to Your SABDFL	352	
Launchpad: Your Passport to the Ubuntu Community	353	
Bugs, Bugs, Glorious Bugs	354	
What Counts as a Bug?	354	
Reporting a Bug	355	
Has It Already Been Reported?	357	
A New Bug	358	

What Happens Now?	358
When Will My Bug Be Fixed?	359
Faster Fixes	360
The Ubuntu Forums	361
Replies to a Post	362
Creating Your Own Thread	362
What's All This Bean Business?	363
Ask Ubuntu	363
Chatting on IRC	364
Registering Your Nickname	365
IRC Etiquette	367
More Help with IRC	367
An IRC Alternative: Mailing Lists	368
Keeping Up with the News	368
LoCos and LUGs	368
Stickers and Other Goodies	369
Getting Involved	370
Ubuntu Accomplishments	370

22		
WOUNDED WINGS		
Fixing Common Problems		373
I Can't Get Ubuntu Installed	374	
My Computer Won't Boot from the CD	374	
I Can't Get the Installer to Run	375	
The Installer Stops Partway Through	377	
Something Goes Wrong Before Ubuntu Finishes Booting	377	
I Get a GRUB Error	378	
I Get a Kernel Panic or the Computer Freezes	378	
Windows Won't Boot	381	
Sound and Video Problems	382	
Ubuntu Doesn't Play Any Sounds	383	
My Microphone Doesn't Work	384	
I Can't Play an Audio or Video File	385	
Internet and Network Connection Problems	386	
Finding the Cause of a Connection Problem	386	
Installing Drivers for Your Network/Wireless Card	388	
Checking for Restricted Drivers	388	
No Wireless Networks Are Found	390	
Other Users on My Computer Can't Connect	391	
Problems with the Display and Graphics Cards	392	
Games/Unity Don't Work: Installing Accelerated Graphics Drivers	392	
The Screen Looks Stretched or the Wrong Size	393	
The Screen Is Blank	394	
Hard Disks and Storage Problems	394	
My Disk Is Almost Full	395	
My Disk Is Completely Full	395	
I Can't Delete a File	396	

Software Installation Problems	396
I Get an Error About Unauthenticated Packages	397
I Get a dpkg Error	397
I Have a Broken Update	398
A Software Repository/PPA That I Added Doesn't Show Up in the Software Center	398
Common Problems with Applications	399
Firefox Says It's Already Running	399
A Program Always Crashes	399
A Program Won't Start	399
My Computer Is Running Slowly	400
Lost Files	401
Where Can I Go to Get More Help?	402

A

INSTALLING UBUNTU FROM A USB FLASH DRIVE 403

Preparing the Installer Files	404
Creating a Bootable Installer Disk	404
Booting from the USB Disk	405

B

UBUNTU DESKTOP 64-BIT DISCS 407

Downloading and Burning Ubuntu Desktop CD ISOs to Disc	407
Burning the ISO to Disc in Windows	408
Burning the ISO to Disc in OS X	408
Ordering an Install Disc from Other Online Sources	409

C

MANUALLY PARTITIONING YOUR HARD DISK 411

Creating and Deleting Partitions	412
Editing Existing Partitions	414
Varieties of Partitions	414
Root Partition	415
Swap Partition	415
Home Partition	415
Windows Partition	415
Shared Partition	416
Example Partition Layouts	416
Standard Ubuntu-Only Installation	416
Ubuntu-Only with a Separate Home Partition	416
Ubuntu and Windows with a Shared Partition	417
Finishing Up	418

D
RESOURCES **419**

Forums	419
Linux References	420
Blogs	421
Hardware Compatibility Issues	421
Wireless Connections	422
Free Downloads	422
Applications and Other Packages	422
Free Fonts	422
News and Information	422
Magazines	423
Books	423
Ubuntu CDs	424

INDEX **425**

