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YOUR HANDY GUIDE TO EVERYDAY TECHNOLOGY

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By Team Digit
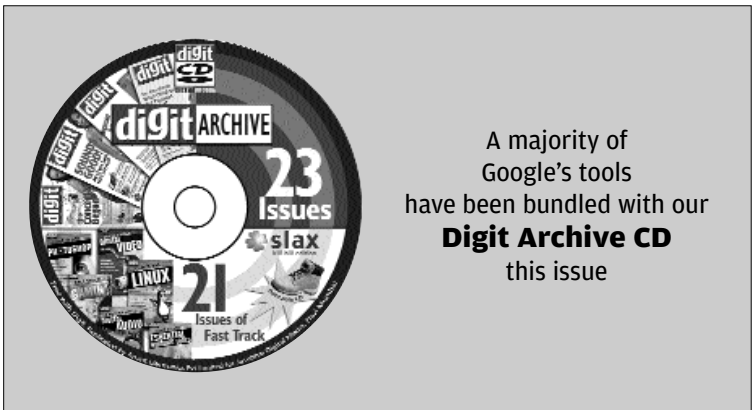
A majority of
Google's tools
have been bundled with our
Digit Archive CD
this issue

Credits

The People Behind This Book

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A Veritable Smörgåsbord

Google is useful, Google is fun. Google is good for everyone. That's our collective sentiment after having written this little book. You'd be hard pressed to find someone who hasn't ever "Googled" the Web, but as you know very well—or will soon learn—search is just the highlight of Google's many services. Ranging from advertising to exploring the surface of the earth, from creating a set of items from a list to delivering the latest news, Google is, has, and does it all.

So much of what Google provides is free, it's delightful. We hope here to alert you to the fact that there is such a thing as Google Code Search; that Google Answers might just be hosting the answer to something you're asking and search engines aren't helping; that you can create a Web page using Google tools and host it at Google, too.

Our purpose here is, therefore, essentially to wake you to the fact that Google is about much more than search, besides, of course, giving you brief guides on how to go about using all those services out there. A majority of Google's tools have been bundled with our *Digit Archive* CD this issue.

The company is ever expanding its portfolio of offerings, and by this time next year, you can expect a few more to have been added. In addition, some of the services change in functionality and manner of usage. (That's probably why Google tends to call all its services "Beta.") As a result, take this book as a snapshot of some of what Google offers right now. Since space doesn't permit a complete coverage, we'll be exploring more Google stuff next month.

As a little exercise, Google "Google is evil." Then look at the affirmations. Then, don't believe any of it. The current king of the Internet is one of the best things to have happened to it—if not *the* best.

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Passion

Google Code

Google Code (**http://code.google.com**) has been started as an open source project. Here, the company releases the code for useful pieces of Google software for developers interested in Google technologies. For an enthusiast, nothing could have been better! Google first released the code for four projects—Perftools, sparsehashtable, coredumper and goopy/functional. The list has since expanded, and you can find it at **http://code.google.com/ projects.html**. It is also hoped (and has been indicated) that existing Google programs like Google Toolbar, Google Talk and Google Desktop might be made open source.

1.1 Google And Open Source

In recent times, Google has done its bit for the open source movement, including a partnership with Sun Microsystems to help share and distribute each other's technologies. As part of the partnership, Google will hire programmers to help with the open source office program OpenOffice.org.

The Google Code main window

The company has also made a $350,000 (Rs 1.65 crore) contribution to a joint open source technology initiative of Oregon State University and Portland State University. The aim is to encourage open source software and hardware development, and provide computing infrastructure to open source projects worldwide. Apart from this, Google organized a

$2 million (Rs 9.5 crore) "Summer of Code" program to offer students an opportunity to work on technical projects. The competition attracted participants from over 90 countries; they completed various open source projects, and also received grants. Google is also involved with various organisations such as the Free Software Foundation, the Java Community Process, the Mozilla Foundation, OSDL, and the Python Software Foundation.

1.2 Google Code

Google uses code.google.com to publish not just its free source code but also a list of API services. APIs give developers a set of functions they can use to extend their program's functionality, without actually releasing code to them. For example, you can implement the Blogger API on your site to let users blog content from it without Google having to release any code to you.

The site itself is very simple in its interface, as are all Google products. It can be divided into the following.

1. The site navigation links: these enable users to navigate to more specific information. It also has a search function. Some of the links are Google APIs, Event Calendar, Open Source, Google Code Search, and the Google Code FAQ.

2. Enhance your Web site: these lists tools that allow users to use Google tools to provide many advanced features, and also certain new techniques. For example, Google Webmaster Tools optimise the user's site coverage in the search engine's index.

3. Reach Google users: this has tools that let programmers work on improving certain features of a known Google product. For example, writing a plugin with Google Desktop SDK to search more filetypes with Google Desktop.

4. Integrate with Google: these tools allow programmers to

integrate their own programs / tools / services with those of Google. For example, the Google AdWords API allows one to manage an AdWords account programmatically.

5. Google Code Blog: an interesting and informative place where visitors are updated on all the latest undertakings by Google, its engineers, organisations associated with Google, and the grants given by the company. Users can subscribe to the blog and be updated about all the developments. Besides, there is a discussion list for each product on Google Groups monitored by external developers and the concerned Google engineer.

6. Featured Products: a column that presents some promising tools that programmers have contributed for use by all. Each product description is accompanied by details such as the tools and APIs used.

1.3 Google APIs

The APIs provided by Google here are fairly extensive. These are powerful tools that provide programmers with many features to enhance their productivity and projects. Some of the prominent and useful APIs are as follows.

1. **The AdWords API** allows development of programs to interact directly with the AdWords server. This is particularly useful for advertisers to manage their AdWords accounts and campaigns more efficiently.

2. **The Google Desktop SDK** allows users to integrate Google Desktop into their own applications, and also to customise it to their needs.

3. **Google Earth KML**: Keyhole Markup Language (KML) allows for modelling and storing of geographic information for display in Google Earth. Browsers process KML files in the same manner as

HTML or XML with its many tags for specifying the display properties. This allows the programmer to do amazing things using Google Earth which is, in fact, a browser for KML files. Among the many features that it offers, one of the best is the ability to specify the camera angle. There is also the ability to dynamically update the KML files from remote or local servers. You can also bookmark (the Google folks call it "Placemarking") your favourite spots on Google Earth and share them with friends.

1.4 Summer Of Code

The Google Summer of Code was an International competition that attracted participants and mentors from over 90 countries. As part of this the participants worked on a variety of open source software. This page provides write-ups prepared by various organisations (that mentored students) on their experience of the entire process.

1.5 Open Source Projects

The Projects page has a listing of all the projects that Google has provided for open source development. For programmers, these are slices of Google technology out of the labs. Apart from giving a brief about the project, there is also a discussion forum associated with each project, wherein the user can interact with other programmers. The only requirement for obtaining the source code, and for posting messages on the forum is a Google account.

Some of the projects available here are AdWords API Client Libraries, CoreDumper, GoogleTAGS, Sitemap Generator, and Testar.

The AdWords API Client libraries is for those users who wish to access Google AdWords accounts programmatically. It allows the coder to develop clients for the same purpose, and for this, it provides the entire Java Client library in a single file.

Another great project is GData Client Tools, which provides the source code and libraries for a variety of languages to access data using the GData APIs. Now, the said APIs provide a protocol for data accessing and publishing on the web.

The Sitemap Generator is a nifty little script that makes your Web site more Google-friendly. It provides tools that automatically create a sitemap, which can then be submitted to Google for better search returns.

1.6 Project Hosting

Project Hosting is a new addition to Google Code, and reads a very interesting tagline: "Release early, release often." This allows users to post their own projects on Google Code. The projects have been classified under Python, C++, Java, Database, etc., and the user can also search for specific projects using the search function.

Creating and submitting a new project is very simple. On the same page, click on the "Create a new page" link, and provide some information pertaining to the project. Among other things, you need to select a license under which the project will be provided. The license will decide how others can use or access the project. Also, the label under which the project fits needs to be specified.

1.7 Google Code Search

Code Search is the one-stop place for searching through piles of publicly-accessible source code available on the Internet. It is like a programmer's almanac, wherein one can even search for function definitions and sample code. The Google Code Search is different from the standard search feature available on code.google.com—more about this later in this book.

1.8 Google Gadgets

These are very small applications that integrate with the Google homepage, Google Desktop, or any page on the Web to enhance the user experience. Examples include calendars and media players—you will find 40 of these
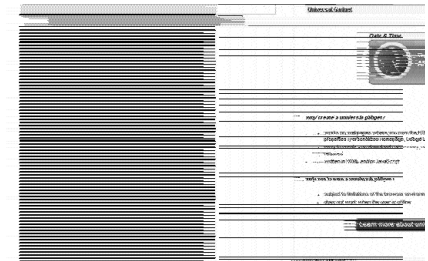
A Google Gadget

gadgets on this month's *Digit* Special CD. Google Gadgets come in two variants: universal gadgets and desktop gadgets.

The variants serve different purposes. While universal gadgets can be used on Web pages, desktop gadgets can be used within Google Desktop. These make integration with various other Google applications much more easier, and can be customised to react to user defined actions.

1.9 The Google Maps API

The Google Maps API allows the user to embed Google Maps into their own Web pages. It does this through JavaScript. As of now, it is an ad-free service (though there is a possibility that it might go paid). To begin with, create an API key that links your Web site and the specified directory
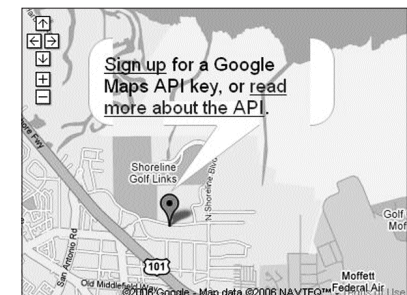
The Google Maps API

(during the key creation). Thereafter, integrating Google Maps is really easy—all you need to do is add the Google JavaScript code to the page, and voila—you have a new addition to your Web presence.

1.10 The Google AdWords API

Developers can use this API to develop programs that allow direct interaction with the AdWords platform, and is therefore very useful for advertisers and third-party systems. They can be configured, customised and developed according to the user's requirement and creativity. Among other things, one can use it to generate automatic keywords, URLs, custom reports, and more.

1.11 Google Data APIs

This is also known as GData, and provides a simple, standard protocol for reading and writing data on the Web. It uses the Atom or RSS formats, and in many ways extends their feature set and applicability on the basis of their inbuilt extension mechanism. The publishing system conforms to the Atom Publishing Protocol.

The beauty is that GData is programming language independent, letting the programmer develop his client software in any language that supports the HTTP protocol. GData has been so designed that it provides the information in mediums other than just the browser—like feeds, queries, and results that the can be customised to suit one's needs. Further, GData allows the user to exchange data with Google as well as update already present data.

1.12 Google Code: The Future

It is expected that in the times to come, more mainstream and popular Google technologies will be made available to the public domain. The efforts undertaken by Google in this direction promise greater action.

Google Code Search

In the recent past, some companies have started Internet code search engines—Coders and CodeHound, for example. However, it wasn't until Google came out with Code Search (www.google.com /codesearch) that industry watchers and programmers stood up and took interest.

2.1 Code Search (www.google.com/codesearch)
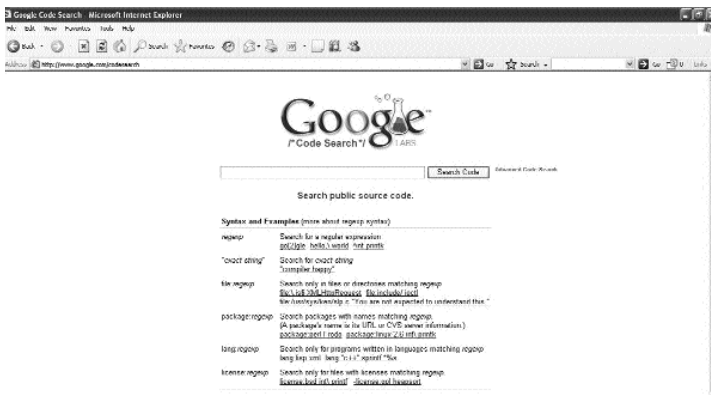
The Internet is a huge repository of source code written in various languages—new, current, and defunct. Much of this code is kept in publicly accessible domains. However, the real issue is being able to locate such domains. Google Code Search takes advantage of the archives on the Web that index code, as also repositories from SourceForge and Google Code, both of which host open source projects.

Google's regular Googlebot crawler is being used to crawl through archives (.tar, .zip, etc.) and repositories such as CVS and Subversion, and index all the individual files within.

The service is designed to be intuitive in manner and conduct. The user can use regular expressions (search for patterns of words rather than keywords) to search for more precise results. Searches can be restricted by language, license, or filename, and the user can trace the link right back to its originating package and Web page.

Google has also released the API for Code Search, which utilises Google's GDATA API format (**http://code.google.com/apis /gdata/index.html**).

One important thing to note is that Google Code Search is different from Google Search (the standard search engine), and therefore, the results of Code Search results are not integrated into the main Google index.

2.2 How To Search

The Code Search interface is similar to the standard Google search page. However, the first thing anyone would notice is the set of syntax instructions and examples given right under the search function.

The Google Code Search Syntax

1. regexp—a regular expression is meant to search for a pattern of words rather than a set of keywords. For example, "hello,\world". When this is used, the search engine opens up the result page that displays code corresponding to that requirement.

A Google Code Search Result

2. Exact string—to search for an exact string, enclose the search string within double quotes. For example, "hello world"

3. file:regexp—this searches only in files or directories matching the regular expression.

4. package:regexp—this searches for packages containing the specified expression. This presents a list of archives in the ZIP or TAR formats, for example.

5. lang:regexp—this crawls through the repositories for code written in the specified language. For example, you could use the search string "lang:c++ hello world".

6. license:regexp—this searches for code available under a particular license. To cite an example, the search string "license:bsd hello world" gets you all code licensed under the BSD license, containing the words "hello" and/or "world".

2.3 Advanced Code Search

The Advanced Code Search page is for more specific search queries. For instance, it provides a list of the programming languages that correspond to your search requirement. Your results will turn up even if the language you're looking for is not listed— just select "any language."

2.4 The Benefits of Code Search

Code Search allows coders to refer to a number of sources, compare their own code or to get ideas on how to tackle a particular issue. According to programmers, this removes roadblocks that existed earlier, since it provides different ways of approaching a particular programming problem. Code Search could also allow code auditors to warn people much sooner of vulnerabilities in a program. A cen-

tral argument for open source software has been that security is enhanced by more people looking at the available code. Another probable and important use for Google Code Search is that it allows developers to do searches for their own code and see where is it being used. A positive implication is that it may also help to combat plagiarism and software license use violations.

Google has a mechanism to tackle illegal postings and plagiarism. The moment it is notified of fraud, it initiates an inquiry, and if proven true, the entry is removed from the index.

2.5 Threat Perception

Google Code Search enables open source repositories to be mined with ease. As a result, security professionals across the globe have issued warning statements to developers. The reason is very simple—vulnerable programs / services can be easily targeted. As the search engine sifts through code with suitable modifications, it can be made to parse for flaws. Yet, the dangers are manifold. A simple query may spring many surprises. For example, one reviewer used "todo+security" as the search query and obtained many programs with unimplemented code properties.

The only thing that can be done for sure is to educate programmers on secure programming techniques to know what is dangerous and what is not. Frequent code reviews are a must, and finally, coding policies need to be enforced.

2.6 In Conclusion

What began as a service for Google programmers to search through internal company code is now available for a global audience. The promise it holds of alleviating the problem of finding and sharing code may usher in a new age of programming productivity and give a fresh boost to the open source movement.

Google Web Toolkit

The Google Web Toolkit (GWT) (**http://code.google.com /webtoolkit/**) has been designed to provide a complete environment for programmers to develop dynamic and standardised content. Its most outstanding feature is that while the programmer prepares the front-end in Java, the GWT compiler converts the code into compliant JavaScript and HTML for the browser.

As of now, all the major software players of the world are into developing AJAX frameworks. GWT marks Google's entry into this segment, and it has come with a fresh approach.

The GWT Web site

3.1 GWT: The Facts

GWT makes it very easy to develop and debug AJAX applications with ease. The choice of the Java tools to be used depends on the user. Now, AJAX is a technology to build dynamic Web pages like the Gmail interface on the client side. It follows the client-server architecture wherein the data is read from and sent to the server by JavaScript requests.

The GWT Interface

The entire process of coding (that the programmer prepares in Java) to the dynamic, interactive content viewed on the Web site takes place in a sequence:

1. The programmer prepares a Java application using the GWT libraries (a set of functions and routines grouped together for ease of use)

2. The GWT Java to JavaScript compiler converts the code into JavaScript and HTML files. These files usually work with all browsers, but some may require certain settings to be changed or edited.

3.2 The Code: Need to change?

The next question that arises is about the need to translate the code written in Java to be converted into JavaScript. The reason is very simple from the point of view of programming. Java offers one of the most versatile packages for the total development of applications. When we combine this power and versatility with GWT, we obtain a tool upon which the AJAX development platform thrives.

Since the GWT is compatible with all the prominent Java development tools such as Eclipse, JUnit, etc., common JavaScript errors (example: type mismatches) can be easily debugged, and therefore the result is a better product / service. Besides, Java is an object-oriented language, so it allows more work to be done with lesser documentation or detailing of steps.

3.3. Obtaining GWT For Download

The GWT SDK is a complete package for development of Web applications. It comes with a compiler, hosted Web browser, and class libraries.

To install GWT, the first and primary requirement is to have the Java SDK installed on your machine. You can get the Java SDK from **http://java.sun.com/j2se/1.4.2/download.html**. The GWT can be downloaded from **code.google.com/webtoolkit/download.html**.

All the GWT files are located in an extracted directory, as it does not have any installer application. The most important file for using GWT is applicationCreator. This file is responsible for generating batch files, support classes, and directories for the new GWT project. For a new user, Google provides some sample applications with the GWT—it is always a good idea for a newbie to familiarise oneself in uncertain waters.

3.4 GWT: Behind The Scenes

There are two modes of operation for a GWT implementation. For a user, it is interesting as well as helpful to know about these.

An application in GWT

1. Hosted mode: here the application is run as Java bytecode within the Java Virtual Machine (JVM). The advantage of running the application in hosted mode is that since it is within the JVM, the user can utilise the debugging features of Java from within the comfort of an IDE (Integrated Development Environment).

2. Web mode—the application is compiled from the Java source code to pure JavaScript and HTML with the GWT Java-to-JavaScript compiler. Therefore, the end users interact with only the Web mode version of your application.

Architecturally, the GWT is designed around four main components that cover almost all the operations that it is capable of undertaking:

1. **GWT Java-to-JavaScript Compiler**: this translates the code written in Java to JavaScript.
2. **GWT Hosted Web Browser**: the browser is for running and executing the GWT applications in hosted mode. When this happens, the code runs as Java in the JVM without compiling to JavaScript.

3. **JRE emulation library**: these are the JavaScript implementations of the most widely-used classes in the Java standard class library. For example, the java.lang package classes.

4. **GWT Web UI class library**: the library is a set of custom interfaces and classes for creating widgets—like buttons, images, and text. This is the core user interface library used to create GWT applications.

3.5 How To Use GWT

1. To begin, programmers need to prepare a program (client-side code) using any Java IDE. For writing the code, you have access to core Java classes and a library of classes (included in the GWT) that provide features very similar to that of JavaScript. For example, the Document Object Model, alert boxes, etc.

Then there are Java classes for adding widgets to the page, from simple buttons to complex drop-down menus and trees. All these widgets are event-controlled, so one can prepare code to respond to them.

2. Once you're done writing and debugging your code and are ready to test application in a browser, all you need to do is to compile the file in the preferred Java IDE and launch the GWT

Shell. This will pop up a specialised browser window and load your application. On Windows, that browser window uses the Internet Explorer rendering engine, and Mozilla on Linux.
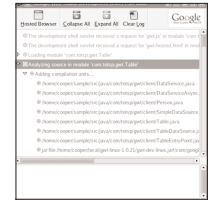
The GWT Shell

The GWT Shell is the interface between the Java classes and the special browser window, allowing the application's client-side logic to run within the browser even though it is implemented in Java, not JavaScript. It allows you to test and debug your client-side logic with ease. You can set breakpoints to pause and step through client-side event handlers, and write unit tests to verify that the user interface works as per the intended design.

3. Thus far, even though our code has been tested in a browser as if it were actual Web content, it is actually still a collection of Java classes, and the final step is to compile these classes to efficient cross-browser JavaScript code. The GWT compiler then reads the source code and generates the equivalent JavaScript code. Thereafter, the generated JavaScript code (along with the static HTML, CSS and image files) is ready to be uploaded to your server. The resulting code is entirely self-contained—it requires no browser plugins or special server technology.

3.6 Concluding Remarks

GWT is an extremely interesting and useful development environment for Java developers (especially) who want to produce rich Web clients and interactive Web content. Its strength lies in the fact that it provides a powerful develop-debug-deploy environment that can exploit the full program creation and debugging features in IDEs such as Eclipse.

P erhaps one of the best parts of Google.com is their "Labs" segment, which showcases the upcoming projects and software that Google is working on. Everything from Alpha to Beta versions of their software and services are avilable here, and this chapter will walk you through understanding some of the goodies on show here

Google Labs

As Google puts it, Google Labs "showcases a few of (our) favourite ideas that aren't quite ready for prime time. Your feedback can help us improve them. Please play with these prototypes and send your comments directly to the Googlers who developed them." Essentially, Google products that come under this category haven't been released yet, but can be used. They don't officially fall under the Google umbrella, and Google even says, "These technologies are still in the beginning stages of development, so they may disappear

The Google Labs home

without warning or perform erratically. If something's not working on this page, please come back and try it again later." We should note that one product has been in the labs since 2002! We expect it will never graduate—we're referring to Google Sets.

At **http://labs.google.com**, you can find all the Google Labs prototypes, as well as those that have "graduated"—such as Google Scholar and Google Maps. Each Labs title has two links: one for sending feedback, and one for discussing the product, as in a forum.

Unfortunately, feedback for these products isn't in the form of a Web form with ratings and such: you can only send a plain e-mail to the developer! You might be more comfortable getting to the forums by clicking the "Discuss with others" link. You need to have a Google Account, and you also need to join the group to be able to post messages. You can, of course, read what others are saying without having to join the group.

The content posted on these forums is typical of this mode of communication, though the forums seem to be heavily moderated—you don't see any junk messages at all! Messages range in content from suggestions (what Google wants), questions on usage, interesting uses or features people have discovered, and such. Each group also has a presence in the new Google Groups Beta—so there's an option on each groups page to "View the page in Groups Beta." Google Groups has been dealt with elsewhere in this book.

It's come down to this: if you're helping improve Google, you're helping make the world a better place! We urge you to join the discussions, and possibly even send e-mail directly to the developers if you have something good enough (or bad enough) to say.

Also, at **http://labs.google.com/papers/index.html**, you'll find interesting (and some difficult) papers related to Google technology. Some are showcased on this page, but there are more—and, naturally, there's a search bar for you to find what you're looking for. Just to give you an idea of what you can expect, here are four sample titles:

WebSearch for a Planet: The Google Cluster Architecture, by Luiz André Barroso, Jeffrey Dean, and Urs Hoelzle

Extracting knowledge from the World Wide Web, by Monika Henzinger and Steve Lawrence

Searching the Web by Voice, by Alex Franz and Brian Milch

The Price of Performance: An Economic Case for Chip Multiprocessing, by Luiz André Barroso

A couple of points before we begin. We will *not* be talking about the following at labs.google.com, and for the reasons mentioned.

1. The Graduates of the Labs, since these are released products and are not open to feedback; also because they have been talked about elsewhere in this book. Ditto Google Code Search and Reader.

2. Google Transit, because it only covers only a few cities in the US.

3. Google Trends in Chinese, because we can't understand what's on the page.

4. Picasa for Linux, because Picasa has been discussed elsewhere in this book. What you'll find at the forum for this page is problems people are facing with installing Picasa for Linux. If you have a problem, post it at the forum page (**http://groups.google.com /group/Google-Labs-Picasa-for-Linux**) and hope it'll be answered. *(Space doesn't permit a discussion of common Linux installation problems, either.)*

5. Google Mars, because there's a section devoted to it in this book.
6. Google Dashboard Widgets for Mac, because there are only three Widgets available. Just for information's sake, however, here's what the Widgets are:

(a) Blogger: to be able to easily publish to your Blogger blog.

(b) Gmail: which shows you your Gmails at a glance.

(c) Search History: which shows you what you've been searching for over the past few days. Not recommended if you share your Mac with someone, but that's unlikely, we suppose.

7. Google Ride Finder: It's US-based.

8. Google Suggest in Japanese: Again, none of us here are Berlitz fans, so we couldn't figure out what was on the page. Sorry!

9. Froogle Mobile US | Froogle Mobile UK, because we aren't in either of these countries.

10. Google Notebook, because this will be discussed under Google Extensions for Firefox.

11. Google Suggest, since it's now part of the Google Toolbar—which has been talked about elsewhere in this book.

So here's what this section will talk about, in alphabetical order:

1. *Accessible Search*
2. *Google Extensions for Firefox*
3. *Google Music Trends*
4. *Google Page Creator*
5. *Google Related Links*
6. *Google Sets*
7. *Google Trends*
8. *Google Web Accelerator*

4.1 Accessible Search

(http://labs.google.com/accessible/)

This is a page at which you perform regular Google searches, but the results are different—more geared towards accessibility by "the blind and visually impaired."

Google's intention and methodology here is the following: it examines the HTML markup on a page, and prioritises pages that "few visual distractions, and pages that are likely to render well with images turned off." Also, Google here takes into account factors such as "a given page's simplicity, how much visual imagery it carries, and whether or not its primary purpose is immediately viable with keyboard navigation."

The first thing we must ask is, how are the ~blind~ helped? Then, how many pages have text-to-speech engines associated? If one is blind or visually impaired, you probably have a text-to-speech program installed anyway, in which case, what function does Accessible Search perform?

The results are indeed very different. For example, many searches bring up the Wikipedia entry as the first result. Then, a search for "York" brought up the first result as a page that had an "accessibility" link, clicking on which we got the following: "All text on this site is set in a relatively-sized font. You can resize the text easily from within your browser. You can also change the font, font colour and background colour." The second result, too, had an Accessibility link: this included the capability to use keyboard shortcuts to navigate the site.

Most importantly, most results pages are low-graphics. We turned off images in our browser, and found that the pages encountered were pretty presentable.

But then, if you're visually impaired, just ignore the images—why restrict your search options?

Overall, this is not yet worth a try for the visually-impaired, and certainly not for the blind. There is one use we can think of for the site, though: if you're on dial-up and are a frequent Googler, use Accessible Search and turn off images to find pages that are low-graphics! If you use the regular Google, many pages look crippled—not so with the search results that come up here. You may not come up with the —most— relevant search results, but when we tried it,

we found that the results are more than acceptable. So, for example, if you need general information on any topic—say, flowers—Accessible Search is a good option.

4.2 Google Extensions for Firefox

(http://www.google.com/tools/firefox/index.html)

There are only five extensions listed on this page, of which we will discuss only two: Google Browser Sync and Google Notebook. The Google Toolbar has been discussed elsewhere in this book, and the Firefox extension is just a program that makes it work with Firefox.

Of the remaining four, Blogger Web Comments and Google Send to Phone are not compatible with Firefox 2.0 at the time of writing. You're either using version 2.0 right now, or you'll soon be, so we'll have to wait until the releases for that version come out—plus, we're expecting more on this page.

Just for information's sake, Google Send to Phone is an extension that allows you to select text on a page and SMS it to a US phone number, provided you know the person's cell carrier, and Blogger Web Comments allows you to see what bloggers are saying about the site you're at.

Now for Google Browser Sync and Google Notebook.

4.2.1 Google Browser Sync

This is probably one of the most useful Firefox extensions ever. Imagine this work-and-home scenario: at home, you have six tabs open, and you've just bookmarked four sites. If you need to access these tabs at work, you'll have to bookmark these as well, and then, to open all these ten pages at work, you'll need to export the bookmarks and send them across by e-mail—or carry the file on your Flash drive. As for cookies and passwords, whatever happens during your home session is lost for you in your office session.

Imagine using the —same— instance of Firefox at both home and office! All your bookmarks, tabs, cookies and all, visible to both installations! That's what Google Browser Sync does for you. It uploads all your info to a Google server (you need a Google account). When you set up the extension on the first computer, you choose a PIN. Then, when you get to the second computer, say at office, you install the extension, enter your PIN, and all your home settings are restored. From then on, the two (or multiple, if you like) browsers are always in sync—it's all completely automated!

The actual installation and configuration is such a breeze, we won't bother going into it here. It's a matter of clicking Next at each step. One thing we should say is that you can stop or start the syncing at any point—for example, if you visit a page you don't want synced on the other computer, you just click "stop syncing" on the extension's icon.

4.2.2 Google Notebook

This might seem pointless for some, but others might find it a mighty useful extension. It's a little like bookmarking, but instead of keeping a tab on a URL, you keep a tab on any piece of content, including images.

Here's how it works: once you've installed the extension (which involves not much more than clicking "install now" after clicking the link), you'll see a space at the bottom right of Firefox that says "Open Notebook." Open it, and you'll see a little box with a list of your "notes" (which is initially blank). Now, say you come across something interesting—some text and an image. You select the whole thing and right-click. In the context menu will be an item called "Note this (Google Notebook)." Click that. The selection will get added to your Notebook, and you'll get an indicator in that little box that lists out the first few words of what you noted, along with the URL.

When you want to view all your notes together—reap the harvest of your browsing session, so to speak—maximise the Note-

book. You'll be taken to a Gmail-like page that lists all your Notes, with the images in place.

Note that you can always create a note, whether in the little box or in the maximised view, by typing something out.

The fun part—if you can call it that—is that you can share your Notebooks (yes, you can have more than one Notebook—one for, say, each day, or one for "Work" and one for "Fun," or whatever). When you share a Notebook, you enter e-mail addresses (which need to be Gmail addresses; if they're not, Google will send a kind invitation to the address(es) to create a Google ID) that will be allowed to collaborate on the Notebook. These people will be able to view and edit the Notes. You can also choose to create a permanent URL for the Notebook, which you can send out to your friends.

So, essentially, what the Firefox extension does is add an item to the context menu that lets you mark something as a Note.

Why you'd want to use this feature, and whether it's a useful thing, is up to you to decide! For your own purposes, it's better than bookmarking if only a certain portion—say a paragraph—of a page is of interest. And for collaborative purposes, you can imagine a wide range of scenarios: if you're a student, for example, you might actually take down notes from the Web this way, and your friends could see what you've taken down, adding their comments on each Note.

4.3 Google Music Trends

(www.google.com/ trends/music)

The purpose of Music Trends is to see what people are listening to, based on the idea that Google Talk users represent the population at large. The information about what songs are at the top of the

charts, as seen on www.google.com/trends/music, is based on what Google Talk users were listening to while chatting using that IM client. Now in July 2006, Google Talk ranked #10 in the list of IM clients, with just 2 per cent of the number of users of MSN Messenger, according to Net traffic firm comScore Media Metrix—so we can't really that say Google Talk users represent the population at large. The fact is that this 2 per cent is still a large number of people, and besides, there's no reason for those people not to be representative, so let's just assume what's on Google Music Trends is indeed what "people are listening to."

Here's how it works: you log in to Google Talk. As with other IMs, you can set your status to "Away," "Busy," etc. An additional option is to set your status to the song you're listening to right then! A song needs to be playing in a supported player—the latest version of iTunes, Winamp, Windows Media Player, or Yahoo Music Engine. And when you set your status to the current song, Google Talk gives you a message saying something like "Your status has been set to Hotel California: Eagles." Then, a Google server will pick up this info. The Music Trends are calculated based on such information.

One might argue that the songs that figure on this list are biased towards the Net-savvy, because someone who isn't really isn't likely to bother setting a status this way. Another thing one might say is that light music (as opposed to classical music or classic rock) is more likely to figure.

At the page, you can click on some song titles, and do a Web search on some others. You can see the top-of-the-charts for a lot of genres, and for a lot of countries. When you click a clickable link, you're taken to a page with info about the song, a picture of the album cover, the song lyrics, where you can buy the song and/or album, and more.

Overall, this is just a place to discover what new music people seem to be listening to, not for music you already know about. And in any case, you could always do a Google search for the latest

music—why would you care what Google Talk users are listening to, anyway?

Just for kicks, perhaps. Worth a couple of visits at most.

4.4 Google Page Creator

(http://pages.google.com/)

We wonder why this one is still in the Labs! It's ridiculously easy to create a Web page with Google Page Creator—in fact, it's as easy and user-friendly as everything else Google. You get 100 MB of space for your page, which will be **http:// your_ google_id. googlepages.com**. The main editor appears as shown, with a friendly "Add text for your page title here" and such. You can, of course, add links, "gadgets," and so on (gadgets are a whole bunch of Google offerings to spice up your page. Fonts, styles, layouts—they're all there. Create lots of pages and link them together. Add images. Change colours. In fact, do a lot of things. Even play around with the HTML code. Actually, it's so simple, it embarrasses us to be telling you how to go about making a Web page here. Just head to the URL and make your first Web site! And yes, there *is* help for when you need it.
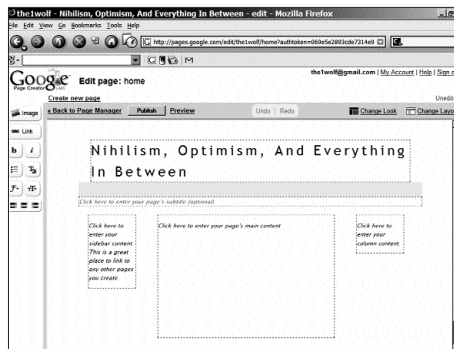
Making your Google Page

4.5 Google Related Links

(www.google.com/relatedlinks/)

If you have a Web site and would like to provide your visitors with additional, interesting info in the form of links, Google can help you. Just visit the link above. A simple click and you're ready to choose the size, colour, etc. of the related links banner—which will include the following:

1. Searches: Links to Google searches
2. News: Relevant news stories
3. Videos: Relevant videos on Google Video
4. Web Pages: Similar pages on the Web

Note that you can choose three of the four possibilities above for the related links that will be inserted. Related news, videos, and Web pages need no explanation; in Related Searches, you get keywords and key phrases gleaned from your site, linked directly to Google searches.

Your Web site needs to support JavaScript. What you'll get after you choose from the small set of options is JavaScript code that you paste into your Web page code. When a visitor to your page clicks on a related link (which you inserted), Google, of course, looks at your page and selects what content is relevant.

And no, you don't get paid for inserting related links onto your site! This is just for spicing up your page—helping your visitors find related content, if you'd want that to happen. Definitely for you if you're an individual who maintains a page to educate and entertain the public at large, and definitely not for you if you're a business!

4.6 Google Sets

(http://labs.google.com/sets)

This one might seem like a toy at first. In fact, most people on the forum for this Lab product do seem to use it like a toy—a pastime, something mildly addictive. Here's how it works.

You get five empty boxes, of which you fill in two or more. These should be related—for example, fruits, such as "apple, " "banana," and so on. When you click "Large Set" or "Small Set," you'll get related items. So, for example, if you fill in two fruits, you get a lot of fruit names when you click the button.

It's not very intelligent: for example, one user on the forum complained that he typed in names of various rotund objects—"ball," "apple," and so on, and that Google Sets didn't return more round objects. So don't expect such things to happen!
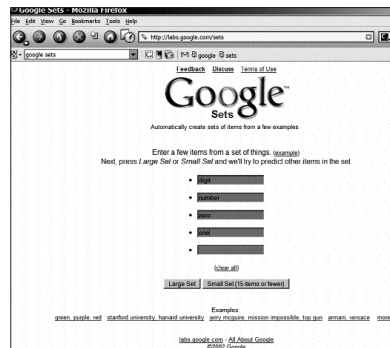
Sets

Here are a few sample searches we did:

❍ We used "Bhutan," "India," and "Sri Lanka," and got the names of other South Asian countries.
❍ "Preity Zinta," "Madhuri Dixit," and "Shilpa Shetty" produced lots of other Indian actresses, but interspersed in the results were "myself," "a lioness," and "Bill Gates"! But we must note the intelligence here: apart from the above three, the results were all *actresses*—no actors!
❍ For the Large Set option, we used the names of five classical composers, and got a set of a large number of composers—but amongst the set was the word "introduction"!

So what use can Google sets be, beyond the fun and games? Here are a few scenarios (where you probably can't use regular search for finding what you're looking for, or where Google Sets is more likely to come up with an answer faster:

❍ You've forgotten most high-school maths, and you're wondering what the other trig terms are besides sin, cos and tan. So you type in "sine," "cosine," and "tangent," and voila—you get "secant" and "cosecant," along with a lot of other maths terms.
❍ You could use it as a thesaurus of sorts. Key in "bright," "cheerful," and "happy," and you get "delighted," "joyful," and so on. You wouldn't be able to Google this, but there's always the thesaurus to help you out in situations like this. Still, Sets has an edge over the thesaurus, we think, because it gives you ideas. "Delighted" is *related* to our three terms, and the thesaurus probably won't give you this.
❍ Your friends are presenting college seminars on *Probability Theory*, *Set Theory*, and *Operations Research*. You're looking for a topic. Let Sets help you—check it out!

4.7 Google Trends

(www.google.com/trends)

"See what the world is searching for," the tagline goes. This one is simple: enter in a search phrase, and you'll get:

Search Volume: A graph that goes along a timeline, which shows you when the phrase or word was searched for and how much. Data is available for three years.

News Reference Volume: A little graph underneath the main graph, which tells you how often your search phrase appeared in the news, according to time. Again, data is available for three years.

News Pointers: When there's a surge in the news for a particular term (the term you typed in), Google Trends marks the point in time

with a letter, then gives you a random headline from that date.

Beneath this, you get three tabs: what city, region, and language the term was searched for most in.

Trends

We used a controversial phrase for our test search: "gay marriage." There were several peaks, as you can see in the screenshot, and each has associated news items. As you might expect, in the Regions tab, we found that it was most searched for in the United States. In the Cities tab, naturally, cities in the states where the news appeared showed the maximum searches. You can get more detailed graphs using the Region and Date selector.

Google Trends can be fun (type in "sex," and you'll get a surprise!). When it comes to utility, it's mostly useful for those with an online business, we expect. Apart from that, you might just want to visit the page for the Trends equivalent of ego-surfing—in the sense that you might want to see how in tune you are with the world: use the search phrases you've been using and check whether you're outdated!
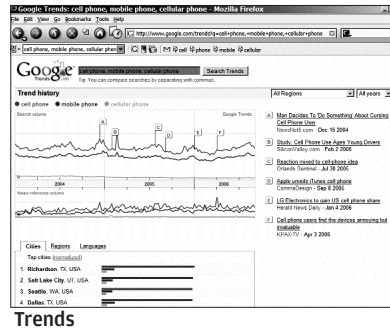
4.8 The Google Zeitgeist

While on the subject of Google Trends, we should touch upon the Google Zeitgeist. "Zeitgeist" isn't a made-up name; it's a German word that means "the general intellectual, moral, and cultural climate of an era," as Google puts it (rightly). (The "Z" is pronounced "ts" and the "g" is pronounced as in "gift.")

The Google Zeitgeist is a compilation of information about what people have been searching for, and what the trends in searching

have been. As a typical example, if you think about the Presidential elections, you can probably guess that at around the time Bush was elected for a second term, there would be a surge in searches for words like "Bush" and "election" and so on and so forth. You'd find such obvious things—as well as much less obvious things—recorded in the Zeitgeist.

The 2005 Zeitgeist

The main page is **www.google.com/press/zeitgeist.html**. (We wonder why Google seems to think only the press is interested in all this.) And there you'll find a characteristically grandiose, philosophical-sounding statement by Google: "What you see here is a cumulative snapshot of interesting queries people are asking—some over time, some within country domains, and some on Google.com—that perhaps reveal a bit of the human condition."

There are three "levels" of the Zeitgeist: by week, by month, and by year, though it isn't organised that way.

By Week
When you click the main link—"Gaining Search Queries: Week Ending October 30, 2006" (at the time of writing)—you'll see the top "gainers" in search for that week. The week you see will be the week that just ended. This won't be of much interest to most people, since it's a trend for only a week—and it probably reflects the state of the news anyway, which is still fresh in one's mind.

By Month
By month, a Zeitgeist has been "compiled." It takes some time for a monthly Zeitgeist to be compiled, so, for example, in October, you'll find the monthly Zeitgeist for August. This is, of course, the top

searches for the month, and includes several categories. The monthly Zeitgeist format has changed over the years, and as of right now, it's divided into regular searches, news searches, and image searches. Under the regular searches, we find, for the month of August 2006, "Music to my ears" (bands), Songbirds (female singers), European soccer, and "Unpleasant Revelations?", each of which has five top searches listed under it. Under that last link, for example, we found "Dell Battery Recall."

This categorisation changes every month, and is a sort of complete, final, compiled report of what the times were like at a particular point. So, for example, under July 2006, we find no "songbirds" category; instead, we find links to "summer travel," "Web 2.0," and Movie and TV searches.

Then, since much of the Internet is still American, you'll be interested in the "Zeitgeist By Country This Month," where Google "regularly updates Zeitgeist by Country to reflect titbits of information relating to the searches made by Google's global community of users. We add more countries as we can, so check back often." India is on the list, so you can see what Indian searchers were searching for, by month.

By Year
The year-end Zeitgeist (for 2005, of course) is currently at **www.google.com/intl/en/press/zeitgeist2005.html**. Visit the tabs—search terms are listed, and there are interesting graphs that, like in Google trends, reflect the correlation of events with searches.
The tabs here are World Affairs, Nature, Movies, Celebrities, and Phenomena. (It's different each year. This is for 2005.)

The things you get here are little article-like snippets. For example, under Phenomena, there's a comparative graph of searches for "iPod," "mp3," and "podcast," and it says:

"Cognoscenti may know that MP3 is the audio file format everyone is using to hear and share music, but the name of a certain company's device that such files are played on is even easier to remember. Apple's

iPod inspired another new term: podcasting, which signifies producing or listening to digital audio on that very same portable device."

Archives
At the Zeitgeist Archives (**www.google.com/press/zeitgeist/archive .html**), you'll be able to jump from year to year. Within each year, you'll get the weekly lists, monthly Zeitgeists, and the year-end Zeitgeist, as explained.

What It All Means
So how far does the Google Zeitgeist capture the "real" Zeitgeist, as it were? We think it does so better than, for example, what you get in a newspaper or magazine at year-end! We'll justify that statement with the following.
❍ In print media "Zeitgeists," someone chooses what figures and what won't. At Google, the people have voted—and in massive numbers.
❍ If an issue has plagued (or taken by storm, or generally interested) a certain region and no other, that will show up in Google. For example, Hurricane Rita is unlikely to be showcased heavily in a Japanese year-end magazine column; at Google, you'll find a lot of mention of the hurricane for the year it occurred in.
❍ For each month, Google doesn't randomly compile a listing of searches: like we said, the categories for August are different from the categories for July. So, you get the idea that in August, a lot of female singers were searched for, and that in July, the word "Web 2.0" and all about the concept was gaining in importance and interest.

Collate for yourself the monthly reports, and you'll see trends and patterns no newspaper can give you.
❍ You'd need to stop over at Frankfurt airport in December and get yourselves a copy of *Die Welt* to figure out what people in Germany obsessed over in 2005. Your local paper won't report that. At Google, you can see year-end Zeitgeists for several countries—pick one that interests you.
❍ You'll get real, sometimes useful information. Who'd think that people in *India*—more than people in any other country—were interested in the US Open in August 2005 (the month of the US Open)? In the US, they were searching for football and basket-

ball! Then, where but at the Google Zeitgeist would you get info on what *kids* were (and are) looking for?

❏ Search reflects what's on peoples' minds. Not so what's in the news. There might much of a hullabaloo in the press about a certain piece of news, but if people don't end up searching for it on the Web, it doesn't really reflect the spirit of the times, does it?

And finally,

❏ Surprises! No prizes for guessing that "VAT" and "budget" would have been searched for a lot by Indians in the pre-tax month of March 2005, but would you expect that people were much more interested in *Aishwarya Rai* than in either of these pressing developments? Is that a sign of the times, or what?

4.9 Google Web Accelerator

(http://webaccelerator.google.com/)

This application has been designed to speed up your Internet connection. Google tells us that dialup users "may not see much of an improvement," and it's optimised for broadband connections. So how does it work? First, frequently-visited pages are stored on Google servers, so they can be dished up faster: there are dedicated servers for Google Web Accelerator. Then, some pages might be prefetched onto your computer in the anticipation that you'll visit them. And, Web data is compressed before it is sent to your computer.

When you download and install the app, it sits in your system tray, and you can start or stop it from there. In Preferences, you have the option of choosing dial-up, DSL, and so on. Now when Google says DSL, they mean speeds in the Mbps range, so if you're on "Indian Broadband," you're still best off selecting "Dial-up."

The big question: does it work? The simple answer: we tested it on an "Indian Broadband" connection—Sify, to be precise—and it seemed to improve speeds for popular sites such as BBC and CNN. This could have been psychological, though! And don't expect much of a speedup from pages like http://home.ipact.nl/~username!

Even if you're on dial-up, download it and give it a try—you have nothing to lose except for a couple of minutes! After you've used it for a while, remember there's an option in the system tray menu that tells you how much time you've saved using the application. When you see that figure go into the hours, you know the app works.

Google Answers

At Google Answers, you pay for getting your questions answered. There are several aspects to **http://answers.google.com**—and we will talk about whatever is important and interesting.

First off, Answers don't come cheap—unless you earn in dollars. You'll understand why we say this as you go along. Besides, with this book to help you out, you might not need to ask questions at Google Answers at all, unless you're doing important business research and such.

5.1 How It Works

We'll leave out the details of what you go about clicking and so on, since you can figure that out for yourselves when you visit the site. What we'll do here is give you a clear picture of what Answers is intended to achieve.

It's a paid service, like we said, but with the important difference that even those who aren't paying or getting paid can contribute to the answering process!

Let's take a scenario. You've been Googling away for a couple of days, looking for an answer to a question—say, "What is the state of nanotechnology funding in the EU vis-à-vis that in the US, and where are the real advances expected?" Now such a question doesn't easily lend itself to Googling, because even if you use "EU nanotechnology funding," you'll get a lot of results—and if you're doing serious research, it's difficult to compile all that information. That's where Google Answerers come in.

These folks are actually pretty ordinary. A few of them are experts in some fields, but most importantly, they're *good Googlers*. So what happens now is:

❍ You create a Google Answers ID. This is different from your regular Google ID, and this ID will be used in all your Google Answers transactions, so as to protect your privacy. Correspondence concerning your questions will be sent to your Gmail ID by default (you need to have a Google ID in the first place in order to procure a Google Answers ID), but you can change this.

Your Answers ID will have "-ga" appended to it—so if the ID you create is "azsxdc", you'll be referred to as "azsxdc-ga".

❍ After you're done creating an ID, you post your question. There is a 50-cent fee just for insertion. This fee is non-refundable—even if your question vanishes into the void.

❍ You quote a price you're willing to pay for your answer. These prices are high by Indian standards. Google says on the Answers page that you can get your question answered for "as low as $2.00," or but forget that figure—if you're asking a question like the above, you'll need to quote in the vicinity of $50 or even $100!

❍ Your question may or may not be taken up by an Answerer. Remember, Google is not God, and Google Answerers are not gods either. If no-one thinks they can answer your question, it will rot. If someone thinks he can, you'll get an e-mail saying your question is being worked upon.

❍ You can, at this point, post clarifications to your question. You can include more details, what sites you referred to, and so on. This makes it easier for the Answerer to nail down useful information.

❍ In addition, random people with Answers IDs might decide to "Comment" upon your answer. These won't come under the "Answers" section of your question page, but under "Comments." If you think a certain comment serves your purpose, you can even cancel your question—unless it's been "Locked," meaning an Answerer is working on it right now.

❍ If and when you get an Answer, you'll get an e-mail notification. Now, if you think the answer isn't up to the mark, you can ask for further clarifications, and the Answerer will try and incorporate changes to the answer.

❍ At the end of it all, if you're happy with what you get, you pay and possibly tip the Answerer. You also rate your Answerer. Be wise while rating the Answerer: if someone's rating goes below a certain level, he can lose his job as an Answerer! A clarification is often in order before you shoot off a negative rating.

If you're still not happy, you can apply for a refund.

5.2 This Is No Yahoo! Answers

Yahoo! Answers, if you've seen it, is entirely different. It's hardly moderated; you'll find hormonal teens asking puerile questions about sex; you'll find people submitting homework questions; you'll see questions like "Do you like blue?" or "What colour do you like?" and such. People who answer the questions can say things like "I don't know" and post it as an answer; they might say derogatory things about the question-asker; and so on. Google Answers is much more formal—at least when it comes to the people supplying the answers, as you'll find out from our example to follow.

All content at answers.google.com is moderated by what are known as "Editors." So even if you think about it as a forum, be sure you express yourself concisely, clearly, and politely.

Which brings us to an important question: what can you ask at Google Answers? You'll find the answer to this question at the FAQ section of the site, but in general, you can expect your question to be deleted if:

❍ It contains explicit content
❍ It deals with stuff like making bombs

○ It's a homework question
○ It asks about how Google and Google Answers works
○ It's vague or frivolous, such as "Do you like blue?"

And so on. This is a place for serious research.

5.3 What Can You Expect?

Typically, for a question like our nanotechnology example above, you can expect a decently long write-up followed by lots of links where you can find further information. For simpler questions, you can expect brief, to-the-point answers. Like we said, you can also expect random people to comment on your question, which in themselves can contain a wealth of information.

What kinds of questions are answered for low prices? Here's one example we found: "How do you disable images in Firefox?" The question was answered, and the price was $3, in addition to the 50-cent insertion charge. So imagine paying $3.50 (Rs 160) for something as simple as this!

One thing we must mention is that Google Answers can help you get information you wouldn't get anywhere else, in certain cases. For example, what if you needed something translated into a foreign language or vice-versa, for an important purpose? Online translators hardly cut it. For a 500-word translation at Google Answers, you can expect to pay about $100.

5.4 It's Too Expensive!

Yes, we're waiting for a Google Answers India, just like Yahoo! brought out Yahoo! Answers India. Some decent rupee prices, please. In the meanwhile, you can have fun at the site answering peoples' questions—as a Commenter, after having procured an Answers ID.

5.5 What Goes On At The Site

So how do you start? You first need a flavour for what goes on at the site. Like we said, it's not just submit-question-and-get-answer. Here's a typical "dialogue" in regards to a question. We made this one up, but it's inspired by a real dialogue at Google Answers. We're putting in this dialogue here so:

a. You get an idea that it doesn't have to be advanced research questions that are asked
b. You get the idea that the Answerers are more like regular people than you might think
c. You get an idea of the freedom that Commenters have in regards to posting their comments

The cast: Questioner, Answerer, Commenter. Remember that Questioner is paying; Answerer will get paid; and Commenter is there for the fun of it.

Questioner : I need pictures of the KASHMIR PARADISE.
Answerer : Do you mean Indian Kashmir or Pakistani Kashmir?
Questioner : I mean the illegally Indian-occupied Kashmir
Commenter: Questioner, please don't get political here. Everyone here would appreciate it if you'd be to the point. Answerer didn't know you call it "Indian-occupied Kashmir."
Answerer : Questioner, I can help you find pictures of Kashmir. Please clarify if the Kashmir Valley is what you mean.
Questioner : Yes I mean independent Kashmir valley country
Commenter: I suppose you could just do an image search on "Kashmir" and find your pics... besides, here's one great place to get started: (www.xyz.com)
Answerer : Here's what I've come up with, Questioner. Kashmir does seem like a beautiful place! Some links for you to browse through: (www. abc.com, ...)
Questioner : I want to make clarification... these images are NOT high-res I want better pics please please help me. Kashmir is THE PARADISE on the earth.

Answerer : I'm Sorry, Questioner, and I'll search some more. On a different note, I'd like to say that you shouldn't call one place "The Paradise"—the world is full of beautiful places. For example,
Questioner : No no the only PARADISE ON EARTH is the Kashmir...

... And so on. (Note that Questioner gets to shout because he's paying.) On many topics, you'll find several commenters posting.

In the Firefox example we gave, the Answerer only stated the simple answer about how to get rid of images in Firefox: go to Tools > Options > Content > ... etc. It was a *commenter* who said, "Install Adblock and Flashblock if the irritating ads and animations are what you really want to get rid of."

5.6 Have Fun!

Now that you have an idea of what Google Answers is about, you can go ahead and waste lots of time answering other peoples' questions. It depends on where your expertise or knowledge lies. Get yourself a Google Answers ID, and choose a topic. Under Technology, for example, the sub-topics are Algorithms, Games, Graphics, Hardware, Internet, Operating Systems, Programming, Security, Software, and Wireless & Mobile.

Bear the following in mind before you begin posting as a commenter. These, actually, apply to all forums!

❍ In the interest of your privacy, choose an ID that no-one can link to you, because anything you write is indexed by Google.
❍ Don't ask a question in a comment! Answerers are there to make money, and if you ask a question in a comment, you'll get something like "if you'd asked that in a question, I'd have answered it for you."
❍ Be polite, to-the-point, and articulate.
❍ Don't make the world a more confused place by doing some guesswork. Post only if you know something about what's being asked.

❍ Read what other commenters have posted before making your own post, so that there's no repetition.
❍ Never include personal details in your comments.
❍ Try as far as possible to be unbiased and neutral. Never get into controversial discussions unless you can manage to keep your cool and be rational.
❍ If the question involves some (or a lot of) Googling, that's when it gets really fun! Use the techniques described in our section on Web search.

In addition to posting comments, you might be able to get answers to some of your own questions, at answers.google.com! Just use the search box—and you might just find someone having asked the question you want an answer to.

Google Answers, while not as addictive as Yahoo! Answers, is still a pleasant place to visit during those idle-browsing sessions. Remember, exercise restraint.

Google Scholar

You can find scientific research papers at a lot of places on the Net, but then here's a central place from where you can search for them—Google Scholar (**http://scholar.google.com**). The interface is typical Google, and here's a screenshot of the results for the word "pipelining," with each part of the results explained in detail.

1. The Title links to the abstract of the article, or if it is available on the Web, the complete article.
2. "Cited By" identifies other papers that have cited articles in the group of papers. (Groups are mentioned soon.)
3. "Web Search" searches for *information about this work*.
4. The "BL Direct" link takes you to where you can purchase the full text of the article through the British Library.
5. The text in green tells you where the paper or work appeared, and other such information.
6. Under "Group Of," you can find other articles included in this

group of works, which you may or may not be able to access. Examples include abstracts and conference papers.

7. You can filter through your results by author name.

It can sometimes be difficult to search for a particular paper, because of things such as author initials, and so on. Just click on the Advanced Search link near the top of the search bar: this page also gives you Advanced Search tips. The fields are pretty self-explanatory, in the literal sense that there's an explanation to each of them—naturally, we don't need to go into that here!

There's also the option, on the main page, to only search recent articles.

Coverage in Google Scholar is strongest in science and technology. In addition, remember that not *all* results are "scholarly"— meaning that if you want to cite a source in a work of yours, don't say "I got it from Google Scholar" as a defence of the "scholarliness" of the work you're citing!

What Do I Get?

Don't expect all articles to be available for reading on the Web! Like we said, some are available from the British Library for a fee. Some results, when clicked, will take you to places such as the ACM (Association for Computing Machinery) portal, where you need a membership to be able to read the article. Abstracts are almost always readable off the results page at some place or the other, and in some cases, like we said, the full text of the article might be available online.

Some results link to books, and they aren't clickable—you need to click the "group of" link. This will take you to the book results, which, of course, demands that you whip out your wallet, wherever it is that it takes you.

We'd suggest a subscription to ACM.org, the IEEE Web site (**www.ieee.org**), and other such places, because there's such a

huge store of papers available at these sites. Unfortunately, you can't purchase individual articles from either ACM or the IEEE— you need to be a member.

On the plus side, you get some results from books.google.com, which we've discussed elsewhere.

What Are "Scholarly Articles"?

If you haven't ever searched for a scholarly article for research, we should tell you a little bit about them. Many of them tend to be inaccessible to those without the appropriate background, and a problem is that a typical "scholarly" paper doesn't mention what background is required.

To elaborate a little, here are snippets from two articles we found on the Web using Google Scholar. The search term was "DDR memory."

Here's from the introduction of one of the results, *DDR2 and low latency variants*, by B Davis, T Mudge, B Jacob, and V Cuppu:

The expanding performance gap between processor speeds and primary memory speeds has been characterized as a "memory wall." Until recently this problem has been attacked by designing the CPU to tolerate long memory latencies, examples include: prefetching, out-of-order execution, lock-up free caches, speculative loads, data prediction, and memory-request reordering. Now, we are beginning to see significant changes to DRAM architecture in an attempt to improve both the bandwidth and the latency of the primary memory system from the other side of the "wall." Most of these approaches...

Here's from the abstract of another article: by T Kirihata, G Mueller, B Ji, G Frankowsky, and J M Ross (hold your breath)!

A 390-mm2, 16-bank, 1-Gb, double-data-rate (DDR) synchronic random access memory (SDRAM) has been fabricated in fully planarized 0.175-μm, 8F2 trench cell technology. The 1-Gb SDRAM employs a hybrid bit-

line architecture with 512 cells/local-bitline (LBL). Four LBL pairs are connected through multiplexers to each sense amplifier (SA). Two of the LBL pairs are coupled to the SA by wiring over two other LBL pairs using hierarchical bitlines. This results in a reduction of the number of the SA's to 1/4, reducing the chip size by 6%. A hierarchical column-select-line scheme is incorporated with a hierarchical dataline (MDQ) architecture.

Now turn off the lights, take a deep breath, and relax. You don't need to read that paper!

What we're trying to get at is that if you're a typical college student, technical writer or such who needs to research a topic, you'll need to wade through some abstracts before you find something you can read. (We're assuming there aren't too many PhDs amongst you!)

Coming to the humanities, at the other end of the right-brain/left-brain spectrum, we must remark that the results are still scholarly, but tend to, as one might expect, consist of personal opinions as well as judicious analyses. Those searching for literature critiques, for example, will find Google Scholar a dream come true.

They All Seem Paid Or Inaccessible!

That's what it might seem for some searches. You see, books don't come free, and neither do most research papers—you'll have to live with that. What we'd like to tell you is that wading through the results might well see you downloading exactly what you wanted—all it takes is a little patience. There are millions of free PDFs and such out there available for free download!

A final word: visit **www.pubmedcentral.nih.gov/articlerender .fcgi?artid=1324783** for a discussion of Google Scholar itself—its merits and demerits and so on.

Digital
Tools

Searching With Google

Search, of course, is what Google is mostly about. Evolved out of their original research paper, *The Anatomy of a Large-Scale Hypertextual Web Search Engine* (**http://tinyurl.com/y98mbt**), the Google search engine is a distributed network of hundreds of thousands of computers that take about half a second to process a search query. Yes, one half of one second! For an overview of the technology, go to **www.google.com/corporate/tech.html**.

Building on this breakthrough approach to searching the Web, Google search has grown into a plethora of specialised services that enables people to search the Web in so many different useful ways. In this chapter we look at the various ways you can Google the Web for information.

7.1 Web Search

Web search is the most commonly used of Google's services. Fire up your Web browser, type in **http://www.google.com** to take you to Google's "classic" search page as shown here.

Google's classic search page

Note that if you are in India, typing in google.com will automatically redirect you to Google India's home page, **www.google.co.in**.

The first thing you notice is the minimalist look of the page.

This is a conscious design consideration intended to focus the user's attention on one and only one thing: searching for information. In the upper right corner you will notice two links: Personalized Home and Sign-in. The personalized home page takes you to a customisable home page which you can configure with your personal choices. See §7.3 to learn more on how to create a Google account and personalise Google with your preferences.

7.1.1 Search Overview

The most basic search involves entering a string of keywords in the search box and hitting the [**Enter**] key or clicking on the Google Search button. You can also click the "I'm Feeling Lucky" button; doing this will take you directly to the first Web site that Google thinks is the most relevant. Additionally, you have two other options before clicking either of these buttons: you can select whether Google should search the entire Web or just pages from India. Based on the options you select, the results of your search will differ. When you click on the Google Search button, the results displayed are ranked according to relevance and reliability using a complex formula that calculates the ranking (within half a second!) based on 500 million variables and 2 million search terms!

7.1.2. Search Preferences

You can specify how Google behaves on your computer by setting the Preferences accessible via the link next to the search box.

This will open a Web page where you can specify various settings on how Google should behave.

At this page you can specify the language in which the Google interface should be. On the
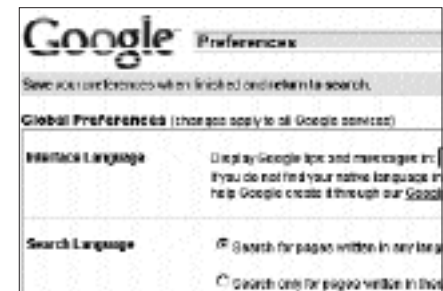
The Preferences page

Google India home page, the five most common Indian languages are listed, but using the Preferences, you can choose additional Indian language interfaces such as Kannada and Malayalam.

Next, you can narrow the search to one or more languages or leave it at all languages.

Google's SafeSearch Filtering allows you to filter the display for sexually explicit content. By default, when Safe Search is turned on (in the Advanced Search page—see §7.1.7), Google Web search uses moderate filtering. You can change this to Strict filtering to block out any inappropriate text results too.

By default, the number of results per page is 10. This can be increased to 100, but the results will be displayed slower.

Finally, you can click on the checkbox at the bottom if you want the results to be opened in a new window. This may be useful if you are running multiple searches and want to keep each of the results open in a separate window.

Click Save Preferences to save your selections and return to the search home page. Note that this setting is cookie-based and tied to your computer, and not to your Google User Account. Thus, if you ever clear the cookies on your computer, you will need to go back and reset the settings on this page.

7.1.3.Language-Specific Searches
You can do language and country-specific searches as well, as translate between various languages by clicking on the Language Tools link next to the search box.

This link takes you to the Language tools page which gives you access to language-specific search services. You also can search sites within specific countries in specific languages.

If you are comfortable typing in any of these languages, you

may want to install their language packs as well. This will enable

Language Tools Access
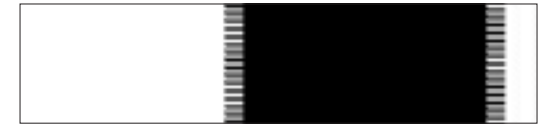
you to type in the search terms in the native language, and Google will return the results in that language. For more information on how to enable your keyboard to support Indian language scripts, go to **http://bhashaindia.com**. However, results in Indian languages are scarce primarily due to the lack of Web sites.

Google can also translate text or a Web page between different languages. See §7.1.4 for more details.

Like on the Preferences page, Google allows you to select the user interface language that you would like to use. There is no difference between selecting it here or at the Preferences page. It is primarily duplicated here to maintain logical consistency with the context of the page.

If you are a translator, you may wish to participate in the Google in Your Language programme. Click on the link given for more details.

Finally, this page links you to Google's country Web sites of more than 145 countries.

7.1.4. Language Translation
Google's language translation features can be accessed from the Language Tools page or from **www.google.com/translate_t**.

Using this page, you can type text into the text box and have it translated from one language to another. Currently this list is quite small and lists only about 20 inter-language translation variations. Similarly, you can also specify an URL and select one of the translation variants.
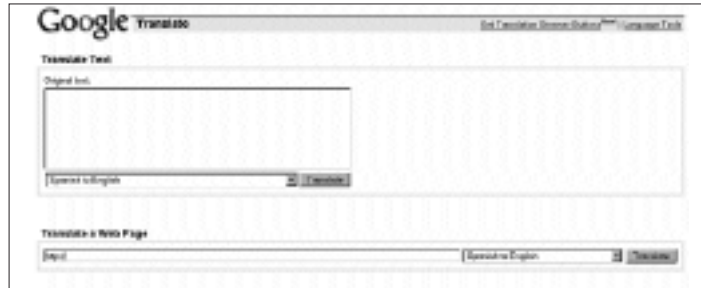
The Google translation page

If you regularly require translation between any of these languages, you can get browser buttons by clicking on the "Get Translation Browser Buttons" link.

The Translation browser buttons

Just drag the required buttons to your Links toolbar in Internet Explorer or the Bookmarks toolbar in Firefox. The next time you are at a Web page that you want translated, all you need to do is click on the button for an instant translation of the page. For example, if you are frequently on Portuguese Web sites that you want translated to English, just drag the "Portuguese to English" button to the toolbar and click on it when at a Portuguese site. Google will instantly translate the site to English. Note that the quality of translation will not be very accurate, since this is automated translation and we are still many years away from grammatically accurate machine translators.

Also, if you are using the Google Toolbar, you have one other translation feature that language students might find useful. When browsing English-language Web sites, you can point at

English words and get translations in one of the eight supported languages: French, German, Italian, Japanese, Korean, Simplified Chinese, Spanish, and Traditional Chinese. To enable this feature, on the toolbar, click **Google > Options**. In the pop-up window, select the Browsing tab and select the Word Translator checkbox. Click on the Translator Settings button to select the language into which English words should be translated. Click OK when done.

7.1.5. Basic search

Searching is easy—just type in the search term(s) and hit [Enter] or click the Google Search button. However, choosing the right search term is important in getting the most relevant results. If the results are too broad you can use a number of basic and advanced (see §7.1.4) search operators to refine your results. You may use up to 32 keywords in your search term, which in practice should be more than enough to handle even the most complex searches. The following list gives you examples of the basic search operators:

vacation shimla
Lists all the sites with the words vacation and Shimla. Note that Google automatically searches for all the words in your search term. Also, searches are not case-sensitive.

vacation shimla OR ooty
Lists all sites with the words "vacation" and "Shimla", or "vacation" and "Ooty", or "vacation" and "Shimla" and "Ooty". Note that the OR operator should be in capitals, that is, if either "o" or "r" are in lowercase, Google will treat it like an ordinary word. Instead of using the word OR, you can also use the vertical bar symbol |. Thus, the above search term can also be entered as "vacation shimla | ooty".

"freedom at midnight"
A search term enclosed in quotes indicates that the search should be for the entire phrase. Thus, in the above example the result will show all the sites with the exact phrase "freedom at midnight".

This can be particularly useful when you are searching for proper names, snippets of famous quotes, song lyrics, and such.

caricatures where sketches +are not permitted

By default, Google ignores common words like "where", "how", "are", etc. If you want to include a specific common word, use the plus sign before the word. Also, Google, by default, will include spelling variations of the same keyword. Thus if your search keyword is "colouring book", the Google results will include both "coloring" and "colouring". To search only for "colouring", include the plus sign: "+colouring book". Make sure there is a space before the sign and no space between the plus sign and the word you want included in your search results.

caricatures -sketches

If you want to exclude a particular word from your search results, you can use the minus sign. Like the plus sign, make sure there is a space before the sign and no space between it and the word you want excluded.

These basic search operators can also be combined in one or more ways to give you refined, highly focused results for your search. For example, consider the search term:

job vacancy erp senior "project manager" -junior manufacturing OR Automotive

This search term will search for sites:
❍ with the words job AND vacancy AND erp AND senior
❍ with the phrase "project manager"
❍ without the word junior
❍ with the word manufacturing OR automotive OR both

To see the difference between this search and a simple keyword search, compare it with the undifferentiated search term "job vacancy erp senior project manager manufacturing automotive".

One additional feature of Google search is automatic word stemming technology. That is, when searching for a keyword, not only is the exact word searched for, but also words with related meanings. For example a search for "cardiac arrest" will also includes results with "heart attack"! In addition, Google is aware of plurals and such, so if you search for "flowers", pages with just "flower" in them will show up too.

7.1.6. The Anatomy of a Search Result

A Google search result is a complex rendering of information from multiple data stores that is displayed in a quick and easy-to-understand format. Other than the complex formula applied to rank the results, the results displayed will also vary according to the type of search term.

For example, if you search for "Windows Vista", you will not only be able to see the most relevant Web sites, you will also be shown the latest news clippings. This can become very useful especially when you are searching for information related to current affairs. In addition, Google displays advertisements—Google AdWords, which closely match your keywords.

The search results page also shows you results from news items

However if you search for the term "streptomycin", Google recognises that you are searching for information on medicine, and provides you with relevant additional filters to help you refine

your results. This feature is part of the Google Co-op service which is explained in greater detail in another chapter.
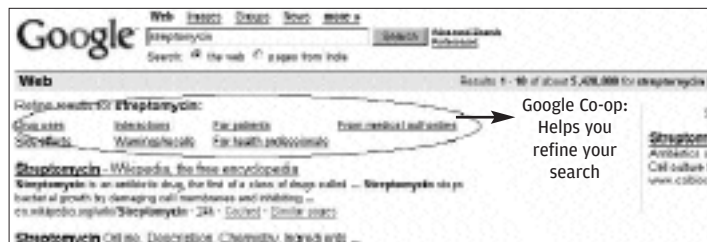
Google Co-op Search Results

Similarly, depending on the search terms, you may see relevant supplemental results based on additional information available, your personalised search settings, or subscription to other Google services. For example, searching for a book author may show up additional results from Google Books Search (see §7.6).

Google also stores copies of many Web pages in a temporary cache, which becomes useful when the main site is no longer available or has gone temporarily offline. These will appear beneath the main results as links. In addition to the cache, if possible, the result will also show a link to pages that are similar to the result. And if you are using Firefox and the Google Notebook extension, you will also see a link called "Note this". Clicking that link will create an entry in Google Notebook with a link to the site in the result. See Chapter 4 for more on Google Notebook.
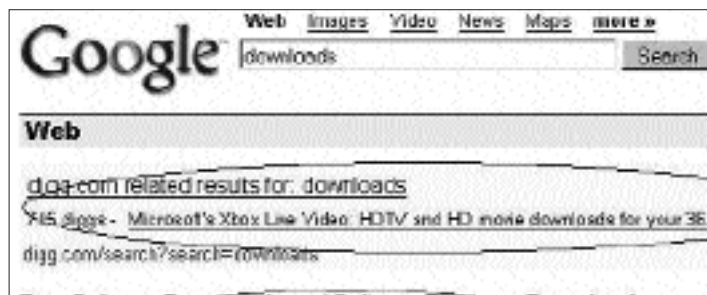
Elements in Search Results

7.1.7. Google Power Search

The real power of searching with Google comes when you start using the advanced search operators. There are two ways you can use Google advanced search options. One is through the Google Advanced Search page (click on the Advanced Search link next to the Google search box, go directly to **www.google.com/advanced_search**, or by using the operators themselves. The decision to use to the advanced search page or the operators directly will depend on the complexity of your search. If your have a complex search query it is generally easier to use the Advanced Search page. However if you want to filter your searches on only one or two parameters, using the search operators directly may be easier.

Most of the options in this page are self-explanatory. A couple need some clarification. One is the Usage Rights filter. This enables you to restrict your searches for content that have specific rights associated with them. For example, if you are looking for content that you can use, share and modify commercially, this filter will enable you to find sites that implicitly allow you to do so. The second is the SafeSearch filter. This will filter out any results with adult content. However, it is better to specify this setting through the Preferences page, as Web searches tend not to be filtered for adult content even with SafeSearch filtering turned on. To learn how to configure your Google search preferences, see §7.1.2. Many of the options on the advanced search page are available as operators that can be used independently and are applicable to other search services like image search and product search (Froogle) too. These and other advanced search operators are explained here:

7.1.8. Advanced Topic Search

The advanced search page also links you to various specialised topic specific searches. These can be very useful when you want to search for
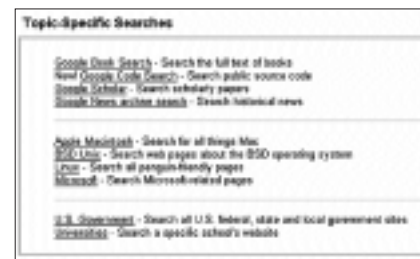
Advanced Topic Specific Search

Operator	Meaning	Example	Explanation
~ site:	Synonym and glossary search	~job ~vacancy "project manager"	Searches for "job", "vacancy" and their synonyms.
	Search only within the site.	tsunami site:timesofindia.com	Searches www.timesofindia.com for all pages with the word "tsunami"
number..number	Search within a range of numbers	Mahatma Gandhi 1900..1950	Searches for all information regarding Mahatma Gandhi between 1900 and 1950. (In general, though, you will need to indicate what the numbers represent)
filetype:ORext:	Search for specified file types only	Website security filetype:odt	Search for "Website security" in ODT (Open Office Writer) documents only.
link:	Searches for pages that point to the specified URL	link:thinkdigit.com	Lists all the pages where the URL thinkdigit.com is present.
books	Search the full text of books	books atticus finch	Shows results from Google Books where the words "atticus finch" occur in the text. (see §7.6 for more)
cache:	Show the cached version of a Web site.	Cache:thinkdigit.com	Shows ~Digit~'s Google Web site cache.
info:orid:	Show information related to a Website or page	info:thinkdigit.com	Google will show the following specific information about Digit's Web site:· The Google cache· Similar pages· Pages that link to Digit· Pages from the Digit site· Pages that contain the term "thinkdigit.com"
related:	Show sites that are similar or related to the specified URL	related:thinkdigit.com	Shows sites that are similar or related to the Website thinkdigit.com
allinanchor:	Show pages with text that appear in the link or anchor text	allinanchor:boot devices	Shows pages with links that have the text "boot devices". That is, the text "boot devices" will be hyperlinked to other sites on these pages.
inanchor:	Show pages for the given search terms and the anchor text	"red hat linux" inanchor:dual-boot	Show pages with the phrase "red hat linux" and with the link text containing the term "dual-boot"
allintext:	Show pages only with the specified keywords	allintext:camping equipment hire himalayas	The text of the Web page must contain all the words. Google will ignore any of the text in the metadata
intext	Show pages where the given search term includes the specified keywords.	narayanamurthy intext:retirement	All Web pages where Narayanamurthy is mentioned with the text "retirement".
allintitle:	Show pages where all search keywords appears in the title	allintitle:free memory diagnostic	All pages where the title contains the words "free", "memory" and "diagnostic"
intitle:	Show pages with both the search terms for pages and title text	linux intitle:memory intitle:free intitle:diagnostic	All pages where the word "linux" appears on the Web page and the words "free", "memory" and, "diagnostic" are part of the title.
allinurl:	Show pages where the URL contains all the words	allinurl:linux installation	All pages where the URL to the page contains the words "linux" and "installation".
inurl:	Show Web pages where the search term and the URL text are both present	"Red hat" inurl:linux inurl:installation	All Web pages with the phrase "Red Hat" and the URL with the words "linux" and "installation"

content within a single area of interest.

The searches are optimised for the specific topic area and search queries on these pages will return results that are drawn exclusively from the sites that are considered part of this topic.

7.1.9. Special Operators
Other than search-related operators, Google also provides you with a quick and easy way to find definitions and meanings of words, and do basic mathematical calculations and conversions, using the search box.

7.2. Image Search

If you want to search for images, a quick and efficient way is to use Google Image search. Click on the Images link above the search box on the **google.com** (or **google.co.in**) homepage to take you to the image search home page.

Alternatively, type in your search term in the

Operator	Meaning	Example	Explanation
define :ordefine orwhat is or what are	Shows definitions of a word or a phrase	define: onomatopoeiawhat is printed circuit boarddefine onomatopoeia	Define with a colon shows a list of possible definitions for the word or phrase Define or "what is" or "what are" without a colon show one single definition
+ - * /	Arithmetic operators	10+12*5/7-1	Will show the result of arithmetic calculations based on the operators used
% of	percentage of	45% of 250	Calculates the percentage of the given value
^ or **	To the power of	2**8 or 2^8	Calculates the value for two to the power of eight.
Old units in new units	Conversion from one unit to another	300 dollars in Indian rupees	Does currency conversion, weight conversion, number format conversion and other similar types of conversions.
stock:	Show stock information for the given ticker symbol	stock:infy	Shows stock information for Infosys Technologies but only from the New York Stock Exchange
movie:	Show reviews and show times for given movie`	movie:v for vendetta	Shows reviews for movies and show times (USA only)
weather	Weather information	weather new york	Shows the weather forecast for new york. US only.

search box and click on the Images link from the homepage.

Searches are similar to Web search, where you specify the search keywords for the images you want to find. Image search will display all results where the search term is found in the name of the image file. For example, typing in "moto razr" (without the quotes) will display images of Motorola's RAZR cell phone.

Each search result will have a thumbnail of the image, the name of the image file, its size in pixels and kilobytes, and the Web address where the image was found. In some cases, where more than one image can be found on the same site, an additional link that says "More results from (Website name)" will be displayed below the search result.

Depending on your settings in the Preferences page (see §7.1.2), your SafeSearch settings will be activated. The "Use Moderate

Filtering" option will filter out explicit images.

If you wish to only see specific image sizes in your search results, click on the Image sizes drop down box and select between large, medium, and small images.

As with Web search, you can also do advanced image search. The advanced options are mostly self-explanatory. One point to note, though, is that Google only indexes image files of the JPG, JPEG, GIF, and PNG formats. It ignores all other types of image files.

Almost all the operators listed for Web search (see §7.1.7) can also be used with image search except those which are logically meaningless. For example, a search for "feline paws" (without the quotes) returns 300-odd results. By using the tilde symbol, you can expand this search to include synonyms of the word "feline" (like "cat" and "cats"). Thus the search term "~feline paws" will return more than 11,000 results.

Likewise, the operators cache:, info:, related: are logically meaningless in the context of image search. The valid "text" operators for image search are: allintitle:, allinurl:, filetype:, inurl:, intitle: and, site:

7.3. Personalisation—The Home Page

To personalise your experience with Google and access all Google services, you will need a Google user account. You can create a Google account by going to **https://www.google.com/** accounts/Manage Account and clicking on the "Create an account

now" link. If you already have an account you can use the above URL to log in to your Google account.

The personalised home page can collect news, information and other tools in a convenient, single page. To access your Personalized Home Page, type in **http://google.com/ig** or **http://google.co.in/ig**.

If at any time you wish to revert to the simpler search home page, you can always click on the "Classic Home" link in the upper right corner to take you back to google.com. Similarly, from the classic home page, you can reach the

Your own personalised Google home page

personalised page by clicking on the "Personalized Home" link in the upper right corner.

You can either customise the personalised home page without signing in or after you log in. In the event that you do not log in and personalise the home page, the settings are saved in a cookie and will be lost every time you clean out cookies. If you log in and customise your home page, your personalisation information will be saved under your user account on Google's servers and will be available whenever you log in from any computer.

Personalising your page is done by adding content from the Home Page Content Directory (accessed by clicking the "Add more to this page" or "Add stuff" link which will take you to **http://google.co.in/ig/directory**), or in the case of RSS feeds, clicking on the Feed icon in the Google toolbar.

The content directory contains hundreds of components or gadgets as they are popularly called that can be added to the home-

page. These include useful tools, and fun and educational stuff that can be grouped under various tabs on the homepage. Content gadgets can be rearranged on the home page by dragging and dropping the content's title bar into a new location or by moving it to a different tab.

The colours of the homepage will vary according to the tabs. To add a new tab, click on the Add Tab link.

To rename or delete a Tab click on the tab name.

If you wish to add content to your homepage from a Web site or blog that publishes its content via RSS, you can use the RSS Feed Icon to add the feed.

An RSS feed-enabled Web site

Clicking on the Feed Icon will take you to a confirmation page asking you to confirm your wanting to add it to your Google homepage.

7.4. Personalised Search and Bookmarks

Once you are signed in and working with Google, you can also configure and set up personalised search. This works on the premise

that your current search result will have something to do with your earlier searches. To activate personalised search, click on the "Search History" link at the upper right corner of your personalised home page, or go to **www.google.com/psearch**. This will take you to your Search History home page.

Once search tracking is activated, Google will gather and store information about your searches, associated with your user account. As the information about your search patterns increases, Google will customise your search results based on your search history. Search results that are based on your search history will also include the option to turn off the Personalized Search (Beta) for those results. This will be shown in the upper right side of the results page.

While search history tracks searches made on the Web, Images, News, Froogle, Video and Music, the personalised search results only reflect the search history of the Web searches. To view the search history of the Images, News, Froogle, Video and Music, you can manually browse through these sections or run a search from within the Search history page to search for any items which have been found in the past.

If you wish to remove any items from your search history, click on the "Remove items" link in the left pane which will put you in edit mode and allow you to remove any unwanted results in your search history. Additionally, search history tracking can be paused by clicking on the "Pause" link in the left pane of the Search History page. You can also completely remove Personalized Search history by going to My Account (link at the top right corner of the personalised homepage) and selecting the "Delete Personalized Search" option from the left pane.

You can get a historical view of your search activity by clicking on the Trends link in the left pane.

Also, you can add the "Interesting Items For You" gadget to your homepage, which will give you suggestions on search terms, pages and gadgets that are related to your searches.

Google allows you to store your bookmarks in your search history account. This makes it very convenient to access your favourite links from any computer.

Bookmarks are organized in labels or tags, and a bookmark to a site can have one or more labels. For example, the bookmark PHP Accelerators which links to the site **www.ducea.com/2006/10/30/php-accelerators/** is labelled under the heading "php", "programming" and "Website optimization". Thus, when one looks under any of these labels, the bookmark will be there for easy access. This is a powerful way to increase the relevance of your bookmarks. If you are using the Google toolbar in Internet Explorer, you can sign in to your account and add and manage bookmarks directly from the toolbar. In Firefox, a bookmarklet is provided at the bottom of the bookmarks page that can be dragged onto the Bookmarks toolbar folder.

To bookmark any page from Firefox, simply click on the Bookmarks link and in the resulting pop-up window, specify the required details.

The name of the bookmark will default to the title of the Web page and the URL will be automatically entered. When adding labels to group the bookmark under, any previous labels will be displayed in a drop-down, making it easier to choose any previously-created labels rather than create new ones with variant spellings or synonyms.

To edit or remove the bookmark, you need to go to the Google Bookmarks page and click on the edit or remove link next to the bookmark. You can also edit a bookmark by clicking on the yellow star next to it. Similarly, you can rename or remove a label by clicking on the Manage Labels links in the left pane.

Both bookmarks and search history can be added as RSS feeds to your personalised homepage. Simply click on the Feed icon in the Google toolbar to add them to the homepage. Note that for bookmarks to appear on the homepage, you need to use the label "homepage" for the bookmark.

7.5. Blog Search

Google blog search is a customised search tool that searches only through blogs. To access Google Blog Search, go to **http://blogsearch.google.com**. It works in the same way as regular Web search, and also allows you to use all the advanced operators that are logically consistent with blog searches. In addition to the

Operator	Meaning	Example	Explanation
inblogtitle:	Search in the title of the blog	inblogtitle"Ricky martin"	Searches for the phrase "ricky martin" in the title of the blog.
inpostauthor:	Search blogs where the author's name is as given	windows vista inpostauthor:"amit agarwal"	Search for posts with the words "windows vista" where the blog author is "amit agarwal"
blogurl:	Search blogs at this URL	windows vista blogurl: blogspot.com	Search for the words "windows" and "vista" at the blog URL blogspot.com

other operators you can also use the following:

In regular blog search, you can refine the results of your search by the date and time of publishing. This is same as the date and time filters in the Advanced Search page but with single-click convenience.

All the above operators can also be used via the Advanced Search options page.

Like other advanced searches, the options are self-explanatory.

7.6. Book search

Google Book Search enables you to search the full text of books and find information on how you can buy or borrow the books. To use book search, go to **books.google.com** or **books.google.co.in**, or search from the regular search box on the Google home page.

Full view books can be viewed by all

When a search term matches content in a book, the results on the Google Web search term will include a snippet on the top with the results from book search.

Clicking on the book results link will take you to the Books search page, which will list all the books that match the search term. Clicking on a result will show you further details of the book. Depending on the permissions granted by the publisher of the book the book may be viewed in the following ways:

Full view: The book can be viewed in its entirety if the book is out of copyright, or if the author or publisher has given Google permission that allows the entire book to be viewed. Also, you can limit your search queries to search only Full view books.

Additionally, many full view books are out-of-copyright works and therefore are made available for free direct download in PDF format. These include many of the out-of-copyright classics.

Limited Preview: The author or publisher has given the user permission to view a limited number of pages from the book matching the search query.

Snippet View: Shows some catalogue-like information about

Operator	Meaning	Example	Explanation
intitle:	Show books with the specified title and containing the search term	vonnegut intitle:slaughterho use intitle:five	Show books with the text "vonnegut" and with the words "slaughterhouse" and "five" in the title
inauthor:	Show books with the specified author and containing the search term	prisoners inauthor:vonnegut	Show books with the text "prisoners" and with the word "vonnegut" in the author's name
inpublisher:	Show books with the specified publisher and containing the search term	prisoners inpublisher:harper inpublisher:collins	Show books with the text "prisoners" and with the words "harper" and "collins" in the name of the publisher
isbn:	Show book with the ISBN number specified	isbn:0802131255	Show the book with the given ISBN number
date:	Show books published within the given date range	date:1950-2000	Show books published between 1950 and 2000

the book and includes a few snippets from the book that match the search query.

No preview available: Shows only basic information about the book and links to where the book can be bought online or borrowed from a library. However, the search result will include text from within the book even if it is not present in the book's title or index.

As with other searches, the Advanced Search page allows you to make a more focused search.

All the books can be searched using the operators listed in §7.1.7 that are logically consistent with book searches. In addition to the operators listed there, the following advanced operators can be used either through the advanced search page or directly:

As with the other search operators, all the above operators can be combined to build powerful queries to narrow down and refine your search.

7.7. Froogle (Product Search)

The Froogle (a Google play on the word frugal!) product search allows you to search for products, their price ranges, and comparisons from online store to store, product ratings and reviews. At the moment, store information is primarily targeted to the US market, and its usefulness to Indian shoppers is limited unless the online store supports international shipping. That said, Froogle

Refine your product search in Froogle

remains a great place to get unbiased product reviews and get a feel for the price (just convert the dollar prices into rupees!). For the Indian shopper, Froogle's current usefulness is as a pre-shopping tool that will arm you with the facts and figures needed to make an informed purchase. Or, if you are planning a trip to the USA, you can do your research in the comfort of your home and figure out your shopping budget!

To start searching on Froogle go to **froogle.google.com** and enter the name of your product. Depending on the product category you will be given further options to refine and qualify your

search. For example, searching for the term "digital camera" will show you further options to refine your search by price, brand, store, seller rating, related searches and megapixel. You can then refine your product search based on the parameters that are important to you.

Once you narrow down the possible choices, you can then get down to reading the product reviews before deciding on your pick. The product reviews are linked under the search results, and you can see

View your Froogle shopping list

the number of reviews each product has.

The reviews will have further details, and are automatically gathered by a computer program from different sources on the Web. On the left, the overall rating of the product is displayed along with the total number of reviews, the number of positive, negative and neutral reviews.

Once you've decided on your product, you can then click the "Add to Shopping List" link under the search result to add it to your Froogle "My Shopping List".

An entry is automatically created in your Froogle Shopping List with the details of the product, its price and the online store. You can click on the Edit link, which will open a text box for you to enter any relevant notes you wish to add about the product. If you click on the Wish List checkbox, the product will be added to your wish list. You can then e-mail the URL of your wish list to friends

Operator	Meaning	Example	Explanation
store:	Show product information from specific stores.	jeans store:macys	Show jeans from the Macy's store

and family as a pointed reminder as to what you want for your next birthday!

The Google Suggest home page

To purchase the product, clicking on the product takes you to the online retailer's product page. As with other Google services, you can use the Advanced Search Page to help you narrow down your results.

Also, most of the search operators that are logically consistent with product searches may be used. The following "text" operators are valid for searching on Froogle: allintext:, allintitle:, and store:. The first two have already been explained in §7.1.7. The store: operator is used in the following way:

7.8. Google Suggest

Google Suggest is an innovative search tool from Google that offers you suggestions as you type. You can access Google Suggest in two ways: by going to the Google Suggest homepage or by typing in your search terms in the latest Google toolbar.

In both cases, as you type in your search term, various suggestions that match your keyword will appear with the approximate number of results that are available for each variant. This will increase the accuracy and efficiency of your

The content directory home page

search queries as you will have to spend less time figuring out related keywords that you should use for a particular search.

7.9. Google Directory

The Google directory is an integration of Google's search technology with the Open Directory Project. The ODP, as its is called, is a vast community of volunteer editors that maintains the most thorough directory of the Web. As of this writing, the ODP has 4 million Web sites in over 590,000 categories maintained by a team of 74,719 editors. To this project, the Google Directory adds importance ranking, smarter category search, and integration with Web searches. The category search can be useful when you are unsure about what to look for and have a general idea about the topic area. To search the directory, go to directory.google.com.

Enter the search term as you would in ordinary Web search. All the search operators (see §7.1.7) that are logically consistent with directory search are valid. The valid "text" operators you can use are allintext:, allintitle:, allinurl:, ext:, filetype:, intext:, intitle:, and, inurl:

At the top of the page, a link to the related categories will take you to further categories that may be more relevant to the information you are searching for. In some cases, the category may have changed, and you will be given suggestions about alternative categories to search for information. In our example search above, we are led to the business category which contains further categories that can be drilled down into.

Thus, searching for a particular search term will guide you to a relevant categories that are related to the search term, which in turn will expand your search options as you look for parallel information.

7.10 Google Desktop Search

The latest version of Google Desktop (version 4) has taken another step in the direction of integrating your offline and online data into a single searchable repository. It was initially conceived as a software application that would bring the power of Google Web search to your computer. Over the years, Google Desktop (GD) is evolving into more than just a desktop search tool. As of this version, GD is working hard to integrate data across all your computers (home, office, laptop, etc.) enabling you to search the full text of files, pictures, and e-mail on all your computers as well as the messages in your Gmail account, the Web pages you have visited, and much, much more.

7.10.1 Installation and Preference Settings
The latest version of GD can be downloaded from **desktop.google.com** or **desktop.google.co.in**. You can also install it from our Digit archive CD with this issue. Installing the application is simple and intuitive. Once installed, GD will immediately get down to work and start indexing the files on your computer.

It will ask you for permission to index and search your Gmail messages as well as to save your Google Gadgets content and settings (see §7.10.9 for more on gadgets). Enter your Google account username and password and confirm to continue.

It will then ask you to confirm enabling or disabling of advanced features. Once you choose your preference, you will be shown the Google Desktop homepage. You can further configure other preferences by clicking on the Preferences link next to the GD homepage search box or by right-clicking on the GD system tray icon and choosing "Preferences...". This will open the Preferences page in your Web browser. The preferences are grouped into four options: Local Indexing, Google Account Features, Display, and Other.

Local Indexing enables you to control how GD indexes your local computer. These are: the ability to specify what documents should be indexed, the ability to add indexing plug ins for document types not natively supported by GD, the ability to add networked folders and non-fixed drives, limit searching on specified drives and folders, encrypting the GD index, disabling indexing of new items, and removing deleted items from the index.

Google Account Features enables you to control whether Gmail is indexed as part of GD index data, whether the content and settings information for gadgets are saved on Google's GD servers and made available to your other computers, and whether GD should index and make searchable your documents and Web pages across all your computers. If you have multiple computers (for example, a PC at work and another at home and a laptop while you're on the move), you can install GD and share the index information between all of them.

 Display enables you to configure how GD should display the Search box, the Quick Search box, what the default search type is, whether the Gadgets button should be displayed on the taskbar, the behaviour of the Quick Find feature, how many results to show per page, and whether desktop results should be shown when you search the Web.

Other specifies whether you give GD permission to send your private data to Google's servers so as to personalise your experience with Sidebar gadgets such as the News gadget, and to send non-personal usage data to help improve GD.

Depending on how much data you have on your computer and in your Gmail account, the indexing can take several hours. Indexing happens in the background when the computer is idle for more than 30 seconds. However, you can speed up indexing and force Google Desktop to index continuously by clicking on the Index Now link on the GD homepage. Be warned that this will have an impact on your system's performance, as GD indexing will take up quite a bit of processing power.

7.10.2 Searching with Google Desktop

Searching with GD is similar to searching Google. Type in the search term and hit the [**Enter**] key to get relevant results that match your keywords. To do this, you need to

Your Desktop Search results integrate with Web results

access GD first. This can be done in a number of ways. Depending on how you have set up its appearance, GD may be displayed as a Sidebar, a Deskbar, a floating Deskbar, or it may be completely hidden, in which case you would double-click the GD icon to open the GD homepage in a browser. You may have also configured the Quick Search box (via the **Preferences > Display** page) which is activated by pressing the [**Ctrl**] key twice.

The results displayed are sorted on the basis of date by default; they can also be sorted on the basis of relevance. The search results can be narrowed down to only show specific types of documents like e-mail, files, Web history,

The GD Timeline View

and chats. If you have allowed searching across computers, GD also displays results from your other computers.

Also, with GD installed and when searching the Web with Google, any relevant desktop search results are displayed along with the Web search results, if you have chosen this to happen, as mentioned above.

7.10.3 Desktop Homepage

The Desktop home page enables you to search the Desktop as well as browse items based on their date and time. To view chronological details of files, click on the "Browse Timeline" link. You can click on the calendar on the right to navigate to any date where files have been created, indexed, or viewed through GD.

Like with regular GD search, you can also filter your searches to show only e-mail, files, Web history and chats.

You can also find out the current status of indexing by clicking on the Index Status link. The preferences page can also be accessed by clicking on the Preferences link next to the GD search box. Similar to other Google search products and services, you also have an Advanced Search page that enables you to control what should be searched, what words should be included and excluded, between what date ranges, and across which computers. See §7.10.6 for details on the advanced search operators you can use.

7.10.4 Quick Find

Quick Find is an instantaneous find feature that displays search results as you type, saving you time and increasing the efficiency of your searches. Quick Find will display the first six results and will indicate how many more results are available to be viewed in the browser. You need to enable Quick Find from **Preferences** > **Display** before you can use it with your Deskbar, Sidebar, or the Quick Search Box. Quick Find can also be used to launch applications. Just type in the starting letters of any application installed on your computer and Quick Find will display those in the results. In the example below, Quick Find is used to "find" the anti-spyware application Spybot Search & Destroy.

You can type URLs into the search box to directly jump to a site. Right-click on any result to open that file's parent folder. Quick Find also enables you to use the shortcut keys [**Windows**] + [**G**] or [**Ctrl**] + [**Alt**] + [**G**] to quickly access the Sidebar or Deskbar or the GD home page, depending on your GD configuration.

By default, if you immediately press [**Enter**] after typing your search term, Quick Find will search the Web, opening the results in a Web browser. By clicking on the Search More link, you can also search across other Google products and services.

Applications and Control Panel items can be accessed quickly by typing the first few letter of the item's name. For example, typing "Sound" will show you listing for the Sound management applications on your computer as well as the Control Panel Sound applet.

7.10.5 The Quick Search Box

The quick search box is by the far the fastest and simplest way to access GD. After activating it from your **Preferences** > **Display** page, simply press [**Ctrl**] twice to bring the Quick Search box to the front of the screen. Enter your search terms, and if you have also activated Quick Find, the results will be displayed as you type.

7.10.6 Advanced Search Operators

Most of the search operators used on Google are also valid in GD. These and other operators valid on GD are:

Phrase Search: You can use quotes to search for the exact phrase. Example: "hi dad".

Exclude from Search: Use the minus sign to exclude the keyword from your search results. Like with Google Web search, ensure that there is a space before the minus sign and no space between it and the keyword that needs to be excluded.

site: and filetype: operators work in the same way as on Google Web search.

under: This operator restricts the keyword search to a specified folder. Example: cricket under:"C:\My Documents" will search for documents with the keyword "cricket" in My Documents.

machine: This operator restricts the search to a specific computer. Example: Airtel machine:MYLAPTOP will search for documents with the word "Airtel" on the computer MYLAPTOP.

E-mail messages which are indexed can also be searched using the operators subject:, to:, from:, cc:, bcc:

Examples:
subject:john job vacancy will search for e-mail with the word "john" in the subject line and "job vacancy" in the message.

subject:(job vacancy) smith will search for e-mail with the words "job" and "vacancy" in the subject line and "smith" in the body of the message.

subject:"joe doe" will search for e-mail with the phrase "joe doe" in the subject line.

lowest prices subject:laptop from:chandra will search for e-mail with the words "lowest" and "prices" in the body, "laptop" in the subject line, and which is from any e-mail ID that has "chandra" in it.

Similar to the last example above, and as with Google Web search, the operators can be combined (unless logically incompatible) to build powerful queries that can give you more precise results.

7.10.7 Locking Search

If you want to prevent GD from being used by anybody else, you can lock the search by right-clicking on the GD icon in the system tray or clicking on the options drop-down in the Sidebar or Deskbar and selecting "Lock Search". Once search is locked, desktop search will be disabled, and anyone attempting to search your computer will be asked to unlock desktop search by specifying the Windows password of your system.

7.10.8 Sidebar & Deskbar

The sidebar is a vertical bar that GD uses to store mini software applications known as gadgets (see §7.10.9).

The sidebar contains a search box that can be used to search your Desktop, and with Quick Find turned on, it will display the results as you type. Click on the Option drop-down to control how the Sidebar should behave. You can dock the sidebar to either the left or right of your screen. Turning the Auto Hide setting on will "hide" the sidebar and it will only slide out when you hover the mouse on the screen edge where it is docked.

If the Sidebar is occupying too much screen space and you would rather prefer it to be a compact search box just for Desktop search, you can switch to a Deskbar from the Options drop-drown. Essentially, this is a GD search box docked to your taskbar.

Again, if you still feel that it is crowding out the taskbar, your next option is to have the Deskbar "float" over the desktop. The floating Deskbar can be unobtrusively tucked away into a corner on your screen while still being available for search at any time.

In all cases, whether you have a Sidebar, a Deskbar, or a Floating Deskbar, pressing [**Ctrl**] + [**Alt**] + [**G**] or [**Windows**] + [**G**] will focus the cursor to the search box, or if all the "bars" are turned off, will launch the GD homepage in a browser. Of course, pressing [**Ctrl**] twice will bring up the Quick Search Box, which is positioned in the centre of your Desktop.

7.10.9 Google Gadgets

Google Gadgets are interactive mini applications available in the Sidebar. These applications are created by both Google as well as independent developers, and can be related to anything and everything! From a globe, to a clock, to Google calendar, to games, and so many other applications that the uses are only limited by the developer's imagination. Gadgets also need not be restricted to being rectangular in shape or of a size that will fit within the boundaries of the sidebar. In fact, gadgets can be "undocked from the sidebar and allowed to 'float' on your desktop."

There is a huge directory of gadgets that can be added to GD. To add a Gadget, click on the "Add+" button which appears when the mouse hovers over the Sidebar.

This will open the Gadget content directory where you can browse through the available content categories or search for specific types of content.

Once you find the required gadget, click Add to add it to GD. In our example, we've added the Weather Globe, which shows you the current weather as well as the forecast. Once added to the sidebar, click on the down arrow key at the top right corner of the Gadget to access the configuration options and set the location for which you want the weather information. Finally, click on the "Undock from Sidebar" option to allow it to "float" over your Desktop.

Any hidden gadget can be brought to the front by pressing the [**Shift**] key twice, or by using the Gadgets taskbar button.

This button can also be used to add Gadgets or remove the button entirely from the taskbar. You re-enable it on the taskbar by going to GD's **Preferences > Display** page.

Some Gadgets also support "sending to a friend" via e-mail or Google Talk. For example, if you see an interesting item in the Web Clip or News gadget, right-click on the item, select the "Send To" option and choose your Google Talk friend, or choose to e-mail them using your default e-mail client.

7.10.10 Pause, Prevent or Delete Indexing

If at all you ever wish to pause indexing or re-index the contents of your computer, you can do this by right-clicking on the GD icon in the system tray, clicking the "Indexing" option and selecting "Pause Indexing" or "Re-indexing" options. You can also click on the "Index Status..." option to open the Index Status Web page, which will give you a summary of the current index status of the various file types.

You can also permanently prevent specific files and folders from being indexed. To do this, right-click on the Google Desktop icon in the system tray and select Preferences. This will open the

Preferences > Local Indexing page in your default browser. Scroll down to the section "Don't Search These Items" and click on the "Add file or folder to exclude" link to add the files and folders to be excluded from indexing.

By default, Google retains the index entries for files or folders even if they are deleted. You can check the "Remove Deleted Items" checkbox to remove it from the index. Also, if your files and folders are already indexed, you will need to individually remove the unwanted entries. To do this, search for the data you want removed from Google Desktop, click on the "Remove from Index" link at the top right, select each entry that is to be removed individually, or click on "Select All" at the upper right side to remove all entries.

This removal from the index is permanent unless the entire computer is re-indexed and the removed items are not present in the index exclusion list defined via the **Preferences > Local Indexing** options page. Note that e-mail messages removed from the index will not reappear *unless* they are re-opened and read again. In this case, you would need to manually remove them again using the procedure described above.

Google Earth

If you want an aerial view of the world, right up to street level—where you can make out cars and even people—look no further than Google Earth. This is an application that gives you a 3D view of the earth. It enables you to see high-resolution aerial and satellite imagery of the planet and much more. Uses range from fulfilling the insatiable curiosity of the armchair traveller to more serious professional and official uses. In rural India, farmers are using Google Earth pictures to prove land claims!

8.1 Installation And Basic Requirements

The software is available in three versions: Google Earth, Google Earth Plus, and Google Earth Pro. Plus and Pro are paid versions that support advanced capabilities useful for the avid traveller, professional, or for organisations that need geographic information. To learn more about their capabilities, visit **http://earth.google.com/products.html**.

Here, we will focus only on the free version, Google Earth. You can download any of the three versions from **http://earth.google.com/downloads.html**. There is also a special enterprise version, separate from these "retail versions."

Google Earth is available for Windows 2000 / XP, Mac OS X (10.3.9+), and Linux. To use it, you will need at least a 128 Kbps connection, a computer with at least 128 MB of RAM and 400 MB of free disk space, a 3D-capable graphics card with 16 MB of VRAM, and a screen resolution of 1024 x 768 at 16-bit colour. To download Google Earth (about 15 MB) and get full details of system requirements, head to **http://earth.google.com/download-earth.html**.

To install the Windows version, simply double-click the downloaded .exe file and follow the instructions. To install the Linux ver-

sion, go to the directory where you downloaded the file, open a terminal window in the directory, and type at the command prompt: "sh GoogleEarthLinux.bin" and follow the instructions. The default location for the installation is **/usr/local/google/google-earth**, and to launch it, use "**/usr/local/google/google-earth/googleearth**".
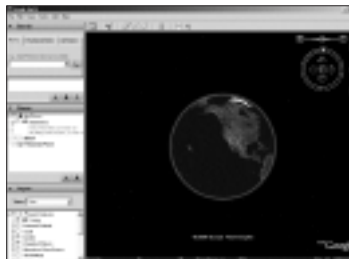
To install on Mac, double-click the Google Earth .dmg file in your downloads directory. You will be asked to confirm the licensing agreement, following which the Google Earth disk image will appear. Double-click the Google Earth disk image to display a new window with the Google Earth globe icon. Place the icon anywhere convenient (recommended: Applications folder or Application dock), and you're ready to go.

For problems with installing and uninstalling Google Earth, check **http://earth.google.com/support/bin/topic.py?topic=1135**.

8.2 Searching and Navigating

When you first start up Google Earth, it zooms in to a picture of the globe hovering over North America.

From this starting point, you can view any place or location on earth, provided, of course, that the appropriate map data is available. In general, map data for all areas of earth are available, but depending on country and region, the resolution of the images will vary. You have

The Google Earth startup animation

countries and cities where you can enter street-level information, and Google Earth will zoom in to show you an aerial view of the street. Similarly, for certain countries, it can help you find local business locations and give you driving directions between two

locations. The full combination of maps, local business search, satellite imagery, street-level search, and driving directions is currently limited to the following countries: Canada, China, France, Germany, Italy, Netherlands, Spain, the UK, and the US. Other countries have varying levels of data and satellite imagery at different depths of resolution.

To get an idea of Google Earth's capabilities, you can use the Sightseeing folder to get a "guided tour." Click on the My Places panel on the left and select the checkbox next to the Sightseeing folder. Click Play. This will start an automated tour from Disney World in the US, taking you on a cir-

Go sight-seeing

cuitous route to famous landmarks around the world before ending at the Google Campus back in the US.

Use the "Fly to", "Find Businesses", or "Directions" tabs to enter the location you wish to search for. Subject to the limitations of information availability, locations can be searched for by city, country, street number, and postal code. You can also look up location information by using the latitude and longitude co-ordinates.

In the "Fly to" tab, enter the name of a location, and the 3D Viewer will zoom into the location.

To find a business, use the "Find businesses" tab: enter the type of business you are looking for, and limit the search to a spe-
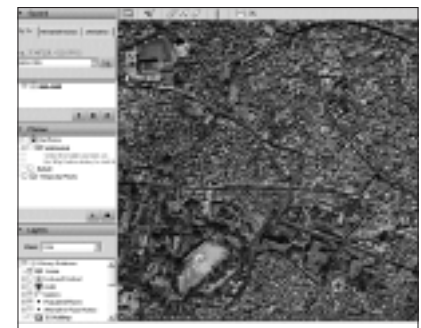
Fly to your search locations

cific area. Google Earth will zoom into the area and highlight all the relevant businesses that match your keyword. You can then further narrow it down to an individual street by refining your keyword data.

Find businesses in the area

You can find driving directions between two locations by entering the From and To locations in the "Directions" tab. Google Earth will draw a route map between th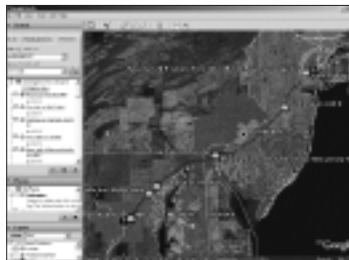e two locations with detailed information about the route to take. This information can then be viewed and printed in Google Maps by clicking on the Printable view

Get your driving directions

link. By default, a window with Google Maps will open within Google Earth, but this can be opened in a browser and printed, too.

You can also view a "flying route tour" by selecting the item "Route" in the direction listing and clicking the Play button in the bottom bar of the search panel.

Use the navigation controls at the top right to adjust the angle and tilt of the picture or to zoom in and out. The navigation control appears as a double-lined circle with "N" on a point of the periphery. The "N" corresponds to North, and you can use it as a guide to orient yourself when viewing a location. Hover over the double-lined circle and the navigation controls become visible. The top slider is used to adjust elevation. By moving the slider to the right, you will be able to get depth and a 3D-like quality to the picture. The vertical slider on the right is used to increase and decrease the altitude at which the location is viewed. Drag the slider down to increase the height and up to reduce the height.

At the bottom of the 3D Viewer, a set of changing numbers display the latitude and longitude, elevation and altitude, and the completion progress as the picture is streamed to your computer. You can use the directional arrows inside the navigational circle to move in different directions. Clicking and dragging the circle clockwise or counter-clockwise will rotate the orientation of the scene.

You can also use the mouse to navigate the landscape. Clicking the left and right mouse buttons will change the shape of the cursor, indicating a change in behaviour. Using the mouse buttons you can drag the view in any direction, zoom in or out, and tilt or rotate the view (with the scroll wheel or middle button).

Click and drag the scene in any direction to move the view in that direction. By holding the left mouse button down, moving it in a particular direction for a short distance, and then releasing it, the scene will "drift" along that direction in a continuous motion. Click the mouse to stop the movement. If you hold the right mouse button down and move it down for a short distance and then release it, the scene will start to automatically zoom in; single-click to stop the zoom-in. Also, if you double-click on a particular point, it will start to zoom into that point continuously. Single-click to stop the zoom-in. If your mouse has a scroll wheel you can use it to zoom in and out.

Hold down [**Alt**] if you want to control the zoom to small increments (or decrements). With a depressible scroll wheel or middle button you can press the [**Shift**] key and move the mouse up or down to tilt the view. Or you can press the [**Shift**] key and rotate the scroll wheel up or down to tilt the view. You rotate the orientation of the view by using the middle button and the [**Ctrl**] key, or the scroll wheel and the [**Ctrl**] key. Hold down the [**Ctrl**] key and the middle mouse button and move the mouse to the right or left to rotate the view in either direction. Press the [**Ctrl**] key and move the scroll button up or down to rotate the view clockwise or counter-clockwise.

Once you've adjusted the tour route to an almost 3D-level elevation and altitude, you can use the arrow keys or mouse to move along the route following the purple line that indicates the direction you should take.

You can save these directions for later reference to your My Places folder, found in the Places panel. Collapse the folder that contains your complete driving directions, right-click, and select "Save to My Places". The My Places folder is where you store your Google Earth place data. This can help you quickly revisit places you have been to before and want to view again, much like bookmarks. For more on marking and saving places, see §8.3.

8.3 Marking, Saving, And Sharing Places

"Placemarks" are the Google Earth equivalent of bookmarks, and enable you to store information about a particular location. Placemarks should be saved in the My Places folder in the Places panel if you want them to be available during later Google Earth sessions. Items that are in the Places panel but not saved in the My Places folder will be stored in the Temporary Places folder, and will be lost at the end of the session.

To create a placemark, first select your location and choose the ideal viewing angle you wish to store it at. Select Add > Placemark from the menu, or press the Pushpin button on the toolbar. This will open the New Placemark dialog box with a yellow Pushpin button surrounded by a flashing yellow square centred in the viewer. Enter the required details in the dialog box.

Enter a name for the placemark in the Name field. Click on the Pushpin icon next to the Name field if you want to choose a different icon (from the icon palette). Use the Description field to add descriptive text that will balloon out when you click on the placemark. The text can also include HTML tags. When saved, the first few lines of text will appear as a snippet under the placemark in

the Places panel. You can also use HTML tags to add images either from your hard disk or from the Internet. In the Style and Color tabs, you can change the colour, scale (size) and transparency (opacity) of the Label (Name) and the icon.

The View tab enables you to choose a position for the bookmark. Move the mouse over each field to get an explanation of what the field does. In the Altitude tab, you can choose the height at which the placemark should be placed, and you can have a line extend to the ground
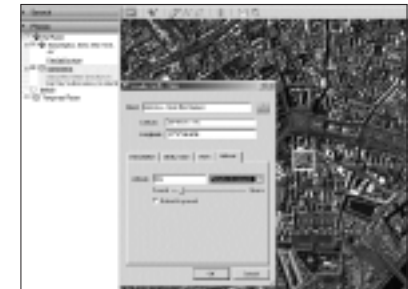
Create a placemark

from it by checking the Extend to Ground box. Once all the required information is entered, click OK to save the placemark. Whenever required, you can right-click on the placemark and select Properties to edit any details.

You can now share the new placemark with the Google Earth community via the Google Earth bulletin board system. To do so, right click and select Share/Post.

You will be taken to the Google Earth community site, where you will have to sign up. Due to the thousands of placemarks being created by Google Earth community members, you will be asked to ensure that you are not posting a duplicate; also, turn on the Google Earth community layer before posting your placemark to the Google Earth community site. See §8.4 for more on using and turning on layers. In short, the community layer includes all the placemarks posted by the Google Earth community to the bulletin board. This is updated every few months, and any placemarks you submit will eventual turn up in the Google Earth Community layer. Visit the Google Earth Community Web site at **http://bbs.keyhole.com**.

You can also share the placemark by using a KML file. The KML file, or the Keyhole Markup Language file, is a file that contains information regarding geographic features such as points, lines, images, polygons, and models that can be displayed in Google Earth and Google Maps. To save space, the KML information is saved as a KMZ file—a compressed KML file. KMZ files can also be opened directly in Google Earth and Google Maps. Right-click on the placemark and select Save As. Choose a filename and click Save. The resulting KMZ file can now be distributed to other users of Google Earth, and also submitted to the Google Earth community site.

New Placemark

Share your Placemark

8.4 Layers

Layers are additional "layers"—literally—of geographic points laid over the basic map data. Layers are grouped into categories and sub-categories, and can be turned on or off from the Layers panel. Each layer can have hundreds and thousands of placemarks. In fact, the placemarks stored in the My Places folder are also layers in a certain sense. Like layers, placemarks can also be turned on or off by enabling or clearing the checkboxes.

There are many categories of layers, ranging from Terrain to Roads to State and Country borders, among others. Each layer adds specific geographic information related to the layer category. For example, National Geographic has a whole section of layers related to their articles and stories. By turning on the National Geographic layer, you can see all the geographic locations linked to their stories. Clicking on a National Geographic placemark will show you summary details of the particular story, links to images and the text of the article, and perhaps even videos.

These layers are also referred to as Points Of Interest, and can be saved like regular placemarks to your My Places folder in the Places panel. Points of Interests can also include commercial and business information. Similarly, you can turn on the Google Earth Community layer to view placemarks created by the community, as well as your own placemarks submitted to the bulletin board.

Placemark from National Geographic's Feature Article & Photo Layer

You can use the View field to control the list of layer categories that is displayed in the Layer panel. Core displays only key layers, All Layers displays all, and Now Enabled displays all currently enabled layers.

3D models of buildings can be viewed by turning on the 3D Buildings layer, and zooming in over a city like New York. The aerial view will now show an overlay of grey boxes. Use the navigation controls to zoom in closer, rotate, tilt, and navigate around the buildings!
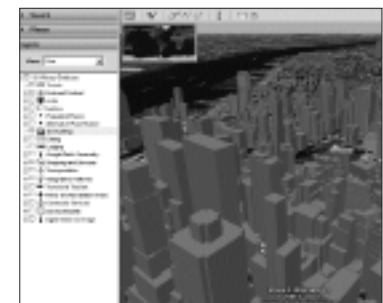
View cities in their 3D glory

Note this is not the same as 3D models created with Google's 3D drawing application SketchUp. Also note that some models from SketchUp will not will not display correctly till you turn off the 3D Buildings layer. To learn more about Google SketchUp, see Chapter 12.

8.5 Additional Info

This chapter has barely scratched the surface on what is possible with Google Earth. To learn about advanced techniques and other features of Google Earth, refer to the complete user guide, which is available at **http://earth.google.com/userguide/v4/** . Or download the PDF from **http://earth.google.com/userguide/v4/ google_earth _user_guide.pdf.**

Picasa

Picasa is Google's free photo organising and sharing software. It enables you to find with instantaneous ease all the pictures and photos stored on your computer. It also has basic one-click editing features that enable you to edit, touch up, and apply special effects to your photographs.

When you open Picasa, it automatically scans through designated folders on your hard disk for new pictures and adds them to your picture library, automatically sorting them by date and displaying them in their respective folders. You can drag-n-drop and rearrange your albums in any manner you wish, and also share your pictures with friends and family via e-mail, or share them instantly via the Hello service, or post them to Picasa Web Albums, or print them, or make gift CDs, or even post them to your blog!

9.1 Installation and Setup

Installing and setting up Picasa is simple and intuitive. Download and install the latest version from http://picasa.google.com. Once Picasa is installed, its first task is to scan through your hard disk and find all pictures in various locations. These are all sorted by date and grouped in their respective folders. Once scanning is complete, you can access Picasa and view, organise, edit and share your pictures.

You can use the Tools option in the menu to specify various settings. In the Folder Manager option, which is the same as the Add Folder to Picasa under the File menu, you can specify



Folder monitoring options in Picasa

all the folders that Picasa should Scan Always, that is, every time Picasa starts; folders that Picasa should Scan Once; and the folders that should be Removed from Picasa. Choose each set and apply the desired option.

The Configure Buttons Window

The Configure Buttons option allows you to configure which buttons are visible at the bottom of Picasa's main windows, and in what order they appear.

The Configure Screensaver option enables you to use Picasa as the screensaver application. Clicking on the screensaver settings button will enable you to control and decide which pictures should be shown and how they should be displayed in the Windows screensaver.
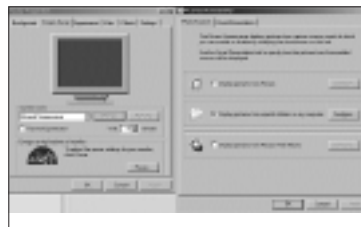
Use Picasa to make screensavers

With the other options you have advanced and experimental features that enable geo-tagging pictures in Google Earth, publishing via FTP, enabling duplicate files, and searching pictures based on the colours in them. You also have the option to create backup sets—back up and burn your picture files to one or more CDs or DVDs. Other options that control how Picasa behaves are managed through the **Tools > Options** menu. All these options are self explanatory and intuitive.

9.2 Importing Pictures

Pictures can be imported from a variety of sources into Picasa. These include e-mail, digital camera, camera phone, memory card reader, scanner, webcam, CD or DVD, Web pictures, USB drive, and networked folders.


Importing into Picasa

If the device is recognised by Picasa, it can usually be accessed through the Import feature. Click on the Import button at the top left corner. This will open the Import section and allow you to access any device that is compatible with Picasa. In some cases you may require to reinstall the device drivers or get updated software from the device manufacturer to make it compatible with Picasa. CDs, USB drives, network folders, and other removable media which show up as folders and drives in Windows can be accessed through the Folder option in the Select Device drop-down.

Pictures received via e-mail and from Web sites can be saved to folders designated as "Scan Always" (**Tools > Folder Manager**). They will then automatically show up in the respective folders in Picasa.

9.3 Viewing and Organizing Pictures

Pictures can be viewed in many ways inside Picasa. The first option is to view it as a full-screen slideshow. Click the Slideshow button at the top of Picasa (the second button from the left) to view the slideshow of a particular folder. You can return to Picasa at any time by press the [**Esc**] key. You can also use the forward and back arrow keys to navigate through the slideshow.

The Normal view in Picasa will enable you to view each folder's pictures as resizable thumbnails. The slider control (on the left below the picture pane) is used to change the viewing size of the thumbnails.
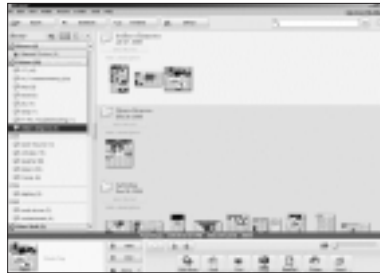

Picasa Standard View - Smallest Thumbnail

In addition to the above two ways to view pictures, Picasa also allows you to view the pictures along a timeline. This can be very interesting if your photo collection spans years. To view the pictures along a timeline, click the Timeline button at the top of the screen.
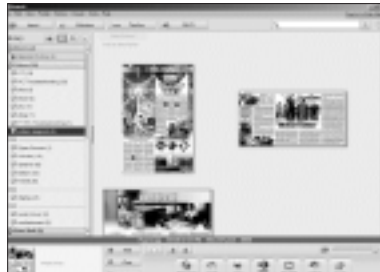
Picasa Standard View - Largest Thumbnail

Pictures can be moved across folders by simply dragging and dropping them into the new location. If you want to rename a file or a group of files, simply select the file and go to **Picture > Batch Edit > Rename**. In the Rename Files dialog box you can

Rename Multiple Files

specify a new name for the group of files and whether the date and image resolution should be included in the filename.
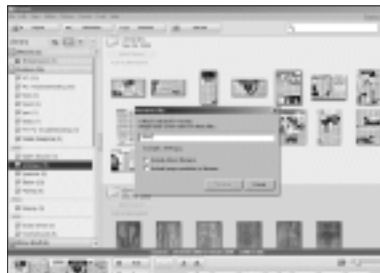
You can go directly to the folder containing a picture by right-clicking on a picture and selecting "Locate on disk" or by pressing [**Ctrl**] + [**Enter**] or by clicking on the folder icon in the viewing pane.

Each folder can also optionally have a description, accessed by right-clicking on the folder and selecting the "Edit Folder description..." option.

You can also search across folders by using the search box on the upper right. Clicking on the arrow buttons shows additional options

Use the Search Options to quickly select images

that enable you to quickly select Starred pictures, movies, and uploaded pictures, and to view them within a specific date range.

Special photos can be Starred using the Star button, and these will show up in the Starred folder, and will also show up instantly when clicking on the Starred search.
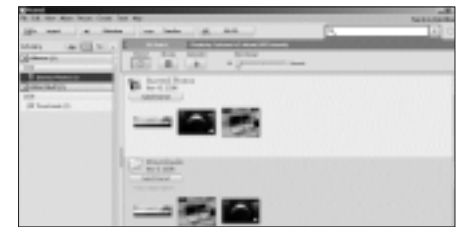
Starred Photos

Similar to applying the Star to photos that are special, you can also add them to the screensaver folder by selecting the desired pictures and going to **Create > Add to Screensaver**. This will launch the Windows screensaver settings window where you can further configure the settings to run the computer in screensaver mode.

You can add labels or keywords to photos, which can make it easier to group and search and

Keyword Labelling or Tagging Photos

identify in your online Web albums. Select the photos or group of photos you want to label with the same keywords and press [**Ctrl**] + [**K**], or go to **View > Keywords**. In the Keywords dialog box, enter all the keywords you want to associate with that group of pictures.
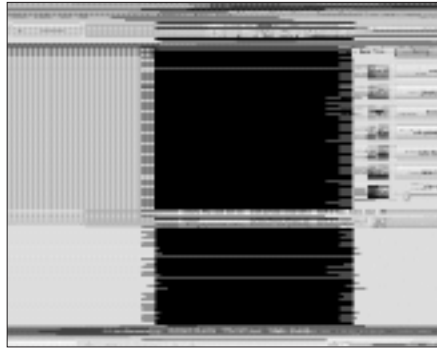
Make a Caption, or a headline, even!

If you want to hide a file or a group of files, you can select the photo or photos, and **right-click > Hide**. To unhide them, click on **View > Hidden Pictures**. This will show the hidden pictures as dim and greyed-out. You can select the photos you want and **right-click > Unhide** to make them visible again. Turn off the Hidden Pictures setting when you are done to prevent people from seeing pictures you want to stay hidden.

If you want to give a journalistic flavour to your pictures, you can give captions to your pictures in much the same way journalists do. Captions adhere to the IPTC standard, which means that the captions are saved along with your pictures and remain embedded in the picture when you send them via e-mail, share them via Hello, and so on. Captions are fully editable and appear below the picture in a bar when you are in Picasa's Edit mode. Click on the "make a caption" text to type in your caption. You can edit the caption at any time by simply clicking on the caption bar again, or delete it by clicking on the trash can at the right.

9.4 Editing Pictures

Picture editing in Picasa is simple. Some advanced features have been rendered in with easy, simple-to-use and intuitive controls that make editing pictures a breeze. To edit a picture, simply double-click on it. This will open up the picture in editing mode with the various special effects controls available at your fingertips.
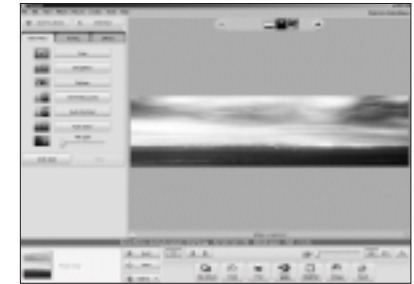
A picture in the editing mode

The editing controls have been grouped into three logical sets:

Basic Fixes are to crop and trim the picture as required, straighten skewed pictures, correct red eyes caused by flash over-exposure, an "I'm
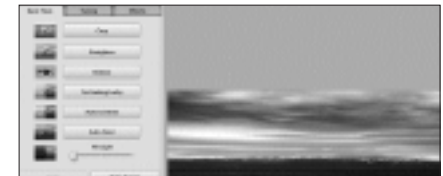
Editing—basic fixes

Feeling Lucky" button to apply a random "fun" effect, auto-contrast to adjust the picture contrasts, auto-color to adjust the colour fidelity of the picture, and a Fill Light slider control to adjust the amount of light in the picture.

Tuning enables you to control how the lighting in the picture varies, and with its easy slider controls, enables you to adjust the controls till you get the exact effect you are after. The one-
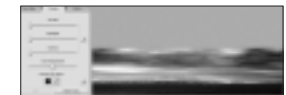
Editing - Tuning

click fixer for Highlights and Neutral Color Picker reduces the guesswork in choosing the right balance for the picture.

Effects enables you to apply various effects. These include things like giving it a sepia tint, rendering it in black and white, giving it a soft focus, and other basic special effects.

Editing - Effects

In addition to the above, you have standard picture rotation controls (clockwise and counter-clockwise) and the ability to undo all your edits.

Also, for photography aficionados, pictures from digital cameras can be imported with camera and colour histogram information (EXIF). This information will be available in the properties of the image (**right-click > Properties**) and can aid in the editing and touching-up of the picture.

One interesting task you can do in Picasa is to make a collage of various pictures. To do this, just select a few pictures and cli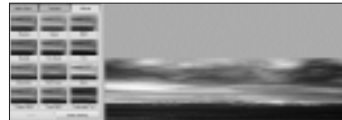ck on the Collage button. You can choose what type of effect it should have, what kind of background, and where it should be stored. Once you make your selections, just click Create. You can now print the collage out, use it as a wallpaper or screensaver, or send it to friends and family!

Create a collage

9.5 Exporting Pictures

You can use the Export function to save copies of edited pictures. The Export function enables you to export the files to a different folder location and also enables you to change the quality and size of the exported image copy.

First, select the pictures you want to export. Use the [**Ctrl**] key to select multiple pictures in the same folder. Click the Hold button at the bottom right corner. Similarly, if required, select other required pictures from other folders. All the pictures that are being

Export your pictures

"held" will show up in the "holding tray" at the bottom right. Once the selection is complete, click the Export button. This is found at the bottom right corner.
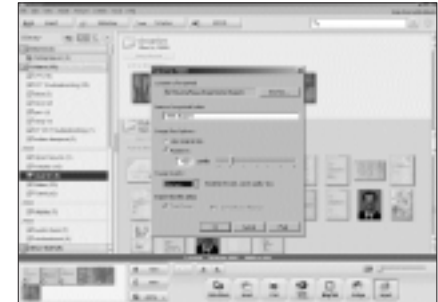
In the resulting dialog box, specify a folder for the exported file, resize the images to a single size or leave it at its original size, specify the image quality for the files being exported, and click OK.

All the files will be exported and will appear in Picasa with the new resolution and image quality under the designated folder.

Using the above export procedure, pictures can also be exported to hardware devices like memory cards and digital cameras. The only requirement is that they should appear as removable drives under My Computer in the Windows folder structure, when you click on the browse button.

This export function is different from the "Save a copy" function. In the "Save a copy" function, a copy of the edited file is saved along with the original picture in the same folder. There is no facility to save the file to a different folder or to adjust the resolution and image quality.

9.6 E-mailing Pictures

E-mailing pictures in Picasa is very intuitive and seamless. Just select the pictures and click on the e-mail button at the bottom to be presented with the various options on how to e-mail them. You will be given the option of using the default e-mail client, your Gmail account, or Picasa Mail, which requires you to have a username and password for the free Hello service (see §9.10 for more on Hello).

Select your email service

If using Gmail or Picasa Mail, note that you can send a maximum of 10 MB as an attachment. You can, however, compose your mail right from within Picasa without having to open a Web browser. If you use your default e-mail program (like Thunderbird, Outlook, or Outlook Express), the program will open in compose mode and the selected files will be automatically attached to your message. All you will need to do is supply the send-to address, fill in a message, and click on Send.
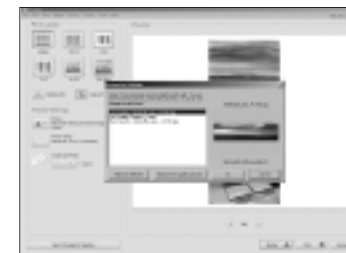
While you may have the capacity to send large file attachments, make sure that the recipient has the capacity to receive them. Some ISPs and Web hosting providers do not support e-mail with large (say 9 MB) file attachments.

9.7 Printing Pictures

Printing is again simple. Select the files you want to print, click on the Print button, review your printing options, and fire away!

After selecting and clicking on the Print button in the printing screen, you can choose the layout of your pictures: wallet, 3.5 x 5, 4 x 6, etc., whether the printing should be shrunk to fit or cropped to fill the full paper area, select the printer, and adjust the printing options. Once you are satisfied with your settings, you can click on the Review button to see Picasa's rec-

Review photos for print

ommendations on how the printing will turn out. You will be alerted to the fact when there is something wrong with your pictures by a warning symbol (a triangle with an exclamation point) next to the review button. If the pictures are low quality or of poor resolution, Picasa will warn you and give you the option of excluding the low-quality pictures from printing.

Once you review and accept or ignore the recommendations, you can click on the Print button to print your pictures.

Like the contact sheet (for preview) you get from your photography studio with thumbnails of all the pictures on your film roll, you can also print out a contact sheet. Select the photographs you want to print. Use the [**Shift**] key to select

Print a contact sheet

a group of consecutive photos and the [**Ctrl**] key to select non-consecutive photos. Once selected, press [**Ctrl**] + [**Shift**] + [**P**], or from the menu, **Folder > Print** Contact Sheet. The files you want to print will be previewed in the printing screen and you can then print them out.
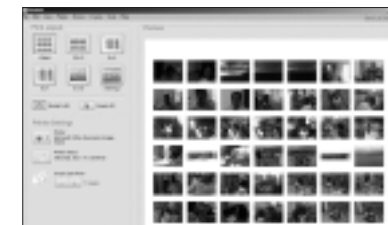
9.8 Blogging with Pictures

If you are an avid blogger and you have an account with Blogger (a Google account will do!), you can directly post the pictures to your blog. Click on the Blog This button, log in with your Google account, select the blog you want to post it to, the layout you want to use, and the size of the image that should be displayed.

Click Continue and fill out the title and text of your blog post, and click Publish.
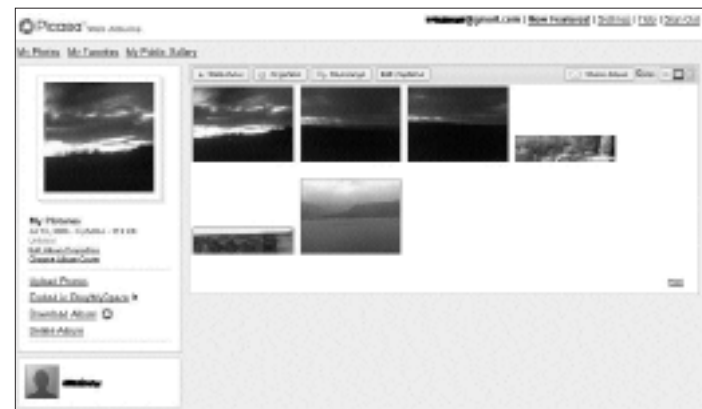
9.9 Uploading Pictures to the Web Album

Picasa's new Web Album service enables you to upload 250 MB worth of pictures to the Web. This is a free account. If you wish to upload more than 250 MB, you will need to upgrade to a paid account, which will allow you to upload up to 6 GB of pictures and m ovies. This can then be made available online and published in a variety of ways.

Web Albums Upload Options

To start, click on the Web albums button and sign in with your Google username and password. In the Web Albums upload dialog box, you are asked to specify a name for the album, an optional description, the quality of the upload, and whether it should be available to the public or should be unlisted for sharing only with friends and family. Make your entries and choices and click OK.

Publish photos to your Picasa Web Album

The picture upload manager will inform you of the progress of the upload as it happens. Once completed, you can view it online, view a slideshow, reorganise and rearrange the pictures, and share the album with friends and family. Visitors to your albums can download the albums to their own computer and their copy of Picasa for offline viewing too.

Additionally, the pictures can be also be published as a RSS feed, which makes it easier for people to subscribe to your feed and be instantly able to see new pictures as you upload them without waiting for an e-mail alert from you.

9.10 Using the Hello Service

Hello is a picture sharing and chatting service. You don't require to upload any pictures to the Web; you can directly chat with other Hello users and share pictures with them. Hello is a companion service to Picasa and seamlessly integrates with it. You can surf the Web together with friends, using Web page sharing, and send instant snapshots with webcam support. To learn more about Hello and to download and use the software, visit **http://hello.com**.

Google Reader

Google Reader is Google's free, Web-based RSS Feed aggregator, which you can use to subscribe to your favourite RSS feeds from all over the Web. As with most Google services you will need a Google account to sign in and start using Reader.

Subscribing to an RSS feed is simplicity itself. You can add RSS Feeds to Google Reader by using the Subscribe button, which you drag and drop onto your bookmarks toolbar (Firefox) or the Links toolbar (Internet Explorer). Whenever you are at a site that allows you to sub-scribe via RSS, you click on the Subscribe button. For example, the CNN Web site supports RSS.

The Google Reader home page

Subscribe to RSS

Clicking on the subscribe button on the bookmarks tool-bar will open the feed in Google Reader, and you will need to confirm the subscription by clicking on the Subscribe but-ton at the top of the feed page.

Once you have confirmed your subscription, you can view CNN stories in Google Reader without having to continually visit the CNN Web site.

The Reader interface has many parts. The left pane is where all the subscriptions are displayed. Every subscription will also show a count of the posts that are unread. You can view the posts for each subscription by clicking on it. You can use the All items link at the

top of the left pane to auto-sort posts such that even those with fewer entries "rise above" the high-volume, high-frequency posts.

In the right pane, the actual post items are displayed. When you scroll through and read the posts, the unread posts count will start decreasing. If you have more than 100 unread posts, Reader will only show 100+ against the subscription. You can view the posts either in List View or Expanded View. In List View, you can quickly skim the headlines without having to wade through the content of each post. However, note that the post will only be marked as unread if you view it in Expanded View. If you do not wish a subscription to show up as unread even if you don't read the posts, you can use the "Mark all as read" link at the top of the right pane. This will mark all items in the post as read and clear the unread count against the subscription in the left pane. If you want to leave a post as unread you can clear the "Mark as Read" checkbox at the bottom of the post item.
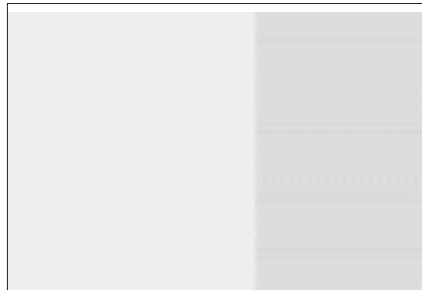
Your Shared Items public page

Special posts and those you want to review again later can be Starred. To mark a item with a star, click on the "Add Star" link at the bottom of the post.

You can also Share with friends the items in the feeds that you find. On a post that you want to share, click on the Share link at the bottom of the post. Then click on the "shared items" link at the top of the left pane. This will show you the link to your public page and also provide you with the JavaScript code that you can embed on your Web site to show a linked clip of your shared items.

The public page can also be subscribed to via RSS, and you can share the address with your friends and family to let them look at what you are reading.

For easier viewing, you can organise the feeds in folders by going to the settings page (click on the link at the top right corner).

For each subscription, you can specify one or more tags. These tags will appear as hierarchical folders in Reader. Additionally, you can make these tags public and publish the items under these tags as RSS feeds. Similar to the shared page, each tag will have its own public page, and like with the shared items, you can also create a "webclip" for each public tag, which you can post to your site or blog.

Go to the Goodies tab under settings to see various other options on what you can do with Reader. You can include Reader on your personalised Google Homepage by clicking on the Add to Google gadget link. You can also put all Reader items in a "next" bookmark or limit it to one of your folders (tags). Drag and drop the bookmark to your bookmarks/links folder. Clicking on Next will open the reader to the latest post, and subsequent clicks will enable

Enjoy Reader's goodies

you to see each successive subscription at the original site. This may be useful when you only get a snippet in your post and wish to read the full post.

Google Reader is also available on your mobile. Point your cell phone's browser to **www.google.com/reader/m**.

You can use the Import/Export tab to import your subscriptions from another RSS reader, or export your Google Reader subscriptions. Both Import and Export follow the industry standard for subscriptions file format, known as OPML.

Google Pack

Google Pack is a collection of free software being distributed by Google. The pack includes software both from Google and other companies. These software are considered the essential core applications a computer user can't live without, so to speak.

The pack requires Windows XP with Administrator privileges, and Firefox 1.0 or Internet Explorer 6.0 and above. Included in the pack are:

Google Software:
❍ Google Earth
❍ Picasa
❍ Google Pack Screensaver
❍ Google Desktop
❍ Google Toolbar for Internet Explorer

Other Software:
❍ Mozilla Firefox with Google Toolbar
❍ Norton Antivirus 2005 Special Edition 6 month subscription
❍ Ad-Aware SE Personal
❍ Adobe Reader 7

Optional Software:
❍ Google Talk
❍ Real Player
❍ Skype
❍ Google Video Player
❍ GalleryPlayer HD Images

All the above software is downloaded and updated by Google Updater. They are provided for free, and you have the ability to specify which all software you want to download. If you indicate that you already have some of the programs in the list, Google Updater will verify whether you have the latest version of the prod-

uct and won't install the software if that is the case. After installation, the Google Updater will continue to sit in your system tray and monitor for any updates to the installed software. If new versions of the software become available, the Updater will show notifications of their availability for installation.

SketchUp

SketchUp is a powerful 3D modelling software that enables you to create, view, and modify 3D models. With simple, intuitive controls, you can push and pull your 3D objects to knock them into shape. You can use SketchUp for a variety of real-life projects—from adding an extension to your house to making a new widget. Drawings can be as simple or as detailed as you might want. You can use real-life dimensions to construct your model, as well as add colours and textures. SketchUp also simulates real-life shadows (showing you how shadows will fall when the sun falls on your model). To make getting started even simpler, there are thousands of pre-drawn components that will save you time—you don't have to start from scratch.

12.1 Installation And Basic Requirements

The software is available in two versions: SketchUp Pro, the paid version and Google SketchUp, the free version. For our purposes here, we will talk about basic uses of only the free version.

Download and install the latest version of Google SketchUp from **http://sketchup.google.com/download.html**. The software supports Windows 2000 / XP, and is also available for the Mac. There is no Linux version at present. Details of optimum system requirements are also on the same download page.

12.2 Learning SketchUp

The proficiency you achieve in using SketchUp will depend on how complex you want your 3D creations to be. The SketchUp Web site offers a wealth of training resources to help you get started.

For the beginner to 3D Modelling, an online user's guide is available, which will help get a grasp of the concepts and tech-
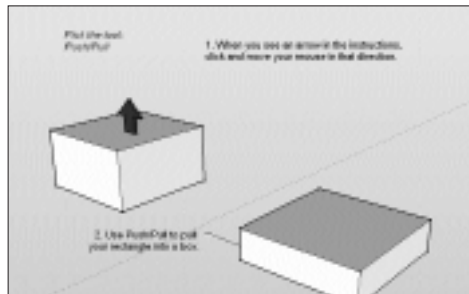
niques that go into creating 3D models. Go to **http://download.sketchup.com/OnlineDoc/gsu_win/GoogleSketchUpHelp.htm** (or **http://snipurl.com/googsketch**) and go through the Concepts section to get a basic understanding on what is involved in 3D modelling. Alternately, download the complete user guide from **http://download.sketchup.com/GSU/pdfs/GSUUsersGuide_WIN.pdf** (or **http://snipurl.com/googsketch1**) and read the concepts from page 9 of the PDF document.

Once you've understood the concepts, you can take the self-paced tutorials to familiarise yourself with the tools and controls you will use to create and manipulate 3D models. If you are

Go through the tutorials as slow as you need

running SketchUp for the first time, you will be prompted to take the tutorials through the Tip of the Day dialog box. You can also access the tutorials from **Help > Self-Paced Tutorials**. This three-part tutorial gives you a solid grounding in using and working with 3D objects in SketchUp.

You can then go on to video tutorials (**http://sketchup.google.com/tutorials.html**) that will show you how to work with SketchUp, introduce you to the SketchUp 3D Warehouse, and show you how to place the 3D models in Google Earth. Additionally, you can print the Quick Reference card (**http://download.sketchup.com/GSU/pdfs/QuickReferenceCard.pdf**, or **http://snipurl.com/googsketch2**) and keep it within easy reach and access it when working with SketchUp.

Once you begin working with SketchUp, help is at hand: just open the "Instructor" window. This will show you information about the tool you've currently selected. Enable the Instructor window from the menu (**Window > Instructor**). Also, whenever you work with a tool, don't hesitate to right-click and explore the options that pop up with whatever object you are pointing at. There is no faster way to learn than using the software itself.

You can also join the Google Groups SketchUp community (**http://groups.google.com/group/sketchup**) and get further help and support other newbies as they begin to use SketchUp. Also check out the Wiki for "The Ultimate Encyclopedia for Everything SketchUp"—**www.suwiki.org**. It has tons of information, tutorials, tools, tips and tricks and more!

12.3 Components

Components are pre-built objects that are included with SketchUp and available for download. These help in speeding up creation of your 3D objects, as you do not have to create them from scratch. You can explore the components that came along with SketchUp by going to the installation folder and opening the Components subfolder (usually **C:\Program Files\Google\Google SketchUp\Components\Sampler**). Use **File > Open** to open the included components. You can also download component sets (**http://sketchup.google.com/components.html**) pre-built for specific industries such as Architecture, Construction, and Film & Stage.

12.4 3D Warehouse & Google Earth

The 3D Warehouse is an online catalogue of 3D models that you can search and download. You can also create your own 3D models and share them through the warehouse. Access the 3D Warehouse directly

Browse through 3D models in the 3D warehouse

using a browser at http://sketchup.google.com/3dwarehouse, or by clicking on Google > Get Models in SketchUp. Click on a model to download it to your computer, view it directly in SketchUp, or download it as a .kmz file that can be viewed in Google Earth.

After downloading a model to SketchUp, you can click the "Place Model" option under the Google menu to export and view the model in Google Earth. Use the tilt and navigation controls to adjust the viewing angle of the model.

Note that the models imported from SketchUp and downloaded from 3D Warehouse are stored in the Temporary folder in the Places panel. If you wish to permanently retain these items, you will need to save them to your My Places folder. See Chapter 8 for details.

The Statue of Liberty from the 3D warehouse, at her rightful place in Google Earth

You can also create a model in SketchUp, save it, and add it to Google Earth. To do this:

❍ First create and save your model, start SketchUp, and then start Google Earth. Starting Google Earth (GE) first may cause SketchUp to crawl.
❍ Next, turn on the Terrain layer in GE and set the **Rendering > Elevation Exaggeration** to 1, and the Detail Area to Medium or Large in the menu settings: **Tools > Options > View**.
❍ In Windows, set GE to DirectX mode (**Start > Programs > Google Earth > Set Google Earth to Direct X mode**). You can leave it as OpenGL if that setting is faster and if the SketchUp menu command **Google > Get Current View** works without problems.

❍ In GE, fly to the location you wish to place the model on, looking straight down.
❍ In SketchUp, use the Get Current View command to import a snapshot of the terrain.
❍ Place your model over the terrain and ensure that it fits snugly into any slope and elevation in the terrain. For example, you might need to add support pillars to a building model if it is on sloped terrain. Use the Google > Toggle Terrain menu command to view your model in a 3D terrain. Use the Move/Copy tool if required to position the model correctly.
❍ Next, use the orbit tool to rotate the model till you are looking down directly at it.
❍ Select the **Google > Place Model** menu command to place the model where you took the terrain snapshot.
❍ If you are satisfied with the results and want to share it with others, consider uploading it to the 3D Warehouse. **Select Google > Share Model** from SketchUp and follow the instructions to upload your model to the 3D Warehouse.

For more detailed instructions on troubleshooting problems with using SketchUp and Google Earth, go to **http://sketchup.google.com/support/bin/topic.py?topic=8539** or **http://snipurl.com/googsketch3**.

Google Alerts

Google Alerts refers to automatically-generated e-mail alerts, based on search terms, which show results in five categories:

- ❍ **News**: the latest top 10 news article search results based on the given search terms
- ❍ **Web**: the latest top 20 Web search results based on the given search terms
- ❍ **Blogs**: the latest top ten blogs search results based on the given search terms
- ❍ **Groups**: the latest top 50 posts in Google Groups search results based on the given search terms
- ❍ **Comprehensive**: the latest search results for the given search terms from multiple sources for maximum coverage

Typically, people create alerts for things like:
- ❍ Tracking a news story as it unfolds
- ❍ Keeping up to date on competitors and industry
- ❍ Monitoring medical advances
- ❍ Tracking celebrity news and gossip

You can set up Google Alerts by signing in with your Google account and going to the alerts home page at **www.google.com/alerts**.
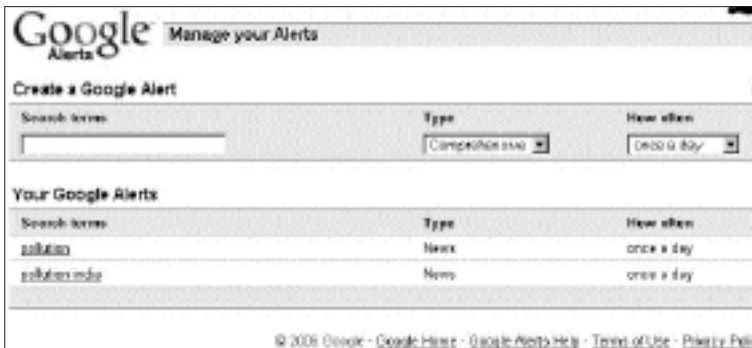
The Google Alerts home page

To create an alert:

1. Type in the search terms on which you wish to base your search results. This can either be a simple string of keywords, or you can create an advanced search term using the various operators discussed in Chapter 7, or via the Advanced search page. It is a good idea to run a trial search with your search term to see how the results look. If you are satisfied with the results, you can then copy the search term into the "search terms" box.

2. Select what type of search it is, based on the five possible variants

3. Select at what frequency you want to be alerted—once a day, as-it-happens, or once a week. Determining the alert frequency will depend on the search topic. Fast moving topics should generally be set to once a week, or you will be drowning in alerts! For slow-moving topics like a specific scientific or medical breakthrough, an as-it-happens alert will be better.

4. Click on "Create Alert" to finish.

Once the alert is created, you can sit back and wait to be updated according to the specified frequency. The Edit and Delete next to each alert link enables you to edit the alert—changing the search terms, the type and frequency, and deleting the alert when it is no longer relevant. You can also specify whether the alert should be in HTML or plain text.

Google Toolbar

The Google Toolbar for Internet Explorer and for Firefox is a versatile tool that enables you to use Google's products and services with greater ease and better efficiency. To get the toolbar, open Firefox or Internet Explorer and type in "toolbar.google.com". Google will automatically detect which browser you are using and take you to the respective download page. The latest toolbar for Firefox is version 2, and for Internet Explorer it is version 4. Both toolbars behave in pretty much the same manner, with a few minor differences.

14.1 The Firefox Toolbar

The Firefox toolbar has the following features:

❍ **Enhanced Search box**: As you type in the search terms you will see suggestions that you can click on. You can also click the "G" icon to choose any of Google's services such as Images, Groups, or News to search through.

❍ **Custom Buttons**: One-click buttons that will take you to many of the popular Web sites can be added to the toolbar. Go to **http://toolbar.google.com/buttons/gallery** to see the available list of buttons and add them to your toolbar.

❍ **Autolink** will take you to a map of any address that is on the current page. It is, however, restricted to US addresses only.

❍ **Autofill** enables you to enter all your personal information once, and when you visit a site where you need to fill in a form with your personal details, all you need to do is click the Autofill button to fill in the details.

○ **Translate**: By simply pointing at any English word on the page you are viewing, this feature will translate that word into Chinese (Traditional and Simplified), Japanese, Korean, French, Italian, German, or Spanish.

○ **Address bar browse by name**: You can also use the address bar to enter your search term directly. For example, if you type in "CNN" in the address bar, Google toolbar will guess that you want to go to CNN.com and take you there. If you type in "camping equipment," it will guess that you are looking for that, and show you search results related to the term.

○ **Pop-up Blocker**: The built-in pop-up blocker will block all pop-ups.

○ **Spellcheck**: Whenever you type in a Web form, the Spellcheck feature will verify the spelling of the words being typed, currently available for 12 languages. After typing in your text, click the Spellcheck button to check for spelling mistakes. The mistakes will be highlighted in red bold underlines. The Autofix option will correct the mistakes with a single click and change the colour to green underlines. Once you are done checking spellings, click on an empty area of the form and select "Stop spell checking".

The Options dialog for the Firefox Toolbar

○ **PageRank Display**: Displays Google's ranking of the current Web site or Web page you are at. This is an automatically-generated ranking based on Google's site ranking algorithms.

○ **Highlight Search Terms**: After getting a search results page using the search box on the toolbar, click on the Highlight marker icon, and all the relevant results on the page will be

highlighted in yellow—making it easier for you to quickly see where they are in all the text.

○ **Word Find Buttons**: Each individual word in the search term will be displayed as a button. Clicking on a particular word button will take you straight to the first occurrence of the word. You can continue clicking to see all the subsequent occurrences of the word.

○ **Bookmarks**: Integrated with Google Bookmarks, you can now use the bookmark feature to keep track of all your favourite sites without worrying about what will happen when you change, upgrade, or switch between computers. Simply log in to your Google account using the toolbar and your bookmarks will be available.

○ **Send to**: This feature enables you to send any Web page via Gmail or SMS (US only), or post to your blog in Blogger. You can either send the entire page or a snippet. If it is a snippet, just select the portion of text you want to send and then choose "send to".

○ **Google Account Sign In**: You can use the Google toolbar to sign into your Google account and get logged into all of Google's services. When signed in, a green light will light up next to Settings.

○ **Search settings notifier**: If a piece of spyware or other malicious software attempts to change your browser settings, you will be notified by Google toolbar of the attempt.

To modify and control all the above features, click on the Google button at the extreme left and select Options. The Google Toolbar Options dialog box will pop up, which you can then use to customise each of the above features and more.

14.2 The IE toolbar

In the Internet Explorer toolbar, Translate is called Word Translator. What's missing in the IE Google Toolbar are Custom Buttons, Address Bar browse by name, the pop-up blocker, Bookmarks, Send to, Google Account Sign-in, and Search
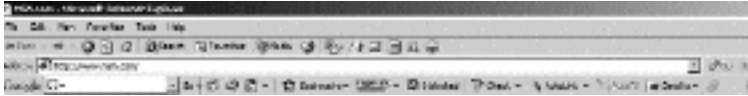
Settings notifier. And the following aren't there in the Firefox toolbar:

- **Google Safe Browsing** will alert you if any of the sites you visit are fraudulent.

- **RSS Subscribe Icon**: Whenever you are at a Web page that supports RSS subscriptions, the feed icon will light up, and you will be able to subscribe to the feed in your favourite Feed reader. Click the down arrow next to the feed icon to select your Feed reader.

- **Send with Gmail:** You can make Gmail your default mail client for all e-mail addresses with "mailto:" links. Clicking on any e-mail ID will open a new Compose page in Gmail with the e-mail ID entered in the "Send To" field.

- **Custom Layouts**: Three pre-set layouts are given to change the layout of the toolbar.

To modify and control all the above features, click on the Settings button at the extreme right and select Options. The Toolbar Options dialog box will pop up, which you can then use to customise each of the above features and more.

14.3 The new Google toolbar—available in Hindi too!

With the latest version of the Google toolbar, users can customise their search in Hindi: Google Toolbar 4 for Internet Explorer is now available in Hindi.

The new version of Google toolbar enables users to create, label, and manage bookmarks for favourite sites with a single click. Bookmarks are now saved to a user's Google account, making them accessible from any computer.

The IE Google Toolbar Options dialog

Additional product enhancements include expanded search functionality, which offers instant search query suggestions. And enhanced sharing capabilities allow users to easily send and share Web page content through Gmail by selecting the section of the page they want to share and simply clicking the new "send to" button.

Google Mobile

Accessing Google via your cell phone or PDA is the ultimate in having information at your fingertips while on the move. Liberated from the Desktop and laptop, Google's mobile services enable you to search the Web, search the mobile Web (Web sites specially designed for viewing on cell phones and PDAs), search images, view news, and even check your Gmail. Even if the screen is cramped and you need to become a finger acrobat with all those buttons, nothing beats the convenience of being able to access all this "anytime, anywhere." Well, almost!

15.1 Mobile Device Requirements

To use Google's mobile services, your mobile device should have a Web browser that supports XHTML (WAP 2.0), WML (1.2) or iMode (chtml). Normally, this is transparent to the user, and all you need to do is type in **www.google.com** to access the Google search home page. XHTML is the latest standard for mobile content, and supports both text and images. Most mobile devices bought in the last two years should support this format. iMode also supports text and images, and is a format primarily for the Japanese market. If you bought your device direct from Japan, you can rest assured of being able to access Google's content even if it only supports iMode. WML is an older format and only supports text. If you are having trouble accessing the Web, try **www.google.com/xhtml**, **www.google.com/wml**, or **www,google.com/imode**.

Depending on the Google service you wish to use, the mobile device should also be set to accept cookies. Additionally, the mobile network should allow cookies to be set as well and also secure SSL traffic. Both these features are the responsibility of the service provider. If you face any problems, check with your mobile provider if they allow cookies to be set and to secure SSL traffic.

For general connectivity to the Internet and how to use your mobile device's Web browser, ask your mobile service provider and refer the device's user manual respectively. Note that when we say "hit [**Enter**]" or "click the button" and so on, these correspond to the functions that would normally done on a PC Web page. Mobile phone browsers may differ in how they handle this functionality, which should be explained in detail in the user manual. Also, be prepared for slower response times than on your PC.

15.2 Preferences and Language Settings

Just like you do through your PC browser, you can set preferences and language settings for your Google mobile interface. At the Google homepage on your mobile browser, scroll through the search box, the search button, the radio buttons, and the other links, till you reach the Preferences link. Hit [**Enter**] and adjust your language and safe search settings.

15.3 Web search

Google Web search via your cell phone or PDA is nearly the same as searching on your computer, but there are some differences. The obvious one is size. Google does a good job of intelligently taking the standard HTML content of the Web and re-formatting the search results for easy readability and intuitive navigation, depending on the screen size you have.

Type in your search term, highlight the Search button and hit [**Enter**]. Up to ten search results are displayed per page. You can use all the search operators that you would normally use with PC Web search to refine your results.

15.4 Image search

To search images, type in search term, scroll down, and highlight the Images radio button. Then scroll back, select the Search button, and hit [**Enter**]. Similar to Web search and supporting all the search operators that you use with PC image search, Google Image Search on your mobile is streamlined for fast display. Up to three images are displayed for each page of results.

15.5 Mobile Web search

Similar to regular Web search but restricted to content available on mobile-ready sites only, type in your search term, scroll down to select the Mobile Web radio button, scroll back to select the Search button, and hit [**Enter**].

15.6 Froogle search (Labs)

This product is still in the cooking at Google Labs, but you can see what it's capable of now by going to **http://wml.froogle.co.uk**.

15.7 Google News

Access Google News by scrolling down on the homepage, selecting the News link and hitting [**Enter**]. This will open the News homepage. You can use the search box for specific topics, or read the first headlines of the Top Stories section. Clicking on an article link will take you to the Web site with the news story where you can read the full story. You can also scroll down and select the links that will take you to other items like all the top stories; you can expand the other sections like Nation, World, Entertainment etc. (see the chapter on Google News for details), or click on any of the sections to get more stories from each section.

At the bottom of the screen, you can change your regional settings to show content from any of the regional editions currently available at Google News.

15.8 Personalized Home Page

In your mobile browser, type in **http://www.google.com/xhtml**. This will open the default Google homepage (US). Scroll down the choices till you highlight the link Personalized Home, then hit [Enter]. This will take you to the Google account login page, and you will be prompted to enter your username and password. Enter the required details, select the checkbox "Remember me", and click "Sign in". The mobile-supported gadgets on your personalised home page will be displayed. For example, if you've added Gmail and Top Stories from Google News to your Personalized homepage (via the PC), the first few e-mails from your Gmail Inbox and a list of headlines from the Top Stories section in Google News will be displayed. Gadgets that do not have mobile browser support will not be displayed.

15.9 Gmail

There are two ways to access Gmail on your mobile device—directly through your mobile Web browser, or by downloading and installing a J2ME Java application.

15.9.1 Access via Web
Do one of the following:
❍ Type in **http://gmail.com**
❍ Type in **http://mail.google.com**
❍ Type in **http://m.gmail.com**
❍ Select Gmail from the Google home page
❍ Select Gmail from your Personalised home page.

Note that your mobile browser should be XHTML-compliant to access Gmail. If you haven't already saved your login information, you will be prompted to sign in with your user details.

Once signed in, you can see your Inbox with the first 10 messages, along with their subject headings. Click on any subject title to open it and read the message. You can scroll down below the messages to access other functions like Compose, Contacts and so on. The search box at the bottom of the screen also helps in locating e-mail.

As with the Web version, once you open an e-mail, it will be marked as read. Scroll down to the bottom of the message to choose any of the various actions like Reply, Forward, Move to Trash, etc.

Standard attachments viewable in a PC browser are also viewable in the mobile browser. Simply select the attachment (Word, PDF, etc.) and hit [**Enter**] to view it. Note that Excel and other spreadsheet attachments will not display correctly unless the format is extremely simple. This is due to the inherent limitations of the mobile browser's display medium when it needs to display large quantities of text arranged in the spreadsheet format.

15.9.2 Access via J2ME Java Application

If you have one of the new Java-enabled (MIDP2) mobile devices, and your phone has the Verisign Class 3 public certificate with serial number 70:BA:E4:1D:10:D9:29:34:B6:38:CA:7B:03:CC:BA:BF, you can use the Gmail J2ME application. To download and install the application, go to **www.gmail.com/app**. To verify these details and to learn how to down and install Java applications on your mobile phone, check with your device's user manual.

This J2ME Gmail application is much faster than going through the mobile browser. Additionally, it works exactly like Gmail and has the same look and feel, making it much easier to work with when viewing, reading and replying to emails. However, note that if you're signed in, the application will constantly consume bandwidth, since it will keep checking your account for fresh mail. To prevent this from happening, you will need to explicitly quit the application by going to **Menu > Exit Gmail**.

Google News

The conventional way to read the top stories of the day is to pick-up your favourite newspaper—or more appropriately in this online age—is to visit your favourite news Web site. There is, however, a drawback with this approach: the news you read is limited to a single publisher's perspective.

Google News (**news.google.com**) attempts to be different. Rather than be limited to the views of a single publisher, Google News works on the principle that there is more than one news source for the same story. Thus, stories are grouped together around one news event than around any one particular news provider. The cool part is, the process is automated. Google's computers scan over 4,500 English-language news sources to collate stories of the past 30 days and to display them according to the user's personalisation.

With its usual gusto for content engineering, Google's computers evaluate and rank the stories based on their heady brew of clustering algorithms (**http://tinyurl.com/yh8697**) using multiple parameters to judge a story's newsworthiness. This supposedly provides one with an unbiased, non-political, non-ideologically-driven news engine that is customisable to reflect your personal interests. While detractors will say that a mix of news sources, collectively without a point of view, is like a bland dish, we like to think that Google News provides all the ingredients to whip up our own personalised dish of spicy news served steaming hot over data pipes!

But before we delve in for a deeper look at its features there may be some of you who are wondering if it is only an "English Affair." Well, there is good news and bad news. The good news is that Google News is available in a large number of international languages and regional editions. India is one of the regional editions, but with a caveat (this is the bad news): as of now, it's only

available English. Don't be too disheartened though: as the Web becomes more" Googlified," we hope you will be soon able to see Google News in your favourite language!

Meanwhile, recommend to Google your favourite regional language news sites by going to **www.google.com/support/news/bin/request.py**.

16.1 Anatomy Of A Google News Clip

The standard Google News homepage is divided into a number of topics headlined by Top Stories, followed by eight other topics or "standard sections" as they are called, which relate to the following subject areas: World, Nation (country-specific), Business, Sci/Tech, Sports, Entertainment, Health, and Most Popular.

The standard sections are customisable in a number of ways explained in more detail in the Personalisation section in chapter 7. Under each section, text clips from the leading stories are displayed.

The Google News home page

Your typical news clip

You search for news topics using keywords, much like you would on other Google sites. The results are displayed by relevance by default; they can also be sorted by date by clicking on the "Sort by date" link at the upper right corner. Also, all Google News search results can be distributed as an RSS feed (see §16.3 for details), the search keywords can be used to personalise your Google News homepage (see §16.2 for more), and the search keywords can also be used to create e-mail alerts (see Chapter 13 to learn how).

Each news clip displays a text snippet from the Web site of the highest ranked (by Google) news source. Clicking on the headline will take you directly to the Web site with the news story. Immediately below the text snippet, clickable headlines to the same story from the second- and third-ranked news Web site are displayed.

Below these are links to the other top sites containing the same story. Finally, below these links, you will find a link to *all* news articles on the same story. If you are on a slow connection, you can speed up the display somewhat by switching to the text-only version: click on the "Text Version" link in the left pane. You can control the display of text snippets and thumbnails plus lots more by using the customisation and personalisation features that Google News supports.

16.2 Personalisation

Personalisation enables you to mix and match the standard sections from across the 35 regional editions, along with custom sections created by the user. The standard Google News homepage shows you the US edition, which can be changed by clicking on the drop-down next to Top Stories and choosing the region of your choice.

Personalisation is possible even without signing in to your Google account. Doing this, however, will make it specific to the computer and browser you're using. For example, if you regularly use Firefox and if for some reason want to switch to Opera for a while, the personalisation settings won't be available in Opera. The same goes for when you open Google News on another computer. There is, however, a workaround to this problem (See box *Hack: Multiple Personalised Versions Of Google News*).

To eke the maximum out of personalisation, however, you'll need to log in to your Google account. Also, while you are at it, activate your Personalized Search History if you haven't already


Google recommends news stories for you

done so. If you are not sure about what we are talking about here, take a look at §7.4. The Personalized Search History saves all your searches. It works in the background to enhance your search experience by customising your search results based on the history of your searches (which make up a pattern), among other things. This is applicable to Google News as well. By logging in and activating personalised search, Google News will switch on a feature called Recommended Stories, which will appear right below the Top Stories section.

The Personalized Search history keeps track of the news you read, and as Google News gets an idea about your tastes and interests, the Recommended Stories section will begin to fill up with news that better reflects your tastes and interests. You can also click on the section heading to take you to a full page of recommended stories.

You personalise your news home page by clicking on the "Personalize (or Customize) this page" link at the top right side below the "Top Stories" banner. In the window that opens, you can drag the sections to rearrange the layout, click on each section to change it or delete it, add a new standard section, or create a custom section based on the search terms you specify.

For an example, we've decided to create a custom search section called "Zune Tracker" to track all the top news stories related to Microsoft's new media player, Zune.

In the keywords section, we specify "zune" as the keyword that Google News should search for in the news stories. Keyword search, by default,
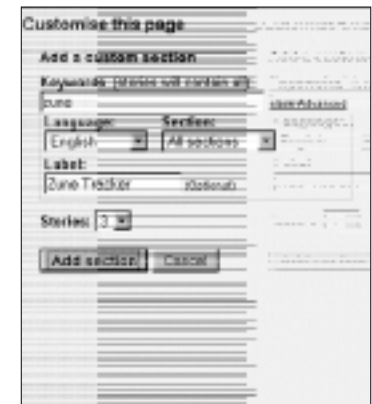
Configure the custom section

searches for all keywords in the search term. You can use the OR operator and/or the exclusion operator, the minus sign. You can also use advanced search operators to create a section. Simply create your advanced search term as explained in §16.4, verify that the search results are satisfactory, then cut and paste the entire search term into the keyword field.

Hack: Multiple Personalised Versions Of Google News

1. Sign out of Google.
2. Click on the "Customize (or Personalize) this page" link and customise it as you want to see it
3. Save your changes
4. Scroll down to the bottom of the page and click the "Share your personalized news with a friend" link. A yellow box will expand on the page with the unique link address for your personalised homepage. Bookmark the link and rename the bookmark to something descriptive. You can even store it in your Google Bookmarks. See §7.4 for more details on how to use Google Bookmarks.
5. Even better, you can add the links to your favourite feed reader (like Google Reader—see Chapter 10) and keep getting the news feeds delivered directly. Be sure to rename the feed title to distinguish it from regular Google News feeds.
6. Clear the personalised settings and repeat with whatever variations you want.

With the Advanced option, you can further narrow it down to supported languages and specific, standard sections such as Sci/Tech or Business. You can specify the optional label "Zune Tracker" so you can easily identify it on the page. If you don't specify a label, one will be automatically created based on the keywords you have used. Finally, after saving the changes to this new custom section, you drag "Zune Tracker" to the top to make it make it quicker to scroll. Click "Save Layout".

Our newly-created, custom search section "Zune Tracker" will now gather and display all the top news stories where the keyword "zune" appears.

By clicking on the edit link at the top right of the section, this custom section—or for that matter, any section—can be further customised to suit your specific requirements as they change over time. Likewise, you can create more custom sections, but with an upper limit of 20, which is inclusive of both the standard and custom sections.

The News home page with custom sections

The personalised news pages created above are not stored in your Google account. The Recommended Stories feature won't be enabled; that is linked to your Personalized Search history, which in turn requires that you be logged in to your Google account. You can also share your Google-account-linked news home page by using the above procedure.

The default view is to show the news headline with a snippet of the text and thumbnail image from the story. This, however

reduces the amount of content shown on the screen. If you wish to see more headlines, you can turn off the text and images that accompany each headline. Click on the "Edit this customized page" link and click on "Show headlines only" at the bottom of the window. You can also remove all customisations and revert to the Google default by clicking on "Reset page to default" link in the customisation window.

16.3 RSS Feeds

Feeds are regularly updated Web content that is "pulled" to your computer through a feed reader like Google Reader. This saves you the trouble of having to visit each of your favourite Web sites to view the latest content. Browsers like Firefox and Internet Explorer 7, as well as Google Toolbar, support the ability to recognise and subscribe to content on feed-enabled sites.

All the news on Google News is available as aggregate or individual section-wise feeds. That is, you can separately subscribe to each standard or custom section that you create, or subscribe to your entire Google News homepage from your favourite RSS reader. Copy the URL to your feed reader, click on the Feed icon, or use the appropriate method for your reader to subscribe to the feed.

You can also create customised news feeds for any search topic. This feature has some very important uses. For example, to keep track of the latest medical news on hip replacement, run a query for the search term "hip replacement". The search results can then be saved as a feed. This feature will then enable you to keep abreast of the latest news on that subject, which is delivered to your feed reader as it is published. Note that you can use Google Alerts to achieve the same result, but in a different delivery format: the search results are send to your Gmail Inbox based on the frequency you specify.

16.4 Searching Google News

As with other Google search services, Google News supports most of the search operators listed in §7.1.7. As far as the text operators go, however, Google News is limited to the following: allintext:, allintitle:, allinurl:, intext:, intitle:, inurl:, location:, and source:. The operators location: and source: are limited to Google News, and they can be used as follows:

Operator	Meaning	Example	Explanation
source:	Limit search to the specified source	zune source: times_of_india	Search for the news stories with the word "zune" restricted to the news source "Times of India"
location:	Limit search to specific country or US state	Zune location:India	Search for news stories with the word "zune" restricted to the news location "India"

You can also use the Advanced News Search page to refine your search query with the above operators and restrict your search to

The advanced news search

any period within the current and pervious month.

You can create a custom section as explained in §16.2 by using the keywords in your search.

16.5 News Archive Search

News Archive Search (**http://news.google.com/archivesearch**) is one of the most innovative features of Google News.

With archive search, you can even get access to news reports that are as many as 200 years old! Google's aim with News Archive Search is to enable users to search its news archives for historical content related to almost anything. Ideas, events, people are all searchable for a historical perspective spanning multiple news sources that will give you a flavour of the era better than any history book! The results can also include links to free articles as well as paid articles. Normally, the link title itself will suggest if there is payment involved. Clicking on a paid link will not incur any cost and you can usually see a preview or snippet of the article content before to let you decide whether it is worth paying for.

Articles are viewable as both standard articles grouped according to years with the latest first or as a timeline with the oldest

The Google News archive search home page

first. These dates are Google's recommendation on what the relevant time-period in history is.

As with other Google search services, you can also use Advanced News Archive Search to narrow and refine your results.

You can restrict your search by date, language, news source, or article price. If you switch to timeline view, the news source and article price fields are disabled. For more on using search operators on Google News see §16.4.

WATCH OUT!!
for Advanced
Features of

Google
next month

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