Chapter VI

Database-Driven Product Catalog System

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ABSTRACT

A Web-based Product Catalog is an online product database that requires easy access from anywhere in the world and uses the most efficient method for information retrieval. The database should support all products no matter what attributes the products have. Many large businesses have been unsuccessful in their attempts to create a product database that enables fast, efficient access across the Web. As there are many complex issues involved with the storage of product information, many companies settle for poorly designed databases as a tradeoff to becoming Web compatible faster. This chapter explores database-driven E-Commerce product catalogs and the issues that inhibit its creation. A Web-based Product Catalog System has been put forward in this chapter that allows for storage of all product specific information. Storage and retrieval of attributes that have no structure, like media objects (pictures, video clips, audio samples) have also been implemented in this system. Media objects are becoming an important feature to product catalogs, especially those intended for deployment on the Internet. Another important feature supported by the system is the ability switch between languages. This multi-language feature allows all of the product information to be understood right around the world, broadening the potential users of the system.
INTRODUCTION

The ability to populate Web sites on the Internet, with content derived from large databases has become the key to building enterprise Web sites (Zhu, 2000). Web Databases enable companies to extend their services to customers and other businesses over the Internet. As many companies are coming to terms with expanding their business onto the Internet, they are finding that they require efficient, maintainable databases to house their product information on the Internet. As the reliance on databases grow, many businesses are exploring faster and more efficient ways to store and retrieve product information over the Internet. This chapter proposes a new design for storing product information that has been designed specifically for use with the Internet.

Customers require a certain service from on-line businesses in a business-to-customer (B2C) relationship. Customers expect to be able to browse product catalogs, in a fashion that is more efficient than browsing ordinary paper catalogs. Customers want to be able to browse these catalogs as fast or as slow as they like. These are serious issues for on-line businesses. A company with a slow online product catalog, whether it is because of available bandwidth, number of simultaneous connections allowed or an inefficient database, will not attract customers. Although most of these services are beyond the scope of this chapter, we do hope to provide a solution that will make database services more efficient for customers to access. By minimizing the time spent searching the database and only sending relevant product information back to the customer, we believe customers will be happier with the service provided by any business that has deployed the database proposed in this chapter.

Not only will the B2C relationship improve with the deployment of this proposed database, but so too will business-to-business (B2B) relationships. Suppliers of products wont have to re-enter the product information into their systems when the manufacturer supplies product information in the wrong format or a different language. Whole databases will be able to be translated in a format and a language that is appropriate for business that uses the information. For example, a Melbourne supplier of Laptop computers to Melbourne customers receives its products direct from a Japanese manufacturer. The Melbourne supplier would have to translate and retype the Laptop information, from Japanese to English, so that they could advertise their computers to Melbourne residents. The product attributes remain the same (RAM, screen size, HDD capacity, etc.) but the information is incompatible with already existing databases that are in English. The database proposed in this chapter will not only be able to provide a fast efficient access, but will also cater to transfer of product data between businesses.

PRODUCT CATALOGS

Product catalogs are a way of presenting structured product information (Danish, 1998). Catalogs come in many forms and present a variety of products in
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