A view from inside the Google Toolset

GOING GOOGLE

Save time and simplify your life with Google's innovative online tools.

BY JOE CASAD

For years, experts have predicted the rise of a world in which the complete experience of the average computer user occurs in the serenity of a single browser window. Work, play, travel, and shop from anywhere in the world – all through the mystical interaction of web browsers and web servers operating at the speed of light. A most inviting vision, but is anyone actually making it happen?

Google is making it happen. The innovators at Google have assembled an impressive collection of free tools for working, exploring, collaborating, and distributing information on the web. This Google Tools Special Edition takes a close look at the tools of the Google environment.

Search

Google started life as a search tool, and search is still at the center of the company's consciousness. When you surf to *www.google.com*, you land on a search prompt. The simplicity of the Google search page hides a vast infrastructure of data centers, web crawlers, and indexing tools. Google builds the spirit of the search into many of its online products. In addition to the famous search box, Google also keeps a collection of special-purpose search tools for users who already know what they are looking for (see Table 1).

Webmasters are often curious about how Google builds the colossal indexes used by these busy search engines. Although the indexing details are a closely guarded company secret, Google lets you get much closer than you think to watching the Google-bot crawler at work. The Webmaster Tools application, which you'll learn about in this issue, provides vital statistics and an up-close look at how Google indexes your site.

Tools

When Google started the transition from search engine giant to full-service provider, they knew enough to stick with what they did well – and what they did well was the Internet. With other companies controlling much of the market for desktop applications and desktop operating systems, Google needed a way to define the user experience that was independent of the local desktop environment. The center of this Google end-user experience is the Google Docs online productivity suite, a powerful collection of business tools that competes with desktop alternatives like Microsoft Office, except that Google's tools are hosted on servers and accessible from anywhere in the world.

Other applications discussed in this issue help you start an Internet discussion group or create an online calendar. Also, you will learn to manage digital images with Picasa, create charts and graphs with Google Chart, and browse through splendid images of the Earth with Google Earth.

Web Works

Google offers an impressive assortment of free tools for building and managing websites. Anchoring the collection are Google Sites and Google Blogger – tools for creating websites, wikis, and blogs. Later in this issue, you'll learn about Sites and Blogger, as well as several other great applications for web developers. Google Gears, for instance, lets you run web applications even when your computer is offline. The Google Gad-
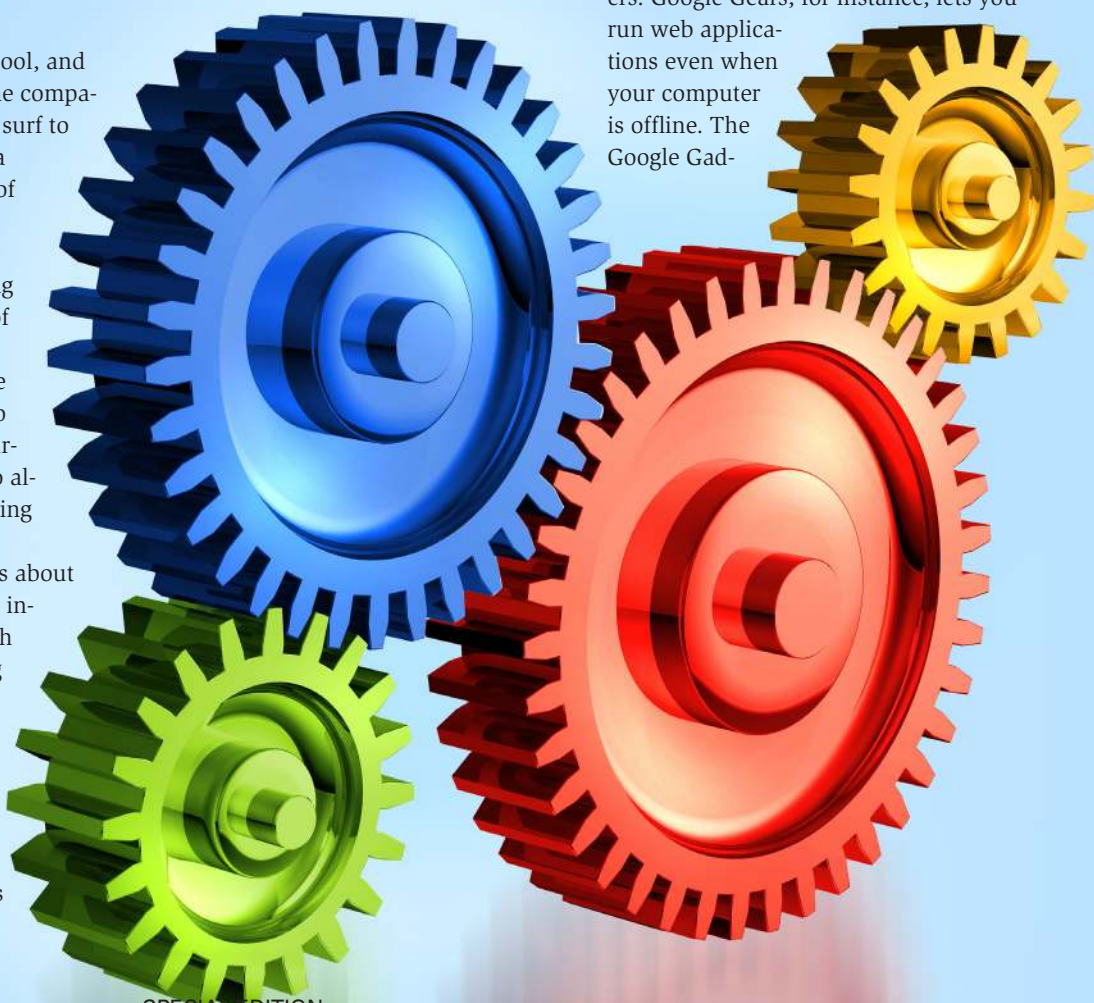
Figure 1: Creating a Google account.

Google apps support recent versions of the Internet Explorer, Mozilla Firefox, and Safari browsers. Google Maps, for instance, advertises support for IE 6.0 + , Firefox 2.0 + , and Safari 3.1 + . Other browsers might work also, but the interaction with the browser is a critical element of Google's web environment, and Google developers don't guarantee support for every alternative.

You might have noticed that Google is working on a browser of its own. The Google Chrome browser is specifically designed to work with Google tools. Chrome currently supports only Windows Vista/XP SP2; however, versions for Linux and Mac OS X are in development.

Read On

Whether you are a home user, a first-time webmaster, or an advanced web developer, you will find something you can use in this Google Tools special edition. Read on for more about the tools of the Google environment. ■
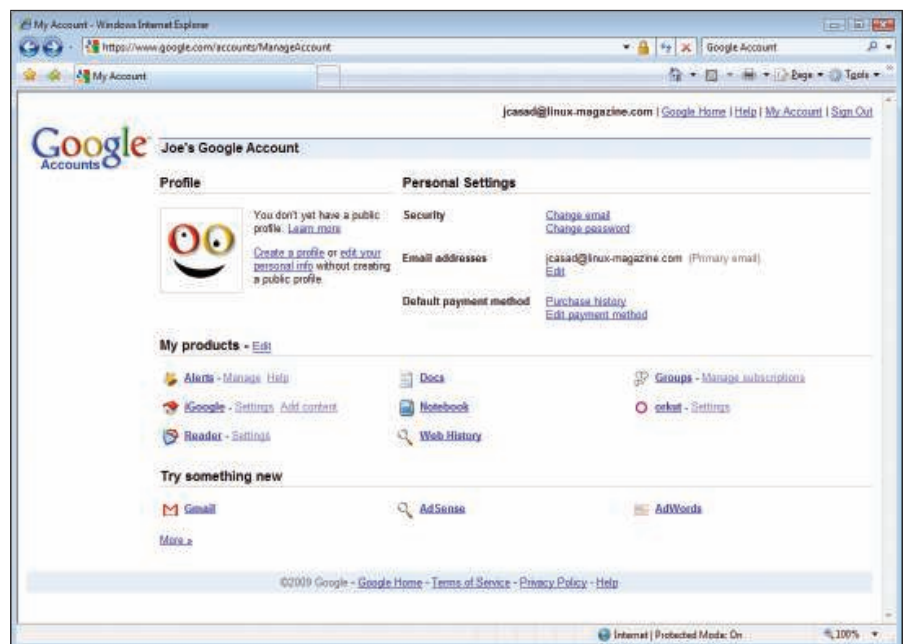
gets project provides web-based applets for the desktop.

If you're ready to go deeper into the code, try the Google Web Toolkit – a framework for building AJAX-based JavaScript front-end applications in Java. Also, we'll show you how to incorporate mapping features into your website with the Maps API, and you'll learn how to run your apps on Google hardware with the Google App Engine. Finally, we'll close with a case study showing how to integrate Google Chart into a Perl script to plot the locations of spammers.

Logging In

Google's search tools and some other popular apps are available to all web users. However, applications that restrict access or let you store data online require you to log in. Setting up a Google account is easy, and once you create it, Google remembers you. You won't need a separate account for every tool.

Tools that require a login usually provide a link for creating an account if you don't have one already. Alternatively, you can point your browser to *https:// www.google.com/accounts/Manage Account* and click *Create an account now* (Figure 1).

Once you have created your account, the My Account page (Figure 2) becomes a central point for managing personal documents, group memberships, and services.

Systems and Browsers

Most of the Google applications in this issue run on Windows, Mac OS X, and

Linux. Some of the Google applications do not provide Linux support; however, in a few of those cases, Linux users can still access the tools through the Wine API.

The various applications provide differing degrees of browser support. Most

Figure 2: Once you create an account, you can manage documents and services through the My Account page.

Table 1: Some Alternative Search Tools	
Tool	**URL**
Blog Search	*http://www.google.com/blogsearch?hl=en*
Digital Image Search	*http://www.google.com/imghp?hl=en*
Google News Search	*http://news.google.com/*
Product Search	*http://www.google.com/products?hl=en*
Academic Paper Search	*http://scholar.google.com/schhp?hl=en*
Video Search	*http://video.google.com/*