

One system with a multitude of possible appearances

WordPress Behind the Screen

WordPress is the single most widely-used web platform on the planet. A **third of all websites** depend on it and we here at SWCP love it for good reason. WordPress is diverse enough to run multi-user blogs, galleries, online sales, and forums, and yet is simple enough for ordinary folks to set up and manage.

Plus, WordPress is open-source (far less likely to spy yet wide open to tinkering by advanced users), with an array of powerful features and a host of widely varied, attractive layouts. There's a huge community of devoted fans and developers constantly working to support and improve it. And it's basically free!

WordPress is a high-powered **CMS** (*Content Management System*), which means it is a highly-interactive software platform to display a vast array of content on demand. It accomplishes this feat by some very clever juggling of a few basic web technologies that often have weird acronyms to shorten their names.

Learning more about WordPress is good not just for ambitious would-be webmasters, but all users. Understanding a little of how it works is helpful for the former, of course, but many other platforms also rely on much the same technologies. Users can gain insights on why some sites take so long to load, how they interact with visitors, and what can go wrong.

Matt Mullenweg, the co-founder and guiding light of WordPress, began it with a friend in college. The first version came out in 2003, and Version 5.0 was released just this year. Both growth and development have been rapid due to its welcoming of contributors. His plans for the future are to take the system into social media, make it more mobile friendly and a platform for apps so it will continue to improve.

Building pages on the fly

WordPress has been aptly **described** as a "**factory to make webpages**". When a visitor clicks a link to a WordPress webpage, that page is generated on the spot. The raw materials are the actual posts stored in a database on the server. There's an assembly line of templates, each one contributing or modifying the

format that the post will appear in. Specialized functions from added-on scripts called plugins further tweak things. Finally, the page is put together in code that the visitor's browser can read and sent out.

This code is mostly in the language that runs the web, **HTML** (*HyperText Markup Language*). "**Hyper-text**" means that the visible text is filled with invisible tags dictating how it should look (such as making words bold or italic, identifying paragraphs and headings, etc.), where to place photos and the links.

The job of the browser is to interpret the HTML so it displays properly. **CSS** (*Cascading Style Sheets*) tell the browser exactly how to present and place the text and all the other elements. CSS is extremely powerful due to its precision which determines exact look and placement. Different style sheets can show the same content with utterly different fonts, style, colors, etc.

Interactivity is accomplished by yet another language called **PHP**. This now awkwardly stands for "**PHP: Hypertext Preprocessor**", but originally it meant *Personal Home Page*, as it was invented by a young German developer for his own site. PHP is invisibly embedded in the HTML code but is run by the server.

This allows PHP to process data entered by the user and rewrite the HTML on the go. PHP is a nimble but simple means to build dynamic websites, apply webpage templates, process data from forms, handle graphics, and perform various other applications.

Finally, WordPress needs a database to store the actual content and other necessary information, such as PHP values. **MySQL** (*My Structured Query Language*) handles and holds this data on the server.

How WordPress works

HTML with CSS, PHP, and MySQL are the basic elements of a WordPress page, but they need the WordPress platform to combine and run them. The program is built out of various PHP-driven modules.

These take the data – even if it's just clicking on a link – and run it through one template after another, building the various sections of a page. Some create static content that stays the same on all pages. like the site's header, for instance, or a sidebar with links.

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The main portion of the page, with content that changes from one to another, is generated by **"the loop"**. This queries the database with PHP and from it builds the unique sections of that page, starting with the title, then content, author's name, categories and tags, date, recent links, etc.

Once the loop's done, the site has made an HTML page fit to be seen. The page also includes **JavaScript**, which is like PHP, but works on the browser.

WordPress goes through this cycle for every page and view ever clicked. Various types of pages can be governed by different modules, and therefore can all look and behave differently. The **"dashboard"** – the web interface that administrators access to work on the site – works in much the same way.

This internal consistency and open sourcing make for a rugged, adaptable platform. But that's just the beginning of WordPress' amazing versatility. With CSS and PHP, variations can be almost infinite.

While the WordPress platform is the same for all WordPress sites, there are over **11,000 packages** of different looks called **"themes"**. These are more than just the site's skin as they control formats, too. Some themes are just for photo galleries, some for blogs, e-commerce, combinations, and so on. Many are **"responsive"** – that is, they include simplified formats which work best on mobile media like smartphones, and automatically change the look to fit.

Each year, WordPress comes out with a **new theme** with a fresh approach and new features. But developers are constantly creating themes of their own, free to download, or professionally crafted for commercial use. Their average cost is about **\$40** each. Users are encouraged to develop and add their own themes, too. Best of all, new themes can be installed or switched between with just a single click.

Even more variability and control over the format is added by the use of **"widgets"**, small programs that add features and content to self-contained areas like sidebars, the footer, etc. A few are built-in standards, but most are **plugins** created by developers.

Plugins are wildly popular, with over **54,000** in the **official directory**. They are specialized PHP scripts that can add tremendous functionality and customization to a site. They do everything from filter comment spam to pull in weather reports or count hits.

If it all sounds complicated, it is – but it's not rocket science. Other complex sites use these same or similar technologies and each and every of them are written in codes which tolerate no typos anywhere.

These usually cycle seamlessly together, but things can go wrong. If the CSS doesn't load properly, ugliness

instantly ensues. Added-on features can interfere with other ones. Page-building processes can get stuck in endless repeating loops and so on.

Fortunately, WordPress is very stable, with a well established development cycle, lots of beta-testers, and an enthusiastic community of supporters. There are users' **support forums** open to any questions.

SWCP's own **Ideas & Coffee**, across the hall from our offices, often hosts WordPress Meetups on Thursdays, 6:30-8:30 PM., to help out with problems. For exact dates, check out the SWCP Event Schedule, <https://www.swcp.com/events/>. And there are conferences called **WordCamps** regularly held in cities around the world for enthusiasts, even here in Albuquerque.

Supporting WordPress

Because the core of the program is run on a web-server, WordPress cannot be hosted on any old server, but only on one specially set up with the program and all the necessary resources to handle the various demands that will be placed upon it.

But since an ISP that runs one WordPress can run any WordPress site, internet providers like SWCP who do often concentrate on supporting that platform.

It all has to be kept up-to-date, too. Even the languages continue to evolve – HTML is on its fifth version, and PHP on its seventh. Plus, the WordPress platform is regularly updated along with all the ever-growing number of themes and plug-ins, too.

One very nice feature is that both installation and updating have gotten much easier for users. Since plugins can sometimes interact in unexpected ways, testing and regular backups are also very important.

Southwest Cyberport's **webhosting services** on our dedicated webfarm are tailored for WordPress, giving our customers exactly what is needed economically. Our Basic Webhosting service for blogs and forums costs only **\$15/month**, while Professional Webhosting for **\$30/month** can run the most complex and large sites, including wikis and shopping carts.

We're busy working on ways to make administering sites easier, too. WordPress' best may be yet to come.



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