WHEN DESIGNING A GREAT Web site, the look and feel is frequently the most important aspect of the design. The focus is on color schemes, graphics, and attitude. When designing a great Web application, there are many more design aspects to consider.

A Web application normally performs a set of business processes or other tasks so you need to design the logic required to complete those tasks. You also need to define the layout of the Web pages to most efficiently help the user accomplish the tasks. Most Web applications also use data, so you need to design the structure of that data.

Managing all of the aspects of the Web application’s design is easier if you follow a specific design methodology. This chapter presents the GUIDS Methodology, a pragmatic approach to software design. This methodology steps you through the process of designing your Web application.

The purpose of this chapter is to describe the GUIDS Methodology and walk you through the design of a simple Web application.

What Will This Cover?

This chapter covers the following key design concepts:

- Understanding the purpose of design
- Goal-centered design to define the business processes or tasks
- User-interface design to define the look and feel
- Implementation-centered design to define the architecture
- Data design to define the data structure
- Strategies for constructing the application, including project planning and scheduling

By the end of this chapter, you will know how to design all aspects of a Web application.
The Purpose of Design

Today’s Web tools make it easy to develop Web pages and even simple Web applications without any forethought. You can just start building pages and keep modifying them until they work, then modify them further until they actually perform the task for which they were intended. A more proactive approach is to think through the Web application before you build it.

Before a house is built, for example, the house is designed and the blueprints document this design. Before a car is built, the car is designed and the CAD drawings document this design. So too should it be with Web applications.

Thinking through the design of your Web application before you build it ensures you are building the right application. It ensures you understand what it is that the application is supposed to do. It ensures you are communicating with the users and subject matter experts about what the application is to do. It helps you select the appropriate set of technologies for the Web application from the dozens of available Web technologies. It identifies the data that the application needs and how to work with it.

Without design, you have no plan or strategy for the application’s development. Without a design you could build the application based on a guess as to what the users really need. Then you could continue to modify the application until it really does what the users need.

It is far better to know ahead of time the application’s real goal. In other words, you need to understand the tasks that the users need to accomplish with the application.

The amount of time spent on the Web application’s design depends on the application’s complexity. You would spend some time and money designing a new home, for example, but not much time or money designing a tree house for the kids. The same applies to your Web application. You may not spend much time designing the application to track the team scores for your bowling league, but you will want to take the time to do a careful design of your company’s order entry/inventory/invoicing application.

You may be thinking you really don’t have time for design. Management wants completion of the Web application in “Web time” where expectations are weeks, not months. My company, InStep Technologies, has successfully completed several Web applications in “Web time” by following these guidelines:

- Use a good design methodology.
- Overlap the application’s design and development.
- Follow some extreme programming (XP) techniques.