

Chapter VIII

Database-Driven Web Pages Using Only JavaScript: Active Client Pages

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Abstract

The California State University, Los Angeles (CSULA) Library decided, as part of an overall redesign of its Web site, to use database-driven Web pages (also called dynamic Web pages). When the servers for the database-driven pages were closed down due to a virus attack, a new method of creating the database-driven pages without the necessity of special servers was devised. The resultant Web pages use JavaScript arrays to simulate a database and embedded JavaScript programs to provide the dynamic content for the pages.

Introduction

The John F. Kennedy Memorial Library is the university library for CSULA. The school has approximately 22,000 students in an ethnically diverse, urban setting. The library has nearly one million volumes, but has in recent years concentrated on remotely accessible resources to accommodate its decentralized, commuter clientele. Most students now use the library through its Web site. This has made the Library Web a key mode of communication.

Implementation of the Library Web began around 1994 through the efforts of one librarian. Over time, other librarians and staff added their talents and the site grew to over 400 pages in various styles with redundant content. Several cleanup projects took place over the years, but a full-scale reevaluation of the entire site had not been attempted. In 2002, a team project was initiated to completely rework the Web site. Goals for the project included improved usability and maintainability, consistent interface, increased currency, and reduced redundancy. Part of the implementation strategy called for the use of database-driven Web pages.

Database-Driven Web Pages

Database-driven pages look like normal HTML Web pages, but are created when requested. They consist of fixed portions made of HTML and variable portions that are filled with information drawn from a database. The information in the database can be used for multiple Web pages as well as other applications. Database-driven Web pages are much easier to keep current since information only needs to be updated in one central database instead of hard coding it into many pages. Database-driven pages can contain logic that sorts the data (e.g., placing a list of personnel in alphabetical order) or chooses data based on criteria (e.g., displaying bibliographic databases that contain full-text articles). Database-driven pages are most useful where information changes frequently or where common information is used in many Web pages. Some examples are personnel pages and pages that list bibliographic databases. Flexibility and ease of updating make database-driven Web pages highly desirable.

Currently there are four main technologies used to create database-driven Web pages:

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