

# NEW PARADIGM OF DEVELOPING WEB APPLICATIONS USING Z-MODEL

Babitha D'Cunha<sup>1</sup>, Roshini Karishma Karkada<sup>2</sup> and Mrs.Suchetha Vijay kumar<sup>3</sup>

**Abstract-** World Wide Web has become very important tool in the field of education, government and other commercial organization. Information is sought by the organization almost every day in different scenarios. The main problem encountered here is that the information is presented in different format. Technology does not solve this problem. Hence to provide a better solution new Z-Model is introduced, which gives a comparatively better way of designing service oriented E-commerce application.

**Key Words-**Electronic Commerce, Web Engineering, Web Service Management, Web Design, WWW.

## I.INTRODUCTION

Web applications usually contain collections of pages dealing with similar concepts. Web applications combine navigation through a heterogeneous information space without affecting that information. The WWW is based on the hypertext paradigm which can be linked to each other through links (URL). Normally the readers have the option of accessing the pages linked to the current page by choosing the particular link, which will cause the page the link to be exhibited.

This process repeats itself indefinitely. This sequence of step is known as “navigation”, and is intrinsic to hypertext and also to the WWW. Good hypermedia applications should provide easy navigational access to large information resources, preventing users from being lost in the ocean of information, and providing consistent navigation operations even when other kind of transactional behavior is involved.

A website is a collection of relevant webpages. Here we describe a new and better web based model which can be used to design web application. In this paper we describe some of the popular models. The design constraints are limited to utilization of resources and provide limited information to users.

## II.DIFFERENT MODELS OF E-COMMERCE

---

<sup>1</sup> Department of Software Technology St. Aloysius College AIMIT Mangalore

<sup>2</sup> Department of Software Technology St. Aloysius College AIMIT Mangalore

<sup>3</sup> Department of Software Technology St. Aloysius College AIMIT Mangalore

*A. OHDM: (Object-Oriented Hypermedia Design Method):*

Object-Oriented Hypermedia Design Method -It is model-based approach for building large hypermedia applications. Hypermedia applications are seen as systems that are built to function as part of a man-machine team. The part of the problem to be solved by the machine uses whatever techniques that are appropriate - Data Bases, Knowledge Based Systems, Hypermedia, Information Retrieval Systems, etc. OOHDM is used to design different kinds of applications such as, web sites and information systems, interactive kiosks, multimedia presentations, etc. it is done in a mix of incremental iterative and prototype based development styles. During each task a set of object oriented models describing particular design are built or enhanced from previous ones. OOHDM can be used regardless of whether the target system is a pure Object-Oriented environment one or a hybrid one.

*B. Semantic Hypermedia Design Method (SHDM):*

In the Semantic Hypermedia Design Method the architecture supports the clear distinction between Conceptual, Navigation and Interface models, and is based on the various ontologies that define an SHDM design. In order to achieve separations at the interface level, it is divided into two parts-the abstract interface, and concrete interface.

*C. WebML (Web Modeling Language):*

It is a visual notation and a methodology for designing and implementing complex Web applications. It provides graphical specifications in a complete design process but still retain its originality.

This method has five models: structure, derivation, composition, navigation and presentation. These models are developed in an iterative process. It helps designers to express the core features of a site at a much higher level, without committing to detailed architectural details. WebML concepts are associated with a good other graphic representation, which can be easily supported by CASE tools and effectively communicated to the members of the site development team. WebML can implement a website directly.

*D. OOWS (Object Oriented Web Solution):*

It is the continuation of the OO-Method that introduces the required expressivity to capture navigational and presentation of web application requirements and brings out a full software development process for the web. It is a OO software production method that provides conceptual modeling extensions to facilitate the web application specification. The method provides a set of techniques for the conceptual modeling of functional, navigational and presentation requirements of dynamic web applications, and proposes a strategy to allow going from the problem space to the solution space in an automatic way.

*E. WSDM (Web Service Distributed Management):*

WSDM is an audience driven design method for Web Applications. It comprises of a five-phase design, starting with explicit elicitation of the users and ending with the actual implementation. More than other methods, WSDM is a methodology, because it provides a systematic way to develop an application.

### **III. DRAWBACKS OF EXISTING MODELS**

- ✓ The models lack proper information regarding the customer need
- ✓ Better utilization resources that provide in the network.

- ✓ Once the design of the web site is completed and the site is up, the maintenance costs for maintaining and updating a site may be minimal.
- ✓ While a website provide link to other websites, it is difficult for users to incorporate various changes within its website.
- ✓ Long wait response for the information.
- ✓ Does not allow the user to make various selections regarding the design of the website.

#### **IV.Z-MODEL**

An alternate solution to the existing models is new model called Z Model which combines several benefits from the software model as well as the object oriented model. Z-Model has three fold development process which is as follows:

##### *A. Development-*

It includes search engines, concentrating on getting the visitors to the site by advertisements etc., and providing them required information which was gathered and organized within the website.

##### *B. Website Design-*

It involves a team of experts who are responsible for the creative side of the site. The team involves owner, artists, writers, technical writers, photographers, programmers and code experts.

##### *C. Website Maintenance-*

After development and design, it is very important to maintain a site by regularly updating the information or contents.

#### **Phases Of Z-Model:**

The Z-Model has three phases to design and implement the E-Commerce on web.

##### *A. Development Phase-*

It describes about the quality of the web, which involves requirements of web, information gathering, analysis of information gathered, customer satisfaction, better to navigate, easy to understand, new graphical approach, advanced security, future modification enhancement etc.

##### *B. Design Phase-*

It uses OOMD (Object Oriented Model Design) concept in this Phase, which is appropriate for the current web application. It includes the entire concept like Conceptual design, Navigation design and Abstract interface design. it also includes the Web Service Management which shows how the design of model show the better facilitate the resource that available.

##### *C. Maintenance phase-*

After development and design the important concept is development phase, which includes coding, testing, implementation, maintain quality and customer demand. It reduces maintenance cost.

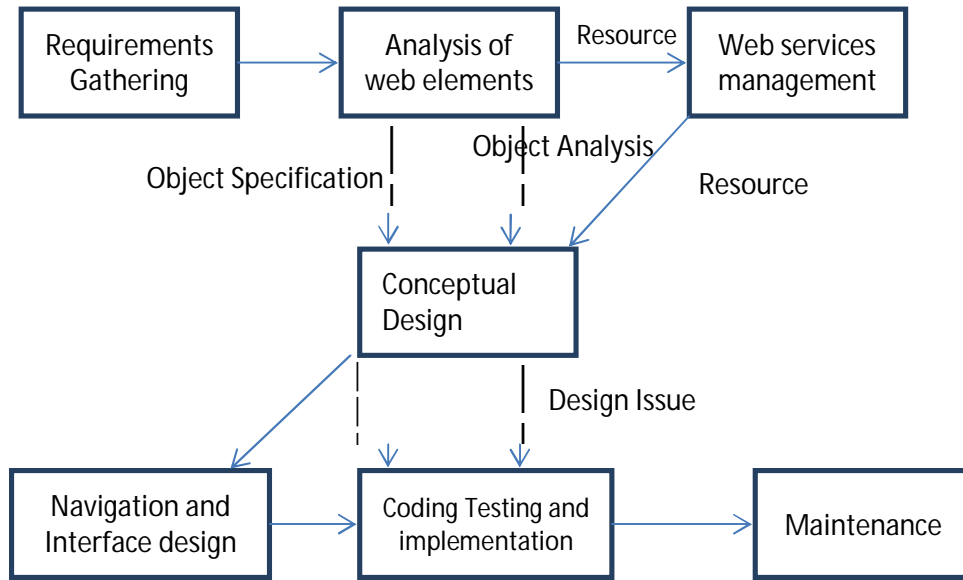


Figure 1: Proposed Z- model

**Feed Back path in Z-Model:**

Another important part of this model, which will relate to the three phases of the model. When we are at the design site we can review the development site. Similarly at the time of coding we can review the design phase. The Z-Model is based on software development oriented, that when web page is designed simultaneously, it evaluates the element properties and customer suggestion and then it goes for conceptual design. At conceptual design it may go for testing and take advantage of Navigation and Interface design. The above model has the Feed Back Paths. As it shows the feed back path it helps for the better design of process.

Defining a feed back path provides a mechanism for iterative development of work products. The feed back path allows for planning, qualification and control of the rework effort the feed back path define all the necessary.

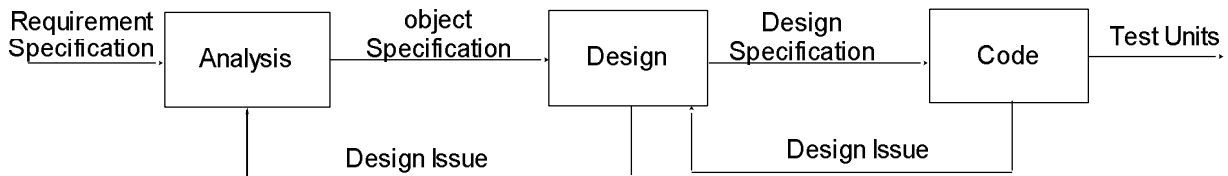


Figure 2: Feedback path from Design to analysis and code to design

**Application of Z-Model:**

- ✓ The maintenance cost can be reduced by the model as it collects the information before the designs of site and utilizes the feedback path.
- ✓ This model is best suitable for application like where there are multiple web informations available for user but still only one web site can be accessed at a given point of time.
- ✓ The appropriate information is very difficult to achieve.
- ✓ By utilizing any web the suggested model can provide better solution and more web services to user.

## VI.CONCLUSION

Z-Model can be used to create an application environment with framework that allows the seamless introduction of new technology. It provides an excellent approach to test such a framework. The evolution of the wireless Application environment to include services such as technology, messaging, synchronization and persistent storage further provides an excellent set of uses.

## REFERENCES

- [1] Web Application Models are more than Conceptual Models Gustavo Rossi 1,3, Daniel Schwabe2 , Fernando Lyardet1
- [2] Systematic Hypermedia Application Design with OOHDM.proc.ACM conference on Hypertext.pp.166.1996 SchwabeD.,Rossi G. and Barbosa D.J.
- [3] Melia, S., Gomez, J.The Web Approach: Applying Model Driven Engineering to Web Applications.J.Web Eng.,
- [4] Schwabe, D.: Rossi, G.; "An Object Oriented Approach to Web-Based Application Design", Theory and Practice of Object Systems4 (4), J. Wiley, 1998.
- [5] OMG.Model Driven Architecture.ATechnicalPerspective.Object Management group, January 2001. OMG document ab/2001-01-01.
- [6] 4. M.Flower: Application Views: Another technique in the analysis and design armoury",JOOP, Vol 7 N 1.,pp-59-66
- [7] Models Oscar Pastor,JoanFons and VincentePelechano OOWS: A Method to Develop Web Applications from Web-Oriented Conceptual.
- [8] Koch, N., Kraus, and A.: Towards a commonMetamodel for Development of Web Applications.Proc.of 3<sup>rd</sup> Int. Conf. on Web-Engineering (ICWE 2003), July 2003.