Planning and Developing Dynamic Web Sites in different platforms

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Nowadays tendency is that Web applications are being manufactured in a rush. There is no time for thorough software design and development processes. In the evolution of Web application development there was never such a need for reusable program codes than in this very quickly changing programming environment. This constantly changing environment itself causes a lack of detailed design and implementation time.

We could think that this is a normal expectation in the community of Web Engineering. However, unstructured and rapidly developed systems can not easily follow the always changing requirements.

In this paper, we will try to demonstrate how to plan and realize well-founded software solutions for the Web. We will introduce the Web application designing procedures, discussing the functionality of each tier. During the development process we will follow the guidelines of the Model-View-Controller design pattern, achieving a well-structured and modular system.

After this we will show the advantages of the modularity, especially concentrating on the reusability, redesign and refactoring.

In the last section we will present some code examples to demonstrate implementation techniques in tree different Web platforms. We will try to illustrate the basic and always existing programming steps in Perl, J2EE and Microsoft .NET. We will discuss the task of database access, including stored procedures, consistency checks and validation support of database engines in different environments (Oracle, MS SQL, PostgreSQL).

The next step covers the object-oriented approaches for the business logic layer in all of the above mentioned platforms. Following the MVC pattern to display the information content we show how to use XML data and XSLT transformations for different clients.

Following these development guidelines, we could lower the long-term costs of our Web project, reducing the needed time for the again and again occurring redesign.

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