

DVD

PRENTICE
HALL



The Official



ubuntu
Book

Fourth Edition

Benjamin Mako Hill

Matthew Helmke • Corey Burger

Foreword by **Mark Shuttleworth**, founder of Ubuntu

Many of the designations used by manufacturers and sellers to distinguish their products are claimed as trademarks. Where those designations appear in this book, and the publisher was aware of a trademark claim, the designations have been printed with initial capital letters or in all capitals.

The authors and publisher have taken care in the preparation of this book, but make no expressed or implied warranty of any kind and assume no responsibility for errors or omissions. No liability is assumed for incidental or consequential damages in connection with or arising out of the use of the information or programs contained herein.

The publisher offers excellent discounts on this book when ordered in quantity for bulk purchases or special sales, which may include electronic versions and/or custom covers and content particular to your business, training goals, marketing focus, and branding interests. For more information, please contact:

U.S. Corporate and Government Sales
(800) 382-3419
corpsales@pearsontechgroup.com

For sales outside the United States please contact:

International Sales
international@pearson.com

Visit us on the Web: informit.com/ph

Library of Congress Cataloging-in-Publication Data

Hill, Benjamin Mako, 1980—

The official Ubuntu book / Benjamin Mako Hill, Matthew Helmke, Corey Burger. — 4th ed.
p. cm.

Includes index.

ISBN 0-13-702120-8 (pbk. : alk. paper)

I. Ubuntu (Electronic resource) 2. Operating systems (Computers) I. Helmke, Matthew.

II. Burger, Corey. III. Title.

QA76.76.O63O34348 2009

005.4'32—dc22

2009020517

Copyright © 2009 Canonical, Ltd.

This book is published under the Creative Commons Attribution-ShareAlike 3.0 license,
<http://creativecommons.org/licenses/by-sa/3.0/>.

Printed in the United States of America. This publication is protected by copyright, and permission must be obtained from the publisher prior to any prohibited reproduction, storage in a retrieval system, or transmission in any form or by any means, electronic, mechanical, photocopying, recording, or likewise unless permitted under the Creative Commons Attribution-ShareAlike license 3.0. For information regarding permissions, write to:

Pearson Education, Inc.
Rights and Contracts Department
501 Boylston Street, Suite 900
Boston, MA 02116
Fax: (617) 671-3447

ISBN-13: 978-0-13-702120-8

ISBN-10: 0-13-702120-8

Text printed in the United States on recycled paper at Courier in Stoughton, Massachusetts.

First printing, June 2009

Foreword to the First Edition

IT'S A SMALL CELEBRATION for me to write this foreword—almost exactly two years after the first meeting of a small group of free software professionals that turned into the Ubuntu project. A celebration because two years ago none of us would have predicted that our dream would spawn several million CDs, three or four million enthusiastic users, hundreds of commitments of support from companies large and small, a minor prime time television reference, and now *The Official Ubuntu Book*.

The dream that brought us together can be simply expressed:

To build a world-class operating system for ordinary desktop computer users, that is genuinely free and freely available, that is immediately useful, and that represents the very best that the free software world can achieve today.

In setting out to build a platform for “ordinary desktop computer users,” I had no idea that I would have the privilege of meeting and working with so many *extraordinary* desktop computer users. Some of those extraordinary individuals are the authors of this book, people who both understand the importance of the free software movement and have the talent to have been real contributors to its success. Others make up the backbone of the Ubuntu community—the small but dedicated army of a few hundred people that works to produce a new release of Ubuntu every six months. They are at the heart of a network that reaches out through the global free software community—through the world of Debian, an extraordinary project in its own right and without which Ubuntu could not exist, and on out to the thousands of projects, large and small, that produce the code and documentation that we pull together and call *Ubuntu*.

While this huge extended community can often appear to be fractured and divided along infinitesimal ideological lines, we are all broadly in agreement about four key ideas, and it is those ideas that are central to the Ubuntu promise:

- That our software should not come with a license fee. That we should be able to share our software, modify it, and then share our modifications, too.
- That this free software should be the best version available, including regular security updates, and not a tease for a better, commercial product.
- That full-scale, high-quality commercial support from local and global companies should be available for this free platform.
- That this software should be usable in as many languages as possible and usable by as many people as possible regardless of disability.

The 17 of us who met in London two years ago come from a very wide variety of countries and backgrounds, but we all agreed that the goal of producing a platform that could live up to that promise was a worthy one, one that we would devote ourselves to wholeheartedly.

For several months we worked quietly. We wanted to come to the world not only with a manifesto but also with a clear demonstration of work done toward our goals, something that people could test and comment on. We had no name (though industry insiders called us the “Super-Secret Debian Startup”), and, as a result, we hosted most of our work at www.no-name-yet.com. We were looking for a name that could express the beauty of the free software community development process—collaboration, interdependence, sharing, standing gently on the shoulders of giants, and reaching for lofty goals. The only word that comes close to that, of which I’m aware, is the African word *ubuntu*. It is found in many forms in many different African languages. And so we adopted it as the name of our project.

We knew that our first release would have blemishes—warts—and gave it the codename “The Warty Warthog.” We called ourselves “the warthogs” and coordinated our work on the #warthogs IRC channel. Today, for better or worse, that’s turned into a tradition of codenames such as “Breezy

Badger” and “Dapper Drake.” As lighthearted as they sound, these code-names come to embody the spirit of our community as it works toward a particular release. This next one—Dapper—is exactly that: a man emerging from youth, professional, bold, confident, and energetic. This is our first release that is designed to meet the needs of large organizations as much as developers and engineers. In the same way, the Ubuntu community has moved from being something of a rebellion against the “Linux establishment” to a strong and professionally organized group.

What Makes Ubuntu So Popular?

First, this is the time for free software to come to the forefront, and Ubuntu is very much the beneficiary of the vast amount of work that has gone into building up a huge body of work in the GNU/Linux world. That work has been underway for nearly 30 years, in one form or another, but Ubuntu is one way in which it is suddenly becoming “visible” to the non-specialist computer user. We are in the middle of a great overturning of the industry status quo. The last time that happened, in the mid-1990s, was when the world suddenly found itself connected to itself—by the Internet. Every major company, especially those in the field of technology, had to examine itself and ask the question, “How do we adapt to an Internet world?” Today, every major technology company has to ask itself the question, “How do we adapt to a free software world?”

I would speculate and say that Ubuntu represents an idea whose time has come. We did not invent the free software movement—that honor goes to Richard Stallman and many others who had a vision far more profound at a time when it was hard to see how it could ever become reality. But Ubuntu has perhaps the honor of bringing that vision to a very wide audience in a form that we can all appreciate. I hope that the real visionaries—those who have led the way—will appreciate the decisions and the choices we make in bringing you this project. Some will take exception—I know Linus prefers KDE to GNOME, for example, so he’s likely to be more of a fan of Kubuntu than Ubuntu. But in general, the ideas that others have had, the principles of the free software movement, are well expressed in Ubuntu.

Second, Ubuntu is a project on which you can have a real impact. It has the benefit of deep and reliable financial backing and a corporate team to give

it muscle, but it is in every regard an open project, with participation at the highest levels by true volunteers. We work in a fishbowl—our meetings take place online, in a public forum. That can be tricky. Building an operating system is a fast-paced business full of compromise and tough decisions in the face of little information. There are disagreements and dirty laundry, and mistakes are made. (I should know; some of them are mine. You should hear the one about the Warty Warthog desktop artwork.) The transparency of our environment, however, means that we can count on having robust conversations about our options—all of them, even the ones the core team would never have dreamed up. It also means that mistakes are identified, discussed, and ultimately addressed faster than they would be if we lived and worked behind closed doors. You get a better platform as a result.

We work hard as a community to recognize the contributions of all sorts of individuals—advocates, artists, Web forum moderators, channel operators, community event organizers, writers, translators, people who file and triage bugs . . . whatever your particular interest or talent, we will find a way to integrate your contribution.

Perhaps most important is the way our approach to community differentiates Ubuntu from other free software projects with similar vision. We try to do all of this in a way that recognizes that disagreements are important but prevents those disagreements from creating deep divides in our community. Our code of conduct may not be perfect, but it reminds each of us to remember the meaning of the word *ubuntu*—that each of us has our best impact *through* the relationships we maintain with one another. Finding common ground and maintaining healthy communication are more important for us as a community in the long run than a particular technical decision or the specific choice of words with which to translate “File” into Spanish. Our community governance structures—our Technical Board and Community Council—exist to ensure that debates don’t become personal and that decisions can be taken after all sides have been heard.

If you are a software professional or curious about Linux, this book and this platform are an excellent choice. You will learn about the world of Ubuntu and, indirectly, Debian and GNU/Linux. These are great foundations for working with the tools that I believe will come to define the “standard,” the everyday computing base upon which we build our homes and offices.

I once heard a proprietary software vendor say, “Linux is more expensive because skilled Linux professionals are more costly.” This is true. It means, of course, that Linux skills are more valuable! It won’t be true forever because the world of Linux is expanding so rapidly that sooner or later we will have to accept a position in the mainstream, and that takes off some of the “geek points” associated with being part of the “future of technology.” But right now, without a doubt, being ahead of the curve on Linux and on Ubuntu is the right place to be. If you’re this far into this foreword, you are clearly going to make it. ;-)

It’s difficult for me to speculate on what the future might hold for the Ubuntu project. I know that I along with many others are loving the opportunity to be at the center of such an exciting initiative and are committed to seeing where it leads us over the coming years. I believe that it will become a pervasive part of our everyday computing environment, so I would like to help make sure that we don’t make too many mistakes along the way! Please, come and join us in the fishbowl to help ensure we do a very, very good job.

—Mark Shuttleworth
Ubuntu Founder
April 2006

Preface

AS WE WRITE THIS, it is several years since we penned the first edition of *The Official Ubuntu Book* and a year since the third. The last year has seen Ubuntu continue its explosive growth. Updating this book drives this fact home in striking ways. For example, the number of users and posts in the Ubuntu Forums has nearly doubled since the last edition of this book a year ago. Again. The number of officially supported flavors of Ubuntu have been added to. Again. Once again, we feel blessed that *The Official Ubuntu Book* has been able to benefit from, and perhaps in a small way even *contribute* to, that success. Ultimately, that success paved the way for the second, third, and now the fourth edition of the book that you're reading now.

In the process, this book, like Ubuntu, is beginning to mature. Like Ubuntu, we have now put together our piece a few times and are beginning to get more comfortable. Our job as authors, like that of the Ubuntu developers, now involves more updating and polishing than it used to. Distributed under a free license, a once-risky book on a once-risky operating system is, just a few short years later, as close to a sure thing as an author, publisher, and if we have done our job well, a reader, could hope for.

And yet with success comes responsibility to our readers and to our users with high expectations. Ubuntu's success is built in part of maturity and excellence, and it cannot sacrifice these qualities if it will succeed. We cannot either. Our job as writers is complicated because we need to accurately reflect and represent both while catering to an increasing and increasingly diverse group of users.

As we've noted in the prefaces to previous editions of this book, being *Official* has carried with it a set of rights and responsibilities. Our book's title means that we must attempt to reflect and represent the whole

Ubuntu community. While we, as authors, are expected to put ourselves into the book, it is understood that it can never be to the detriment of the values, principles, technologies, or structures of the Ubuntu community.

Doing this has been complicated as Ubuntu has grown. In each edition, we have added a new chapter, because the Ubuntu community has grown to include new projects. In each revision of this book, we have needed to add to the list of related projects, tools, and community initiatives. As the Ubuntu community grows, it is impossible to give a complete accounting of what Ubuntu has to offer. Creating a summary requires some hard decisions. At the end of the day, we are constrained by page count and our own limited schedules.

Meanwhile, as with earlier editions, we needed to write this book about a new release of Ubuntu while that version was under active development and was being redesigned, rethought, and rebuilt. Every day, Ubuntu grows in different, unpredictable ways, and this growth has increased exponentially with the size of the community and the diversity of the userbase. Our book's development process had to both match and track this process as our content was crafted, rewritten, adjusted, and allowed to mature itself.

As in the previous edition, the contributors to this book go well beyond those listed on the book's cover. As in the first three editions, the recipes included in Chapter 6 have been elicited from and designed in consultation with the community. But while the community contributions are sometimes less visible in other chapters, they are no less present. Invisible to most readers, dozens of members of the community left their mark on different parts of the text of this book. Although this degree of participation led to a writing process that was as hectic, and at times frustrating, as the process that builds Ubuntu, we hope we can remind readers of the level of quality that this process inspires in our book's subject. In the places where we achieve this, we have earned our book's title. With that goal in mind, we look forward to future versions of Ubuntu and editions of this book wrought through the same community-driven process.

Introduction

WELCOME to *The Official Ubuntu Book, Fourth Edition!*

In recent years, the Ubuntu operating system has taken the open source and IT world by storm. From out of nowhere, the Little Operating System That Could has blossomed into a full-featured desktop and server offering that has won over the hearts of users everywhere. Aside from the strong technical platform and impressive commitment to quality, Ubuntu also enjoys success because of its sprawling community of enthusiastic users who have helped to support, document, and test every millimeter of the Ubuntu landscape.

In your hands you are holding the official, authorized guide to this impressive operating system. Each of the authors selected to work on this book has demonstrated a high level of technical competence, an unbridled commitment to Ubuntu, and the ability to share this knowledge in a simple and clear manner. These authors gathered together to create a book that offers a solid grounding to Ubuntu and explains how the many facets and features of Ubuntu work.

About This Book

At the start of every book, on every bookshelf, in every shop, is a paragraph that sums up the intentions and aims for the book. We have one very simple, down-to-earth aim: to make the Ubuntu experience even more pleasant for users. The Ubuntu developers and community have gone to great lengths to produce an easy-to-use, functional, and flexible operating system for doing, browsing, and creating all kinds of interesting things. This book augments that effort. With such an integrated and flexible operating system, this guide acts as a tour de force for the many things you can do with Ubuntu.

The Scope of the Book

With so much to cover, we had our work cut out to write a book that could cover the system in sufficient detail. However, if we were to write in depth about every possible feature in Ubuntu, you would need to buy a new bookcase to store the sheer amount of content.

Part of the challenge in creating *The Official Ubuntu Book* was selecting the topics and content that can be covered within a reasonably sized book. We have identified the most essential content and written only about it. These chosen topics not only include installation, use of the desktop, applications, multimedia, system administration, and software management, but also include a discussion of the community, online resources, and the philosophy behind Ubuntu and open source software. As a bonus, we decided to squeeze in a chapter full of useful troubleshooting recipes that you can use when you need to troubleshoot problems, and we expanded our discussion of projects related to Ubuntu that will be of interest to you. We believe this book provides an ideal one-stop shop for getting started with Ubuntu.

The Menu

Here is a short introduction to each chapter and what it covers.

- Chapter 1—Introducing Ubuntu: This spirited introduction describes the Ubuntu project, its distribution, its development processes, and some of the history that made it all possible.
- Chapter 2—Installing Ubuntu: We walk through the installation process one step at a time to clearly describe how anyone interested may begin using Ubuntu on their own computer.
- Chapter 3—Using Ubuntu on the Desktop: This is an informative and enjoyable introductory tour of the Ubuntu desktop, the applications included, and ways to configure and customize your desktop.
- Chapter 4—Advanced Usage and Managing Ubuntu: We explore some of the advanced ways to use Ubuntu, including managing the system. These features are not vital if you want to use the computer only as a simple tool, but once you learn how to install and manage software, use hardware devices and printers, interact with remote computers, use the terminal, and run some Windows programs under

Ubuntu, you will find your overall experience even more rewarding and enjoyable.

- Chapter 5—The Ubuntu Server: This introduction to Ubuntu Server installation and administration includes coverage of command-line package management, basic security topics, and advanced installer features like logical volume management and RAID.
- Chapter 6—Support and Typical Problems: Packed to the seams with lots of small, independent recipes, this chapter teaches you how to solve problems or meet unique requirements in your setup.
- Chapter 7—The Ubuntu Community: The Ubuntu community is larger and more active than many people realize. We discuss many of its facets, including what people like you do to build, promote, distribute, support, document, translate, and advocate Ubuntu—and we tell you how you can join in the fun.
- Chapter 8—Using Kubuntu: The most popular spin-off project from Ubuntu is Kubuntu. This chapter provides a solid introduction and primer for getting started.
- Chapter 9—Using Edubuntu: We offer in-depth coverage of the Edubuntu project and community, an Ubuntu derivative designed for educators and the schools in which they work.
- Chapter 10—Ubuntu-Related Projects: There are a number of Linux distributions based on Ubuntu that you will find interesting and possibly useful. We discuss some of these as well as projects that are integral to the creation of Ubuntu, such as Launchpad and Bazaar.
- Chapter 11—Introducing the Ubuntu Forums: For hundreds of thousands of people, the Ubuntu Forums have provided the first glimpse of and interaction with the greater Ubuntu community. Especially for new users, this has become the most important venue for support. We explore the forums and the people, history, and processes that have built them.
- Appendix A—Welcome to the Command Line: You can begin to take advantage of the power and efficiency of the command line with the clear, easy-to-use examples in our brief introduction.
- Appendix B—Ubuntu Equivalents to Windows Programs.

The Ubuntu team offers several installation options for Ubuntu users, including CDs for desktop, alternate install, and server install. These three CD images are conveniently combined onto one DVD included in the back of this book, allowing you to install Ubuntu for different configurations from just one disk. There is also an option to test the DVD for defects as well as a memory test option to check your computer.

The first boot option on the DVD, Start or Install Ubuntu, will cover most users' needs. For more comprehensive information, check the Help feature by selecting F1 on the boot menu. You can also refer to Chapter 2, which covers the Ubuntu installation process in detail.

You can find the DVD image, the individual CD images (for those who don't have a DVD drive), and Kubuntu and Edubuntu images on www.ubuntu.com/download.

Using Ubuntu on the Desktop

- **Taking Your Desktop for a Ride**
- **Using Your Applications**
- **The Ubuntu File Chooser and Bookmarks**
- **Ubuntu in Your Language**
- **Customizing Ubuntu's Look and Feel**
- **Managing Your Files**
- **Ubuntu and Multimedia**
- **Summary**



WITH UBUNTU INSTALLED and ready to go, it's time to get started using your new desktop. The stock install of Ubuntu provides a very complete and flexible system. Unlike other operating systems, such as Microsoft Windows or Mac OS X, Ubuntu includes everything you need to get started, such as an office suite, media tools, a Web browser, a graphics package, an e-mail client, and more. Once the installation is complete, you are up and running right away without having to install any additional software. Different people use their computers in different ways, and every user has her own personal preference for look and feel. Recognizing this desire, Linux has the capability to use any one of a number of different graphical interfaces. This flexibility, combined with the ballooning popularity of Linux and open source, has resulted in literally hundreds of different graphical environments springing up, each covering these different types of users and ways of working.

Even though there is a huge range of different environments available, there are two clear leaders in KDE and GNOME. Each environment provides a good-looking, comprehensive, and easy-to-use desktop, but they differ in how that desktop is used as well as in how further personalization can take place. The KDE system is in many ways more akin to Windows but aims for complete configurability of the desktop. If an option exists, the user has easy access to it and can change the behavior and look of almost everything. The competing GNOME desktop takes inspiration from both Windows and Mac OS X and sets a priority on simplicity and ease of use. GNOME is still easy to customize, but the less common options are either eliminated or well hidden to prevent user overload. Luckily, Ubuntu users are blessed with the choice of either desktop—the default desktop in stock Ubuntu is GNOME, and the Kubuntu distribution uses the KDE desktop. Kubuntu is covered in Chapter 8.

In this chapter, you get started with GNOME and use it to do the normal things you face every day with your computer and a few not-so-normal things. This includes opening and running applications, managing your files, adjusting the look and feel, using applications, managing your media, and more. Buckle up and get ready to take your shiny new desktop for a drive!

TIP**The Ubuntu Desktop Is GNOME**

When reading about Ubuntu, you often see the terms *Ubuntu desktop* and *GNOME* used interchangeably. Both of these terms refer to the same thing—the default Ubuntu desktop is

a version of GNOME itself. Of course, Ubuntu provides several other desktops, including KDE (in Kubuntu), Xfce (in Xubuntu), and a variety of others.

Taking Your Desktop for a Ride

When you start your Ubuntu system, you are asked for a username and password to log in with. In the last chapter you specified a user account when installing the system, so use that to log in. First type in your username and press Enter, then your password and press Enter.

TIP

Language? Sprache? Langue? Lingua?

Click the Options > Select Language button to change the language of the desktop. If you click the button and the selection does not include your language, jump to the Ubuntu in Your Language section on page 103 to learn how to add new language packs.

After a few seconds you will see the Ubuntu desktop appear (Figure 3-1). The desktop has three main areas.

1. At the top of the screen is the panel. This bar contains the desktop menu options and application shortcut icons on the left side as well as the notification area on the right side. You use this bar to load

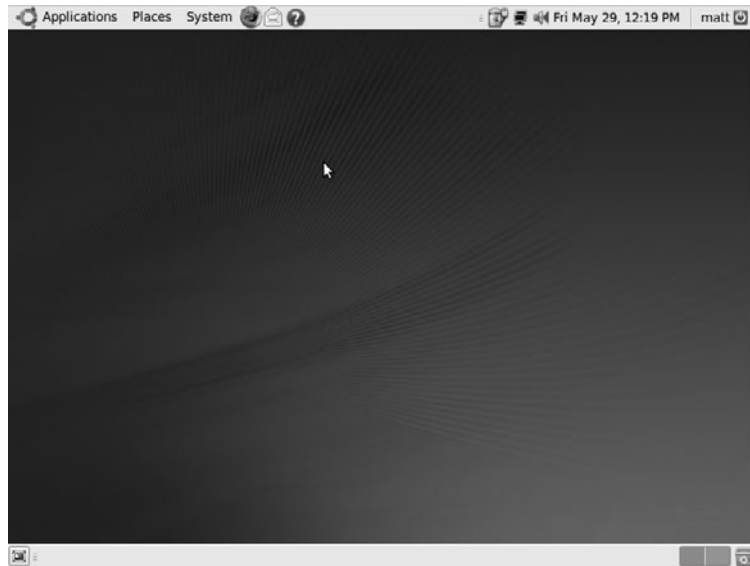


Figure 3-1 The Ubuntu desktop is simple, uncluttered, and . . . brown.

applications and to see the status of certain activities on your system. The panel is always visible when you use your desktop.

2. The large middle part of the screen is the desktop. This part of the screen is normally covered by the applications that you use, but you can also put icons and shortcuts on the desktop, too.
3. The bottom part of the screen is called the taskbar. This area displays a rectangle for each open application, just like in Windows.

You may have noticed that, unlike other operating systems, there are no icons on the desktop. The reason for this is that desktop icons typically get covered by applications, and, as such, you can't get at them. If you need to start applications, you typically use the Applications menu or the shortcuts.

TIP**Device Icons**

Although there are no application icons on the desktop, when you plug in USB devices such as portable music players, keyring drives, or digital cameras, a device icon will appear on the desktop.

Starting Applications and Finding Things

Starting applications is simple. Just click on the Applications menu on the left side of the panel. Inside this menu are a number of submenus for different types of applications. Hover your mouse over each category, and then click the application you want to load. As an example, click on Applications > Internet > Firefox Web Browser. After a few seconds the browser will pop up.

When applications are loaded, the brown window border has three buttons on the right-hand side:

- **Left button (thin white line):** This is used to minimize the application and put it in the taskbar.
- **Middle button (white square):** This maximizes the window to take up the full desktop area.
- **Right button (white cross):** This button closes the application.

Every application has an entry in the taskbar at the bottom of the screen. You can click these entries to minimize or maximize the application and right-click to see some other options.

Changing Your Menu Layout Although the main Applications, Places, and System menus are logical by default, you may want to further customize them by moving entries into different submenus, not displaying certain items, and making other tweaks. All of this is easily done with the built-in menu editor.

To edit the menus, open the option at System > Preferences > Main Menu. The menu editor will appear, as shown in Figure 3-2.

The menu editor is fairly intuitive. To adjust which items are shown, click on a submenu in the left-hand pane and change the Show checkbox for the items you want to show or hide. To add a new item, select the submenu the item should appear in, and then click the New Item button on the right-hand side. The box shown in Figure 3-3 will appear.

Menu items can be applications (the default), applications running in terminals, or files. Select the appropriate setting for the Type box for your menu item, or leave it as Application. Provide a name for your menu item in the Name box, the command to run in the Command box (or the location



Figure 3-2 The menu editor lets you easily change the Ubuntu menus.

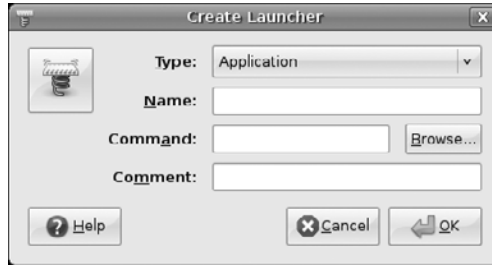


Figure 3-3 Feel free to add your own menu items.

of your file in the Location box if you changed the type to File), and a brief description in the Comment box. You can also use the Browse button to select the application to run (or the file to open). Finally, click the default icon off to the side, and select an icon for the item. Click OK to finish adding the new menu item.

Finding Your Files and Folders

When using your computer, you often need to save and open files and folders, move them around, and perform other tasks. The Places menu contains a bunch of entries, including those listed here, to access different parts of your computer and the network.

- **Home Folder:** Your home folder is used to store the files and work for each user who is logged in. This is the most important folder on the system, and you can think of it as the equivalent of My Documents in Windows—virtually everything you save lives here. Each user has a separate home folder.
- **Desktop:** The Desktop folder is inside your home folder and contains files that visually appear on your desktop as icons. If you drag a file onto your desktop, it will appear in the Desktop folder. Similarly, moving a file out of this folder or deleting it will remove it from your desktop.
- **Computer:** Clicking this item displays the different drives attached to your computer as floppy drives, CD/DVD drives, and USB keys or sticks. This is the equivalent of the My Computer icon in Windows.

- **Network:** This option accesses servers that are available on your local network. This is the equivalent of the Network Neighborhood in Windows.
- **Connect to Server:** Click this to run a wizard to create a connection to a network server. You can use this to add an icon to the desktop that, when clicked, provides a list of remote files in the desktop file manager. You can then treat this window like any other file manager window and drag files back and forth. This is really useful for copying files to other computers.
- **Search for Files:** Use this to search for files on your computer.
- **Recent Documents:** Click this submenu to display the most recently used documents.

Configuring Your System

The third and final menu, System, is used to configure and customize your system, access help, and report problems. Inside the menu are a few options, including these:

- **Preferences:** This submenu contains items for customizing the look and feel of your desktop. Each of these settings applies only to the desktop of a user who is logged in. If you log in as another user, the settings change to that user's preferences.
- **Administration:** This submenu is used to configure systemwide settings such as networking, users, printing, and more. To use these menu items, you need to know the system administrator password.
- **Help and Support:** With this you can access the Ubuntu Help Center, which provides documentation and guides for your Ubuntu desktop.

TIP **Feel the Power**

When you installed Ubuntu, you were asked for a username and password for the system. This password not only provides access to your normal user account but also accesses the all-powerful Administration features. As such, when you access the menu options and are asked for the password, just enter your normal password, and you can use those features.

This feature applies only to the first user account that you created on the system. If you add other accounts, those users cannot access the Administration options unless you explicitly give them access.

Shortcut Icons

On the panel are a number of shortcut icons next to the menus. These small icons are always visible and can be single-clicked to gain immediate access to your favorite applications. Ubuntu comes with several stock shortcuts on the panel, but you are welcome to add your own.

Adding your own icon is as simple as finding the application you want to add in the menu and then dragging it to the panel. You can then right-click the new shortcut icon and select Move to move it to the right place.

Applets

One simple yet powerful feature in Ubuntu is the ability to run small programs called *applets* on the panel. These small programs are useful for a variety of tasks and provide quick and easy access via the panel.

To add an applet, right-click the panel and select Add to Panel. The window shown in Figure 3-4 pops up. Select one of the many applets, and click Add. When the applet appears on the panel, you can press the middle mouse button (or the left and right buttons together) to move it around.



Figure 3-4 Ubuntu comes bundled with a selection of applets.

The Notification Area

In the right-hand part of the top panel is the notification area and the clock. The notification area is similar to the Windows system tray in that it provides a series of small icons that indicate something specific. A good example of this is Network Manager, which looks after your network connections—both wired and wireless—for you.

You can fiddle with the notification area items by right-clicking them to view a context menu. Some icons (such as the volume control) allow you to left-click on them to view them. As an example, try clicking the little speaker icon and adjusting the slider.

QUICK TIP

Right-click the volume icon and select Open Volume Control to access the mixer settings for your sound card. These settings configure the speakers, microphone, line-in, and any other sound card inputs or outputs.

The Clock

Next to the notification area is the clock. Click on the clock to view a calendar. Later, when you use Evolution, items that are added to your calendar appear in the clock applet too. Instead of opening up Evolution to find out when your dentist appointment is, just click on the clock to see it immediately.

QUICK TIP

Customize your clock by right-clicking it and selecting Preferences.

The Taskbar

The taskbar sits at the bottom of the screen. This small bar is always visible and indicates which applications are currently open. In addition to this, the taskbar also sneaks in a few other handy little features.

To the far left of the taskbar is the Hide/Show Desktop button. Clicking this button hides all of your open applications and shows the desktop. Clicking it again redisplayes them. This button is useful when you need to quickly access something on your desktop.

Next to this button is the applications area, which shows each of the currently open applications. For each application, an entry is added, and you can right-click it to view a context menu. This menu can also be used to minimize, maximize, resize, close, and otherwise control applications.

QUICK TIP

You can switch between multiple applications in Ubuntu just like in Windows by pressing Alt-Tab. When you press this key combination, a small window appears that can be used to switch between active applications.

To the right of the applications area are two small rectangles called the workspaces. Each of these rectangles represents another screen in which you can view an application. As an example, you may be using your Web browser and e-mail client while talking to your friends in a chat client on the first desktop and working on a document on the second desktop. You can then just click each virtual desktop to switch to it to access your different applications. Another useful tip applies when you're moving applications between virtual desktops—if you have an application on the first desktop, just right-click the brown window or the taskbar entry, select Move to Another Workspace, and pick the relevant workspace number. The menu also has Move to Workspace Left and Move to Workspace Right options. This makes moving applications between your workspaces quite simple.

QUICK TIP

Although Ubuntu has only two workspaces configured by default, you can have as many—or few—as you like. To configure them, right-click on one of the workspaces in the bottom right-hand corner of your screen, and select Preferences from the menu.

To the right of the workspaces is the trash. Files that are dragged onto this icon are destined to be deleted. To fully delete these files, right-click the trash and select Empty Trash.

TIP**Usability and the Ubuntu Desktop**

Throughout the development of the Ubuntu desktop, great care and attention have gone into usability. As an example, the four corners of the screen are established as areas that are simple to access—you don't need to carefully mouse over the area and can instead just throw your mouse to the corner. This is why each corner has an important feature. It makes accessing each feature that little bit easier.

Ubuntu is filled with tiny usability improvements such as this that help make it as intuitive and powerful as possible.

Shutting Down Your Computer and Logging Out

Now that you're becoming acquainted with Ubuntu, you'll want to keep using it as long as possible, but there will always come a time when you have no choice but to leave your computer and go do something else. As you have already seen, Ubuntu is extremely flexible, and this area is no exception. Click the icon in the top right of the screen by your username to see the various options (shown in Figure 3-5) for ending your current computing session.

There are a number of options available upon logout, however, the choices presented to you will depend on your installation (e.g., Suspend may not be available).

- **Guest Session:** This option lets you allow someone else to use your computer while keeping you logged in but your data and account secure by giving the guest a limited desktop to work with temporarily and requiring your password to return to your desktop.
- **Lock Screen:** This option locks the screen. This is useful when you need to use the bathroom or grab some lunch. It will lock the computer and ask for your password to reenable the desktop.
- **Log Out:** This option lets you log out of the current session and go back to the main login screen.
- **Suspend:** If your computer supports Suspend, this option will be included in the list, and you can click it to save the current state of your system in RAM. The next time your computer is turned on, the desktop will be resumed. This option continues to use battery power but only a minimal amount.



Figure 3-5 Who knew that shutting down had so many possibilities?

- **Hibernate:** When you click this option, the current state of the system is saved to the hard disk and can be switched off. This is like the Suspend option but slower.
- **Restart:** Click this to restart the computer.
- **Shut Down:** Click this to shut down your computer.

Using Your Applications

Now that you have become familiar with the desktop, let's explore some of the many applications included on your new system. By default, Ubuntu comes with a wide range of popular and established applications to listen to music, watch videos, create documents, browse the Web, manage your appointments, read your e-mail, create images, and much more. These applications have been vetted by the developers to ensure they are the best-of-breed Linux applications available.

Although Ubuntu includes a range of software applications, it is likely you will want to install extra applications and explore other available software. Fortunately, the Ubuntu system is built on a powerful foundation that makes software installation as simple as pointing and clicking. Click Applications > Add/Remove, and a dialog box appears that you can use to install new applications. Just browse through the different categories and check the applications to install. Click the Apply button, and the application is downloaded and installed for you.

This tool provides a simple way to access a limited core set of popular applications, but there are actually more than 20,000 packages available to your Ubuntu system. Software installation is discussed in detail in Chapter 4.

TIP**Another Way to Run Applications**

Although you will most typically start your applications by selecting them from the Applications menu, you can also press Alt-F2 to bring up a box where you can type in the name of an application and run it.

Browsing the Web with Firefox

Firefox is the default Ubuntu Web browser and provides you with a simple, safe, and powerful browsing experience. Firefox has become one of

the most successful open source projects in the world and continues to garner huge popularity. With hundreds of millions of downloads and rapidly increasing browser share, Firefox has been an unparalleled success.

Fire up Firefox by clicking its icon (the first one next to the System menu) on the panel or by selecting Applications > Internet > Firefox Web Browser. Before long, you'll be presented with the main Firefox window (Figure 3-6).

The Firefox window looks similar to most Web browsers and includes the usual back, forward, reload, and stop buttons, an address bar, and some menus. These familiar-looking elements help you become acquainted with Firefox, and if you have used Internet Explorer, Opera, Netscape, or Safari before, you are sure to pick it up in no time.

Navigating your way around the Internet is no different in Firefox than in any other browser—just type the Web address into the address bar and press Enter. Firefox also has a few nice features that make it easy to access your favorite sites. As an example, if you want to visit the Ubuntu Web site,



Figure 3-6 The Firefox interface is sleek but extensible.

you can just enter `www.ubuntu.com` (leaving off all that `http://` nonsense). Alternatively, you can just type in “Ubuntu,” and Firefox will do the equivalent of going off to Google, entering “Ubuntu” as the search term, and taking you to the first result for the search. This feature is incredibly handy for popular sites that are likely to be at the top of the search results page.

TIP

The search box next to the address bar can be used to do searches. By default, these searches are on Google. To do a Google search, just type in your search term and press Enter. You can also click the down arrow next to the “G” and select from a variety of other sites to search, including the Ubuntu software archive Web site and Wikipedia

This search box can be used to search just about anything. To add more search engines, click the small icon and then select Manage Search Engines.

Tabbed Browsing If you are anything like any of the authors behind this book, you look at a number of different Web sites each time you use the Internet. It is not uncommon to have your Webmail open as well as Wikipedia, some discussion forums like the Ubuntu Forums, news sites, blogs, and more. Before long, your desktop is littered with browser windows, and your taskbar is full to the brim.

Firefox has a nimble solution to this problem in the form of *tabbed browsing*. If you are looking at your friend’s Web site about raccoons and decide you want to check out your favorite sports player’s Web site, just click File > New Tab or press Ctrl-T and—ta-da!—a new tab is unveiled in your browser window. You can now load another page inside this tab.

The tabbed browsing fun doesn’t stop, though—oh no! When you are reading the Web and you see a link you are interested in viewing, right-click the link and select Open Link in New Tab. The page will load in the new tab, and you can continue reading the article and view the link afterward.

Bookmarking Your Favorite Sites To bookmark the page you are viewing, click Bookmarks > Bookmark This Page. In the dialog box that pops up, use the combo box to select the folder to store the bookmark in. You also have the option to add “tags” to your bookmark, which are like keywords that can be used to sort and search for your bookmarks in the future. When you have finished naming and tagging your bookmark, click Done to save the bookmark.

Save Time with Live Bookmarks Firefox also includes a special feature called *live bookmarks* that automatically grabs content from a Web site without your needing to visit it. As an example, go to <http://fridge.ubuntu.com> (a popular Ubuntu news site), and you will see a small orange icon—which indicates that this site has feed available—on the right side of the address bar. Click this orange square, and you will be taken to a new page that previews the feed and gives you the option of what you would like to use to subscribe to it. Use the default option (Live Bookmarks), and click **Subscribe Now**. A dialog box will pop up. Use the default values provided and click **OK**. A new toolbar button is added, and when you click on it, a list of the items from the Web site are displayed. Each time you start Firefox, it will quietly go away and update this list so that you don't need to visit the site yourself.

TIP**If You Liked the Fridge**

You may also like Planet Ubuntu at <http://planet.ubuntu.com>. This site collects the personal blogs of a number of different Ubuntu developers and other community members. Planet Ubuntu gives a unique insight into what the developers are working on and/or interested in.

Bolt It On, Make It Cool Although Firefox is already a powerful and flexible Web browser, it can be extended even further using special plug-in extensions. These extensions cover not only typical browsing needs but also other more specialized extras that extend the browser itself.

To install normal Web plug-ins, just visit a site that requires the plug-in. A yellow bar will appear at the top of the page, indicating that you are missing a plug-in necessary to fully take advantage of the page you are visiting. Click the **Install Missing Plug-ins** button to grab the required plug-in. For example, Ubuntu does not come with the Macromedia Flash plug-in because it does not live up to Ubuntu software freedom requirements. As a result, you will have the option to install either Macromedia Flash or the free software version Gnash if you want to use Flash.

To extend the browser itself with additional features, go to <https://addons.mozilla.org> and browse for an extension that you are interested in. When you find something you would like to install, click the **Install** link. A dialog box will pop up asking you to confirm the installation. Click **Install Now**. Your new extension will now download and install automatically. Typically, this requires a restart of Firefox, and then your extension is available.

TIP**Be Careful Where You Download**

It is recommended that you download extensions only from <http://addons.mozilla.org>. If you do need to install an extension from another site, make sure it is a site you trust. Otherwise, the extension may contain unsafe software, viruses, or spyware.

Creating Documents with OpenOffice.org

Included with Ubuntu is a full office suite called OpenOffice.org. This comprehensive collection contains applications for creating word processing documents, spreadsheets, presentations, databases, drawings, and mathematical equations. The suite provides an extensive range of functionality, including reading and writing Microsoft Office file formats, and can also export documents as Web pages, PDF files, and even animations.

Let's give OpenOffice.org a whirl by creating a letter with it. Start OpenOffice.org word processor by selecting it from the Applications > Office menu. When it has loaded, you will be presented with the interface shown in Figure 3-7.

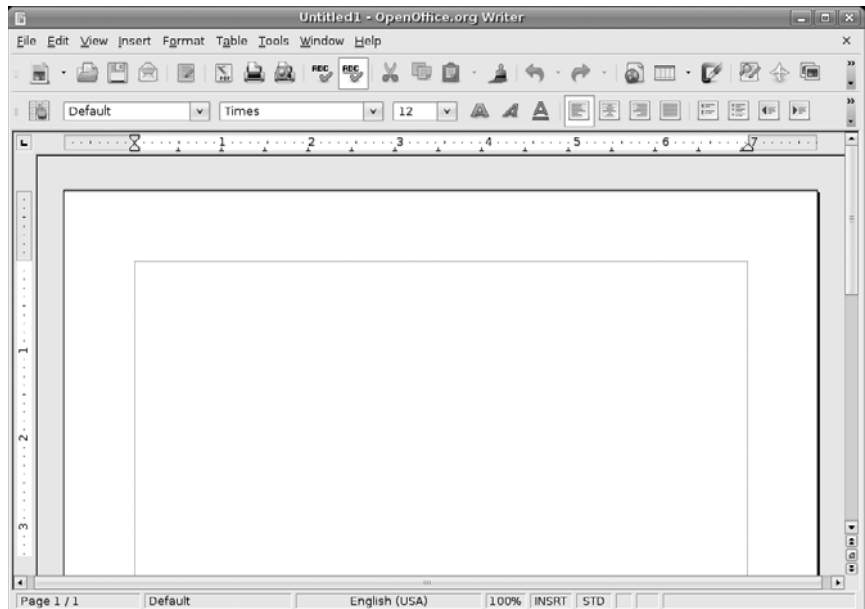


Figure 3-7 OpenOffice.org looks similar to Microsoft Office and is therefore quite simple to adjust to.

If you have used a word processing program before, many of the common interface elements, such as the buttons for setting font type and size, bold, italic, underline, and alignment, look and behave the same. The OpenOffice.org developers have designed the suite to be easy to migrate to if you have used a program like Microsoft Office before. After a few minutes playing with OpenOffice.org, you will be confident that you can find the functions you need.

Start your letter by first choosing a nice font. In the font combo box, you should see Times selected as the default. Click the box and instead choose the lovely Bitstream Vera Sans font. Change the font size by clicking the combo box to the right of the font box and selecting 10 as the size. With the cursor on the left side of the page, add your home address to the letter.

Now press Enter to leave a blank line under the address, and click the Align Right toolbar button (the icon looks like some lines aligned to the right). If you are unsure of what a button does, hover your mouse over it to pop up a tool tip. Now add to your letter the address of the recipient.

Press Enter again to leave a blank line, and type the main body of the letter. Feel free to use the bold, italic, and underline buttons to add emphasis to your words. You can also use other toolbar buttons to add items such as bullet points and numbered lists and to change the color of the font. If you want to add features such as graphics, tables, special characters, and frames, click the Insert menu and select the relevant item. You can customize each item added to the page by right-clicking the item and using the options shown in the context menu.

When your letter is complete, you can save it by selecting File > Save, by clicking the floppy disk toolbar icon, or by pressing Ctrl-S. The default file format used by OpenOffice.org is the OpenDocument Format. This file format is an official open standard and is used across the world. The file format is slightly different for different types of applications (.odt for word processor files, .ods for spreadsheets, and so on), but each format provides an open standard free from vendor lock-in. You can also save in a variety of other formats, including the default formats for Microsoft Office.

TIP **Vendor Lock-In?**

In the proprietary software world, it is common for each application to have its own closed file format that only the vendor knows how to implement. When a person uses the software to create documents, the closed format means that only that specific tool can read and write the format. As long as you want to access your documents, you need that tool. This is known as vendor lock-in.

To combat this problem, the OpenOffice.org suite (and the vast majority of other open source applications) uses an open file format that is publicly documented. In fact, the format is a published standard under ISO/IEC 26300:3006. This means that other applications can implement the OpenDocument file format, and you can be safe in the knowledge that your documents will always be available and you are not locked in to any specific tool.

Another useful feature wedged into OpenOffice.org is the capability to save your documents in the Adobe PDF format. PDF files have been increasingly used in the last few years and are useful for sending people documents that they should not change (such as invoices). PDF files provide a high-quality copy of the document and are well supported across all operating systems. This makes PDFs ideal for creating catalogs, leaflets, and flyers. To save a document as a PDF file, click the PDF button on the main toolbar (next to the printer icon). Click the button, enter a filename, and you are done. Simple.

Managing Your E-mail and Calendars with Evolution

Evolution has been modeled around the all-in-one personal information management tool. Within Evolution you can read your e-mail, manage your schedule, store contact details, organize to-do lists, and more in a single place. This makes Evolution useful for both businesspeople and regular users who want easy access to this information.

Setting Up Your E-Mail Account To use Evolution to read your e-mail, you need to find out the following settings for connecting to your e-mail server (you can get these details from your ISP or system administrator):

- Your type of e-mail server (such as POP or IMAP)
- Your mail server name (such as mail.chin.com)
- Your mail account's username and password
- Authentication type (typically by password)

- Your outgoing mail server type (typically SMTP)
- Your outgoing mail server name

TIP Evolution and Webmail

You can't use Evolution to read Webmail such as Yahoo! Mail, or Hotmail unless you configure your Webmail to output as POP and use SMTP to send e-mail. Consult your Webmail provider for more details on if and how you can access the mail with a local client like Evolution.

Load Evolution by clicking the envelope and clock shortcut icon from the panel (hover your mouse over the shortcuts to see what they are) or by clicking Applications > Internet > Evolution Mail. When the application loads, you are taken through a wizard to set up your e-mail server (as shown in Figure 3-8).

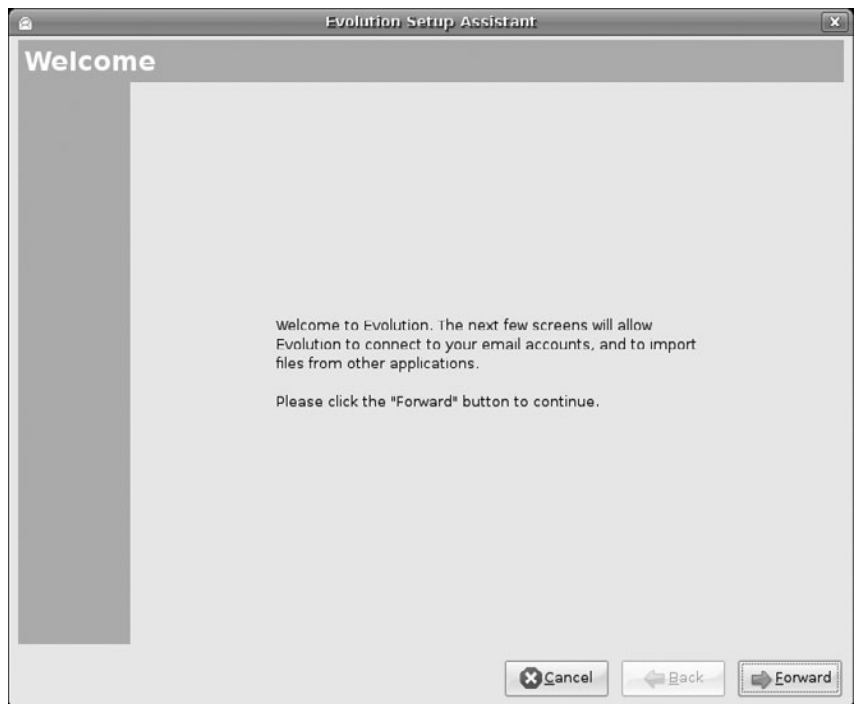


Figure 3-8 Setting up Evolution is simple as long as you know the details for your mail server.

Click Forward to continue the setup, and after choosing to not restore from a backup, you will be asked for your identity. Fill in your e-mail address in the E-Mail Address box, and add the optional information if you want to. The additional details are not essential for using Evolution. Click Forward to continue.

You are next asked to choose what kind of e-mail server you have from the drop-down box. When you make your selection, some additional settings are displayed. Fill in the server name and the username. You may need to adjust the Security and Authentication Type settings, but for most accounts the default settings should be fine. Click Forward to continue.

The next page configures some options for receiving your e-mail. None of these options are essential, although you may want to check the first box to automatically check for new mail. Click Forward to continue. The next screen configures the settings for sending e-mail. In the combo box select the Server Type (typically SMTP) and add the server name to the Server box. Click Forward to continue.

In the next screen enter a name to describe the account. The default entry (your e-mail address) is fine, but you may want to add something more meaningful such as “Work E-Mail” or “Home E-Mail.” When you have added this, click Forward to continue. Finally, select your location from the map. If you click on your area of the world, the map will zoom in. Once you have done this, click Apply to complete the process and close the wizard.

With the wizard completed, the main Evolution interface will appear, as shown in Figure 3-9.

On the left sidebar you can see a number of buttons to access the mail, contacts, calendars, memos, and tasks components in Evolution. When you click each button, the interface adjusts to show you the relevant information about that component.

Working with Your E-Mail Inside the e-mail component you can see the e-mail folders in the left panel and the list of messages in the top pane. When you click on a message, it is displayed in the bottom pane, where you can read it. With your new account set up, you will first want to go and

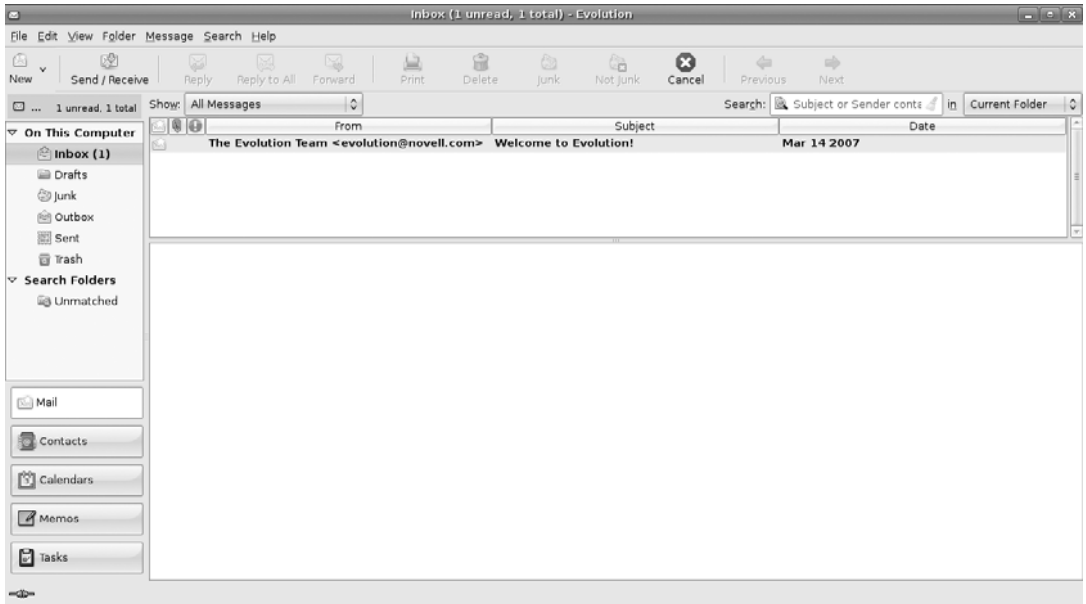


Figure 3-9 Those of you who have used Microsoft Outlook should find the interface very similar.

grab the e-mail from your mail server. Click Send/Receive, and the mail is retrieved from your server and any unsent mail is sent.

TIP Problems?

If you cannot connect to your mail server, there may be an error in your account configuration. To edit your account settings again, click Edit > Preferences, select the account from the list, and click Edit.

With your messages loaded, new e-mails are shown in bold in the top pane. Move through the different e-mails using the up and down arrow keys, and each message will be displayed. You can reply to a message by clicking the Reply or Reply To All toolbar buttons. New e-mails can be created by clicking the New toolbar button. By default, new e-mails and replies are sent automatically when you click the Send button in the compose window. This way you don't need to click the Send/Receive button to deliver them.

Managing Your Calendar Inside calendar mode, Evolution provides a convenient way to manage your schedule, add new events, and view your

calendar in different ways. When you click the Calendars button to switch to this mode, you can see the timetable for today as well as the month view. The month view shows a couple of months in which the bold dates have events.

You can add two types of events to your calendar.

- **Meetings:** These are events with a specific group of people.
- **Appointments:** These are general events.

To add a new appointment, navigate to the date you require using the calendar, then right-click a time slot in the day view, and select New Appointment. Alternatively, simply click the New toolbar item. In the box that pops up, fill in the Summary, Location, Time (adjusting the date if necessary), and Description boxes. You can also select which calendar the event appears on if you have multiple calendars configured.

TIP**Multiple Calendars**

Evolution supports multiple calendars. This is useful if you want different calendars for different types of events such as personal and work-related activities. To create a new calendar, right-click the calendar list in the left sidebar and select New Calendar.

To add a new meeting, again find the date, right-click the day view, and select New Meeting. Inside the dialog box that pops up, you need to add the participants who are attending the meeting. You can add participants in two ways: Use the Add button if they are not in your address book, or use the Attendees button if they are in your address book.

When you click Attendees, a new dialog pops up with a list of attendees down the left. You can use the Add and Remove buttons to add contacts to (or remove them from) the different categories of Chairpersons, Required Participants, Optional Participants, and Resources. Now, you probably don't have any contacts in there as you are just starting to use Evolution, so use the main Contacts button on the left side of the main Evolution window to add some.

You can view your calendar in lots of different ways by clicking the different toolbar buttons such as Week, Month, and List. Play with them and see which ones are most useful to you.

QUICK TIP Remember, you can access your appointments without opening Evolution by clicking on the clock in the panel.

Creating Graphics with GIMP

The GNU Image Manipulation Program, affectionately known as GIMP to its friends, is a powerful graphics package. GIMP provides a comprehensive range of functionality for creating different types of graphics. It includes tools for selections, drawing, paths, masks, filters, effects, and more. It also includes a range of templates for different types of media such as Web banners, different paper sizes, video frames, CD covers, floppy disk labels, and even toilet paper. Yes, toilet paper.

Unlike Adobe Photoshop, GIMP does not place all of its windows inside a single large window; instead, GIMP has a number of separate child windows. This can be a little confusing at first for new users—especially those used to Photoshop. To get you started, let's run through a simple session in GIMP.

An Example Start GIMP by clicking Applications > Graphics > GNU Image Manipulation Program.

When GIMP loads, you will see a collection of different windows, as shown in Figure 3-10.

Close the Tip of the Day window, and you are left with two other windows. The one on the left in the screenshot is the main tool palette. This window provides you with a range of different tools that can be used to create your images. The window on the right provides details of layers, brushes, and other information. GIMP provides a huge range of different windows that are used for different things, and these are just two of them.

To create a new image, click File > New. The window shown in Figure 3-11 will appear.

The easiest way to get started is to select one of the many templates. Click the Template combo box and select 640 × 480. If you click the Advanced

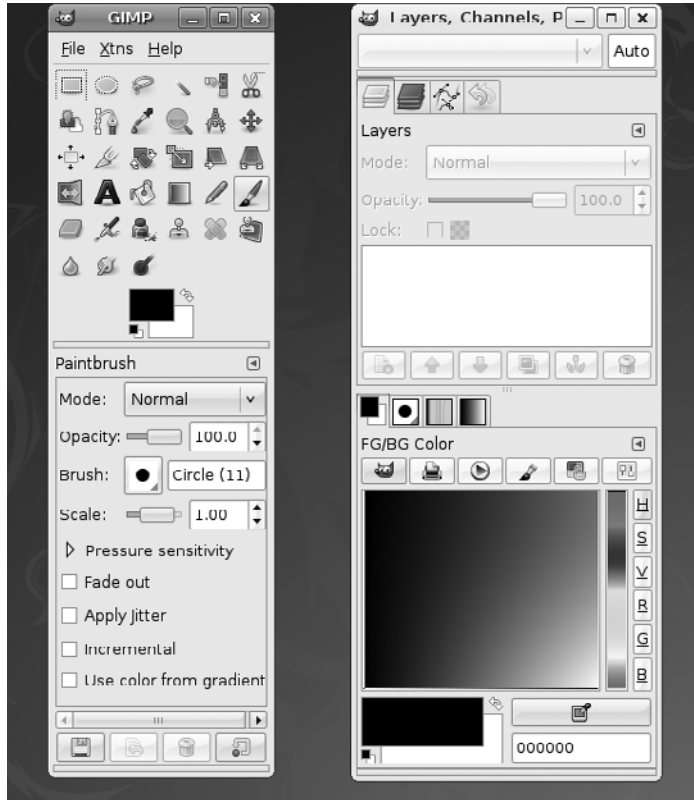


Figure 3-10 GIMP does not put everything in one window like Adobe Photoshop.

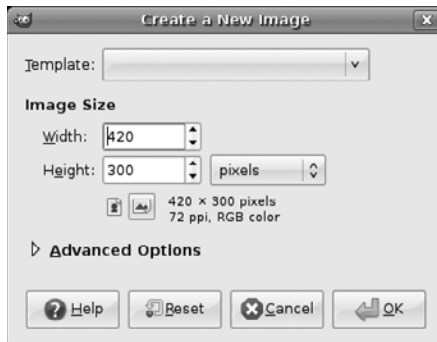


Figure 3-11 Lots of templates are available, including one for toilet paper!

Options expander, you can also select the type of color used in the image with the Colorspace box and the background fill. The Fill combo box is useful for either selecting a fill color or having a transparent background.

Click OK, and you will see your new image window (Figure 3-12).

To work on your image, use the tool palette to select which tool you want to use on the new image window. Each time you click on a tool in the palette, you see options for the tool appear at the bottom half of the palette window.

When you click the A button in the palette, it selects the text tool. At the bottom of the palette, you see the different options. Click the Font button that looks like an upper and lower case A (like Aa) and select the Sans Bold font. Now click the up arrow on the Size box, and select the size as 60.



Figure 3-12 Use the right mouse button on the image to access lots of GIMP options and features.

Move your mouse over to the empty image window, and you will see the mouse pointer change to a text carat. Click in the image, and a box pops up in which you can enter the text to add to the image. Type in “Ubuntu.” With the text entry still open, click the up arrow on the Size box so the text fills most of the window. As you can see, you can adjust the text while it is in the image. When you are happy with the formatting, click Close on the text entry box. Your image should look a little like Figure 3-13.

Now click the button in the palette with a cross with an arrow on each end. You can use this to move the text around. Click the black text, and move the mouse.

Let’s now add an effect filter. GIMP comes with a range of different filters built in. You can access these by right-clicking the image and selecting the Filters submenu.

For our image, right-click the image and select Filters > Blur > Gaussian Blur. In the Horizontal and Vertical boxes select 5 as the value. Click OK,



Figure 3-13 Ubuntu comes with a range of attractive fonts for use in your images.

and the blur is applied to your text. Anything in GIMP can be undone by clicking **Edit > Undo** or typing **Ctrl-Z**. Your image should now look like Figure 3-14.

Now we are going to create another layer and put some text over our blurred text to create an interesting effect. In your image window, click **Dialogues > Layers**. The Layers window now appears (Figure 3-15).

Layers are like clear plastic sheets that can be stacked on top of each other. They allow you to create some imagery on one layer and then create another layer on top with some other imagery. When combined, layers can create complex-looking images that are easily editable because you can edit layers individually. Currently, our blurred text is one layer. We can add a new layer by clicking the paper icon in the Layers dialog box. Another window appears to configure the layer. The defaults are fine (a transparent layer the size of your image), so click **OK**.



Figure 3-14 Several filters and effects are bundled with GIMP in Ubuntu.

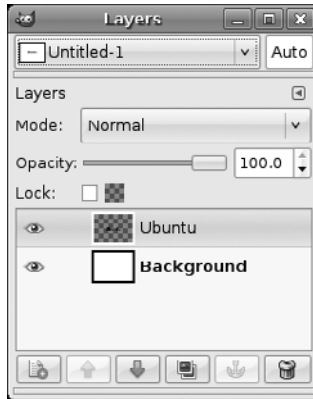


Figure 3-15 Layers are essential when creating complex images with lots of parts.

Now double-click the black color chip in the palette window and select a light color. You can do this by moving the mouse in the color range and then clicking OK when you find a color you like. Now click the text button from the palette and again add the “Ubuntu” text. When the text is added, it will be the same size as before. Now use the move tool and position it over the blurred text. Now you have the word “Ubuntu” with a healthy glow, as shown in Figure 3-16!

The final step is to crop the image to remove the unused space. Click Tools > Transform Tools > Crop, and use the mouse to draw around the Ubuntu word. You can click in the regions near the corners of the selection to adjust the selection more precisely. Click inside the selection, and the image will be cropped. To save your work, click File > Save, and enter a file-name. You can use the Select File Type expander to select from one of the many different file formats.

Communicating with Pidgin

With the Internet steamrolling its way across the world, the ubiquitous global network has become a part of everyday life and something you can reasonably assume people have access to. This has in turn spawned a range of Web-based services and, interestingly, a variety of methods for communicating with each other.

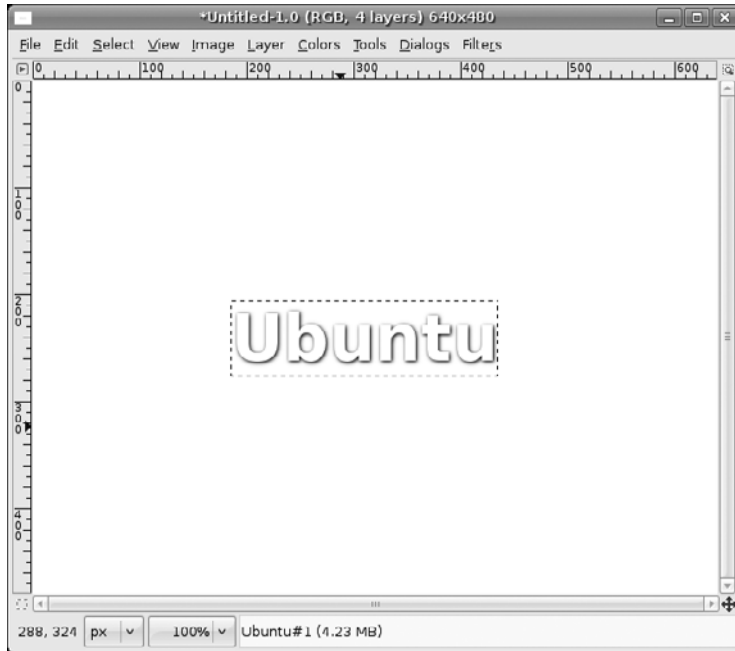


Figure 3-16 Combining steps as we have done can result in interesting effects such as this.

Included with Ubuntu is Pidgin (formerly known as Gaim), a cornucopia of different methods for instantly messaging your friends from within a single program. Instead of having to install a separate client application to talk to your friends on MSN, AIM, ICQ, and Jabber, Pidgin can do it all in one place. Pidgin is available by clicking Applications > Internet > Pidgin Instant Messenger.

Setting Up Your Accounts When you start Pidgin for the first time, you will be asked if you want to add an account, as none have been configured yet. Click the Add button to add a new account, and the Add Account box appears (Figure 3-17).

QUICK TIP

To add or edit accounts at a later date, click Accounts > Add/Edit within Pidgin to access your account list.



Figure 3-17 Pidgin supports many different types of accounts (MSN, AIM, Jabber, ICQ, IRC, and so on).

This window adjusts which text boxes are available depending on the protocol chosen. The different networks available are listed as options in the Protocol box. To create an account, you will need to have an existing account on one of the networks. Pidgin allows you to have different accounts on different networks running together—you just create a new account for each protocol—or even multiple accounts on the same network.

When you have selected a protocol, fill in the remaining boxes. The Screen Name box needs to contain your registered username (or e-mail address for MSN), and the Password box needs the respective password to be added. You can also use the Local Alias box to add an interesting name that is displayed when other people see you online. If you want to configure any other options, click the Advanced tab.

Using Instant Messaging With your account(s) set up, Pidgin will automatically sign you in. When you are logged in, your list of contacts (known as buddies in Pidgin) is displayed (Figure 3-18). Additionally, a little icon will appear in the notification areas that will show that Pidgin is running, your status, and if you have received any messages.



Figure 3-18 Pidgin provides quick and easy access to your buddies—just click them to talk!

You can use the Buddies menu option to add more buddies to the list with the Add Buddy option. To speak with a buddy, double-click the name, and a window will pop up. To change your status or sign out, click the status box at the bottom of your Buddy List and select the appropriate option.

Using IRC Included in Pidgin is support for IRC channels, and it has a very nice interface for IRC discussion. To use the IRC feature, first create an account. Next, sign on, and then click Buddies > Add Chat and enter the IRC channel name in the Channel box. Finally, double-click on the channel name to go to it.

Cutting-Edge Voice Over IP with Ekiga

Included with Ubuntu is a simple-to-use yet powerful Internet phone called Ekiga. Formally known as GNOME Meeting, Ekiga lets you make voice and video calls with other people across the Internet. In addition to the traditional Microsoft Netmeeting support, Ekiga now supports SIP, a protocol commonly used to allow people with software phones such as Ekiga to communicate with people using hardware Voice Over IP phones. SIP is an industry standard that many hardware phones, software phones, services, and providers support.

If you choose to use SIP, calls from one phone to another across the Internet are free. In addition, many providers allow you to make calls to normal landline phones for very little cost. Ekiga offers you the possibility to call anyone in the world directly from your computer with little fuss.

You can access Ekiga by clicking Applications > Internet > Ekiga Softphone.

Setting Up When you first start Ekiga, you are guided through a setup wizard (Figure 3-19).

Click Forward to get started, and you see the next page (Figure 3-20).

In this box, enter your first and last name (such as Frankie Banger). Click Forward to continue.

You can now configure an Ekiga.net account (Figure 3-21).

At Ekiga.net, a free SIP service is offered. If you don't have an account (which is likely if this is the first time you have used Ekiga), click the Get an Ekiga.net SIP Account button. Firefox is then loaded, and you can use the

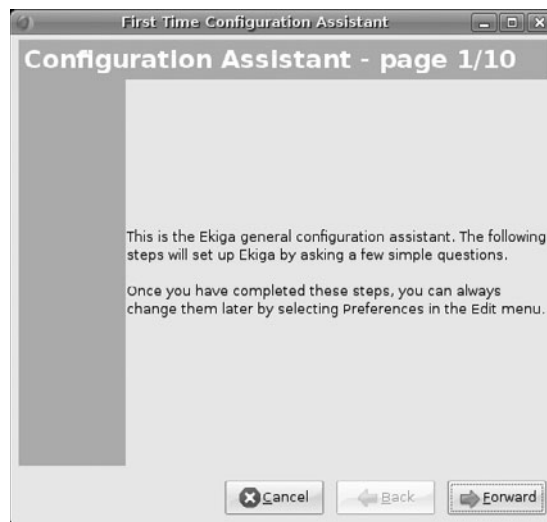


Figure 3-19 Setting up Ekiga is simple with the setup wizard.



First Time Configuration Assistant

Personal Information - page 2/10

Please enter your first name and your surname:

Your first name and surname will be used when connecting to other VoIP and videoconferencing software.

Figure 3-20 Adding your name makes it easier for people to find you online.



First Time Configuration Assistant

ekiga.net Account - page 3/10

Please enter your username:

Please enter your password:

The username and password are used to login to your existing account at the ekiga.net free SIP service. If you do not have an ekiga.net SIP address yet, you may first create an account below. This will provide a SIP address that allows people to call you.

You may skip this step if you use an alternative SIP service, or if you would prefer to specify the login details later.

Get an ekiga.net SIP account

I do not want to sign up for the ekiga.net free service

Figure 3-21 Ekiga.net offers a free SIP service.

online form to sign up. If you don't want an account, just select the checkbox in the wizard saying you don't want to sign up. If you do sign up, add your username and password, and then click Forward.

Now you can configure your connection type (Figure 3-22).



Figure 3-22 Be honest here—selecting a faster speed won’t make it any quicker!

Select the type of connection you have, and then click Forward.

Traditionally, one of the problems in the past with Internet phones has been that you need to modify your firewall (if you are running one) to get the phone working. This typically involved configuring your Network Address Translation (NAT) settings. Luckily, Ekiga can detect the type of NAT settings that you need (Figure 3-23).

After a few seconds of detecting your type of NAT, Ekiga will propose an option. Click Yes to continue, and then click Forward.

Next, configure your audio (Figure 3-24).

Select ALSA from the box, and click Forward to continue.

You can now select the audio input and output devices (Figure 3-25).

These settings are used to ensure that you can hear and record the audio. To test your settings, click Test Settings. If all is fine, click Forward to continue.

Next select the type of video manager (Figure 3-26).



Figure 3-23 Traditionally, setting up NAT with Internet phones was a pain—until now.



Figure 3-24 Ubuntu supports different types of audio frameworks, but the Advanced Linux Sound Architecture (ALSA) is the most common.



Figure 3-25 Make sure you get these settings right, or you won't hear anything.



Figure 3-26 Ubuntu supports different types of video, but V4L is the most common.

The video manager ensures that video is displayed correctly on your screen. Select V4L from the list, and click Forward to continue.

The final setting to configure is your Web camera (Figure 3-27).

Ensure that your camera is plugged in, and select a device from the combo box. If you can't see any options, you will need to configure your camera driver first. When you have selected a device, click Test Settings to verify that it works.

Finally, a summary of your options is displayed (Figure 3-28).

Ekiga is now configured. Click apply!

Making a Call With the configuration wizard complete, the main Ekiga window is displayed (Figure 3-29).



Figure 3-27 Remember to look your best online!

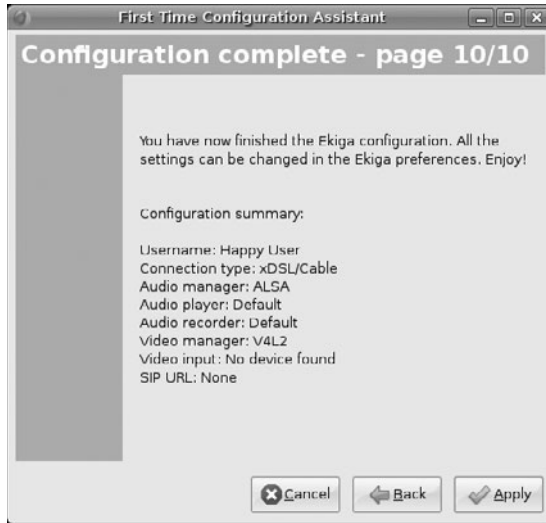


Figure 3-28 Now you are all set to make calls.



Figure 3-29 The Ekiga window is simple and sleek.

You are now ready to make a call. Simply enter the phone number or SIP address of the person you want to call, and click the Connect button next to the address bar. The call is then connected, and you can begin talking.

On the left side of the window are a number of icons that do different things.

- **Text Chat:** When in a chat, click this icon to open the text chat window. You can use this to send text messages to the user.
- **View Mode:** Click this icon to select which view mode Ekiga is in. You typically need this when in a video chat with someone.
- **Address Book:** Click this icon to access the address book. Here you can save your contacts, and you can also access the Ekiga.net online white pages to see who else is online.
- **View Webcam:** This icon switches on the Webcam so that you can see the person you are speaking to.

In addition to these icons, there are some tabs located below the numeric keypad. Click these tabs to configure the audio and video settings for Ekiga.

Exploring the Ubuntu Landscape

Unlike many other operating systems, Ubuntu includes a comprehensive suite of applications right inside the system. This range of tools has been selected to allow you to install Ubuntu and get your work done, communicate with other people, read and create documents, watch and/or listen to media, and more. Unfortunately, due to space restrictions, this book can only skim over the surface of available applications.

To help remedy this a bit, here is a quick summary of many of the applications included on the Applications menu in Ubuntu, including how to find the applications and a brief description.

- **Text Editor**

Applications > Accessories > Text Editor

This simple, yet powerful, text editor is ideal for editing documents, making quick notes, and programming. Included is a range of plug-ins for spell checking, statistics, file listings, and more.

- **Calculator**

Applications > Accessories > Calculator

For those times when you need to figure out a percentage or calculate whether you are getting a raw deal from your employer, the calculator

is there. It provides a range of functionality for simple and scientific calculations.

- **Terminal**

Applications > Accessories > Terminal

Underpinning the desktop is an incredibly powerful command-line core. This application puts a window around a command-line interface and allows you to configure transparency, fonts, behavior, and more. Essential for the command-line junkies among you.

- **Gnometris**

Applications > Games > Gnometris

If you have too much time on your hands, a surefire way to waste it is to play this version of Tetris. If you decide that single-player Tetris is not enough, go and download gtetrinet with the Add/Remove programs.

- **Nibbles**

Applications > Games > Nibbles

The classic worm game comes to Ubuntu. Another surefire way to while away an afternoon.

- **Mahjongg**

Applications > Games > Mahjongg

For those of you who actually understand the rules of Mahjongg, this application provides a great implementation of the game.

- **FreeCell Solitaire**

Applications > Games > FreeCell Solitaire

There is a body of thinking that suggests that FreeCell may be responsible for untold hours of lost productivity. If you are impatient about playing Patience, select FreeCell Solitaire.

- **Movie Player**

Applications > Sound & Video > Movie Player

Although listed as a movie player, this application actually plays a range of different types of media, including both video and audio.

- **Sound Recorder**

Applications > Sound & Video > Sound Recorder

If you need to record something, such as your voice for a podcast or audio message, you can use this simple tool.

- **System Monitor**

System > Administration > System Monitor

To get an idea of the current performance or load on your computer, click on this tool. The System Monitor lets you know which applications are running and how much memory/processing power they are using, and it also allows you to kill or restart processes that are hogging the resources.

- **Sudoku**

Applications > Games > Sudoku

The increasingly popular logic game arrives on Ubuntu.

- **Disk Usage Analyzer**

Applications > Accessories > Disk Usage Analyzer

Bits and bytes never looked so good! In case you were wondering exactly where all your disk space had gone, this will help solve the mystery.

- **F-Spot Photo Manager**

Applications > Graphics > F-Spot Photo Manager

Manage your photos, download off your camera, and send them up to Flickr and other online photo sites.

Other Applications to Try There are literally thousands of available packages that can be installed on your Ubuntu computer. These packages span a range of different areas, and this section covers some of the popular ones. Coverage of software installation appears in Chapter 4. Try the following useful applications.

- **Blender**

Package to install: blender

Blender (Figure 3-30) is an incredibly powerful 3D modeling, animation, rendering, and production studio. Blender amasses an impressive range of functionality for creating photorealistic scenes, animations, and real-time virtual walkthroughs. Blender is also fully scriptable in Python.

- **Inkscape**

Package to install: inkscape

Inkscape (Figure 3-31) is a drawing package for creating Scalable Vector Graphics (SVG). Ever since the SVG format was introduced, it

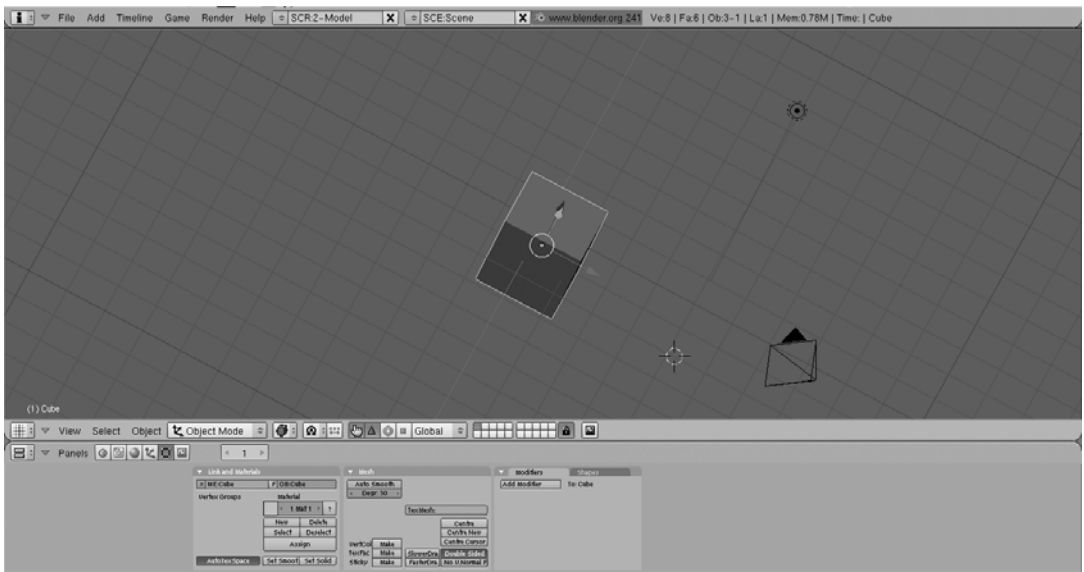


Figure 3-30 Blender

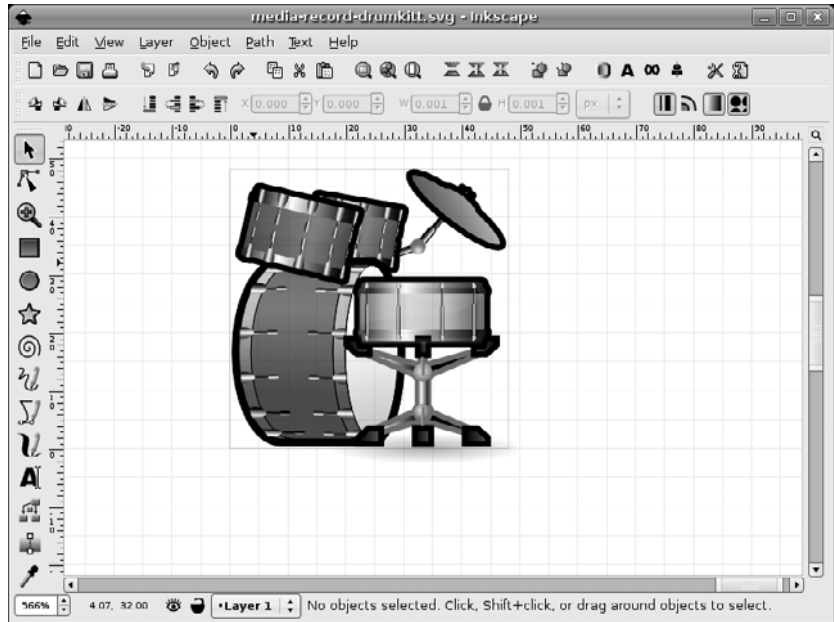


Figure 3-31 Inkscape

has taken the design world by storm. SVG allows the creation of graphics that can scale to any size. Inkscape is a hugely flexible tool for creating such graphics, and a huge range of icons and artwork in open source projects are made in Inkscape.

- **Beagle**

Package to install: beagle

Beagle (Figure 3-32) is a search system that indexes virtually everything. After you install Beagle, you can search for “campfire,” and it will return documents, images, Web pages, blog entries, instant messaging conversations, and more that contain that term. Beagle is still very much in development but is an incredibly useful tool.

- **Bluefish**

Package to install: bluefish

For those of you who want to create Web pages but prefer to write code, Bluefish (Figure 3-33) is an excellent Web editor. Bluefish is a

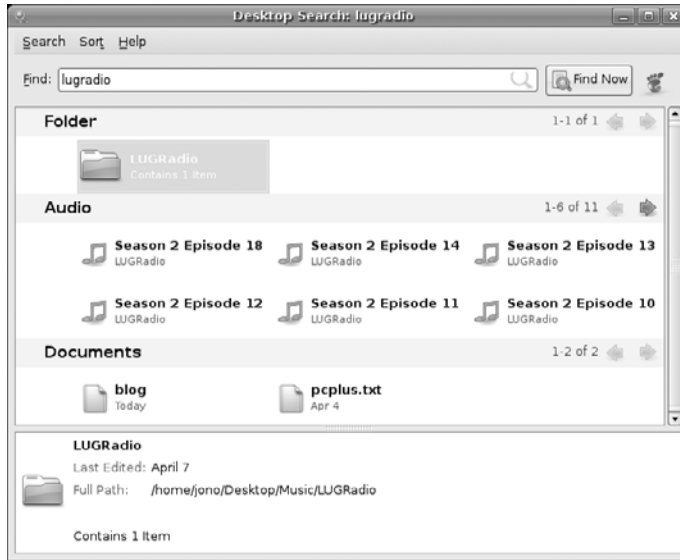


Figure 3-32 Beagle

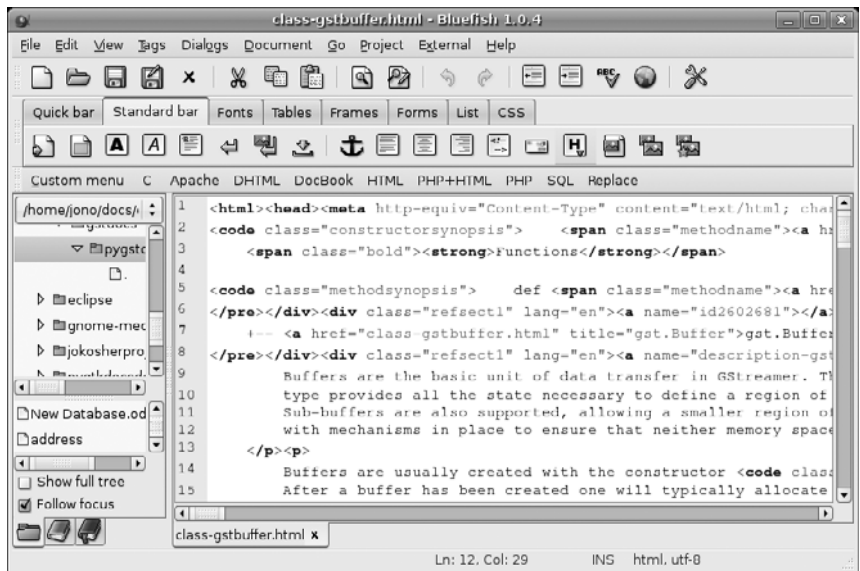


Figure 3-33 Bluefish

lightweight but feature-rich editor with support for a range of languages as well as HTML and CSS.

■ Audio CD Extractor

Package to install: sound-juicer

Many of us have legally purchased compact disks that we would like to listen to using our computer or portable music player. Audio CD Extractor (Figure 3-34) will help you record the songs to your hard drive so you may do so.



Figure 3-34 Sound Juicer: An Audio CD Extractor

The Ubuntu File Chooser and Bookmarks

One area in which the GNOME developers have worked hard is in creating an intuitive and useful file chooser that is accessed in applications with File > Open. You may be wondering why they have spent so much time on such a small and seemingly insignificant part of the desktop. In reality, however, finding files is one of the most frustrating aspects of using computers and often involves digging through folder after folder to find what you need. Luckily, the GNOME file chooser (Figure 3-35) helps cut down much of this file hunting significantly.

The listing of files on the right-hand side is used to find the file you need, and you can click on folders in this listing to traverse deeper into your sub-folders. Note how each folder is displayed above the listing in a series of buttons. You can click these buttons to easily jump back to parent folders when needed.

Aside from enabling you to manually pick files, the chooser also supports bookmarks. On the left side of the chooser is a list of devices and bookmarks labeled Places. These include your home directory (shown as your user-

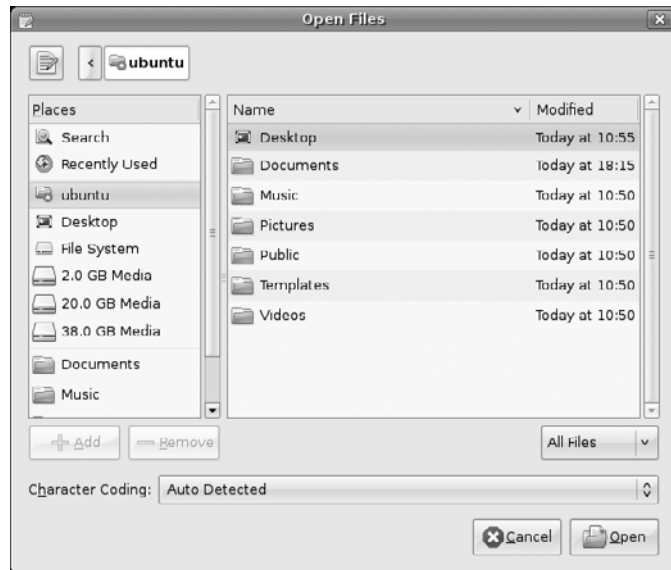


Figure 3-35 The file chooser has a number of subtle features such as bookmarks.

name), Desktop (the files on your desktop), and File System (the entire hard drive), as well as devices such as CD drives, floppy drives, and USB sticks.

To create your own bookmark, use the listing on the right to find the folder that you want to bookmark, single-click it, and then click Add below the Places box. The folder now appears in your bookmarks. Now whenever you need to access that folder, just click the bookmark! In addition to putting the bookmark in the file chooser, it is also available in other parts of the desktop, such as the Places menu and in the file manager.

Ubuntu in Your Language

When you installed Ubuntu, you were asked which language the system should use. Although this sets the initial language for the system, you may want to change the language at a later date. To do this, click System > Administration > Language Support.

Ubuntu supports a huge range of different languages, and many applications include a Translate This Application menu option in the Help menu so that all Ubuntu users can contribute translations in their language(s). If you would like to help with this effort, it is a fantastic contribution to the Ubuntu project.

When the language selector first loads, it may ask you to update your language packs. Just click Yes to continue. Inside the dialog box a number of languages are listed, each of which has a Support checkbox listed next to it. For each language that you want available on the system, check the relevant boxes.

When you have selected the boxes, click the Apply button, and the appropriate language packs are downloaded and installed. Now use the Default Language combo box to choose the new language. You need to log out and log back in for the changes to take effect.

TIP**Choosing a New Language**

When you see the login screen, you can use the Language button to choose a language for that specific login session. When you select the language, you are asked if you want to make it the default language or use it just for that specific session.

Customizing Ubuntu's Look and Feel

Whenever we put someone in front of Ubuntu for the first time, there seems to be a uniform natural desire to tweak the look and feel of the desktop. It can be fun tweaking our desktops so they look just right, and Ubuntu has great support for all kinds of adjustments. Do you want different-looking applications with a lime green background and crazy fonts? No problem; just don't show it to anyone else. . . .

Changing the Background

To change the background of your desktop, right-click it and select Change Desktop Background. Inside the dialog box that appears, choose your wallpaper by clicking on an image, and the desktop background will automatically change. Ubuntu comes with a limited range of pre-installed wallpapers, so it is likely that you will want to add your own wallpaper. To do this, save your wallpaper somewhere on your computer, and then use the Add Wallpaper button to select it. The new wallpaper can be selected from the list.

If you are not really a wallpaper kind of person and would prefer just a color for the background, you can use the Desktop Colors controls at the bottom of the dialog box. The combo box provides three different types of background: Solid Color, Horizontal Gradient, and Vertical Gradient. Next to the combo box, click on the color chip to select the relevant color(s).

Changing the Theme

When you are using your applications, the visual appearance of the buttons, scroll bars, widgets, and other bits and pieces are controlled by the theme. The built-in theming system can make your applications look radically different, and Ubuntu ships with a number of themes that you can try.

Choosing a New Theme To choose a new theme, click System > Preferences > Appearance and then click on the Theme tab. Inside the tab that pops up are a number of themes that you can choose. Just click on a theme, and the desktop will be adjusted automatically. You can further customize your theme by clicking the Customize button. A new dialog box appears that has tabs for the different parts of the theme you can config-

ure. Click each tab, and select an entry from the list to create your own perfect theme.

Installing New Themes To install a new theme, first head over to <http://art.gnome.org> and find a theme that you like. You need to look for Application Themes when browsing the site. When you find a theme that you like, download it to your computer. Now Click System > Preferences > Appearance, and click the Install button in the Theme tab. Using the file chooser, find the theme that you just downloaded, and it will install automatically. Now select your new theme from the list.

Configuring a Screensaver

To choose a different screensaver, click System > Preferences > Screensaver. The screensaver configuration tool then loads (Figure 3-36).

On the left side of the window is a list of available screensavers. Click on a screensaver and you will see a preview appear in the space to the right of the list. You can then use the slider to select how long the computer needs to be idle before the screensaver kicks in.

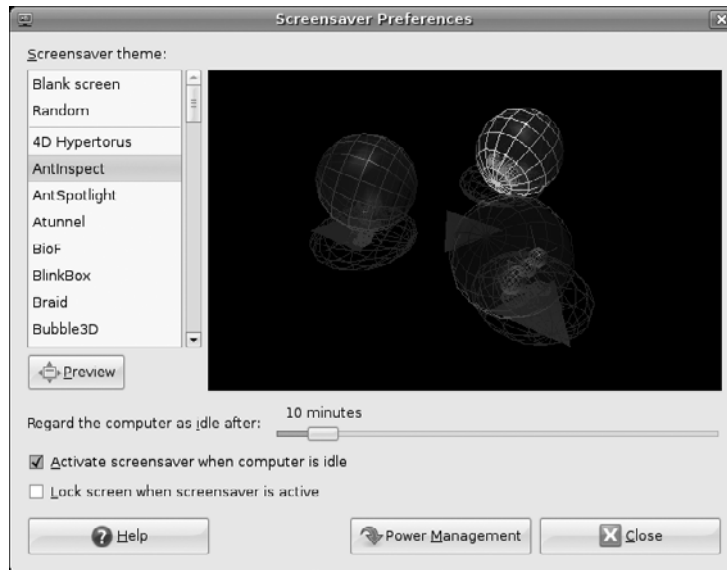


Figure 3-36 A number of screensavers are bundled with Ubuntu.

The Lock Screen When Screensaver Is Active checkbox can be selected to lock the screen when the screensaver starts and, as such, requires a user to enter the password to reactivate the desktop. This is useful if you work in an office and want to ensure that no one tampers with your computer when you are away.

Managing Your Files

Files are the tofu and potatoes of any computer, and they need to be managed, copied, moved, renamed, grouped, and loaded. Included with Ubuntu is a powerful yet simple file manager called Nautilus that integrates tightly into your desktop. You'll use it all the time even if you don't often see the name.

Nautilus makes extensive use of drag and drop. Unlike the kind of file manager used in Windows with its tree view and listing of files, Nautilus displays files in a series of windows in which you can drag files around easily. For those who just can't say goodbye to the tree view, Nautilus also supports that. Aside from providing a simpler user interface, Nautilus also includes a number of useful features such as video and image previews, emblems, bookmarks, permissions management, and more.

How Linux Stores and Organizes Files

Before we use Nautilus, it is worthwhile to have a crash course in how files and folders are organized on a Linux system. If you have not used Linux before, this is likely to be new to you because the layout is quite different from Windows and Mac OS X.

TIP**Folders and Directories**

When reading about file management, don't get confused by the terms *folders* and *directories*—both words describe the same thing.

In the Windows world, each disk drive is labeled with an identifying letter such as C: for your hard disk and A: for the floppy drive. In the Linux world, however, everything is part of the same filesystem organization. As such, if you have two or three hard disks, a CD drive, and a USB stick all plugged in, they will all be part of the same folder structure.

The diagram shown in Figure 3-37 should give you an idea of how everything hangs together.

Right at the top of the tree is the root folder, referred to as /. Inside this folder are a number of special system folders, each with a specific use. As an example, the /home folder contains a number of home directories for each user on the system. As such, the mako user account has the home folder set to /home/mako.

Which Folder Does What? The folder structure in a modern Linux distribution such as Ubuntu was largely inspired by the original UNIX foundations that were created by men with large beards. Although you don't really need to know what these folders do, since Ubuntu looks after the house-keeping for you, some of you may be interested in the more important folders. For your pleasure, we present the Linux folder hit list in Table 3-1.

Configuration Files In Table 3-1, /etc is described as storing systemwide configuration files for your computer. Aside from these files that affect everyone, there are also configuration files for each specific user. Earlier, when you customized Ubuntu's look and feel, the settings were applied only to your current user account. So where are those settings stored?

Inside your home directory are a number of folders that begin with a dot (.), such as .gnome2 and .openoffice2. These folders contain the configuration settings for specific applications for that specific user. By default,

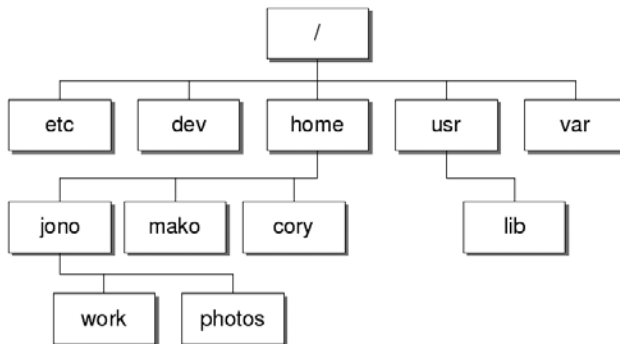


Figure 3-37 Linux filesystem organization

Table 3-1 Linux Folders

Folder	Use
/boot	This folder contains important files to boot the computer, including the bootloader configuration and the kernel.
/dev	Each device on your system (such as sound cards, Webcams, etc.) has an entry in this folder. Each application accesses the device by using the relevant items inside /dev.
/etc	Systemwide configuration files for the software installed on your system are stored here.
/home	Each user account on the system has a home directory that is stored here.
/lib	Important system software libraries are stored here. You should never need to delve into this world of the unknown.
/media	Media devices such as CD drives and USB sticks are referenced here when they are plugged in. More on this later.
/mnt	Other devices can be mounted, too. Again, more on this later.
/opt	Optional software can be installed here. This folder is usually used when you want to build your own software. If you don't build your own software, you ignore this folder.
/proc/sys	Information about the current running status of the system is stored here.
/root	This is the home directory for the main superuser.
/sbin	Software that should be run only by the superuser is stored here.
/usr	General software is installed here.
/var	This folder contains log files about the software on your computer.

these dot folders are hidden in Nautilus because you rarely need to access them. For future reference, you can view these hidden files and folders by clicking View > Show Hidden Files.

You can start Nautilus from a number of different places, but the easiest way to launch Nautilus is from the Places menu. Click on Places > Home Folder to load your home folder. When the folder loads, you should see something similar to what Figure 3-38 shows.

The Nautilus window is split into two parts. The sidebar shows categories of information such as bookmarks, folders, emblems (more on these later), and more. In the main part of the window, you can see the subfolders and

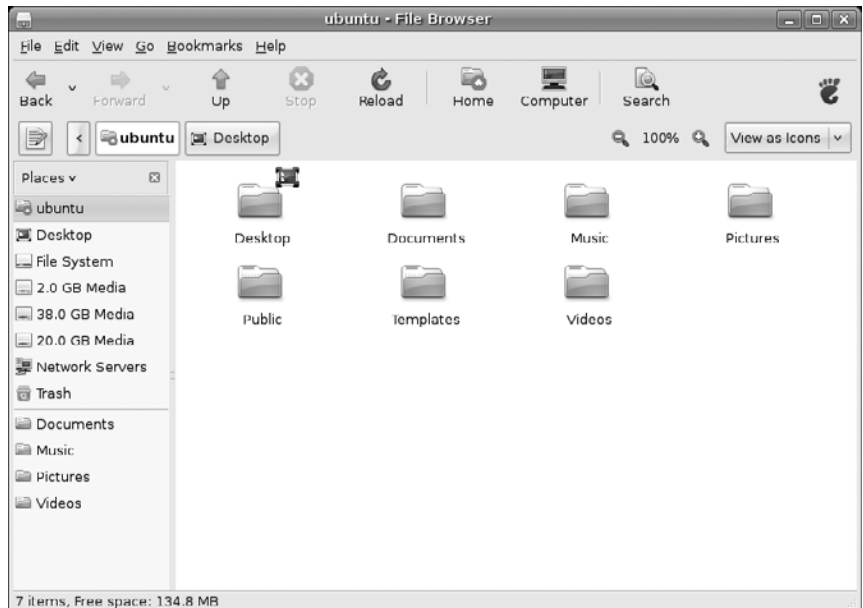


Figure 3-38 Accessing your home folder files is as simple as clicking Places > Home Folder.

files in the current folder. By default, Nautilus displays your bookmarks in the left sidebar and displays the contents of your home folder.

So, let's play with Nautilus and see what you can do with it. The first important skills to learn involve general file management. Many of the tasks you need to do can be achieved by right-clicking your file/folder and selecting the relevant option. There are also a number of options in the Edit menu.

First, create a folder right-clicking the main part of the window and selecting Create Folder. A folder is added, and you can type in the name of it. If you change your mind about the name, rename it by right-clicking and selecting Rename. If you double-click on a folder, you can access it and perform the same operations within that folder.

QUICK TIP

Just as folders and directories are the same thing, so are folders and subfolders . . . well, almost. When we refer to subfolders, we are referring to folders contained within another folder. For example, /home is a folder, while we can refer to /home/mako as a subfolder of /home.

Nautilus is also flexible in how your files are displayed. You can view the files and folders as either the default collection of icons or as a list. To switch to the list view, select View > View As List. You can also configure the organization of how your files and folders are displayed by right-clicking the main part of the window and selecting one of the options in the Arrange Items menu. Play with each of these options to see which ones work best for you.

QUICK TIP

Just like in the file dialog, Nautilus displays each of the different parts of the path as different buttons. As an example, `/home/mako/work` would have three buttons: home, mako, and work.

Selecting, Copying, and Moving Files and Folders

Copying and moving files and folders are simple tasks with Nautilus and can be done in a number of different ways. To test this, create two folders called Work and Invoices in your home directory. Save some files inside each folder. You can quickly create empty files by double-clicking the folder to go into it, right-clicking, selecting Create Document > Empty File, and renaming the file to something useful. With a couple of folders now complete with files in them, let's move them around.

One method is to use two windows. Right-click the Work folder, and select Open in New Window. You now have two windows open, one with the contents of Work and one with the contents of your home directory. Now copy the Invoices folder to the Work folder by clicking it and dragging it over to the second window (which shows the contents of Work). By default, dragging from one window to another copies the item.

Another option is to select what you want to copy and paste it. Selecting items can again be done in a number of ways. One method is to click each file/folder while holding down the Shift or Ctrl keys to make multiple selections. The difference between the two keys is that Shift allows you to select a number of files and folders next to each other, and Ctrl selects independent files and folders from anywhere in the folder-listing view. When you have selected what should be copied, right-click and select Cut or Copy. Cut will copy the original files but remove them, and Copy will just copy them while leaving the original files intact. Now go to the destination folder, right-click it, and select Paste. The files/folders are now added.

Using the Sidebar

The sidebar in Nautilus can be changed to a variety of views that should cater to virtually all tastes. Each of these different sidebar views has a range of functions. Table 3-2 explains each one.

Although you will probably stick with one in particular, it is not uncommon to switch between options to achieve a particular task. For this reason, the flexibility provided by the range of sidebar options is useful.

TIP**Drag and Drop**

If you want to put something in the Places view, drag and drop the item. The Ubuntu desktop is filled with drag-and-drop shortcuts like this. If you think something could be dragged and dropped, try it!

Using Emblems

Emblems give you the ability to tag files and folders to indicate something. These small graphical icons are used to say that the file/folder falls into a particular category, visually signified by the emblem. As an example, you may want to tag a file to indicate it is a draft.

When you select the Emblems sidebar, a range of different emblems appears. To apply an emblem to a file/folder, just drag the emblem onto it. You can drag multiple emblems onto the files to indicate multiple things.

Table 3-2 The Different Nautilus Sidebar Options

Option	Feature
Places	(Default view) Includes the devices and bookmarks in the sidebar that you typically see in the file chooser.
Information	Displays some limited information about the current folder.
Tree	Displays a tree view similar to Windows/Mac OS X. Those of you who love the way Windows/Mac OS X works may want to use this.
History	Displays a history of the folders you have clicked on.
Notes	Allows you to write notes in the sidebar that are stored in the folder. This is handy when you need to explain or make comments about the current folder.
Emblems	Lists the files and folders that have specific emblems attached.

Ubuntu and Multimedia

In recent years, multimedia has become an essential part of computing. Watching DVDs and videos and listening to CDs and music have become part and parcel of the modern desktop computer experience. These multimedia capabilities have been further bolstered by the huge popularity of legal music downloading. With a range of online stores for a variety of different types of music, it is not uncommon to listen to most of your music without ever seeing a little shiny silver disk.

Installing Codecs

Multimedia files and disks come in a variety of different types, and each type uses a special codec to compress the content to a smaller size while retaining a particular level of quality. To play this media, you need to ensure that you have the relevant codecs installed. Ubuntu now makes this easier by suggesting packages that provide a suitable codec when you open a file that isn't supported by the ones that are currently installed. Simply double-click the file you want to open, and you should be provided with a list of packages that you can install to enable support for the file you have tried to open. Select the packages that seem appropriate, and click Install.

QUICK TIP

If you double-click a file but no packages are suggested, you may need to change the package filter in the top right-hand corner to All Available Applications.

Codecs still remain a problem for open source software because of the legal restrictions placed upon them. Certain codecs (including MP3, Windows Media Format, QuickTime, and RealMedia) are proprietary and as such have restrictions placed on their use, distribution, and licensing.

Although developers in the open source community have gone away and created free implementations of some of these codecs, the licensing that surrounds them conflicts with the legal and philosophical position that Ubuntu has set. These codecs are not included not only because they are legally dubious but also because they disagree with Ubuntu's ethic of creating a distribution that is entirely comprised of free software in the freest sense of the word.

QUICK TIP

If you want to find out more about installing these codecs, see <https://wiki.ubuntu.com/RestrictedFormats>.

To work toward resolving these problems, a number of developers are working on free codecs such as Ogg Vorbis and Ogg Theora that provide high-quality results and open licensing. The Ogg Vorbis codec is used on audio and can provide better results than MP3 at a smaller file size. The Ogg Theora codec is used for video and competes with the MPEG-4 codec. Ubuntu includes the Ogg Vorbis and Ogg Theora codecs by default, and you can encode and play back any media that uses those codecs out of the box.

Although the world would be a better place if all codecs were free, the reality is different, and many Ubuntu users still want to play media compressed with proprietary codecs. Table 3-3 shows the most typical codecs used to encode and play back media and lists their support in Ubuntu.

Listening to Audio Files

Ubuntu includes a powerful music player called Rhythmbox to organize and play your music file collection. By default, Ubuntu will look for music in the Music directory accessible in the Places menu.

Table 3-3 Codec Support

Codec	File Type	Included	Supported
MP3	.MP3	No	Yes
Ogg	.ogg	Yes	N/A
Windows Media Audio	.wma	No	Yes*
Wave	.wav	Yes	N/A
MPEG-1	.mpg	No	Yes
MPEG-2	.mpg	No	Yes
Raw DV	.dv	Yes	N/A
Quicktime	.mov	No	Yes*
Windows Media Video	.wmv	No	Yes*

* These codecs involve the installation of nonfree software that may or may not be legal in your country.

Using Rhythmbox Load Rhythmbox (Figure 3-39) by clicking on Applications > Sound & Video > Rhythmbox Music Player. The Rhythmbox window is split into a number of different panes, each displaying different details about your music collection. The left pane (Source) lets you select the source of the music, such as your media library, podcasts, and Internet radio. Each of these options has a browser pane available to display the source of the content. As an example, when you use the Library, one pane displays the artists and one displays the albums. You can use this to navigate your music.

Listening to Podcasts Podcasts are audio shows that you can subscribe to, and they are increasingly becoming the new way to listen to audio and music. When you subscribe to a podcast, each new release is automatically downloaded for you. This makes it extremely convenient to regularly listen to audio shows.

If you are new to podcasting, you should grab yourself a podcast feed of something you like. A site such as www.podcast.net is a good place to start.



Figure 3-39 Rhythmbox is a great place to look after your music collection.

Go to the site in Firefox, and when you see a link that indicates a podcast feed or RSS feed, right-click it and select Copy Link Location.

Rhythmbox has good support for Podcast feeds, and subscribing to a feed is simple. In the sidebar, right-click the Podcasts entry and click New Podcast Feed. Paste in the feed by right-clicking the box and selecting Paste. The files are automatically downloaded, and you can listen to them by double-clicking on them. Each time you start Rhythmbox, a check is made to see if any new episodes exist, and if so, they are downloaded.

NOTE **Rhythmbox and iPods**

Rhythmbox can also read songs from your iPod—just plug it in and it will display in Rhythmbox. Rhythmbox can read from the iPod but may not be able to write to all iPods..

Playing and Ripping CDs

When you pop a CD into your CD drive, Audio CD Extractor (Sound Juicer) automatically loads to play your CD. If you are connected to the Internet, the CD is looked up on the Internet, and the album details and song titles are displayed.

Ripping Songs as Oggs Sound Juicer is not just a CD player but a ripper too. Using a ripper you can convert the songs on the CD into files that you can play on your computer. By default, Sound Juicer rips the files in the Ogg format, which provides better sound quality than MP3 at a smaller size. By default, the ripped files are stored in the format discussed earlier, with each artist as a folder and albums as subfolders.

To rip the songs, just select the checkboxes of the songs you want ripped (by default, all songs are selected), and then click Extract. Each song is then stored in your Music folder, and the song titles are used as the names of the files.

Ripping Songs as MP3s Although the default Ogg support is recommended in most situations, you may prefer to rip MP3 files if you have a digital audio player that does not support Ogg files. To do this, you need to configure Sound Juicer to enable MP3 support.

You should first install the `gststreamer0.10-plugins-ugly-multiverse` package (see Chapter 4 for more details on installing packages). Next, in Sound Juicer, click `Edit > Preferences` and choose the `CD Quality, MP3 (MP3 audio)` profile from the `Output Format` options.

Watching Videos

To watch videos in Ubuntu, you need to ensure that you have the correct codecs installed. As discussed earlier, some of these codecs are available separately due to the legal implications of including them with the Ubuntu system. Although the new process for suggesting and installing codecs should cover most popular types of files, you should still refer to the Ubuntu wiki at <http://wiki.ubuntu.com> for details of how to install ones that are not recognized.

Using Totem To watch videos in Ubuntu, you use the Totem media player (Figure 3-40). Load it by clicking `Applications > Sound & Video > Movie Player`.

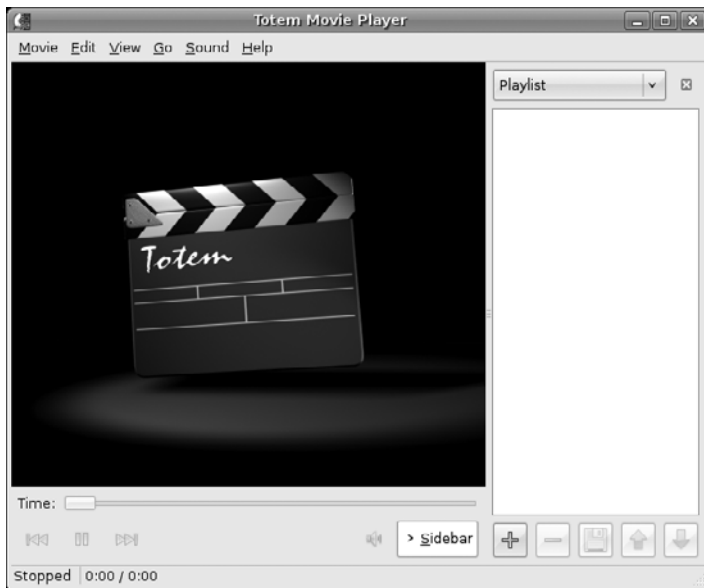


Figure 3-40 Totem is a simple and flexible media player.

To watch a video on your hard disk, click **Movie > Open**, and select the file from the disk.

TIP **Another Way to Load Files into Totem**

You can also load multimedia files into Totem by double-clicking them on your desktop or in the file manager.

Totem also supports video streams. To watch a stream, click **Movie > Open Location**, and enter the Internet address for the stream. The video feed is then loaded and displayed.

Getting DVDs to Work Ubuntu comes with DVD support for unencrypted DVDs. With the DVD industry being what it is, the majority of DVDs come encrypted, and if you want to watch them, you need to ensure that a library that can decrypt these DVDs is installed. Unfortunately, this library needs to be installed separately and is not included with Ubuntu. Refer to the Ubuntu wiki restricted formats page at <https://wiki.ubuntu.com/RestrictedFormats> for details.

With the library installed, insert a disk into your computer, and Ubuntu will automatically start Totem to view the disk. Alternatively, fire up Totem, and click **Movie > Play Disk** to play the DVD. Totem doesn't support DVD menus but you can still use it to play a DVD.

If you are settling down to watch a movie, you may want to configure a few other settings. First click **View > Aspect Ratio** to select the correct aspect ratio for your screen, and then select **View > Fullscreen** to switch to full screen mode. To exit full screen, just move your mouse, and some on-screen controls will appear.

TIP **Control Totem with a Remote Control**

Totem supports the Linux Infrared Control (LIRC) library so you can use a remote control while watching your media.

Summary

In this chapter you've learned how to start using the core features of your new desktop. These concepts should allow you to perform most of the

day-to-day tasks when using your computer and provide a base from which to explore the other applications installed on your system. This solid grounding in the desktop paves the way for you to meander through the rest of the book, learning about the more advanced uses of your new system and exploring the enormous flexibility that Ubuntu provides.

Always remember that there is a wealth of help and documentation available online. If you ever find yourself stuck, take a look at the Ubuntu Web site at www.ubuntu.com or the Ubuntu documentation at <http://help.ubuntu.com> and make use of the forums, wiki, mailing lists, and IRC channels.

Index

- . (dot) prefix files, 107
- && (ampersands), running multiple commands, 226
- @ (at sign), in command-line username, 393–394
- \$ (dollar sign), UNIX shell symbol, 163, 393–394
- # (hash), comment indicator, 162
- (hyphen), dash in commands, 225, 395
- ? (question mark), wildcard character, 403
- | (vertical bar), pipe symbol, 139, 395, 404
- [] (brackets), wildcard characters, 403
- [!] (brackets, exclamation point), wildcard characters, 403
- ; (semicolon), running multiple commands, 226
- ~ (tilde), home directory indicator, 164, 393–394, 398
- 3D mapping, 315
- 3D modeling, 98, 410
- 802.1x authentication, 213–215

- Abiword, Ubuntu/Windows equivalent, 407
- Access, Ubuntu/Windows equivalent, 408
- Access permissions. *See* Permissions; sudo command; Superusers.
- Accessibility, 20, 293
- Accounting software, Ubuntu/Windows equivalent, 409
- Add or Remove Software, 294
- addgroup command, 402
- Adding
 - applets to the desktop, 64
 - icons to the desktop, 64
 - items to Plasma, 285
 - partitions. *See* Partitioning disks.
 - printers, 134
 - programs. *See* Adding/removing programs.
 - TrueType fonts, 191–192
 - user accounts, 172, 233, 401–402
 - user groups, 402
 - users to administrator account, Ubuntu Server, 172
- Adding/removing programs. *See also* Add or Remove Software; Add/Remove Applications; Installing.
 - Edubuntu, 346–347
 - Kubuntu, 288–290, 294
- Add/Remove Applications, 68, 120–122. *See also* Installing.
- Address book, accessing from Ekiga, 95
- Address Book icon, 95
- adduser command, 172, 233
- Adept. *See* KPackageKit installer.
- Administration menu item, 63
- Administrator. *See* System administrator.
- Advanced Package Tool (APT). *See* APT (Advanced Package Tool).
- Advanced tab, 292, 294
- Advanced User Settings, 294–295
- Advocacy, user involvement, 268
- AIM, Ubuntu/Windows equivalent, 409
- Akonadi configuration, 295
- Akregator, 311–312
- Alias Maya, Ubuntu/Windows equivalent, 410

- Alternate install CD
 - Kubuntu, 277
 - Ubuntu. *See* Installing Ubuntu, alternate install CD.
- Amarok music manager, 303
- AMD64 support, 34
- Ampersands (&&), running multiple
 - commands, 226
- Anagram creator, 325
- Andalusian government distribution, 370–371
- Animation, 98
- Annotating folders, 111
- Announcements, 247
- Answers, 28, 377–378
- Appearance section, 292
- Applets, 64. *See also specific applets.*
- Application Launcher, 283
- Applications. *See also specific applications.*
 - closing, 60
 - compiling, 197–198
 - context menu, viewing, 66
 - graphical remote access, 137–138
 - hiding/showing, 65
 - installing, 68
 - maximizing, 60
 - minimizing, 60
 - non-Synaptic, installing, 196–197
 - open, displaying, 65–66
 - program won't close, 201
 - putting in the taskbar, 60
 - required tools, verifying, 198
 - running, 68. *See also* Applications menu.
 - starting, 60–62
 - switching between, 66
 - troubleshooting. *See* Troubleshooting, applications.
 - Ubuntu/Windows equivalent. *See* Windows programs, Ubuntu equivalents.
 - vendor lock-in, 74
 - window won't close, 201
 - writing and tracking, 377
- Applications menu. *See also* Desktop area, Ubuntu.
 - Calculator, 95–96
 - command-line interface, 96
 - customizing, 61–62
 - description, 95
 - Disk Usage Analyzer, 97
 - FreeCell Solitaire, 96
 - F-Spot Photo Manager, 97
 - Gnometris, 96
 - Mahjongg, 96
 - Movie Player, 97
 - Nibbles, 96
 - Sound Recorder, 97
 - starting applications, 60
 - Sudoku, 97
 - System Monitor, 97
 - Terminal, 96
 - Text Editor, 95
- Applications tab, 283
- Appointments. *See also* Calendars.
 - Kubuntu, 310–311
 - Ubuntu, 78
- APT (Advanced Package Tool)
 - # (hash), comment indicator, 162
 - apt-cache utility, 164–167
 - apt-get utility, 164–167. *See also* aptitude utility.
 - backports repository, enabling, 162
 - comment lines, 162
 - definition, 122
 - Ubuntu archive, 161–162
 - Ubuntu Server packages, 161–162
 - universe repository, enabling, 162
- apt-cache utility, 164–167
- apt-get utility, 164–167. *See also* aptitude utility.
- aptitude utility, 169–170. *See also* apt-get utility.
- Architectures supported by Ubuntu, 34–35
- Archive management, 374
- ARM support, 35
- Array failure, RAID, 154

- Array management. *See* LVM (Logical Volume Manager).
- Artwork, user involvement, 269–270
- Astronomy applications, 326–328, 410
- At sign (@), in command-line username, 393–394
- Audio. *See also* Multimedia; Music.
 - CDs. *See* CDs, audio.
 - configuration, Ekiga, 90, 91–92
 - distortion, 208
 - doesn't play, 205–207
 - in Edubuntu, 349–350
 - iPods, 115
 - MP3 format, 112, 115–116
 - Ogg Theora, 113
 - Ogg Vorbis, 113
 - playing, 97, 113–116
 - podcasts, 114
 - previewing sound files, 194
 - problems with. *See* Troubleshooting, multimedia.
 - Rhythmbox, 113–115
 - Sound Recorder, 97
 - sound recording, 97
 - sound server, default, 207
- Audio CD Extractor, 101, 115
- Authentication, Kubuntu, 290
- Authentication tab, 290
- auth.log, 175
- Automatic login, 199, 315–316
- Autopackages, 196–197
- Avatars, Ubuntu Forums, 390

- Backgrounds, desktop. *See* Themes and backgrounds.
- Backing up data. *See also* RAID (redundant array of inexpensive disks).
 - boot sector, 188
 - incremental backups, 140
 - before installing RAID, 153
 - prior to installation, 39
 - strategies for, 139–140
 - tools for, 140
- Backports repository, 161–162, 167
- Bacon, Jono, 244
- Baker, 132
- Banshee, Ubuntu/Windows equivalent, 408
- Base, Ubuntu/Windows equivalent, 408
- Basinger, Mike, 265
- Bazaar, 27, 379
- Beagle, 99–100
- Beep Media Player, Ubuntu/Windows equivalent, 408
- Binary uploads, Ubuntu archive, 168
- BIOS configuration problems, 39
- BitLocker, Ubuntu equivalent, 158
- Blank desktop area, 60
- Blanking screens, 357
- Blender, 98, 410
- Blinken, 329
- Blogs, 71
- Bluefish, 99–101
- Blueprint, 28, 377
- Bluetooth, 218
- Bochs, virtualization, 179
- Bookmarking Web pages, Konqueror, 305
- Bookmarks
 - files and folders, 102–103, 111
 - live, 71
 - tagging, 70
 - Web sites, 70–71
- Books and publications
 - The Linux Documentation Project, 405
 - A Practical Guide to Linux® Commands...*, 405
 - Ubuntu Foundation documentation, 18–24
- Boot failure, troubleshooting, 187–188
- /boot folder, 108
- Boot logo appears corrupted, 189
- Boot sector. *See also* MBR.
 - backing up and restoring, 188
 - corruption, 187
 - troubleshooting, 187–188

- “Bootable flag” setting, 54
- Bootable partitions, specifying, 54
- Bootloader, troubleshooting, 187–188
- Brackets, exclamation point ([!]), wildcard characters, 403
- Brackets ([]), wildcard characters, 403
- Bread, baking, 239–241
- Browsing
 - files, 300
 - the Web. *See* Web browsers; *specific Web browsers.*
- Buddies menu, 87
- Bug #1, 24–25
- Bugs
 - Bug #1, 24–25
 - debugging. *See* Technical support; Troubleshooting.
 - reporting and tracking, 237–239, 375–376. *See also* Launchpad; Malone.
 - user involvement, 270
- Bulletin boards. *See* The Fridge; IRC (Internet Relay Chat); Mailing lists; Web forums; Wikis.
- Burger, Corey, 265
- Burn from Disk Image option, 38
- Burning CDs. *See* CDs, burning.
- Buttons, Ubuntu desktop border
 - Hide/Show Desktop, 65
 - thin white line, 60
 - white cross, 60
 - white square, 60
 - in window border, 60
- Calc program, 304, 407
- Calculator program, 95–96
- Calculators
 - Calc program, 304, 407
 - Calculator program, 95–96
 - Kubuntu, 304, 313
- Calendar mode, Kubuntu, 310–311
- Calendars. *See also* Kontact; KOrganizer.
 - accessing from the clock, 65, 79
 - appointments, 78
 - Evolution, 77–79
 - Kubuntu. *See* Kontact; KOrganizer.
 - meetings, 78
 - multiple, 78
 - viewing, 78–79
- Cameras. *See* Digital cameras.
- Canonical, definition, 12
- Canonical Ltd.
 - Bazaar, 27
 - founding of, 11–12, 25–26
 - geographical location, 26
 - Launchpad, 27–29
 - service and support, 26–27
 - version control tool, 27
 - as a virtual company, 11–12
 - working with other companies, 27
- cat command, 395, 401. *See also* zcat command.
- Categorizing, folders, 111
- cd command, 395, 397
- CD images. *See* .iso files.
- CD/DVD Burner, 131
- CD/DVD burners
 - accessing, 131
 - GNOME, 38
 - GNOME Baker, 132
 - ISO Recorder, 37
 - Nero Burning ROM, 37
- CD-ROMs, 217
- CDs
 - alternate install. *See* Installing Ubuntu, alternate install CD.
 - audio. *See also* Audio.
 - burning, 306
 - Kubuntu, 294
 - playing, 115–116
 - ripping, 115–116

- burning. *See also* CD/DVD burners.
 - accessing the burner, 131
 - audio and data, 306
 - Burn from Disk Image option, 38
 - vs. copying, 38
 - from images, 36, 131–132
 - installation image files, 36
 - .iso files, 36, 132
 - K3b program, 283, 306–307
 - Kubuntu, 283
 - in Linux, 38
 - in Mac OS X, 38
 - in Windows, 37
- copying. *See* CDs, burning.
- desktop. *See* Installing Ubuntu, desktop CD.
- installation. *See* Installation CDs.
- Celestia, Ubuntu/Windows equivalent, 410
- Changing directories, 395
- Chats. *See also* Mailing lists; Ubuntu Forums;
 - Web forums; Wikis.
- IRC (Internet Relay Chat)
 - about Edubuntu, 362
 - about Kubuntu, 308
 - description, 248–249
 - FreeNode IRC network, 248
 - list of channels, 249
 - Pidgin, 87
- text chat, Ekiga, 95
- Chief nuisance, 371
- chmod command, 399
- chown command, 399
- Client management, Edubuntu
 - kernel version, determining, 354
 - kernel version, updating, 353–355
 - NFS root, updating, 352–353
- Client setup, LTSP, 339–340
- Clock
 - calendar access, 65, 79
 - description, 65
 - LTSP, 337–338
 - setting, 337–338
 - UTC (Coordinated Universal Time), 337–338
- Closing applications, 60
- Cloud computing, 181–182
- CoC (Code of Conduct), 20–22
- Code revisions, approving, 264
- Codecs, 112–113, 116
- Coffee references, Ubuntu Forums, 390
- Colors, image editing, 84
- Command line access, Kubuntu, 313
- Command-line, package management tools,
 - 162–163
- Command-line interface. *See* Terminal.
- Commands
 - help for. *See* Man pages.
 - scheduling. *See* cron system; crontab command.
 - syntax and usage. *See specific commands.*
- Comment lines, in APT, 162
- Commercial distributions, 371
- Communicating with developers. *See* Ubuntu
 - community, communication venues.
- Community Council, 263–265
- Community of users. *See* Ubuntu community.
- Compiling applications, 197–198
- Compression, multimedia. *See* Codecs.
- Computer administration
 - customizing your system. *See* Customizing.
 - Kubuntu. *See* Kubuntu, customizing;
 - Kubuntu, system administration;
 - Software Management.
 - troubleshooting. *See* Troubleshooting, system
 - administration.
- Computer Administration section, 293
- Computer menu item, 62
- Computer tab, 283
- Computers
 - names, configuring in Kubuntu, 281
 - older or less powerful. *See* Installing Ubuntu,
 - alternate install CD; U-lite; Xubuntu.
 - supported by Ubuntu, 34–35

- Conferences, 257–259
 - Configuration settings, folders for, 107
 - Configuring. *See also* Customizing.
 - BIOS, 39
 - desktop area, Ubuntu
 - background, 104
 - the clock, 65
 - menus, 61–62
 - screensavers, 105–106
 - themes, 104–105
 - wallpaper, 104
 - Edubuntu server. *See* Edubuntu, server management.
 - keyboard layout. *See* Keyboards, configuring.
 - printers
 - adding printers, 134
 - driver, specifying, 135–136
 - gathering information, 134
 - New Printer wizard, 135–136
 - Printer configuration application, 133–134
 - printer model, specifying, 135–136
 - printing a test page, 136
 - remote printing, 136–137
 - Connect to Server menu item, 63
 - Contacting Ubuntu developers and users. *See* Ubuntu community, communication venues.
 - Containerization, 179
 - Context menu for applications, viewing, 66
 - Cool Streams, 303
 - Coordinated Universal Time (UTC), 337–338
 - Copying
 - CDs, *vs.* burning, 38
 - files
 - between computers, 63, 226
 - cp command, 398
 - overview, 110
 - scp command, 226
 - to/from USB storage, 215–216
 - folders, 110
 - photos from mobile phone, 218
 - Copyright violations, 205–206, 303
 - Core philosophical ideals, 18–20
 - cp command, 398
 - cron system, 223–226
 - crontab command, 223–226
 - Cropping images, 84
 - Ctrl-Alt-Backspace restart, 199
 - Cunningham, Ward, 251
 - Custom server kernel, 147
 - Customizing. *See also* Configuring.
 - the clock, 65
 - desktop area, Ubuntu
 - background, 104
 - the clock, 65
 - menus, 61–62
 - screensavers, 105–106
 - themes, 104–105
 - wallpaper, 104
 - Kubuntu. *See also* Kubuntu, system administration; Kubuntu, system settings.
 - accessibility options, 293
 - desktop. *See* Plasma.
 - GHNS (Get Hot New Stuff), 286–287
 - KMenu style, reverting to, 285
 - ksplash, 292
 - locking the screen, 284
 - making immutable, 312–313
 - password, 284
 - splash screen, 292
 - look and feel. *See* Themes and backgrounds.
 - menus, 61–62
 - screensavers, 105
- CVE numbers, 127–128
- Data replication, RAID, 151
- Databases
 - Base program, 408
 - IBM DB2 database, Ubuntu support, 26
 - of stars, 326–327
 - Ubuntu/Windows equivalent, 408
- Date and time. *See* Clock.
- dd command, 188

- .deb file extension, 162
- Debian package manager, 162–163
- Debian project, 16–17
- debmirror, 194
- deborphan tool, 170
- Debs, 162
- DEFAULT keyword, LTSP, 343
- Degraded mode, RAID, 154
- Deleted items, restoring, 195
- Deleting. *See also* Removing.
 - files, 398
 - partitions, 52
 - user accounts, 172, 401–402
 - user groups, 402
- delgroup command, 402
- Dell laptops, Ubuntu support, 26
- deluser command, 172, 402
- Derivatives of Ubuntu, 30–31
- Derived distributions. *See also* Distributions.
 - for the Andalusian government, 370–371
 - commercial distributions, 371
 - gNewSense, 371–372
 - Guadalinex, 370–371
 - for low-power computers, 372
 - Mythbuntu, 211, 369
 - Nexenta OS, 372
 - officially supported. *See* Edubuntu; Kubuntu; Ubuntu Server Edition.
 - for the OpenSolaris kernel, 372
 - overview, 30–31
 - recognized. *See* Mythbuntu; Ubuntu Studio; Xubuntu.
 - for restricted code, 371
 - Spanish language, 370–371
 - Ubuntu Studio, 369–370
 - Ubuntulite. *See* U-lite.
 - U-lite, 372. *See also* Xubuntu.
 - Xubuntu, 30, 35, 368–369. *See also* U-lite.
- Desktop area
 - adding TrueType fonts, 191–192
 - globes, 329
 - hung, 198–199
 - installing a new environment, 193
 - KDE. *See* Plasma.
 - Kubuntu. *See* Plasma.
 - performance enhancement, 227–228
 - speeding up, 227–228
- Desktop area, Edubuntu
 - blanking screens, 357
 - lockdown editor, 357–358
 - locking screens, 357
 - logging users out, 356
 - overview, 355
 - Pessulus lockdown editor, 357–358
 - plug-ins, 358
 - process management, 356
 - resolution, 338
 - sending messages, 357
 - starting programs, 357
 - Thin Client Manager, 355–356
 - user groups, 358
- Desktop area, Ubuntu. *See also* Applications menu; GNOME.
 - adding TrueType fonts, 191–192
 - Administration menu item, 63
 - appearance. *See* Themes and backgrounds.
 - applets, 64
 - applications
 - closing, 60
 - context menu, viewing, 66
 - hiding/showing, 65
 - maximizing, 60
 - minimizing, 60
 - open, displaying, 65–66
 - putting in the taskbar, 60
 - starting, 60–62
 - switching between, 66
 - blank desktop area, 60
 - buttons
 - Hide/Show Desktop, 65
 - thin white line, 60
 - white cross, 60
 - white square, 60
 - in window border, 60

- Desktop area, Ubuntu, *continued*
 - calendar, 65
 - clock, 65
 - Computer menu item, 62
 - Connect to Server menu item, 63
 - corner features, 66
 - customizing
 - background, 104
 - the clock, 65
 - menus, 61–62
 - screensavers, 105–106
 - themes, 104–105
 - wallpaper, 104
 - Desktop folder, accessing, 62
 - Desktop menu item, 62
 - documentation, accessing, 63
 - drives, displaying, 62
 - help and support, 63
 - Help and Support menu item, 63
 - hiding/showing, 65
 - Home folder, accessing, 62
 - Home Folder menu item, 62
 - icons
 - adding, 64
 - in the Desktop folder, 62
 - for devices, 60
 - moving, 64
 - placing on the desktop, 62
 - shortcuts, 64
 - starting applications. *See* Applications menu.
 - language selection, 59
 - locking the screen, 106
 - look and feel. *See* Themes and backgrounds.
 - main areas, 59–60
 - menus
 - Applications, 61–62, 66
 - layout, changing, 61–62
 - Places, 62–63
 - System, 63
 - My Computer, equivalent, 62
 - My Documents, equivalent, 63
 - Network menu item, 63
 - Network Neighborhood, equivalent, 63
 - notification area, 65
 - the panel, 59–60
 - passwords, for Administration features, 63
 - Preferences menu item, 63
 - Recent Documents menu item, 63
 - recently used documents, displaying, 63
 - Search for Files menu item, 63
 - servers, connecting to, 63
 - support, accessing, 63
 - taskbar, 60, 65–66
 - trash, 66
 - usability, 66
 - virtual desktops, 66
 - volume control, 65
 - Windows system tray, equivalent, 65
 - workspaces, 66
- Desktop CD, installing from
 - Kubuntu, 278–281
 - Ubuntu. *See* Installing Ubuntu, desktop CD.
- Desktop Effects, disabling, 227–228
- Desktop folder, accessing, 62
- Desktop keyring, 138
- Desktop machines *vs.* servers, 23. *See also* Ubuntu Server.
- Desktop menu item, 62
- Desktop publishing, Ubuntu/Windows equivalent, 409. *See also* Word processing.
- Desktop Search configuration, Kubuntu, 295
- Desktop section, 292
- /dev folder, 108
- Developer blogs, 71
- Developer contacts, 251
- Developer sprints, 255–257
- Developer summits, 255–257
- Development discussions. *See* Blogs; IRC (Internet Relay Chat); Mailing lists; Web forums; Wikis.

- Development environment. *See* IDE (Integrated Development Environment).
- Device configuration files, folder for, 108
- Device drivers
 - finding, 217–218
 - LIRC, 222–223
 - printers, specifying, 135–136
 - restricted, 190
 - wireless cards, 214–215
- Device information, displaying, 111
- Devices. *See also specific devices.*
 - filesystems, determining, 219–220
 - names, indicating connection type, 43
 - network support, determining, 213–215
 - not working, 217–218
 - problems with. *See* Troubleshooting, hardware.
 - support, determining, 223
 - system support, determining, 223
- df command, 399
- DHCP servers, 341–342
- Dia, Ubuntu/Windows equivalent, 410
- Diagram editing, Ubuntu/Windows equivalent, 410
- Digital cameras, 132, 294
- Digital flash cards, 329
- Digital Millennium Copyright Act (DMCA), 205–206
- Digital photography. *See* Photographs.
- Digital Rights Management (DRM), 303
- Direct memory access mode (DMA), enabling, 206
- Directories. *See also* Folders; Terminal
 - commands, files and folders.
 - changing, 395
 - vs. folders, 106
- Disabled users. *See* Accessibility.
- Disk replication, Ubuntu Server, 180–181
- Disk space
 - freed, viewing, 200
 - freeing, 200
 - reducing, 230–231
 - usage, displaying, 399
- Disk storage. *See also* CDs; USB storage devices.
 - across physical boundaries. *See* RAID (redundant array of inexpensive disks).
 - fixing, 230
 - floppy disks, 132
 - formatting, 220–221
 - fsck program, 230
 - hard disks. *See also* LVM (Logical Volume Manager).
 - partitioning. *See* Partitioning disks.
 - usage analysis, 97
 - mkfs commands, 221
 - organizing. *See* Partitioning disks.
 - reads but won't write, 218–219
 - recovering from power failure, 229–230
 - space usage. *See* Disk space.
 - USB keyring devices, 130–131, 138
- Disk Usage Analyzer, 97, 200
- Diskless clients, 330–332
- DISPLAY option, 343
- Display section, 293
- Display settings, Kubuntu, 293
- Displays. *See* Monitors; Screens.
- Dispute arbitration, 264
- Distributed Replicated Block Device (DRBD), 181
- Distribution management software, 28
- Distribution upgrades, Ubuntu Server, 167–168
- Distributions. *See also* Derived distributions; Repositories; *specific distributions.*
 - contents, 13
 - definition, 12
 - derived. *See* Derived distributions.
 - diversity of, 14–15
 - educational purposes. *See* Edubuntu.
 - with KDE. *See* Kubuntu.
 - for older computers. *See* U-lite; Xubuntu.
- Distros. *See* Distributions.
- Distrowatch database, 14
- DMA (direct memory access mode), enabling, 206

- DMCA (Digital Millennium Copyright Act), 205–206
- dmesg log, 175
- Documentation. *See also* Help; Online resources; Ubuntu community, communication venues; Ubuntu Foundation, documentation
 - command-line interface. *See* Man pages.
 - GNOME desktop, accessing, 63
 - user involvement, 269
- Documents
 - creating
 - mathematical expression builder. *See* Math.
 - presentations. *See* Impress.
 - spreadsheets. *See* Calc.
 - word processing. *See* Desktop publishing; Word processing.
 - recently-used, searching for, 63
- Dollar sign (\$), UNIX shell symbol, 163, 393–394
- Dolphin file manager, 297–298
- Donating to the Ubuntu project, 29
- do-release-upgrade tool, 167
- Dot (.) prefix files, 107
- Double ampersand (&&), running multiple commands, 226
- dpkg utility, 162–163
- Draw program, 304
- Drawing package, 329–330
- Drawing programs. *See also* Images (graphic), editing.
 - 3D modeling, 98, 410
 - Draw, 304
 - GIMP (GNU Image Manipulation), 79–84
 - Inkscape, 98–99
 - SVG (Scalable Vector Graphics), 98–99
 - Tux Paint, 329–330
 - Ubuntu/Windows equivalent, 410
- DRBD (Distributed Replicated Block Device), 181
- Drivers. *See* Device drivers.
- Drives, displaying on the desktop, 62
- DRM (Digital Rights Management), 303
- Dual boot
 - LTSP, 331, 343–345
 - online resources, 344
 - partitioning the disk for, 41–43
- DVDs
 - burning. *See* CD/DVD burners.
 - DMA (direct memory access mode), enabling, 206
 - encryption, video, 117
 - mounting, 217
 - not working, 217
 - online resources, format restrictions, 117
 - playback is jittery, 206
 - support, enabling, 210
 - won't eject, 217
 - won't play, 206
- East, Matthew, 265
- ecryptfs, 158
- Editions of Ubuntu. *See* Derived distributions; *specific editions.*
- Edubuntu. *See also* LTSP (Linux Terminal Server Project).
 - adding/removing programs, 346–347
 - blanking screens, 357
 - client management
 - kernel version, determining, 354
 - kernel version, updating, 353–355
 - NFS root, updating, 352–353
 - description, 367–368
 - desktop management
 - blanking screens, 357
 - lockdown editor, 357–358
 - locking screens, 357
 - logging users out, 356
 - overview, 355
 - Pessulus lockdown editor, 357–358
 - plug-ins, 358
 - process management, 356
 - resolution, 338
 - sending messages, 357
 - starting programs, 357

- Thin Client Manager, 355–356
 - user groups, 358
- downloading, 322
- first edition, 321
- giving back to the community, 362
- goals of, 321–322
- help, 361–362
- history of, 321–322
- installing. *See* Installing Edubuntu.
- IRC (Internet Relay Chat), 362
- lockdown editor, 357–358
- locking screens, 357
- logging users out, 356
- mailing lists, 361
- online resources, 368
- overview, 320
- Pessulus lockdown editor, 357–358
- plug-ins, 358
- process management, 356
- sending messages, 357
- server management
 - installing applications, 346–347
 - IP address, changing, 348
 - local devices, 348–349
 - password display, 348
 - printing, 350–351
 - removing applications, 347
 - sound, 349–350
 - SSH keys, updating, 348
 - update notification, 345
 - updating the server, 345
 - window manager alternatives, 351–352
- starting programs, 357
- Thin Client Manager, 355–356
- vs. Ubuntu, 30
- user groups, 358
- Web forums, 362. *See also* Ubuntu Forums.
- Web sites about, 361
- Edubuntu, applications
 - astronomy, 326–328
 - desktop globe, 329
 - desktop publishing, 409
 - digital flash cards, 329
 - drawing package, 329–330
 - educational, 323
 - function graphing, 326
 - games
 - anagram creator, 325
 - Blinken, 329
 - GCompris, 330
 - hangman, 325
 - Kanagram, 325
 - KHangman, 325
 - Simon Says, 329
 - GCompris Administration, 323
 - Impress, 304
 - Kalzium, 324
 - KmPlot, 326
 - KStars, 326–328
 - KTouch, 328
 - KTurtle, 328
 - Logo programming language, 328
 - maps, 329
 - Marble, 329
 - math
 - factoring numbers, 325
 - fraction exercises, 325
 - geometrical construction, 325–326
 - graphing functions, 326
 - KBruch, 325
 - Kig, 325–326
 - KmPlot, 326
 - plotting, 326
 - Parley, 329
 - periodic table exploration, 324
 - physics simulator, 329
 - Scribus, 409
 - space exploration, 326–328
 - standard, 323
 - stars database, 326–327
 - Step, 329
 - touch typing tutor, 328
 - Tux Paint, 329–330
 - world atlas, 329

- edubuntu-devel mailing list, 361–362
- edubuntu-users mailing list, 361–362
- Education, Ubuntu/Windows equivalent, 410
- Educational applications, 323
- Educational menu, 323
- Education-oriented Ubuntu. *See* Edubuntu.
- Edutainment, Ubuntu/Windows equivalent, 410
- Effects filters, image editing, 82–83
- 802.1x authentication, 213–215
- Ejecting CDs and DVDs, 217
- Ekiga
 - address book, accessing, 95
 - Address Book icon, 95
 - audio configuration, 90, 91–92
 - connection type, configuring, 89
 - description, 87–88
 - firewall modifications, 90
 - icons, 94–95
 - making a call, 93
 - NAT settings, detecting, 90, 91
 - Netmeeting support, 87
 - setting up, 88–93
 - SIP support, 87–88
 - starting, 88
 - text chat, 95
 - Text Chat icon, 95
 - video configuration, 90, 92
 - view mode, selecting, 95
 - View Mode icon, 95
 - View Webcam icon, 95
 - Web camera configuration, 93
- Ekiga Softphone, Ubuntu/Windows equivalent, 409
- Electrical power
 - conserving
 - automatically turning off monitors, 293
 - hibernating, 68, 158
 - Kubuntu, 293
 - monitors, 293
 - suspending, 67
 - failure, recovering from, 229–230
- Elkner, Jeff, 321
- E-mail
 - accounts, setting up, 74–76
 - address, configuring, 204
 - doesn't work, 204–205
 - Evolution, 74–77
 - Hotmail, 75
 - Kubuntu, 309–310
 - sending/receiving, 76–77
 - server setup, 76
 - troubleshooting, 204–205
 - Ubuntu/Windows equivalent, 408
 - unable to connect to server, 77
 - Webmail, 75
 - Yahoo! Mail, 75
- Emblems, 111
- Emblems option, 111
- Encryption
 - DVD, 117
 - Launchpad, 378
 - swap partitions, 158
 - Ubuntu Server, 158–159
- Ending a session. *See* Logging out.
- Entertainment, Ubuntu/Windows equivalent, 410
- Epiphany, 408
- /etc folder, 108
- Etrich, Matthias, 274–276
- Evolution
 - calendars, 77–79
 - e-mail, 74–77
 - e-mail doesn't work, 204–205
 - Hotmail, 75
 - PIM (personal information manager), 74
 - Ubuntu/Windows equivalent, 408
 - Webmail, 75
 - Yahoo! Mail, 75
- Excel, Ubuntu/Windows equivalent, 304, 407
- ext3 filesystem, 44–45
- Extensions, Firefox, 71–72
- Factoring numbers, 325
- FAT32 filesystem, 45, 219–220

- Fault tolerance, 150–151, 158
- Favorites list, 282
- Favorites tab, 282
- Feature goals, maintaining, 266
- Feature tracking, 28
- File associations, Kubuntu, 294
- File chooser, 102–103
- File formats, Writer, 73–74
- File management. *See* File Manager; Kubuntu, file management; Nautilus.
- File Manager. *See also* Nautilus.
 - displaying hidden files and folders, 194–195
 - freeing disk space, 200
 - performance, 194
 - restoring deleted items, 195
 - running slow, 194
 - scripting, 202–203
 - speeding up, 194
 - viewing freed disk space, 200
- Files. *See also* Folders; Terminal commands, files and folders.
 - .(dot) prefix, 107
 - bookmarking, 102–103
 - command-line interface to. *See* Terminal commands, files and folders.
 - contents, viewing, 395
 - copying
 - between computers, 63, 226
 - cp command, 398
 - overview, 110
 - scp command, 226
 - to/from USB storage, 215–216
 - from USB keyrings to the hard disk, 131
 - copying between computers, 63, 226
 - deleting, 398
 - displaying, 110
 - emblems, 111
 - execution, prohibiting, 173
 - finding. *See also* File Manager; Nautilus.
 - bookmarks, 102–103
 - contents, 176, 400
 - File Chooser, 102–103
 - grep command, 176
 - Konqueror, 300
 - zgrep command, 400
 - graphical remote access, 137–138
 - hidden
 - displaying, 194–195
 - identifying, 107–108
 - kioslaves, 300
 - Kubuntu. *See* Kubuntu, file management.
 - last-access log, disabling, 174
 - listing, 63, 394, 398
 - moving, 110, 398
 - owners, finding, 170
 - ownership, changing, 399
 - permissions, changing, 399
 - providers, finding, 170–171
 - remote access, 137–138
 - searching for, 63
 - selecting, 102–103, 110
 - storing and organizing, 106–109
 - structure changes, 299–300
 - transferring over networks, 212
 - transferring with SSH, 212
- Filesystems
 - creating, 220
 - default, 44–45
 - determining, 219–220
 - ext3, 44–45
 - FAT16, 45
 - FAT32, 45, 219–220
 - hardware issues, 219–220
 - NTFS, 219–220
 - optimizing, 54
 - sharing with Windows, 45
 - specifying, 54
 - super-user space, reserving, 54
 - Ubuntu Server, security, 173
- FileVault, Ubuntu equivalent, 158
- Filters
 - graphic, 82–83
 - packages, 121, 346
 - user groups, 358

- Finance programs, Ubuntu/Windows equivalent, 409
- Financial support for Ubuntu. *See* Canonical Ltd.; Ubuntu Foundation.
- Finding. *See also* Search tools; Searching.
 - device drivers, 217–218
 - file owners, 170
 - file providers, 170–171
 - files and folders, 63, 300. *See also* File Manager; Nautilus.
 - KPackageKit, 288
 - packages, 125
 - recently-used documents, 63
 - Synaptic, 123
 - Terminal, 96
 - themes and backgrounds, 209–210
- Finger pain, 241
- Firefox
 - bookmarking sites, 70–71
 - description, 68–69
 - extensions, 71–72
 - Flash is missing, 71–72, 203
 - Google searches, 70
 - interface, 68–69
 - Kubuntu, 306
 - live bookmarks, 71
 - navigating the Internet, 69–70
 - plug-ins, 71–72
 - searching, 70
 - starting, 68–69
 - tabbed browsing, 70
 - tagging bookmarks, 70
 - Ubuntu/Windows equivalent, 408
- Firewall tables, 176–177
- Firewalls, 90, 176–177
- Flash, missing from Firefox, 71–72
- Flash cards, digital, 329
- Flash disks. *See* USB storage devices, keyring devices.
- Flight Simulator, Ubuntu/Windows equivalent, 410
- FlightGear, Ubuntu/Windows equivalent, 410
- Floppy disks, mounting/unmounting, 132
- Folder access, 283
- Folder tree view, displaying, 111
- Folders. *See also* Files.
 - . (dot) prefix, 107
 - annotating, 111
 - /boot, 108
 - categorizing, 111
 - changing, 397
 - command-line interface to. *See* Terminal commands, files and folders.
 - for configuration settings, 107
 - copying, 110
 - creating, 109, 399
 - current, identifying, 397
 - current, printing, 397
 - current information, displaying, 111
 - current system status, 108
 - definition, 106
 - /dev, 108
 - device configuration files, 108
 - vs. directories, 106
 - displaying by emblem, 111
 - emblems, 111
 - /etc, 108
 - files in, listing, 394, 398
 - general software, 108
 - hidden
 - displaying, 194–195
 - identifying, 107–108
 - history, displaying, 111
 - /home, 108
 - /lib, 108
 - Linux structure, 107–108
 - log files, 108
 - /media, 108
 - media devices, 108
 - /mnt, 108
 - mounting devices, 108
 - moving, 110
 - /opt, 108
 - optional software, 108

- ownership, changing, 399
 - permissions, changing, 399
 - /proc/sys, 108
 - /root, 108
 - /sbin, 108
 - selecting, 110
 - subfolders, displaying, 108–109
 - superuser software, 108
 - for system configuration files, 108
 - system libraries, 108
 - /usr, 108
 - /var, 108
 - view, switching, 109
 - working, printing, 397
- Fonts
- choosing, 73
 - Kubuntu, 293
 - on LCD screen, 192
 - msttcorefonts package, 190–191
 - PowerPoint, 190–191
 - subpixel hinting, 192
 - TrueType, installing, 191–192
 - for Windows, 190–191
 - Word, 190–191
- “Format the partition” setting, 54
- Formatting disks, 220–221
- Forums. *See* Web forums.
- Forums Code of Conduct, 391
- Fraction exercises, 325
- free command, 399
- Free software
- access to source code, 4–5
 - characteristics of, 4
 - Debian project, 16–17
 - freedoms, 4
 - history of Ubuntu, 16–17
 - meaning of “free,” 4
 - vs. open source, 6–7
 - philosophical ideals, 18–20
- FREE SPACE line, 52
- FreeCell Solitaire, 96
- Freedesktop.org standards, 299–300
- Freedoms of free software, 4
- FreeNode IRC network, 248
- The Fridge, 254–255
- fsck program, 230
- F-Spot Photo Manager, 97, 132
- Full virtualization, 179
- Function graphing, 326
- Gaim. *See* Pidgin.
- Games
- anagram creator, 325
 - Blinken, 329
 - FreeCell Solitaire, 96
 - GCompris, 330
 - Gnometris, 96
 - hangman, 325
 - Kanagram, 325
 - KHangman, 325
 - Mahjongg, 96
 - Nibbles, 96
 - Simon Says, 329
 - Sudoku, 97
 - Ubuntu/Windows equivalent, 410
- GCompris, 330
- GCompris Administration, 323
- General chat. *See* Mailing lists; Wikis.
- General software, folder for, 108
- General Tab, 292
- Geographical location, specifying
- from alternate install CD, 48–49
 - from desktop CD, 39–41
 - LTSP, 336
- Geometrical construction, 325–326
- GFS (Global File System), 148
- GHNS (Get Hot New Stuff), 286–287
- GIMP (GNU Image Manipulation Program), 79–84, 408
- GIMP Image Editor, 132
- GizmoProject, Ubuntu/Windows equivalent, 409
- Globe application, 315
- Glom, Ubuntu/Windows equivalent, 408

- gNewSense, 371–372
- GNOME, burning CDs/DVDs, 38, 132
- GNOME Baker, 132
- GNOME desktop. *See* Desktop area, Ubuntu.
- GNOME Meeting. *See* Ekiga.
- Gnometriz, 96
- GNU General Public License, 275
- GNU project, history of Ubuntu, 3–7
- Gnucash, Ubuntu/Windows equivalent, 409
- Gnumeric, Ubuntu/Windows equivalent, 407
- Goals of
 - Edubuntu, 321–322
 - the governance system, 261
 - Ubuntu
 - accessibility to disabled users, 20
 - Bug #1, 24–25
 - CoC (Code of Conduct), 20–22
 - philosophical, 18–20
 - technical, 22–24
- Gobuntu. *See* GNewSense.
- Google searches
 - desktop search box, 70
 - Firefox, 70
 - Konqueror, 300, 305
 - Kubuntu, 300, 305
- Governance. *See* Ubuntu community, governance system.
- Graphical interface fails to start, 190
- Graphics. *See* Drawing programs; Images (graphic), editing.
- Graphing functions, 326
- Grawert, Oliver, 321, 355
- Green dragon, 275
- grep command, 400. *See also* zgrep command.
- grep tutorials, 401
- Grisbi, Ubuntu/Windows equivalent, 409
- Group permissions, 173
- Groups, user accounts. *See* User groups.
- grsync, 140
- Gtranslate. *See* Rosetta.
- Guadalinex, 370–371
- Guest Session option, 67
- Guided Partitioning option, 337–339
- Guided—Use Entire Disk and Set Up Encrypted LVM option, 51
- Guided—Use Entire Disk and Set Up LVM option, 51
- Guided—Use Entire Disk option, 51
- Gwenview, 314
- HAL devices, listing, 400
- Handicapped users. *See* Accessibility.
- Hangman game, 325
- Hard disks. *See also* Disk space; Disk storage; LVM (Logical Volume Manager).
 - fixing, 230
 - partitioning. *See* Partitioning disks.
 - power failure, recovering from, 229–230
- Hardware. *See also specific devices.*
 - detection, from alternate install CD, 49
 - emulation, 179
 - listing, 400
 - troubleshooting. *See* Troubleshooting, hardware.
- Harmony project, 275
- Harrison, Eric, 321
- Hash (#), comment indicator, 162
- HBD (Here Be Dragons), 8
- Hearing-disabled users. *See* Accessibility.
- Help. *See also* Online resources; Technical support; Troubleshooting.
 - for commands. *See* man pages.
 - Edubuntu, 361–362
 - Help and Support menu item, 63
 - help command, 402–403
 - Kubuntu, 316
 - Terminal commands, 397, 402–403
 - Ubuntu Forums, 386
 - Ubuntu Help Center, 63
- Hibernate option, 68

- Hibernating, 68, 158
- Hidden files and folders
 - displaying, 194–195
 - identifying, 107–108
- Hide/Show Desktop button, 65
- Hiding/showing, applications, 65
- Hill, Benjamin Mako, 265
- History of
 - Edubuntu, 321–322
 - Ubuntu Forums, 382–383
- History of Ubuntu. *See also* Shuttleworth, Mark.
 - Debian project, 16–17
 - first LTS release, 3
 - first release, 2
 - free software
 - and the Debian project, 16–17
 - and GNU, 3–7
 - meaning of “free,” 4
 - vs. open source, 6–7
 - GNU project, 3–7
 - Linux, 3–7
 - LTS (long-term support), 3
 - open source, 6–7
 - Open Source Initiative, 6
 - Perens, Bruce, 6
 - Raymond, Eric S., 6
 - Stallman, Richard M., 3–7
 - Torvalds, Linus, 5
 - user community, 17–18
 - Warty Warthog, 2
- History option, 111
- Holbach, Daniel, 265
- Home directory
 - encryption, 158–159, 172
 - lockout, 159
- /home folder, 108
- Home folder, accessing, 62
- Home Folder menu item, 62
- /home partition, installing Ubuntu Server, 149–150
- Hostname, specifying
 - from alternate install CD, 50
 - from desktop CD, 45–46
- Hotmail, Evolution support for, 75
- Hypervisor, 179
- Hyphen (-), dash in commands, 225, 395
- I386 support, 34
- IBM, virtualization, 178–180
- IBM DB2 database, Ubuntu support, 26
- Icons
 - adding, 64
 - in the Desktop folder, 62
 - for devices, 60
 - Ekiga, 94–95
 - moving, 64
 - placing on the desktop, 62
 - shortcuts, 64
- ICQ, Ubuntu/Windows equivalent, 409
- IDE (Integrated Development Environment), 314–315
- Ideas and feedback, user involvement, 269
- ifconfig command, 400
- Illustrator, Ubuntu/Windows equivalent, 410
- Image files. *See* .iso files.
- Images (graphic)
 - editing. *See also* Drawing programs.
 - colors, 84
 - creating a new image, 79–81
 - cropping, 84
 - effects filters, 82–83
 - GIMP (GNU Image Manipulation), 79–84
 - GIMP Image Editor, 132
 - Krita, 367
 - layers, 83
 - templates for new images, 79–81
 - text images, 81–84
 - viewing, 314
- Images (of installation CDs). *See* .iso files.
- Immutable desktop area, Kubuntu, 312–313
- Impress, 304, 407

- Incremental backups, 140
- Information option, 111
- Inkscape, 98–99, 410
- Input actions, Kubuntu, 293
- Installation CDs
 - alternate install, 34. *See also* Installing Ubuntu, alternate install CD.
 - burning, 36–38
 - buying, 36
 - desktop, 34. *See also* Installing Ubuntu, desktop CD.
 - downloading, 36
 - .iso files, 36–37
 - from Linux, 38
 - from Mac OS X, 38
 - mail order, 36
 - from Windows, 37
- Installation image files. *See* .iso files.
- Installing. *See also* Add/Remove Applications.
 - codecs, 112–113
 - Netbook Remix, 35
 - non-Synaptic applications, 196–197. *See also* Autopackages.
 - remote control, 222–223
 - software on Ubuntu Server, 158–159
 - splash screens, 209–210
 - themes and backgrounds, 209–210
 - without Synaptic, 196–197
- Installing applications. *See also* APT (Advanced Package Tool).
 - with Add/Remove Applications, 68, 120–122
 - application sources. *See* Repositories.
 - Edubuntu, 346–347
- Installing Edubuntu
 - as an add-on, 322–323
 - in a non-LTSP environment, 322–323
 - prerequisites, 322
 - update notification, 345
- Installing Kubuntu
 - from the alternate install CD, 277
 - computer name, configuring, 281
 - from the desktop CD, 278–281
 - downloading the image file, 277
 - keyboard layout, selecting, 280
 - online resources, 35
 - partitioning disks, 280
 - switching from Ubuntu, 278
 - time zone, selecting, 279
 - Ubiquity installer program, 278–281
 - username, configuring, 281
- Installing LTSP
 - administrative permissions, 338
 - client setup, 339–340
 - clock, setting, 337–338
 - DEFAULT keyword, 343
 - on a desktop installation, 340–341
 - DHCP servers, 341–342
 - DISPLAY option, 343
 - dual boot, 343–345
 - geographical location, specifying, 336
 - Guided Partitioning option, 337–339
 - installation procedure, 336–338
 - keyboard, configuring, 336
 - language, specifying, 336
 - NICs (network interface cards), 334–336, 336–337
 - partitioning disks, 337–339
 - PROMPT option, 343
 - screen resolution, specifying, 338
 - server configuration, 334–336
 - server setup, 338–339
 - switching from Ubuntu, 340
 - TIMEOUT option, 343
 - in Ubuntu, 340–341
 - from Ubuntu alternate CD, 333
 - user accounts, setting up, 338
 - UTC (Coordinated Universal Time), 337–338
- Installing packages
 - Add/Remove Applications, 68, 120–122
 - apt-get utility, 166
 - Kubuntu, 287–290

- manually, 163–164
- from Ubuntu archive, 166
- Installing Ubuntu
 - AMD64 support, 34
 - architectures supported, 34–35
 - ARM support, 35
 - backing up data, 39
 - CDs for. *See* Installation CDs.
 - choosing a version, 34–35
 - i386 support, 34
 - LPIA (low-power Intel architecture) support, 35
 - PowerPC support, 35
 - switching from Kubuntu, 278
 - updates
 - checking for updates, 128
 - CVE number, 127–128
 - limitations, 128
 - new releases, 128–129
 - notification of, 127
 - reviewing updates, 127–128
 - security vulnerability identifier, 127–128
 - security-related, 126, 127–128
 - smart updates, 128
 - starting the update, 129–130
 - from a USB key, 55
- Installing Ubuntu, alternate install CD
 - geographical location, specifying, 48–49
 - hardware detection, 49
 - hostname, specifying, 50
 - installing a server, 48
 - language selection, 48
 - partitioning the disk
 - adding partitions, 52–53
 - “Bootable flag” setting, 54
 - bootable partitions, specifying, 54
 - deleting partitions, 52
 - filesystem, specifying, 54
 - “Format the partition” setting, 54
 - FREE SPACE line, 52
 - Guided—Use Entire Disk and Set Up Encrypted LVM option, 51
 - Guided—Use Entire Disk and Set Up LVM option, 51
 - Guided—Use Entire Disk option, 51
 - “Label” setting, 54
 - labeling partitions, 54
 - Manual option, 51
 - mount options, 54
 - “Mount point” setting, 54
 - mount points, 54
 - “Reserved blocks” setting, 54
 - root partition, creating, 53
 - settings, 54
 - “Typical usage” setting, 54
 - “Use as” setting, 54
 - time zone, setting, 50
 - user account configuration, 54
- Installing Ubuntu, desktop CD
 - alongside Windows. *See* Dual boot.
 - BIOS configuration problems, 39
 - geographical location specification, 39–41
 - getting the CD. *See* Installation CDs.
 - hostname, specifying, 45–46
 - keyboard configuration, 41
 - language selection, 39, 40
 - migrating from previous version, 46–47
 - partitioning the disk
 - adding a partition, 44
 - default filesystem, 44–45
 - definition, 41
 - for dual boot, 41–43
 - manually, 43–45
 - minimum number of partitions, 42
 - mount points, 45
 - sharing with Windows. *See* Dual boot.
 - for Ubuntu only, 42–43
 - password guidelines, 46

- Installing Ubuntu, desktop CD, *continued*
 - system use during installation, 47
 - user account configuration, 45–46
- Installing Ubuntu Server. *See also* LVM (Logical Volume Manager); RAID (redundant array of inexpensive disks).
 - connecting to another server, 149
 - /home partition, 149–150
 - log file, 149
 - partitioning, 149–150. *See also* RAID.
 - vs. regular Ubuntu machine, 147–148
 - root account, enabling, 159–160
 - ssh client, 149
 - switching consoles, 149
 - /tmp partition, 149
 - /var partition, 149
- Installing Xubuntu, 35
- Instant messaging, 86–87, 306–308, 409
- Integrated Development Environment (IDE), 314–315
- Intel Boot Agents will not boot, 360
- Internet dial-up tool, 314
- Internet Explorer, Ubuntu/Windows equivalent, 408
- Internet phone. *See* Ekiga.
- IP address, changing in Edubuntu, 348
- iPods, 115
- iptables command, 176–177
- ipvsadm utility, 148
- IRC (Internet Relay Chat)
 - about Edubuntu, 362
 - about Kubuntu, 308
 - description, 248–249
 - FreeNode IRC network, 248
 - list of channels, 249
 - Pidgin, 87
- Isle of Man, 26, 29
- .iso files
 - burning CDs from, 36, 131–132
 - definition, 36
 - downloading, Kubuntu, 277
 - testing, 196
- ISO Recorder, burning CDs/DVDs, 37
- iTunes, Ubuntu/Windows equivalent, 408
- iwconfig command, 400
- Java not installed, 203
- jdong (Ubuntu Forums denizen), 389
- K Control Center. *See* Software Management, System Settings.
- K3b program, 283, 306–307
- Kalach (bread), 239–241
- Kalzium, 324
- Kanagram, 325
- Kate, 313
- Kbabel. *See* Rosetta.
- KBruch, 325
- KDE (K Desktop Environment)
 - current version, 275
 - desktop. *See* Plasma.
 - GNU General Public License, 275
 - green dragon, 275
 - Harmony project, 275
 - history of, 274–276
 - Konqi, 275
 - locking, 312–313
 - making immutable, 312–313
 - online resources, 276
 - QPL (Q Public License), 275
 - QT toolkit, 275
- Kde-look.org, 285
- Kdesktop. *See* Plasma.
- KDevelop, 314–315
- keepalived utility, 148
- Kernel
 - booting from wrong one, 189
 - checking, 399
 - custom server, 147
 - OpenSolaris, 372

- Solaris. *See* Nexenta OS.
- version
 - determining, 354
 - Edubuntu, 353–355
 - updating, 353–355
 - version, Edubuntu, 353–355
- Keyboards
 - configuring
 - from desktop CD, 41
 - Kubuntu, 280, 293
 - LTSP, 336
 - typing gibberish, 221–222
- Keyring devices, 130–131, 138
- KHangman, 325
- Kig, 325–326
- Kiosk mode, 312–313
- Kioslaves, 300
- KiwiNZ (Ubuntu Forums denizen), 389
- Kmail, 309–310
- KMenu style, reverting to, 285
- KmPlot, 326
- Konqi, 275
- Konqueror
 - bookmarking Web pages, 305
 - file manager, 299, 300–302
 - Google searches, 300, 305
 - kioslaves, 300
 - Kubuntu, 305
 - orange icon, 305
 - RSS feed indicator, 305
 - shortcuts, 300
 - Web browser, 305
- Konsole, 313
- Kontakt
 - calendar mode, 310–311
 - e-mail accounts, setting up, 309–310
 - overview, 308
 - PIM (personal information manager), 308
 - RSS feeds, tracking, 311–312
 - starting, 309
- Kopete, 306–308
- KOrganizer, 310–311
- KPackageKit installer, 288
- KPDF, 314
- KPPP, 314
- KRandRtray, 315
- KRDC, 314
- Krita, 367
- KRunner, 291
- KSnapShot, 314
- Ksplash, 292
- KStars, 326–328
- KSysGuard, 314
- KSystemLog, 314
- KTouch, 328, 410
- KTurtle, 328
- Kubuntu
 - accessibility, 293
 - customizing. *See also* Kubuntu, system administration; Kubuntu, system settings.
 - accessibility options, 293
 - desktop. *See* Plasma.
 - GHNS (Get Hot New Stuff), 286–287
 - KMenu style, reverting to, 285
 - ksplash, 292
 - locking the screen, 284
 - making immutable, 312–313
 - password, 284
 - splash screen, 292
 - description, 366–367
 - desktop. *See* Plasma.
 - file management
 - browsing files, 300
 - default manager. *See* Dolphin.
 - Dolphin file manager, 297–298. *See also* Konqueror.
 - file structure changes, 299–300
 - finding files, 300
 - folder access, 283

- Kubuntu, *continued*
 - file management, *continued*
 - freedesktop.org standards, 299–300
 - Google searches, 300
 - kioslaves, 300
 - Konqueror file manager, 299, 300–302. *See also* Dolphin.
 - music management, 303
 - shortcuts, 300
 - split view, 299
 - USB drive access, 302
 - Web searches, 300
 - Windows partition access, 302
 - XDG Base Directory Specification, 299–300
 - XDG directories, 299–300, 301
 - help, 316
 - history of, 276–277
 - installing. *See* Installing Kubuntu.
 - K Control Center. *See* Software Management, System Settings.
 - Kdesktop. *See* Plasma.
 - KMenu style, reverting to, 285
 - managing repositories, 290–291
 - navigation
 - Application Launcher, 282–283
 - logging out, 284
 - restarting, 284
 - shutting down, 284
 - online resources, 367
 - overview, 274
 - Start menu. *See* KMenu.
 - system administration. *See also* Kubuntu, customizing; Kubuntu, system settings; Software Management.
 - Adept. *See* KPackageKit installer.
 - installing packages, 287–290
 - KPackageKit, 288
 - sudo, as a root account, 284
 - vs.* Ubuntu, 30
- Kubuntu, applications
 - 3D mapping, 315
 - Akregator, 311–312
 - appointment scheduling, 310–311
 - automatic login, 315–316
 - Calc, 304
 - calculator, 304, 313
 - calendars, 310–311
 - command line access, 313
 - Draw, 304
 - drawing programs. *See* Draw program.
 - e-mail, 309–310
 - Excel equivalent, 304
 - Favorites list, 282
 - globe application, 315
 - Gwenview, 314
 - IDE (Integrated Development Environment), 314–315
 - image viewer, 314
 - Impress, 304
 - instant messaging, 306–308
 - Internet dial-up tool, 314
 - IRC (Internet Relay Chat), 308
 - K3b program, 283, 306–307
 - Kate, 313
 - KDevelop, 314–315
 - Kiosk mode, 312–313
 - Kmail, 309–310
 - Konqueror, 305
 - Konsole, 313
 - Kontakt
 - calendar mode, 310–311
 - e-mail accounts, setting up, 309–310
 - overview, 308
 - RSS feeds, tracking, 311–312
 - starting, 309
 - Kopete, 306–308
 - KOrganizer, 310–311
 - KPDF, 314
 - KPPP, 314
 - KRandRtray, 315
 - KRDC, 314
 - Krita, 367
 - KSnapshot, 314
 - KSysGuard, 314

- KSystemLog, 314
- launching, 282–283
- Marble, 315
- Math, 304
- meetings, scheduling, 310–311
- naming, 282
- Numlock activation, 316
- Okular, 314
- OpenOffice.org, 304
- PDF viewer, 314
- Performance Monitor, 314
- PIM (personal information manager). *See* Kontakt.
- PowerPoint equivalent, 304
- presentations. *See* Impress.
- Quassel, 308
- recently-used list, 63
- remote desktop connection, 314
- remote dial-up tool, 314
- RSS feeds, tracking, 311–312
- running at startup, 315
- screen capture program, 314
- Speedcrunch, 313
- spreadsheets. *See* Calc.
- System Logs Viewer, 314
- text editor, 313
- Web browsing
 - Firefox, 306
 - Konqueror, 305
- Web feeds. *See* RSS feeds.
- Word equivalent, 304
- Word Processor, 304
- Writer, 304
- Kubuntu, system settings. *See also* Kubuntu,
 - customizing; Kubuntu, system administration; Software Management, System Settings.
- accessibility options, 293
- adding/removing software, 294
- Akonadi configuration, 295
- audio CDs, 294
- date and time, 293
- Desktop Search configuration, 295
- digital cameras, 294
- display, 293
- file associations, 294
- fonts, 293
- input actions, 293
- keyboard behavior, 293
- ksplash, 292
- monitors
 - configuring, 315
 - detecting, 315
 - making immutable, 312
 - power conservation, 293
 - resizing, 315
 - rotating, 315
 - screen orientation, 293
 - screen resolution, 293
 - splash screen, 292
 - standby mode, 293
 - systemwide changes, 312
 - turning off automatically, 293
 - wallpaper, 312
- mouse behavior, 293
- multimedia, 293
- Nepomuk configuration, 295
- network configuration, 296–297
- password, 284
- personal information management, 295
- power conservation, 293
- printer configuration, 296–297
- privileges, systemwide, 298
- starting/stopping services, 295
- startup services, configuring, 294–295
- VPNs (Virtual Private Networks), 296
- wireless networks, 296
- #kubuntu IRC channel, 249, 308–309, 316
- Kubuntu Software tab, 290
- KVM virtualization, 179–180, 234–235
- “Label” setting, 54
- Labeling partitions, 54
- LAN (wired), can’t connect, 211

- Language selection
 - from alternate install CD, 48
 - changing, 103
 - from the desktop area, 59
 - from the desktop CD, 39, 40
 - during installation, 39, 40, 48
 - LTSP, 336
- Launchpad
 - Answers, 28, 377–378
 - applications, writing and tracking, 377
 - archive management, 374
 - Bazaar, 379
 - Blueprint, 28, 377
 - bugs, reporting and tracking, 28, 237–239, 375–376. *See also* Malone.
 - code restrictions, 373
 - components, 28
 - definition, 27
 - description, 27–29, 372–374
 - distribution management, 28
 - encryption, 378
 - feature tracking, 28
 - Malone, 28, 375–376
 - online resources, 374
 - revision control system, 379
 - Rosetta, 28, 374–375
 - source for installation CDs, 36
 - Soyuz, 28, 374
 - specification tracking, 28
 - support tracking, 28
 - translation software, 28
- Layers, image editing, 83
- LCD screens, font appearance, 192
- LCoC (Leadership Code of Conduct), 21–22
- Legal restrictions, downloading music, 303
- less command, 401. *See also* zless command.
- /lib folder, 108
- Linux
 - creating Ubuntu installation CDs, 38
 - history of Ubuntu, 3–7
 - Spanish version, 370–371
- The Linux Documentation Project, 405
- Linux Terminal Server Project (LTSP). *See* LTSP (Linux Terminal Server Project).
- Linux User Groups (LUGs). *See* LoCos (local community teams).
- Linux Virtual Server utility, 148
- LinuxCommand.org, 405
- Linux-VServer projects, virtualization, 179
- LIRC (Linux Infrared Control)
 - for computer remote control, 222–223
 - drivers, configuring, 222–223
 - lirc package, 210
 - for MythTV remote control, 222–223
 - online resources, 223
 - restarting, 222
 - testing, 222–223
- lirc package, 210
- Listing
 - files, 63, 394, 398
 - HAL devices, 400
 - hardware, 400
 - owned files, 170
 - packages, 163
 - USB buses, 400
- Live bookmarks, 71
- Localization. *See* Translation and localization.
- Location. *See* Geographical location.
- Lock Screen option, 67
- Lockdown editor, 357–358
- Locking
 - the root account, 232
 - screens, 67, 106, 284, 357
- LoCos (local community teams), 262
- Log files
 - auth.log, 175
 - dmesg, 175
 - folder for, 108
 - installing Ubuntu Server, 149
 - mail.log, 175
 - messages, 175
 - syslog, 175
 - tail utility, 176
 - tools for, 176

- Ubuntu Server, 175–176
- zcat command, 176
- zgrep command, 176
- zless command, 176
- Log Out option, 67
- Logging in, automatically, 199, 315–316
- Logging out
 - Edubuntu, 356
 - ending current session, 67
 - Guest Session option, 67
 - Hibernate option, 68
 - hibernating, 68
 - Kubuntu, 284
 - Lock Screen option, 67
 - locking the screen, 67
 - Log Out option, 67
 - Restart option, 68
 - restarting the computer, 68
 - Shut Down option, 68
 - shutting down, 68
 - Suspend option, 67
 - suspending power, 67
 - switching users, 67
 - Ubuntu, 67–68
- Logical Volume Manager (LVM). *See* LVM (Logical Volume Manager).
- Logical volumes (LVs), 155–156
- Login screens, 209–210
- Logo corrupted when booting, 189
- Logo programming language, 328
- Look & feel, customizing. *See* Themes and backgrounds.
- Look & Feel section, 292–293. *See also* Themes and backgrounds.
- Lower-power computers, running Ubuntu. *See* Installing Ubuntu, alternate install CD; U-lite; Xubuntu.
- LPiA (low-power Intel architecture) support, 35
- ls command, 394, 398
- lsb_release -a command, 400
- lshal command, 400
- lshw command, 400
- lspci command, 400
- lsusb command, 400
- LTS (Long Term Support), 3, 161
- LTSP (Linux Terminal Server Project). *See also* Edubuntu.
 - benefits of, 332–333
 - boot process, technical details, 331–332
 - definition, 330
 - description, 330–332
 - diskless clients, 330–332
 - dual booting, 331
 - installing. *See* Installing LTSP.
 - Intel Boot Agents will not boot, 360
 - IP address, changing, 348
 - IP address not received, 359
 - NFS server not responding, 359–360
 - server management
 - installing applications, 346–347
 - IP address, changing, 348
 - local devices, 348–349
 - password display, 348
 - printing, 350–351
 - removing applications, 347
 - sound, 349–350
 - SSH keys, updating, 348
 - update notification, 345
 - updating the server, 345
 - window manager alternatives, 351–352
 - SSH keys, updating, 348
 - thin clients, 333
 - troubleshooting, 358–360
 - VMware client crashes while booting, 360
- LUGs (Linux User Groups). *See* LoCos (local community teams).
- LVM (Logical Volume Manager). *See also* RAID (redundant array of inexpensive disks).
 - fault tolerance, 158
 - LVs (logical volumes), 155–156
 - partition management, 155
 - PEs (physical extents), 156
 - PVs (physical volumes), 155–156
 - redundancy, 158

- LVM, *continued*
 - setting up, 156–158
 - storage fluidity, 158
 - theory of, 155–156
 - VGs (volume groups), 155–156
- LVs (logical volumes), 155–156
- Mac OS X, creating Ubuntu installation CDs, 38
- Macromedia Flash. *See* Flash.
- Magnatune store, 303
- Mahjongg, 96
- Mailing lists
 - description, 246–248
 - Edubuntu, 361–362
 - edubuntu-devel, 361–362
 - edubuntu-users, 361–362
 - online resources, 246
 - sounder, 248
 - Ubuntu community, 246–248
 - ubuntu-devel, 247
 - ubuntu-devel-announce, 247
 - ubuntu-devel-discuss, 247
 - ubuntu-users, 247
- mail.log, 175
- Mailman software, 246
- Main areas, 59–60
- Main repository, 161, 290
- Making desktop areas immutable, 312–313
- Malicious packages, 163
- Malone, 28, 375–376
- man command, 231, 397, 402–403
- man intro command, 402
- man -k command, 403
- man man command, 402
- man pages. *See also* Help.
 - accessing, 397
 - for commands, 231
 - Terminal commands, 397, 402–403
- Managing repositories, Kubuntu, 290–291
- Manual option, 51
- Manually partitioning disks
 - with an alternate install CD, 52
 - with a desktop CD, 43–45
- Maps
 - 3D mapping, 315
 - globe applications, 315, 329
 - Marble program, 315, 329
 - world atlas, 329
- Marble program, 315, 329
- Masters of the Universe (MOTUs), 263
- Math applications
 - factoring numbers, 325
 - fraction exercises, 325
 - function graphing, 326
 - geometrical construction, 325–326
 - graphing functions, 326
 - KBruch, 325
 - Kig, 325–326
 - KmPlot, 326
- Math program, 304
- matthew (Ubuntu Forums denizen), 389
- Mauelshagen, Heinz, 155
- Mavis Beacon Teaches Typing,
 - Ubuntu/Windows equivalent, 410
- Maximizing, applications, 60
- MBR (master boot record), 228–229. *See also*
 - Boot sector.
- McNealy, Scott, 182
- md5sum command, 196
- md5sums file, 196
- Media devices, folder for, 108
- Media files won't play, 205–206
- /media folder, 108
- Media players, Ubuntu/Windows equivalent, 408
- Meetings, 78, 310–311. *See also* Calendars.
- Memory
 - memtest utility, 218
 - problems, testing, 188
 - running out of, 218
 - usage, displaying, 399

- memtest utility, 218
- Menu editor, 61–62
- Menus
 - Applications, 61–62, 66
 - layout, changing, 61–62
 - Places, 62–63
 - System, 63
- Meritocracy, 260
- messages log, 175
- Microphone doesn't work, 207–208
- Migrating from previous version, 46–47. *See also* Installing Ubuntu, updates.
- Mike (Ubuntu Forums denizen), 389
- Minimizing, applications, 60
- MIT, virtualization, 180
- mkdir command, 399
- mkfs commands, 221
- /mnt folder, 108
- Mobile phone, copying photos from, 218
- Modeling, Ubuntu/Windows equivalent, 410
- Money, Ubuntu/Windows equivalent, 409
- Monitors. *See also* Screens.
 - Edubuntu
 - blanking screens, 357
 - locking screens, 357
 - resolution, 338
 - Kubuntu
 - configuring, 315
 - detecting, 315
 - locking the screen, 284
 - making immutable, 312–313
 - power conservation, 293
 - resizing, 315
 - rotating, 315
 - screen orientation, 293
 - splash screen, 292
 - standby mode, 293
 - systemwide changes, 312
 - turning off automatically, 293
 - wallpaper, 312
 - resolution
 - Kubuntu, 293
 - Ubuntu, 199
 - subpixel hinting, 192
- MOTUs (Masters of the Universe), 263
- Mount options, 54, 173–174
- “Mount point” setting, 54
- Mount points, partitioning disks
 - with an alternate install CD, 54
 - with a desktop CD, 45
- Mounting/unmounting devices
 - automatically, 130
 - CD-ROMs, 217
 - description, 130
 - digital cameras, 132
 - DVDs, 217
 - file execution, prohibiting, 173
 - floppy disks, 132
 - folder for, 108
 - last-access log, disabling, 174
 - mount options, 173–174
 - noatime option, 174
 - nodev option, 173
 - noexec option, 173
 - nosuid option, 173
 - special device files, prohibiting, 173
 - suid restrictions, 173
 - troubleshooting, 130
 - USB keyrings, 130–131
 - USB storage devices, 215–216
- Mouse behavior, Kubuntu, 293
- Movement-disabled users. *See* Accessibility.
- Movie Player, 97
- Movies. *See* Video.
- Moving files and folders, 110, 398
- MP3 format, 112, 115–116
- msttcorefonts package, 190–191
- Muine, Ubuntu/Windows equivalent, 408
- Multimedia. *See also* Audio; Music; Sound; Video.
 - Blender, 98
 - codecs, 112–113, 116

Multimedia, *continued*

- compression. *See* Codecs.
 - Kubuntu, 293
 - production studio, 98
 - troubleshooting. *See* Troubleshooting, multimedia.
 - Ubuntu Studio, 369–370
- Multiverse repository, 161, 290
- Music. *See also* Audio; Multimedia.
- Amarok music manager, 303
 - Audio CD Extractor, 101
 - Cool Streams, 303
 - copyright violations, 205–206, 303
 - DMCA (Digital Millennium Copyright Act), 205–206
 - DRM (Digital Rights Management), 303
 - legal restrictions, 205–206, 303
 - Magnatune store, 303
 - managing, 303
 - online radio, 303
 - online stores, 303
 - portable music players, managing, 303
 - recording, 101
 - Shoutcast Streams, 303
- mv command, 398
- My Computer, Ubuntu equivalent, 62
- My Documents, Ubuntu equivalent, 62
- Mythbuntu, 211, 369
- MythTV, 210–211, 222–223
- mythtv package, 210
- nano command, 401
- nano text editor, 401
- NAT settings, detecting, 90, 91
- Nautilus. *See also* File Manager.
- .fonts folder, opening, 192
 - emblems, 111
 - files
 - copying, 110
 - displaying, 110
 - moving, 110
 - selecting, 110

folders

- . (dot) prefix, 107
 - annotating, 111
 - /boot, 108
 - categorizing, 111
 - for configuration settings, 107
 - copying, 110
 - creating, 109
 - current system status, 108
 - /dev, 108
 - device configuration files, 108
 - vs. directories, 106
 - /etc, 108
 - general software, 108
 - hidden, 107–108
 - /home, 108
 - /lib, 108
 - Linux structure, 107–108
 - log files, 108
 - /media, 108
 - media devices, 108
 - /mnt, 108
 - mounting devices, 108
 - moving, 110
 - /opt, 108
 - optional software, 108
 - /proc/sys, 108
 - /root, 108
 - /sbin, 108
 - selecting, 110
 - subfolders, displaying, 108–109
 - superuser software, 108
 - for system configuration files, 108
 - system libraries, 108
 - /usr, 108
 - /var, 108
 - view, switching, 109
- scripting, 202–203
- sidebar, 111
- starting, 108
- storing and organizing files, 106–109
- view, switching, 109

- Nepomuk configuration, Kubuntu, 295
- Nero Burning ROM, burning CDs/DVDs, 37
- Netmeeting support, Ekiga, 87
- Network configuration, Kubuntu, 296–297
- Network interface report, 400
- Network Management section, 296–297
- Network menu item, 63
- Network Neighborhood, Ubuntu equivalent, 63
- Networks
 - file transfer with SSH (Secure Shell), 212
 - firewalls, 90, 176–177
 - iptables command, 176–177
 - SSH (Secure Shell), 212
 - troubleshooting. *See* Troubleshooting, networking.
 - wired LAN can't connect, 211
- New Printer wizard, 135–136
- Nexenta OS, 372
- NFS root, updating, 352–353
- Nibbles, 96
- NICs (network interface cards), LTSP, 334–336, 336–337
- No open ports policy, 171
- noatime option, 174
- nodev option, 173
- noexec option, 173
- Non-Synaptic applications, installing, 196–197. *See also* Autopackages.
- nosuid option, 173
- Notes option, 111
- Notification area, 65
- Notification of available upgrades, 127, 201
- Notification section, 292
- NTFS filesystem, 219–220
- nUbuntu, 366
- NUMA, Ubuntu Server, 147
- Numlock activation, 316

- OCFS2 filesystem, 148
- Office suite. *See* OpenOffice.org.
- Official support, definition, 161
- Ogg Theora, 113
- Ogg Vorbis, 113
- Okular, 314
- Older computers, running Ubuntu. *See* Installing Ubuntu, alternate install CD; U-lite; Xubuntu.
- Online radio, 303
- Online resources. *See also* Help.
 - Answers, 377–378
 - archive management, 374
 - backup strategies, 140
 - Bazaar, 379
 - BIOS manual, 39
 - Blueprint, 377
 - bugs, reporting and tracking, 376
 - bulletin boards. *See* IRC (Internet Relay Chat); Mailing lists; Wikis.
 - codecs, 113, 116
 - CVE numbers, 128
 - development discussions. *See* Blogs; IRC (Internet Relay Chat); Mailing lists; Web forums; Wikis
 - DRBD (Distributed Replicated Block Device), 181
 - dual booting, 344
 - DVDs, format restrictions, 117
 - Edubuntu, 361–362
 - feature tracking, 377
 - Firefox extensions, 71–72
 - The Fridge, 254–255
 - gNewSense, 372
 - grep tutorials, 401
 - Guadalinex, 370–371
 - installation CDs, 36, 37
 - IRC channels, list of, 249
 - KDE (K Desktop Environment), 276
 - Kubuntu, installing, 35
 - Kubuntu wiki, 316
 - KVM virtualizer, 180
 - Launchpad, 36, 374
 - The Linux Documentation Project, 405
 - LinuxCommand.org, 405
 - mailing lists, 246

Online resources, *continued*

- Malone, 376
 - Mythbuntu, 211
 - MythTV, 210
 - Nepomuk, 295
 - Nexenta OS, 372
 - nUbuntu, 366
 - Planet Ubuntu, 71, 259–260
 - Plasma, 285
 - podcasts, 114
 - RAID modes, 152
 - repositories, 193–194
 - revision control system, 379
 - Rosetta, 374–375
 - security vulnerabilities, 128
 - sed tutorials, 401
 - Soyuz, 374
 - specification tracking, 377
 - support requests, tracking, 378
 - text files, searching and editing, 401
 - themes, 105
 - Ubuntu derivatives, 30–31
 - Ubuntu developer blogs, 71
 - Ubuntu Server, security, 177
 - Ubuntu Server Edition, 368
 - Ubuntu Studio, 369–370
 - U-lite, 372
 - user account security, 172
 - Web forums, 250–251. *See also* Ubuntu Forums.
 - wikis, 251–254
 - X configuration, 190
 - Xubuntu, installing, 35
- Open applications, displaying, 65–66
- Open source, 6–7
- OpenOffice.org
- creating documents
 - mathematical expressions builder. *See* Math.
 - presentations. *See* Impress.
 - spreadsheets. *See* Calc.
 - word processing. *See* Desktop publishing; Writer.

- drawing. *See* Draw program.
 - file formats, 73
 - Kubuntu, 304
- OpenSolaris kernel distribution, 372
- OpenVZ, virtualization, 179
- Operating systems. *See specific operating systems.*
- emulating. *See* Ubuntu, virtualization.
 - running within operating systems. *See* Ubuntu, virtualization.
- /opt folder, 108
- Optional software, folder for, 108
- Orange icon, 305
- Orbiter, Ubuntu/Windows equivalent, 410
- Orphan packages, removing, 170
- OS virtualization, 179
- Other permission, 173
- Outlook, Ubuntu/Windows equivalent, 408
- Outlook Express, Ubuntu/Windows equivalent, 408
- Owner permission, 173
- Ownership, changing, 399
- Packages
- building from source, 168
 - definition, 123
 - extragears, 285
 - filtering, 121, 346
 - finding, 125. *See also* Repositories.
 - information, displaying, 165–166
 - installing
 - with Add/Remove Applications, 68, 120–122
 - with Synaptic, 123–125
 - locations. *See* Repositories.
 - maintenance, responsibility for, 263, 266
 - managing. *See* APT (Advanced Package Tool); MOTUs (Masters of the Universe); Synaptic; Technical Board; Ubuntu archive; Ubuntu Server, package management
 - policies, setting, 265–266
 - removing. *See* Removing, packages.

- software channels. *See* Repositories.
- user involvement, 270–271
- of widgets, 285
- The panel, 59–60
- Paravirtualization, 179
- Parity drives, 152
- Parley, 329
- Partitioning disks
 - alternate install CD
 - adding partitions, 52–53
 - “Bootable flag” setting, 54
 - bootable partitions, specifying, 54
 - deleting partitions, 52
 - filesystem, specifying, 54
 - “Format the partition” setting, 54
 - FREE SPACE line, 52
 - Guided—Use Entire Disk and Set Up Encrypted LVM option, 51
 - Guided—Use Entire Disk and Set Up LVM option, 51
 - Guided—Use Entire Disk option, 51
 - “Label” setting, 54
 - labeling partitions, 54
 - Manual option, 51
 - manually, 51
 - mount options, 54
 - “Mount point” setting, 54
 - mount points, 54
 - “Reserved blocks” setting, 54
 - root partition, creating, 53
 - settings, 54
 - “Typical usage” setting, 54
 - “Use as” setting, 54
 - desktop CD
 - adding a partition, 44
 - default filesystem, 44–45
 - definition, 41
 - for dual boot, 41–43
 - manually, 43–45
 - minimum number of partitions, 42
 - mount points, 45
 - for Ubuntu only, 42–43
 - /home partition, 149–150
 - installing Ubuntu Server, 149–150
 - Kubuntu, 280
 - LTSP (Linux Terminal Server Project), 337–339
 - LVM (Logical Volume Manager), 155
 - swap partitions, encrypting, 158
 - /tmp partition, 149
 - Ubuntu Server, 149–150
 - Ubuntu Server security, 149–150, 173–174
 - /var partition, 149–150
- passwd command, 401
- Passwords. *See also* Security.
 - for Administration features, 63
 - administrative access, 284
 - changing, 293, 401
 - for directory encryption, 158–159
 - displaying, Edubuntu, 348
 - guidelines for creating, 46
 - recovering, 232–233
 - SSH file transfer, 212
 - storing in keyring devices, 138
- PDF files
 - creating with OpenOffice.org, 74
 - viewing, 314
- Pen disks. *See* USB storage devices, keyring devices.
- Perens, Bruce, 6
- Performance
 - analyzing, 97, 231
 - desktop, enhancing, 227–228
 - enhancing, 227–228
 - File Manager, enhancing, 194
 - monitoring, 97, 314
 - system, analyzing, 231
- Performance Monitor, 314
- Periodic table exploration, 324
- Permissions. *See also* Privileges.
 - changing, 399
 - files, 394, 399
 - LTSP (Linux Terminal Server Project), 338

- Permissions, *continued*
 - Ubuntu Server, 172–173
 - USB storage devices, 219
- Personal accounting, Ubuntu/Windows equivalent, 409
- Personal section, 293
- PEs (physical extents), 156
- Pessulus lockdown editor, 357–358
- Philosophical goals of Ubuntu, 18–20
- Photo editors, Ubuntu/Windows equivalent, 408
- Photographs
 - copying from mobile phone, 218
 - editing. *See* Images (graphic), editing.
 - managing
 - F-Spot Photo Manager, 97, 132
 - GIMP Image Editor, 132
 - Krita, 367
- Photoshop, Ubuntu/Windows equivalent, 408
- Physical drive failure, RAID, 154
- Physical extents (PEs), 156
- Physical storage, moving. *See* LVM (Logical Volume Manager).
- Physical volumes (PVs), 155–156
- Physics simulator, 329
- Pictures. *See* Drawing; Images (graphic), editing; Photographs.
- Pidgin
 - Buddies menu, 87
 - description, 84–85
 - instant messaging, 86–87
 - IRC (Internet Relay Chat), 87
 - setting up accounts, 85–86
 - Ubuntu/Windows equivalent, 409
- PIM (personal information manager)
 - Akonadi, 295
 - Evolution, 74
 - Kontact, 308
- Pipelines, 395–396, 404
- Places menu, 62–63
- Places option, 111
- Planet Ubuntu, 71, 259–260
- Planetarium, Ubuntu/Windows equivalent, 410
- Planner, Ubuntu/Windows equivalent, 410
- Plasma
 - adding items to, 285
 - backgrounds, 285
 - customizing, 285–286
 - GHNS (Get Hot New Stuff), 286–287
 - immutable desktop area, 312–313
 - online resources, 285
 - removing items from, 285
 - templates, sharing, 286
 - wallpaper, 285
 - widgets, 285–286
- Playing
 - audio, 97, 113–116
 - audio CDs, 115–116
 - video, 97, 116–117
- Plug-ins
 - Edubuntu, 358
 - Firefox, 71–72
- Podcasts, 114
- PolicyKit Authorizations section, 298
- Pooling drives, RAID, 151
- Portable music players, managing, 303
- POSIX model, 173
- Posts, Ubuntu Forums, 386–388
- Power, electrical. *See* Electrical power.
- Power Control section, 293
- PowerPC support, 35
- PowerPoint, 190–191, 304, 407
- A Practical Guide to Linux® Commands...*, 405
- Preferences. *See* Configuring; Customizing; Kubuntu, system settings; Software Management, System Settings.
- Preferences menu item, 63
- Presentation software, Ubuntu/Windows equivalent, 407
- Previewing sound files, 194
- Printer configuration, Kubuntu, 296–297
- Printer configuration application, 133–134
- Printer Configuration section, 296–297

- Printers
 - adding, 134
 - configuring. *See* Configuring, printers.
 - drivers, specifying, 135–136
 - model, specifying, 135–136
 - New Printer wizard, 135–136
 - Printer configuration application, 133–134
 - printing a test page, 136
 - remote printing, 136–137
- Printing
 - in Edubuntu, 350–351
 - system information, 399
 - version information, 400
 - working directory, 397
- Privileges, systemwide in Kubuntu, 298. *See also* Permissions.
- Problems
 - reporting, 237–239. *See also* Launchpad; Malone.
 - solving. *See* Troubleshooting.
- Process information, displaying, 399
- Process management, Edubuntu, 356
- Processes, viewing, 400
- /proc/sys folder, 108
- Production studio, 98
- Profile pictures, Ubuntu Forums, 390
- Programming, user involvement, 270–271
- Programs
 - adding. *See* Installing.
 - application. *See* Applications.
 - failure to close, 201
 - operating systems. *See specific operating systems.*
 - emulating. *See* Ubuntu, virtualization.
 - running within operating systems. *See* Ubuntu, virtualization.
 - packaged for installation. *See* Packages.
- Project, Ubuntu/Windows equivalent, 410
- Project management, Ubuntu/Windows equivalent, 410
- PROMPT option, 343
- ps command, 400
- Publisher, Ubuntu/Windows equivalent, 409
- pulseaudio, 207
- PVs (physical volumes), 155–156
- pwd command, 397
- pybackpack, 140
- Qemu virtualization, 179, 234–236
- QPL (Q Public License), 275
- QT toolkit, 275
- Quality assurance, user involvement, 270
- Quassel, 308
- Question mark (?), wildcard character, 403
- Quickbooks, Ubuntu/Windows equivalent, 409
- Quicken, Ubuntu/Windows equivalent, 409
- QuickTime, restrictions, 112
- Radio, online, 303
- RAID (redundant array of inexpensive disks)
 - array failure, 154
 - array management. *See* LVM (Logical Volume Manager).
 - backing up data, 153
 - choosing, 152
 - data replication, 151
 - degraded mode, 154
 - description, 150–151
 - fault tolerance, 150–151
 - levels, 151
 - modes, 152
 - parity drives, 152
 - physical drive failure, 154
 - pooling drives, 151
 - RAID 0, 151
 - RAID 1, 151
 - RAID 5, 151
 - setting up, 152–154
 - space requirements, 151
 - spare devices, 153
 - striped set, 151
- RAID 0, 151
- RAID 1, 151
- RAID 5, 151

- RAID array failure, 154
- rar, 140
- Raymond, Eric S., 6
- RealMedia, restrictions, 112
- Recent Documents menu item, 63
- Recently Used tab, 283
- Recently-used documents, listing, 63
- Recognized derivations, 368–370
- Recording
 - music, 101
 - sound, 97
- Recovery mode option, 187
- Red Hat Cluster Suite, 148
- Redundancy, LVM, 158
- Releases. *See also specific releases.*
 - first, 2
 - LTS (long-term support), 23
 - new, updating to. *See Installing Ubuntu, updates.*
 - scheduling, 22–23
 - support duration, 23, 128
- Reminders. *See Calendars.*
- Remote
 - desktop connection, 314
 - dial-up tool, 314
 - file access, 212–213
 - printing, 136–137
- Remote control
 - computer, 222–223
 - doesn't work, 222–223
 - installing, 222–223
 - MythTV, 210, 222–223
 - online resources, 223
 - Totem media player, 117
 - troubleshooting, 222–223
- Removing. *See also Deleting.*
 - applications, Edubuntu, 347
 - packages
 - with apt-get, 166
 - orphans, 170
 - with Synaptic, 125
 - programs. *See Adding/removing programs.*
 - user accounts, 172, 401–402
 - user groups, 402
- Rendering, 98
- Repetitive strain injury (RSI), 241
- Reported bugs, checking for. *See Malone.*
- Reporting bugs. *See Malone.*
- Repositories. *See also Ubuntu archive.*
 - additional, enabling, 193–194, 226–227
 - backports, 161–162, 167
 - definition, 123
 - Kubuntu, 290–291
 - local copy of, 194
 - main, 161, 290
 - missing applications, 193–194, 226–227
 - multiverse, 161, 290
 - online resources
 - enabling additional, 193
 - local copies, 194
 - restricted
 - definition, 161
 - gNewSense, 371
 - Kubuntu, 290
 - Ubuntu, 161
 - third-party, 290–291
- Ubuntu archive
 - backports, 161–162, 167
 - main, 161
 - multiverse, 161
 - restricted, 161
 - universe, 161–162
 - universe, 161–162, 290
- Rescue mode, 188
- “Reserved blocks” setting, 54
- Resizing, monitors, 315
- Resolution, screen
 - Edubuntu, 338
 - Kubuntu, 293
 - Ubuntu, 199
- Restart option, 68
- Restarting
 - the computer, 68
 - Kubuntu, 284

- Restoring
 - boot sectors, 188
 - deleted items, 195
 - passwords, 232–233
 - root accounts, 232
- Restricted repositories, 161, 290, 371
- Restrictions
 - codecs, 112–113
 - drivers, 190
 - MP3 format, 112
 - multimedia formats, 112–113, 205
 - packages, 161
 - QuickTime, 112
 - RealMedia, 112
 - repositories, 161, 290, 371
 - Windows Media Format, 112
- Revision control system, 379
- Rhythmbox, 113–115, 408
- Riddell, Jonathan, 276
- Ripping audio CDs, 115–116
- rm command, 398
- Root account
 - disabling, 232
 - enabling, Ubuntu Server, 159–160
 - locking, 232
 - preventing automatic login, 199
 - restoring, 232
 - sudo instead of, Kubuntu, 24
 - Ubuntu Server, enabling, 159–160, 172
- /root folder, 108
- Root partition, creating, 53
- Root privileges, temporary, 232
- Rosetta, 28, 374–375
- Rotating, monitors, 315
- RSI (repetitive strain injury), 241
- RSS feed indicator, 305
- RSS feeds, tracking, 311–312
- rsync process, 140, 194
- SABDFL (self-appointed benevolent dictator for life), 261, 266–267
- Savage, Pete, 355
- Saving, Writer documents, 73
- sbackup, 140
- /sbin folder, 108
- Scalable Vector Graphics (SVG), 98–99
- Scheduling events, 223–226. *See also* Calendars; Cron; Crontab.
- Schools, Ubuntu for. *See* Edubuntu.
- Schwartz, Jonathan, 182
- scp command, 226
- Screens. *See also* Monitors.
 - capturing, 314
 - orientation, 293
 - resolution
 - changing, 199
 - Edubuntu, 338
 - Kubuntu, 293
 - LTSP (Linux Terminal Server Project), 338
 - Ubuntu, 199
- Screensavers, configuring, 105
- Scribus, 409
- Scripting file managers, 202–203
- Search Bar, 283
- Search for Files menu item, 63
- Search tools. *See also* Finding.
 - Beagle, 99
 - desktop search box, 70
 - Firefox, 70
 - Google, Kubuntu, 300, 305
 - indexing searchable material, 99
- Searching
 - for files, 63, 176, 400
 - in Firefox, 70
 - for packages, 165–166
- Secure Shell (SSH), 212
- Security. *See also* Passwords.
 - locking the screen, 106
 - patches, applying, 167
 - of third-party packages, 163
 - Ubuntu Server. *See* Ubuntu Server, security.
 - vulnerability identifier, 127–128
- Security-related updates, 126, 127–128
- sed command, 401

- sed text editor, 401
- sed tutorials, 401
- Selecting files and folders, 102–103, 110
- Self-appointed benevolent dictator for life (SABDFL), 261, 266–267
- Semicolon (;), running multiple commands, 226
- Sending messages. *See also* E-mail.
 - broadcasting to Edubuntu users, 357
 - instant messaging, 86–87, 306–308, 409
- Server configuration, LTSP, 334–336
- Server management, Edubuntu. *See also* LTSP (Linux Terminal Server Project).
 - installing applications, 346–347
 - IP address, changing, 348
 - local devices, 348–349
 - password display, 348
 - printing, 350–351
 - removing applications, 347
 - sound, 349–350
 - SSH keys, updating, 348
 - update notification, 345
 - updating the server, 345
 - window manager alternatives, 351–352
- Servers
 - connecting to, 63
 - vs. desktop machines, 23. *See also* Ubuntu Server.
 - e-mail, 76–77
 - installing from alternate install CD, 48
 - setup, LTSP, 338–339
- Service and support. *See* Technical support.
- Service Manager section, 294–295
- Settings, partitioning disks, 54
- Shortcuts
 - to applications, 64
 - icons, 64
 - kioslaves, 300
 - Konqueror, 300
 - sudo command, 232
- Shoutcast Streams, 303
- Shut Down option, 68
- Shutting down, 67–68, 284. *See also* Logging out.
- Shuttleworth, Mark. *See also* History of Ubuntu.
 - Community Council member, 265
 - company founded by. *See* Canonical Ltd.
 - HBD (Here Be Dragons), 8
 - on Launchpad code restrictions, 373
 - profile, 7–8
 - SABDFL (self-appointed benevolent dictator for life), 261, 266–267
 - space travel, 8
 - Thawte, 8
 - TSF (The Shuttleworth Foundation), 8
 - Verisign, 8
 - the Warthogs, 9–10
- Sidebar, Nautilus, 111
- Signatures, Ubuntu Forums, 390
- Simon Says, 329
- SIP support, Ekiga, 87–88
- Skype, Ubuntu/Windows equivalent, 409
- Slackware, 14
- SLS (Softlanding Linux System), 14
- Smart updates, 128
- Sobell, Mark G., 405
- Software channels. *See* Repositories.
- Software Management. *See also* Kubuntu, customizing; Kubuntu, system administration.
 - adding/removing programs, 288–290
- Appearance section, 292
- authentication, 290
- Authentication tab, 290
- Desktop section, 292
- KPackageKit, 288
- Kubuntu Software tab, 290
- Look & Feel section, 292
- main repository, 290
- managing repositories, 290–291
- multiverse repository, 290
- Notification section, 292
- password, changing, 293

- Personal section, 293
- restricted repository, 290
- Statistics tab, 290
- third-party repositories, 290–291
- Third-Party Software tab, 290
- universe repository, 290
- update notification, 291
- Updates tab, 290
- upgrading Kubuntu, 291
- Window Behavior section, 292
- Software Management, System Settings. *See also*
 - Kubuntu, system settings.
- Add or Remove Software section, 294
- Advanced tab, 292, 294
- Advanced User Settings section, 294–295
- Appearance section, 292
- Computer Administration section, 293
- Desktop section, 292
- Display section, 293
- General Tab, 292
- Look & Feel section, 292–293
- Notifications section, 292
- overview, 291–292
- Personal section, 293
- Power Control section, 293
- Service Manager section, 294–295
- System section
 - Network Management section, 296–297
 - PolicyKit Authorizations section, 298
 - Printer Configuration section, 296–297
- Window Behavior section, 292
- Software stores. *See* Repositories.
- Software upgrades
 - checking for, 201
 - failure, 199–200
 - installing. *See* Installing Ubuntu, updates.
 - new version of Ubuntu, 201
- Solaris kernel. *See* Nexenta OS.
- Sound. *See* Audio; Multimedia; Music.
- Sound cards, mixer settings, 65
- Sound Juicer. *See* Audio CD Extractor.
- Sound Recorder, 97
- Sound server, 207
- Sounder mailing list, 248
- Source code, free access to, 4–5
- Soyuz, 28, 374
- Space exploration, 326–328
- Spanish language distribution, 370–371
- Specification tracking, 28
- Speedcrunch, 313
- Spillner, Josef, 286
- Spin-offs from Ubuntu, 30–31
- Splash screens
 - customizing, 292
 - disabling, 189
 - installing, 209–210
 - Kubuntu, 292
- Spools, 149–150
- Spreadsheets, Ubuntu/Windows equivalent, 407
- Sprints, 255–257
- SSH (Secure Shell), 212
- ssh client, 149
- SSH keys, updating in Edubuntu, 348
- Stallman, Richard M.
 - chief nuisance, 371
 - free software, 3–5
 - gNewSense, 371
 - GNU project, 5
 - history of Ubuntu, 3–7
 - Linux, 5
 - open source, 5–7
- Standby mode, monitors, 293
- Starry Night, Ubuntu/Windows equivalent, 410
- Stars database, 326–327
- Starting programs, Edubuntu, 357
- Starting/stopping services, Kubuntu, 295
- Startup services, configuring in Kubuntu,
 - 294–295
- Statistics tab, 290
- Stellarium, Ubuntu/Windows equivalent, 410
- Step, 329
- Stick disks. *See* USB storage devices, keyring
 - devices.
- Stock kernel option, 187

- Storage, physically moving. *See* LVM (Logical Volume Manager).
- Storage fluidity, LVM, 158
- Storing and organizing, files and folders, 106–109
- Striped RAID sets, 151
- Structures and processes, responsibility for, 265
- Student Control Panel. *See* Thin Client Manager.
- Subfolders, displaying, 108–109
- Subforums, 386
- Subpixel hinting, 192
- Subprojects of Ubuntu, 30–31
- sudo command
 - instead of a root account, 172, 284
 - shortcut, 232
 - superuser privileges, 172, 396
 - temporary root privileges, 232
- Sudoers database, 172–173
- Sudoku, 97
- suid restrictions, 173
- Summits, 255–257
- Sun Microsystems, virtualization, 180
- Superusers
 - reserving space for, 54
 - running Terminal commands, 396
 - software, folder for, 108
- Support. *See* Technical support.
- Suspend option, 67
- Suspending electrical power, 67
- SVG (Scalable Vector Graphics), 98–99
- Swap partitions, encrypting, 158
- Switching
 - between applications, 66
 - between Kubuntu and Ubuntu, 278
 - users, 67
- Synaptic
 - can't find an application. *See* Autopackages.
 - checking for updates, 128
 - description, 123
 - finding, 123
 - finding packages, 125
 - installing packages, 123–125
 - name origin, 123
 - removing packages, 125
 - starting, 123
 - Type-ahead feature, 125–126
- Syslinux home page, 344
- System administration
 - customizing your system. *See* Customizing.
 - Kubuntu. *See* Kubuntu, customizing; Kubuntu, system administration; Software Management.
 - troubleshooting. *See* Troubleshooting, system administration.
- System administrator account, Ubuntu Server, 172
- System configuration files, folder for, 108
- System information
 - command-line interface to. *See* Terminal commands, system information.
 - printing, 399
- System libraries, folders for, 108
- System log files, Ubuntu Server, 175–176
- System Logs Viewer, 314
- System menu, 63
- System Monitor, 97
- System problems, troubleshooting. *See* Troubleshooting, system problems.
- System resource limits, Ubuntu Server, 174–175
- System section, 296–298
- System settings, Kubuntu. *See* Kubuntu, system settings; Software Management, System Settings.
- System status, folder for, 108
- System updates, with apt-get, 166–167
- Systemwide changes, monitors, 312
- Tabbed Web browsing, 70
- Tagging bookmarks, 70
- tail utility, 176
- Taskbar, 60, 65–66
- Team councils, 261–262

- Teams
 - creating and dissolving, 264
 - LoCos (local community teams), 262
 - meritocracy, 260
 - MOTUs (Masters of the Universe), 263
 - overview, 261–262
 - team councils, 261–262
- Technical Board, 265–266
- Technical direction, setting, 265
- Technical goals of Ubuntu, 22–24
- Technical support. *See also* Bugs, reporting and tracking; Help; Online resources; Troubleshooting; Ubuntu community, communication venues
 - accessing, 63
 - Answers, 377–378
 - Canonical Ltd., 26–27
 - cycles, Ubuntu archive, 161
 - LTS (Long Term Support), 3
 - tracking, 28
 - user involvement, 268–269
- Telephone, over the Internet. *See* Ekiga.
- Templates for new images, image editing, 79–81
- Terminal
 - description, 138–139
 - finding, 96
 - starting, 393–394
 - window, illustration, 394
 - xterm alternative to, 227
- Terminal commands
 - @ (at sign), in command-line username, 393–394
 - \$ (dollar sign), UNIX shell symbol, 163, 393–394
 - (hyphen), dash in commands, 225, 395
 - ? (question mark), wildcard character, 403
 - | (vertical bar), pipe symbol, 139, 395, 404
 - [] (brackets), wildcard characters, 403
 - [!] (brackets, exclamation point), wildcard characters, 403
 - ~ (tilde), home directory indicator, 164, 393–394, 398
 - documentation. *See* Man pages.
 - executing multiple, 404
 - help, 397, 402–403
 - man pages, accessing, 397
 - passing output. *See* Pipelines.
 - pipelines, 139, 395–396, 404
 - A Practical Guide to Linux® Commands...*, 405
 - running as a superuser, 396
 - running sequentially, 404
 - stringing together. *See* Pipelines.
 - sudo, 396
 - wildcards, 403
- Terminal commands, files and folders
 - cat, 395, 401
 - cd, 395, 397
 - changing directories, 395
 - chmod, 399
 - chown, 399
 - copying files, 398
 - cp, 398
 - creating folders, 399
 - deleting files, 398
 - files
 - contents, viewing, 395
 - copying, 398
 - deleting, 398
 - listing, 398
 - moving, 398
 - ownership, changing, 399
 - permissions, changing, 399
 - folders
 - changing, 397
 - creating, 399
 - current, identifying, 397
 - grep, 400
 - less, 401
 - listing files, 394, 398
 - ls, 394, 398
 - mkdir, 399
 - moving files, 398
 - mv, 398
 - nano, 401

- Terminal commands, files and folders, *continued*
 - ownership, changing, 399
 - permissions, changing, 399
 - printing working directory, 397
 - pwd, 397
 - rm, 398
 - sed, 401
 - text files, searching and editing, 400–401
- Terminal commands, system information
 - df, 399
 - disk space usage, displaying, 399
 - free, 399
 - HAL devices, listing, 400
 - hardware, listing, 400
 - ifconfig, 400
 - iwconfig, 400
 - kernel, checking, 399
 - lsb_release -a, 400
 - lsb_release -a command, 400
 - lshal, 400
 - lshw, 400
 - lspci, 400
 - lsusb, 400
 - memory usage, displaying, 399
 - network interface report, 400
 - printing
 - system information, 399
 - version information, 400
 - process information, displaying, 399
 - processes, viewing, 400
 - ps, 400
 - top, 399
 - uname -a, 399
 - USB buses, listing, 400
 - version information, printing, 400
 - wireless network information, displaying, 400
- Terminal commands, users and groups
 - addgroup, 402
 - adduser, 172, 233
 - delgroup, 402
 - deluser, 402
 - groups, adding/removing, 402
 - passwd, 401
 - passwords, changing, 401
 - user accounts, adding/removing, 401–402
 - users logged on, displaying, 402
 - who, 402
- Testing, LIRC (Linux Infrared Control), 222–223
- Text chat, Ekiga, 95
- Text Chat icon, 95
- Text Editor, 95
- Text editors
 - Kate, 313
 - Kubuntu, 313
 - nano, 401
 - sed (Stream EDitor), 401
 - Text Editor, 395
- Text files, searching and editing, 400–401
- Text images, image editing, 81–84
- Thawte, 8
- The Shuttleworth Foundation (TSF), 8
- Themes and backgrounds
 - customizing, 104–105, 208–210
 - finding, 209–210
 - icon themes, 209–210
 - installing, 105, 209–210
 - Kubuntu. *See* Plasma.
 - login screens, 209–210
 - online resources, 105
 - online sources for, 209
 - splash screens, 209–210, 292
 - window borders, 209–210
- Thin Client Manager, 355–356
- Thin clients, 333
- Third-party packages, security, 163
- Third-party repositories, 290–291
- Third-Party Software tab, 290
- Threads, Ubuntu Forums, 386–388
- 3D mapping, 315
- 3D modeling, 98, 410
- Thunderbird, Ubuntu/Windows equivalent, 408

Troubleshooting, hardware, *continued*

- DVDs, 217
- filesystems, 219–220
- keyboard types gibberish, 221–222
- LIRC (Linux Infrared Control)
 - for computer remote control, 222–223
 - drivers, configuring, 222–223
 - lirc package, 210
 - for MythTV remote control, 222–223
 - restarting, 222
 - testing, 222–223
- memory, 218
- mkfs commands, 221
- mobile phone, copying photos from, 218
- remote control for
 - computer, 222–223
 - MythTV, 210, 222–223
- unmounting a device, 130
- USB storage devices. *See also* Disk storage.
 - files copied to/from are missing, 215–216
 - filesystem, determining, 219–220
 - mounting, 215–216
 - not recognized, 215–216
 - permissions, changing, 219
 - reads but won't write, 218–219

Troubleshooting, multimedia

- backgrounds, changing, 208–210
- DMA (direct memory access mode),
 - enabling, 206
- DMCA (Digital Millennium Copyright Act), 205–206
- DVDs
 - playback is jittery, 206
 - support, enabling, 210
 - won't play, 206
- lirc package, 210
- media file won't play, 205–206
- microphone doesn't work, 207–208
- Mythbuntu, 211
- MythTV, installing, 210–211
- remote control, MythTV, 210, 222–223
- restricted formats, 112–113, 205

- sound distortion, 208
 - sound doesn't play, 205–207
 - sound server conflict, 207
 - themes and backgrounds, changing, 208–210
 - xm1tv package, 210
- Troubleshooting, system administration
- adduser command, 233
 - bug reports, filing and tracking, 237–239
 - command options, help for. *See* man pages.
 - copying files between computers, 63, 226
 - desktop, speeding up, 227–228
 - Desktop Effects, disabling, 227–228
 - desktop performance enhancement, 227–228
 - disk space, reducing, 230–231
 - disk storage, recovering from power failure, 229–230
 - fixing hard disks, 230
 - fsck program, 230
 - help for commands. *See* man pages.
 - man command, 231
 - man pages for commands, 231
 - password recovery, 232–233
 - performance analysis, 231
 - performance enhancement, 227–228
 - root account
 - disabling, 232
 - locking, 232
 - preventing automatic login, 199
 - restoring, 232
 - root privileges, temporary, 232
 - scheduling events, 223–226. *See also* Cron; Crontab.
 - shortcut for sudo command, 232
 - sudo command, 232
 - Synaptic can't find an application, 227. *See also* Autopackages.
 - temporary root privileges, 232
 - top command, 231
 - Ubuntu on older computers, 227–228, 230–231. *See also* Xubuntu.

- Ubuntu won't start after Windows reinstall, 228–229
- users, adding, 233
- Windows partition access, 233
- Troubleshooting, system problems
 - automatic login, 199
 - Autopackages, running, 196–197
 - boot failure, 187–188
 - boot logo appears corrupted, 189
 - boot sector, 187–188
 - bootloader, 187–188
 - compiling applications, 197–198
 - Ctrl-Alt-Backspace restart, 199
 - debmirror, 194
 - desktop
 - adding TrueType fonts, 191–192
 - hung, 198–199
 - installing a new environment, 193
 - disk space, freeing up, 200
 - Disk Usage Analyzer, 200
 - File Manager
 - displaying hidden files and folders, 194–195
 - freeing disk space, 200
 - restoring deleted items, 195
 - running slow, 194
 - speeding up, 194
 - viewing freed disk space, 200
 - fonts
 - on LCD screen, 192
 - PowerPoint, 190–191
 - subpixel hinting, 192
 - TrueType, installing, 191–192
 - Windows applications, 190–191
 - Word, 190–191
 - graphical interface fails to start, 190
 - .iso files, testing, 196
 - login automatically, 199
 - memory problems, 188
 - non-Synaptic applications, installing, 196–197. *See also* Autopackages.
 - PowerPoint fonts look wrong, 190–191
 - recovery mode option, 187
 - repositories
 - additional, enabling, 193–194, 226–227
 - local copy of, 194
 - rescue mode, 188
 - restricted drivers, 190
 - rsync process, 194
 - screen resolution, changing, 199
 - software upgrade
 - checking for, 201
 - failure, 199–200
 - new version of Ubuntu, 201
 - splash screen, disabling, 189
 - stock kernel option, 187
 - Ubuntu boots into a text interface, 190
 - Ubuntu keeps restarting, 188–189
 - Ubuntu logo corrupted, 189
 - Ubuntu won't start, 187–188
 - Windows fonts look wrong, 190–191
 - Word fonts look wrong, 190–191
 - wrong kernel, 189
 - X server, restarting, 199
- Troup, James, 265
- Troy, Ryan, 382–383
- TrueType fonts, adding, 191–192
- TSF (The Shuttleworth Foundation), 8
- TurboCASH, Ubuntu/Windows equivalent, 409
- Tutu, Desmond, 10–11
- Tux Paint, 329–330
- Tux Typing, Ubuntu/Windows equivalent, 410
- Type-ahead feature, 125–126
- “Typical usage” setting, 54
- Typing tutor, Ubuntu/Windows equivalent, 410
- Ubiquity installer program, 278–281
- Ubucons, 258
- Ubuneros, 267–268
- Ubuntites. *See* Ubuneros.
- Ubuntu. *See also* Derived distributions.
 - booting into a text interface, 190
 - bread recipe, 239–241
 - CoC (Code of Conduct), 20–22

Ubuntu, *continued*

- derivatives. *See* Derived distributions.
 - developer blogs, 71
 - for educational environments. *See* Edubuntu.
 - financial support for. *See* Canonical Ltd.; Ubuntu Foundation.
 - goals. *See* Goals of, Ubuntu.
 - history of. *See* History of Ubuntu.
 - for KDE (K Desktop Environment). *See* Kubuntu.
 - keeps restarting, 188–189
 - LCoC (Leadership Code of Conduct), 21–22
 - logo corrupted, 189
 - for multimedia production. *See* Ubuntu Studio.
 - on older computers, 227–228, 230–231. *See also* U-lite; Xubuntu.
 - repeatedly restarting, 188–189
 - spin-offs, 30–31
 - subprojects, 30–31
 - technical goals, 22–24
 - for use in schools. *See* Edubuntu.
 - Windows-equivalent programs. *See* Windows programs, Ubuntu equivalents.
 - won't start, 187–188, 228–229
 - won't start after Windows reinstall, 228–229
 - word origin, 10–11
 - for Xfce window management system. *See* Xubuntu.
- Ubuntu archive. *See also* Ubuntu Server, package management.
- APT (Advanced Package Tool), 161–162
 - apt-cache utility, 164–167
 - apt-get utility, 164–167. *See also* aptitude utility.
 - aptitude utility, 169–170. *See also* apt-get utility.
 - backports repository, 161–162, 167
 - binary uploads, 168
 - installing packages, with apt-get, 166
 - LTS (Long Term Support), 161
 - main repository, 161
 - multiverse repository, 161
 - official support, 161
 - removing packages
 - with apt-get, 166
 - orphans, 170
 - restricted repository, 161
 - structure of, 160–161
 - support cycles, 161
 - system updates, with apt-get, 166–167
 - universe repository, 161–162
- Ubuntu community. *See also* Ubuntu Foundation, documentation.
- activists. *See* Ubunteros.
 - CoC (Code of Conduct), 20–22
 - communication venues
 - announcements, 247
 - bulletin board. *See* The Fridge.
 - conferences, 257–259
 - developer contacts, 251
 - developer sprints, 255–257
 - developer summits, 255–257
 - development discussions. *See* IRC (Internet Relay Chat); Mailing lists; Wikis.
 - The Fridge, 254–255
 - general chat. *See* IRC (Internet Relay Chat); Mailing lists; Wikis.
 - IRC (Internet Relay Chat), 248–249
 - mailing lists, 246–248
 - overview, 245
 - Planet Ubuntu blogs, 71, 259–260
 - sprints, 255–257
 - summits, 255–257
 - support-oriented. *See* IRC (Internet Relay Chat); Mailing lists; Wikis.
 - Ubucons, 258
 - Ubuntu Live conferences, 258–259
 - user conferences, 257–259
 - Web forums, 250–251. *See also* Ubuntu Forums.
 - wikis, 251–254
 - description, 17–18
 - history of, 17–18

- LCoC (Leadership Code of Conduct), 21–22
- overview, 244–245
- teams
 - creating and dissolving, 264
 - LoCos (local community teams), 262
 - meritocracy, 260
 - MOTUs (Masters of the Universe), 263
 - overview, 261–262
 - team councils, 261–262
- user involvement levels
 - advocacy, 268
 - artwork, 269–270
 - documentation, 269
 - ideas and feedback, 269
 - packaging, 270–271
 - programming, 270–271
 - quality assurance and bugs, 270
 - support, 268–269
 - translation and localization, 270
- Ubuntu community, governance system. *See also* Canonical Ltd.; Teams; Ubuntu Foundation.
 - code revisions, approving, 264
 - Community Council, 263–265
 - dispute arbitration, 264
 - feature goals, maintaining, 266
 - goals, 261
 - package maintenance, 263, 266
 - package policy, setting, 265–266
 - SABDFL (self-appointed benevolent dictator for life), 261, 266–267
 - structures and processes, 265
 - Technical Board, 17–18, 265–266
 - technical direction, setting, 265
 - Ubunteros, 267–268
 - Ubuntites. *See* Ubunteros.
 - Ubuntu members
 - activists. *See* Ubunteros.
 - approving, 264
 - membership levels, 267–268
 - official membership, 267
 - rights and privileges, 267–268
 - Ubuntu members
 - activists. *See* Ubunteros.
 - approving, 264
 - membership levels, 267–268
 - official membership, 267
 - rights and privileges, 267–268
 - Ubuntu Forums. *See also* Web forums.
 - asking questions, 386, 388–389
 - avatars, 390
 - coffee references, 390
 - Forums Code of Conduct, 391
 - getting help for, 386
 - history of, 382–383
 - key people, 389–390
 - messages. *See* Posts.
 - organization of, 388–389
 - overview, 382
 - participating in, 383–388
 - posts, 386–388
 - profile pictures, 390
 - setting up an account, 383–386
 - signatures, 390
 - staff, listing, 389–390
 - subforums, 386
 - threads, 386–388
 - topics. *See* Threads.
 - tribute weeks, 391
 - user rank image, 390
 - usernames, 383, 385
 - Ubuntu Foundation
 - CoC (Code of Conduct), 20–22
 - description, 29
 - documentation, 18–24
 - geographical location, 29
 - philosophical goals, 18–20
 - Ubuntu Help Center, 63
 - #ubuntu IRC channel, 249
 - Ubuntu Live conferences, 258–259
 - Ubuntu members
 - approving, 264
 - membership levels, 267–268
 - official membership, 267
 - rights and privileges, 267–268
 - Ubuntu Server
 - cloud computing, 181–182
 - contact information, 177
 - custom server kernel, 147
 - description, 146–148

Ubuntu Server, *continued*

- disk replication, 180–181
- DRBD (Distributed Replicated Block Device), 181
- ecryptfs, 158
- encryption, 158–159
- GFS (Global File System) support, 148
- home directory, encrypting, 158–159
- installing. *See* Installing Ubuntu Server.
- installing software on, 158–159
- ipvsadm utility support, 148
- keepalived utility support, 148
- Linux Virtual Server utility support, 148
- log files, 175–176
- NUMA support, 147
- OCFS2 filesystem support, 148
- online resources, 177
- partitioning, 149–150
- passwords, for directory encryption, 158–159
- Red Hat Cluster Suite support, 148
- security. *See also* Security.
 - adduser command, 172, 233
 - administrator account, 172
 - deluser command, 172
 - filesystems, 173
 - firewall tables, 176–177
 - group permission, 173
 - home directory encryption, 172
 - iptables command, 176–177
 - log files, 149–150
 - mount options, 173–174
 - no open ports policy, 171
 - noatime option, 174
 - nodev option, 173
 - noexec option, 173
 - nosuid option, 173
 - online resources, 177
 - other permission, 173
 - overview, 171
 - owner permission, 173

- partitions, 149–150, 173–174
- permission types, 173
- permissions, specifying, 172
- POSIX model, 173
- root account, enabling, 172
- spools, 149–150
- sudo command, 172
- sudoers database, 172–173
- system log files, 175–176
- system resource limits, 174–175
- user account administration, 171–173
- visudo command, 172–173
- swap partitions, encrypting, 158
- virtualization
 - Bochs, 179
 - common hardware emulators, 179
 - containerization, 179
 - definition, 178
 - full virtualization, 179
 - hardware emulation, 179
 - hypervisor, 179
 - IBM, 178–180
 - KVM, 179–180, 234–235
 - Linux-VServer projects, 179
 - MIT, 180
 - OpenVZ, 179
 - OS virtualization, 179
 - paravirtualization, 179
 - preferred solution, 179–180
 - Qemu, 179, 234–236
 - Sun Microsystems, 180
 - support for, determining, 235
 - troubleshooting, 234–236
 - types of, 179
 - VirtualBox, 180, 234–236
 - VMware, 178–180
 - Xen, 179–180
 - XVM, 180
 - xVM, 180
 - zoning, 179
 - z/VM, 179

- Ubuntu Server, package management. *See also*
 - APT (Advanced Package Tool); Ubuntu archive.
 - apt-cache utility, 164–167
 - apt-get utility, 164–167. *See also* aptitude utility.
 - aptitude utility, 169–170. *See also* apt-get utility.
 - building packages from source, 168
 - command-line tools, 162–163
 - Debian package manager, 162–163
 - default packages, 147
 - distribution upgrades, 167–168
 - downloading packages, 164–166
 - dpkg utility, 162–163
 - file owner, finding, 170
 - file provider, finding, 170–171
 - installing packages
 - with apt-get, 166
 - manually, 163–164
 - listing owned files, 170
 - listing packages, 163
 - malicious packages, 163
 - package information, displaying, 165–166
 - removing packages
 - with apt-get, 166
 - orphans, 170
 - searching for packages, 165–166
 - security
 - patches, applying, 167
 - of third-party packages, 163
 - system updates, with apt-get, 166–167
- Ubuntu Server Edition, 368
- Ubuntu Studio, 369–370
- #ubuntu+1 IRC channel, 249
- Ubuntu-announce mailing list, 247
- #ubuntu-devel IRC channel, 249
- ubuntu-devel mailing list, 247
- ubuntu-devel-announce mailing list, 247
- ubuntu-devel-discuss mailing list, 247
- ubuntu-geek (Ubuntu Forums denizen), 389
- #ubuntu-offtopic IRC channel, 249
- ubuntu-users mailing list, 247
- Ukrainian egg bread, 239–241
- U-lite, 372
- uname -a command, 399
- Uninstalling. *See* Removing.
- Universe repository, 161–162, 290
- Unmounting a device. *See*
 - Mounting/unmounting devices.
- Updates tab, 290
- Updating the server, Edubuntu, 345
- Updating your computer. *See* Installing
 - Ubuntu, updates.
- Upgrade notification, 201, 291, 345
- Upgrading Kubuntu, 291
- Usability, 66
- USB storage devices. *See also* Disk storage.
 - accessing, 302
 - buses, listing, 400
 - copying files to the hard disk, 131
 - files copied to/from are missing, 215–216
 - filesystem, determining, 219–220
 - installing Ubuntu from, 55
 - keyring devices, 130–131, 138
 - mounting, 215–216
 - mounting/unmounting, 130–131
 - not recognized, 215–216
 - permissions, changing, 219
 - reads but won't write, 218–219
 - USB1 vs. USB2, 131
- USB1 vs. USB2, 131
- “Use as” setting, 54
- User accounts
 - adding, 172, 233, 401–402
 - adduser command, 172, 233
 - administration, Ubuntu Server, 171–173
 - configuring
 - from alternate install CD, 54
 - from desktop CD, 45–46
 - LTSP (Linux Terminal Server Project), 338

- User accounts, *continued*
 - deleting, 172, 401–402
 - deluser command, 172, 402
 - groups. *See* User groups.
 - hostname, specifying, 45–46, 50
 - passwords, selecting, 46, 54
 - Ubuntu Forums, 383–386
 - usernames, for new user accounts, 46, 54
- User community. *See* Ubuntu community.
- User conferences, 257–259
- User groups
 - addgroup, 402
 - adding/removing, 402
 - delgroup, 402
 - Edubuntu, 358
 - filtering, 358
- User involvement levels
 - advocacy, 268
 - artwork, 269–270
 - documentation, 269
 - ideas and feedback, 269
 - packaging, 270–271
 - programming, 270–271
 - quality assurance and bugs, 270
 - support, 268–269
 - translation and localization, 270
- Usernames
 - in command lines, 393–394
 - Kubuntu, configuring, 281
 - for new user accounts, 46, 54
 - Ubuntu Forums, 383, 385
- Users
 - adding, 233
 - logged on, displaying, 402
 - logging out of Edubuntu, 356
 - rank image, Ubuntu Forums, 390
- /usr folder, 108
- UTC (Coordinated Universal Time), 337–338
- /var folder, 108
- /var partition, 149
- Vector drawing, Ubuntu/Windows equivalent, 410
- Vendor lock-in, 74
- Verisign, 8
- Version, choosing for installation, 34–35
- Version control tool, 27
- Version information, printing, 400
- Vertical bar (|), pipe symbol, 139, 395, 404
- VGs (volume groups), 155–156
- Video. *See also* Multimedia.
 - DVD encryption, 117
 - Ekiga, 90, 92
 - Movie Player, 97
 - playing, 97, 116–117
 - Totem media player, 116–117
 - watching, 116–117
- View Mode icon, Ekiga, 95
- View mode in Ekiga, selecting, 95
- View Webcam icon, Ekiga, 95
- Virtual company, 11–12
- Virtual computer. *See* Dual boot; Ubuntu Server, virtualization.
- Virtual desktops, 66
- Virtual Private Networks (VPNs), Kubuntu, 296
- VirtualBox, virtualization, 180, 234–236
- Virtualization. *See* Ubuntu Server, virtualization.
- Visio, Ubuntu/Windows equivalent, 410
- Visual themes. *See* Themes and backgrounds.
- Visually-disabled users. *See* Accessibility.
- visudo command, 172–173
- VMware
 - client crashes while booting, 360
 - Ubuntu Server virtualization, 178–179
 - virtualization, 178–180
- VOIP (Voice Over IP), Ubuntu/Windows equivalent, 409. *See also* Ekiga.
- Volkerding, Patrick, 14
- Volume control, 65
- Volume groups (VGs), 155–156
- Voyager III, Ubuntu/Windows equivalent, 410
- VPNs (Virtual Private Networks), Kubuntu, 296

- Wallpaper, 312. *See also* Themes and backgrounds.
- The Warthogs, 9–10
- Warty Warthog, 2
- Wastebasket (trash), 66
- Watching video. *See* Playing, video.
- Weather, monitoring, 239
- Web browsers. *See also* Firefox; Konqueror.
 - Firefox, 306
 - Galeon, 227
 - Konqueror, 305
 - lightweight alternative, 227
 - Ubuntu/Windows equivalent, 408
- Web camera configuration, Ekiga, 93
- Web editor, 99–101
- Web feeds. *See* RSS feeds.
- Web forums, 250–251, 362. *See also* Ubuntu Forums.
- Web searches, Kubuntu, 300
- Web sites
 - about Edubuntu, 361
 - bookmarking, 305
 - browsing. *See* Firefox; Konqueror.
 - not loading, 211–212
 - tabbed browsing, 70
- Webmail, Evolution support for, 75
- who command, 402
- Widgets, 285–286
- Wikis
 - about Edubuntu, 361
 - description, 251–254
 - online resources, 251–254
- Wildcards, 403
- Winamp, Ubuntu/Windows equivalent, 408
- Window Behavior section, 292
- Window borders, 209–210
- Window manager alternatives, Edubuntu, 351–352
- Windows
 - creating Ubuntu installation CDs, 37
 - emulation. *See* Wine.
 - fonts, 190–191
 - partition access, 233, 302
 - partitions, sharing with Ubuntu. *See* Dual boot.
 - sharing filesystems with Ubuntu, 45
 - Ubuntu compatibility, 141–142
- Windows, failure to close, 201
- Windows Media Format, restrictions, 112
- Windows Media Player, Ubuntu/Windows equivalent, 408
- Windows partition access, 233
- Windows programs, Ubuntu equivalents
 - 3D modeling, 410
 - Abiword, 407
 - Access, 408
 - accounting, 409
 - AIM, 409
 - Alias Maya, 410
 - astronomy, 410
 - Banshee, 408
 - Base, 408
 - Beep Media Player, 408
 - Blender, 410
 - Calc, 407
 - Celestia, 410
 - databases, 408
 - desktop publishing, 409
 - Dia, 410
 - diagram editing, 410
 - drawing, 410
 - education, 410
 - edutainment, 410
 - Ekiga Softphone, 409
 - e-mail, 408
 - entertainment, 410
 - Epiphany, 408
 - Evolution, 408
 - Excel, 407
 - finance, 409
 - Firefox, 408
 - Flight Simulator, 410
 - FlightGear, 410
 - games, 410

Windows programs, Ubuntu equivalents,

continued

- GIMP, 408
- GizmoProject, 409
- Glom, 408
- Gnucash, 409
- Gnumeric, 407
- Grisbi, 409
- ICQ, 409
- Illustrator, 410
- Impress, 407
- Inkscape, 410
- instant messaging, 409
- Internet Explorer, 408
- iTunes, 408
- KTouch, 410
- Mavis Beacon Teaches Typing, 410
- media players, 408
- modeling, 410
- Money, 409
- Muine, 408
- My Computer, 62
- My Documents, 62
- Network Neighborhood, 63
- Office. *See* OpenOffice.org.
- Orbiter, 410
- Outlook, 408
- Outlook Express, 408
- personal accounting, 409
- photo editors, 408
- Photoshop, 408
- Pidgin, 409
- planetarium, 410
- Planner, 410
- PowerPoint, 407
- presentation software, 407
- Project, 410
- project management, 410
- Publisher, 409
- Quickbooks, 409
- Quicken, 409
- Rhythmbox, 408
- Scribus, 409
- Skype, 409
- spreadsheets, 407
- Starry Night, 410
- Stellarium, 410
- system tray, 65
- Thunderbird, 408
- Totem Movie Player, 408
- TurboCASH, 409
- Tux Typing, 410
- typing tutor, 410
- vector drawing, 410
- Visio, 410
- VOIP (Voice Over IP), 409
- Voyager III, 410
- Web browsers, 408
- Winamp, 408
- Windows Media Player, 408
- Word, 407
- word processing, 407
- Writer, 407
- Yahoo instant messaging, 409
- Windows won't close, 201
- Wine Windows Emulator, 141
- Wired LAN can't connect, 211
- Wireless cards, 213–215
- Wireless network information, displaying, 400
- Wireless networks, Kubuntu, 296
- Word
 - fonts look wrong, 190–191
 - Ubuntu/Windows equivalent, 304, 407
- Word processing. *See also* Desktop publishing.
 - Abiword, 407
 - Ubuntu/Windows equivalent, 407
 - Word, 190–191, 304, 407
 - Word Processor, 304
 - Writer
 - choosing fonts, 73
 - file formats, 73–74
 - in Kubuntu, 304

- saving documents, 73
- Ubuntu/Windows equivalent, 407
- writing a letter, 72–74
- Word Processor, 304
- Working directory, printing, 397
- Workspaces, 66
- World atlas, 329
- WPA support, 213–215
- Writer
 - choosing fonts, 73
 - file formats, 73–74
 - in Kubuntu, 304
 - saving documents, 73
 - Ubuntu/Windows equivalent, 407
 - writing a letter, 72–74
- Wrong kernel, 189

- X configuration, online resources, 190
- X server, restarting, 199

- XDG Base Directory Specification,
 - 299–300
- XDG directories, 299–300, 301
- Xen, virtualization, 179–180
- xmltv package, 210
- xterm, alternative to Terminal, 227
- Xubuntu, 30, 35, 368–369
- XVM, virtualization, 180
- xVM, virtualization, 180

- Yahoo instant messaging, 409
- Yahoo! Mail, 75

- zcat command, 176. *See also* cat command.
- zgrep command, 176. *See also* grep command.
- Zimmerman, Matt, 321
- zless command, 176. *See also* less command.
- Zoning, virtualization, 179
- z/VM, virtualization, 179