What You Will Learn from This Book

Reading this book will enable you to build real-world, dynamic websites. If you've built websites using plain HTML, you realize the limitations of this approach. Static content from a pure HTML website is just that—static. It stays the same unless you physically update it.Your users can't interact with the site in any meaningful fashion.

Using a language such as PHP and a database such as MySQL allows you to make **your sites dynamic:** to have them be customizable and contain real-time information.

We have deliberately focused this book on real-world applications, even in the introductory chapters. We begin by looking at a simple online ordering system and work our way through the various parts of PHP and MySQL.

We then discuss aspects of electronic commerce and security as they relate to building a real-world website and show you how to implement these aspects in PHP and MySQL.

In the final part of this book, we describe how to approach real-world projects and take you through the design, planning, and building of the following projects:

- User authentication and personalization
- Shopping carts
- Web-based email
- Mailing list managers
- Web forums
- PDF document generation
- Web services with XML and SOAP
- Web 2.0 application with Ajax

You should be able to use any of these projects as is, or you can modify them to suit your needs. We chose them because we believe they represent some the most common web-based applications built by programmers. If your needs are different, this book should help you along the way to achieving your goals.

What Is PHP?

PHP is a server-side scripting language designed specifically for the Web. Within an HTML page, you can embed PHP code that will be executed each time the page is visited. Your PHP code is interpreted at the web server and generates HTML or other output that the visitor will see.

PHP was conceived in 1994 and was originally the work of one man, Rasmus Lerdorf. It was adopted by other talented people and has gone through four major rewrites to bring us the broad, mature product we see today. As of November 2007, it was installed on more than 21 million domains worldwide, and this number is growing rapidly. You can see the current number at http://www.php.net/usage.php.

PHP is an Open Source project, which means you have access to the source code and can use, alter, and redistribute it all without charge.

PHP originally stood for *Personal Home Page* but was changed in line with the GNU recursive naming convention (GNU = Gnu's Not Unix) and now stands for *PHP Hypertext Preprocessor*.

The current major version of PHP is 5. This version saw a complete rewrite of the underlying Zend engine and some major improvements to the language.

The home page for PHP is available at http://vvrww.php.net.

The home page for Zend Technologies is http://www.zend.com.

What Is MySQL?

MySQL (pronounced *My-Ess-Que-Ell)* is a very fast, robust, *relational database management*

system (RDBMS). A database enables you to efficiently store, search, sort, and retrieve data. The MySQL server controls access to your data to ensure that multiple users can work with it concurrently, to provide fast access to it, and to ensure that only authorized users can obtain access. Hence, MySQL is a multiuser, multithreaded server. It uses *Structured Query Language (SQL),* the standard database query language. MySQL has been publicly available since 1996 but has a development history going back to 1979. It is the world's most popular open source database and has won the Linux Journal Readers' Choice Award on a number of occasions.

MySQL is available under a dual licensing scheme. You can use it under an open source license (the GPL) free as long as you are willing to meet the terms of that license. If you want to distribute a non-GPL application including MySQL, you can buy a commercial license instead.

Why Use PHP and MySQL?

When setting out to build a website, you could use many different products. You need to choose the following:

- Hardware for the web server
- An operating system
- Web server software
- A database management system
- A programming or scripting language

Some of these choices are dependent on the others. For example, not all operating systems run on all hardware, not all web servers support all programming languages, and so on.

In this book, we do not pay much attention to hardware, operating systems, or web server software. We don't need to. One of the best features of both PHP and MySQL is that they work with any major operating system and many of the minor ones.

The majority of PHP code can be written to be portable between operating systems and web servers. There are some PHP functions that specifically relate to the filesystem that are operating system dependent, but these are clearly marked as such in the manual and in this book.

Whatever hardware, operating system, and web server you choose, we believe you should seriously consider using PHP and MySQL.

Some of PHP's Strengths

Some of PHP's main competitors are Perl, Microsoft ASP.NET, Ruby (on Rails or otherwise), JavaServer Pages (JSP), and ColdFusion.

In comparison to these products, PHP has many strengths, including the following:

- Performance
- Scalability
- Interfaces to many different database systems
- Built-in libraries for many common web tasks
- Low cost
- Ease of learning and use
- Strong object-oriented support
- Portability
- Flexibility of development approach
- Availability of source code
- Availability of support and documentation

A more detailed discussion of these strengths follows.

Performance

PHP is very fast. Using a single inexpensive server, you can serve millions of hits per day. Benchmarks published by Zend Technologies (http://www.zend.com) show PHP outperforming its competition.

Scalability

PHP has what Rasmus Lerdorf frequently refers to as a "shared-nothing" architecture. This means that you can effectively and cheaply implement horizontal scaling with large numbers of commodity servers.

Database Integration

PHP has native connections available to many database systems. In addition to MySQL, you can directly connect to PostgreSQL, Oracle, dbm, FilePro, DB2, Hyperwave, Informix, InterBase, and Sybase databases, among others. PHP 5 also has a built-in SQL interface to a flat file, called SQLite.