CGI Programming
on the World Wide Web

1. The Common Gateway Interface (CGI)

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1.1 What Is CGI?

As you traverse the vast frontier of the World Wide Web, you will come across documents that make you wonder, *"How did they do this?"* These documents could consist of, among other things, forms that ask for feedback or registration information, imagemaps that allow you to click on various parts of the image, counters that display the number of users that accessed the document, and utilities that allow you to search databases for particular information. In most cases, you'll find that these effects were achieved using the Common Gateway Interface, commonly known as CGI.

One of the Internet's worst-kept secrets is that CGI is astoundingly simple. That is, it's trivial in design, and anyone with an iota of programming experience can write rudimentary scripts that work. It's only when your needs are more demanding that you have to master the more complex workings of the Web. In a way, CGI is easy the same way cooking is easy: anyone can toast a muffin or poach an egg. It's only when you want a Hollandaise sauce that things start to get complicated.

CGI is the part of the Web server that can communicate with other programs running on the server. With CGI, the Web server can call up a program, while passing user-specific data to the program (such as what host the user is connecting from, or input the user has supplied using HTML form syntax). The program then processes that data and the server passes the program's response back to the Web browser.

CGI isn't magic; it's just programming with some special types of input and a few strict rules on program output. Everything in between is just programming. Of course, there are special techniques that are particular to CGI, and that's what this book is mostly about. But underlying it all is the simple model shown in [Figure 1.1](#).