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A Development Process to apply Web Engineering Methodology and Web Server System Construction

Man-Joong Kim

*Dept. of Computer Science Graduate School of
Pukyong National University*

Abstract

Within a short period, the internet and World Wide Web have become ubiquitous, surpassing all other technological developments in our history. They've also grown rapidly in their scope and extent of use, significantly affecting all aspects of our lives.

Web site may be nothing more than a collection of documents that is retrieved from a remote file server. Once functionality-collecting user information with a form, providing an online game-is added to the site, the site is no longer a collection of static page. Web-based systems change and grow rapidly in their requirements, contents, and functionality during their life cycle much more than what we had normally encountered in traditional software information, and engineering system. It can actually be thought of as a program. Not all of a web site may be deemed software; many parts may be considered more document.

The web engineering process begins with formulation-and activity that identifies the goals and objectives of the WebApp. Planning estimates overall project cost, evaluates risks associated with the development effort, and defines a development schedule. Analysis establishes technical requirements for the WebApp and identifies the content items that will be incorporated. The engineering activity incorporate two parallel tasks: content design and technical design. Page generation is a construction activity that makes heavy use of automated tools for WebApp creation,; and testing exercises WebApp navigation, attempting to uncover errors in function and content, while ensuring that the WebApp will operate correctly in different environments. Web engineering makes use of an iterative, incremental process model because the development timeline for WebApps is very short. The umbrella activities applied during software engineering work- SQA, SCM, project management- applyto all Web engineering projects.

This paper describes the difference between software engineering(SE) and web engineering(WE), the development process of web-based system, development methodology of web-based systems and construction example that apply web engineering.

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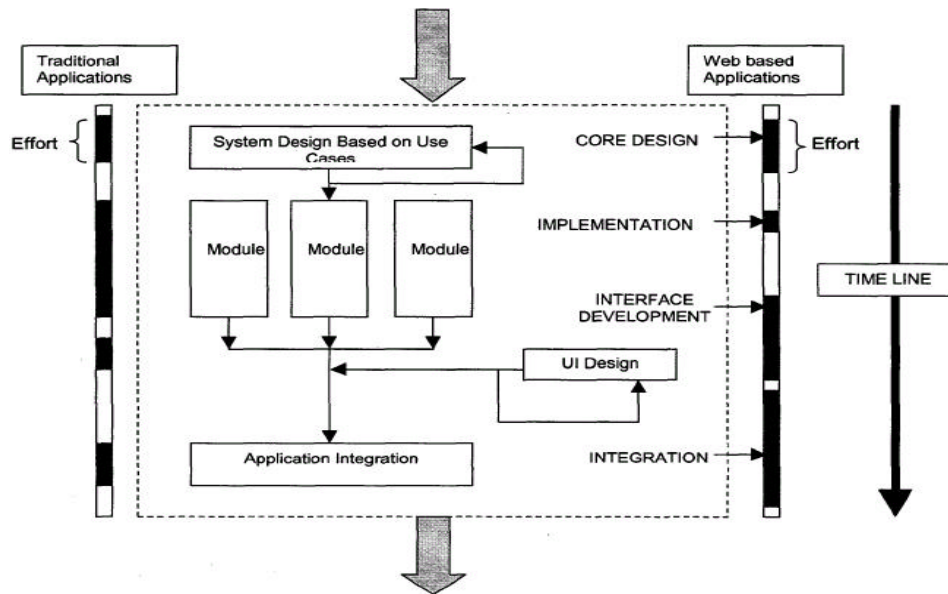
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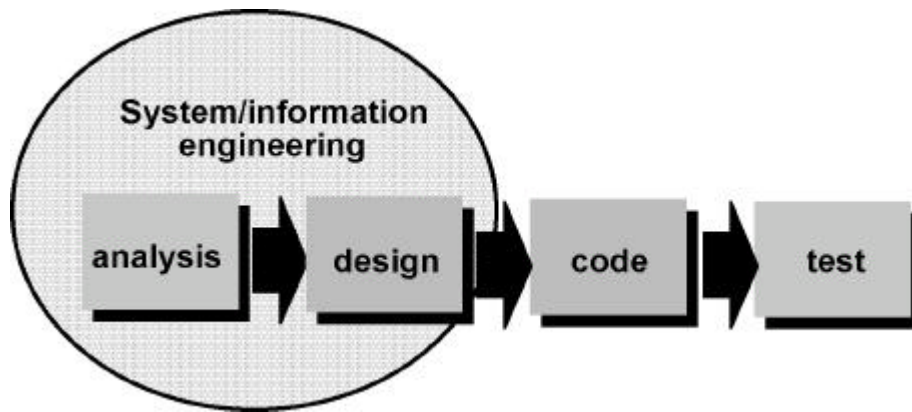
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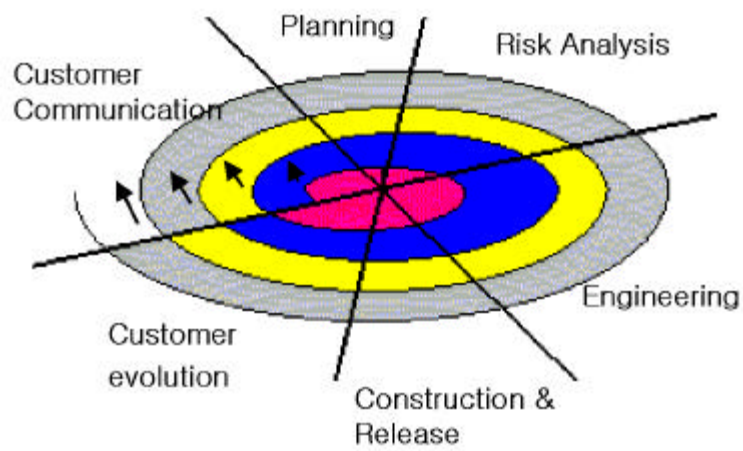
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3.1.2 Prototyping Model



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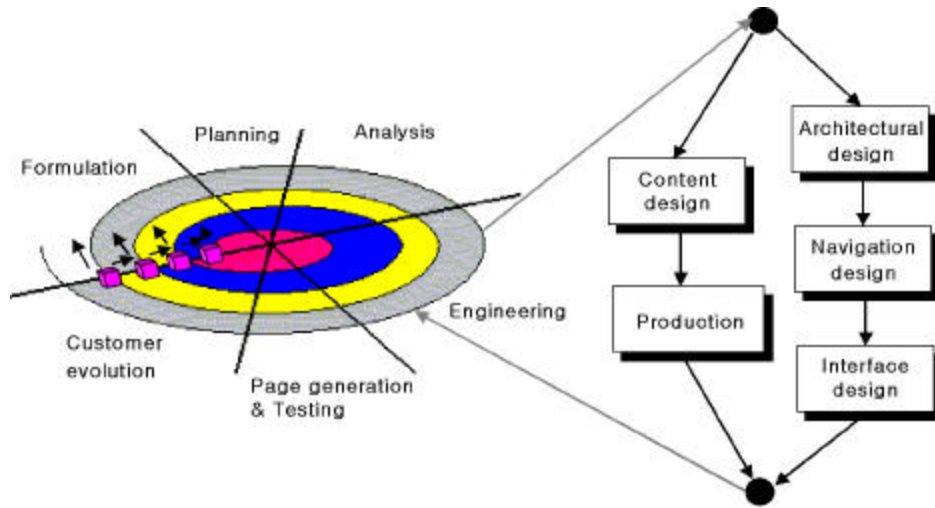
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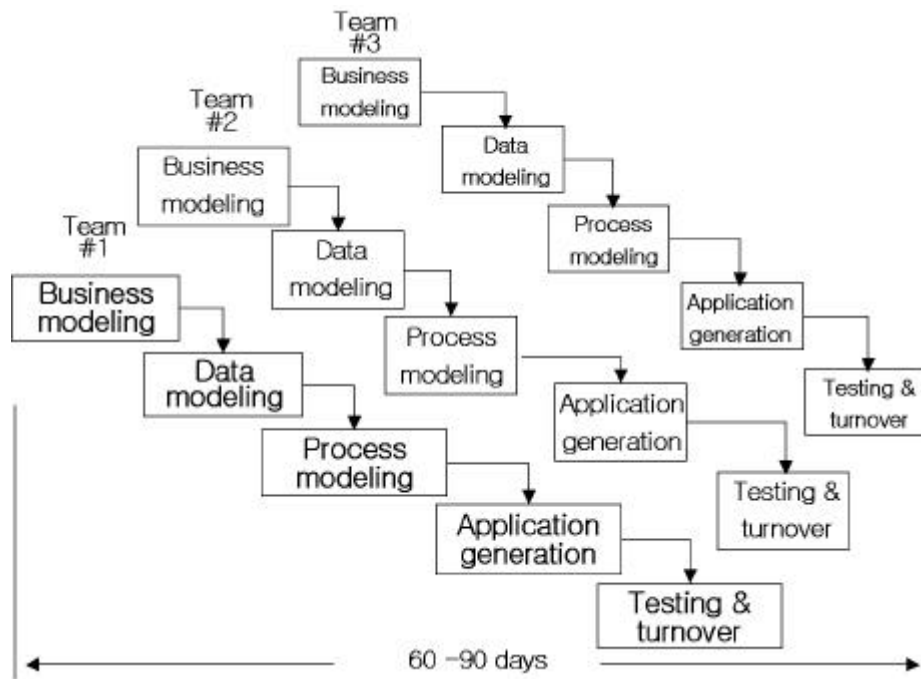
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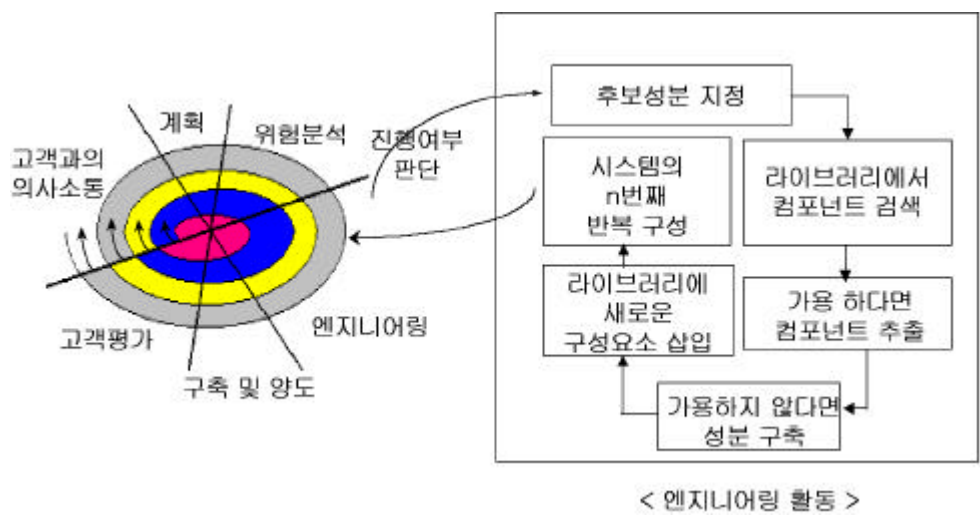
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(2) (Data Modeling) :

(3) (Process Modeling) :

(4) (Application Generation) :

(5) (Testing & Turnover) :



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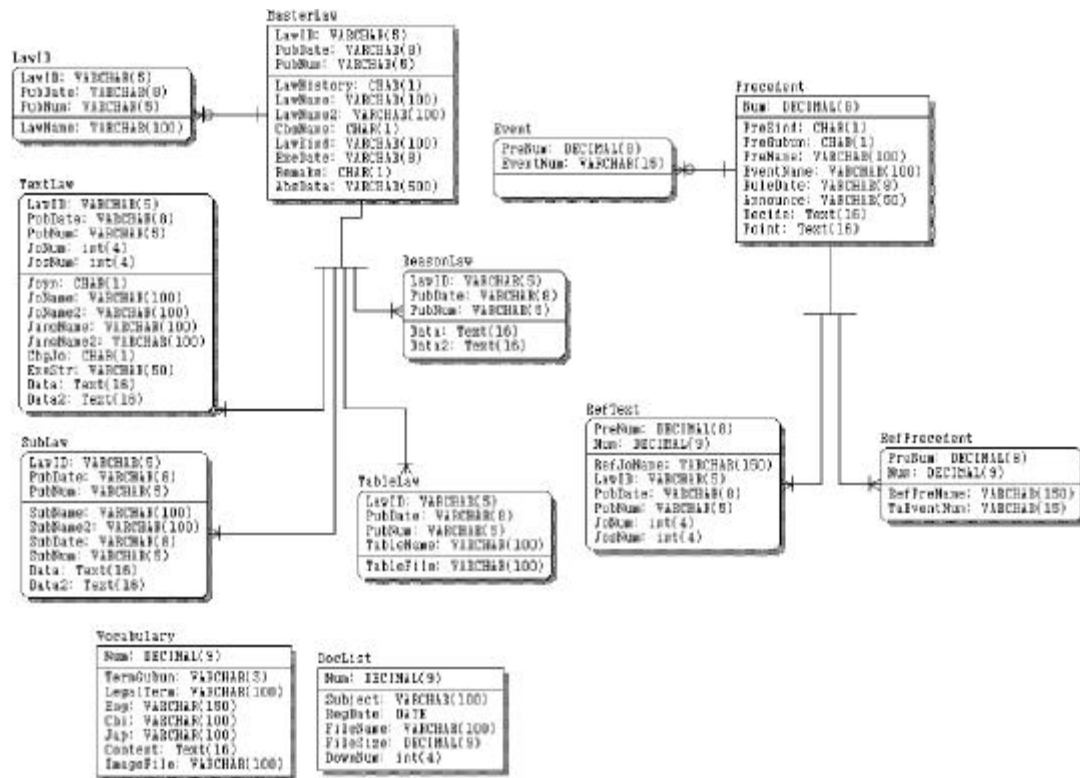
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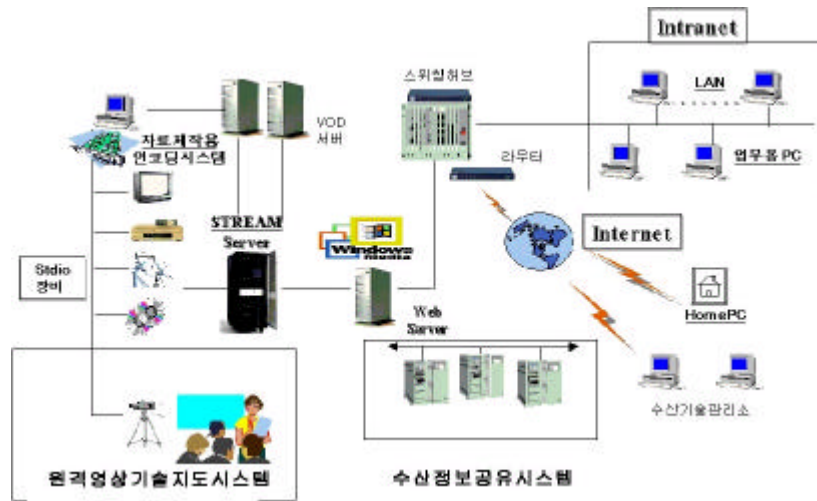
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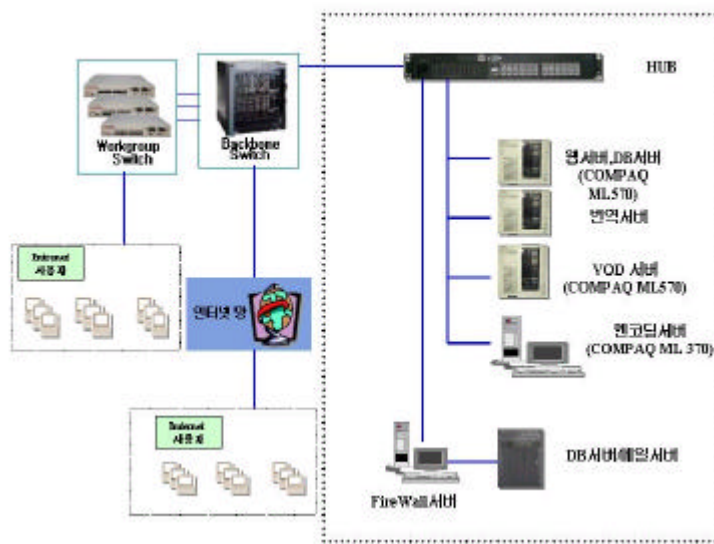
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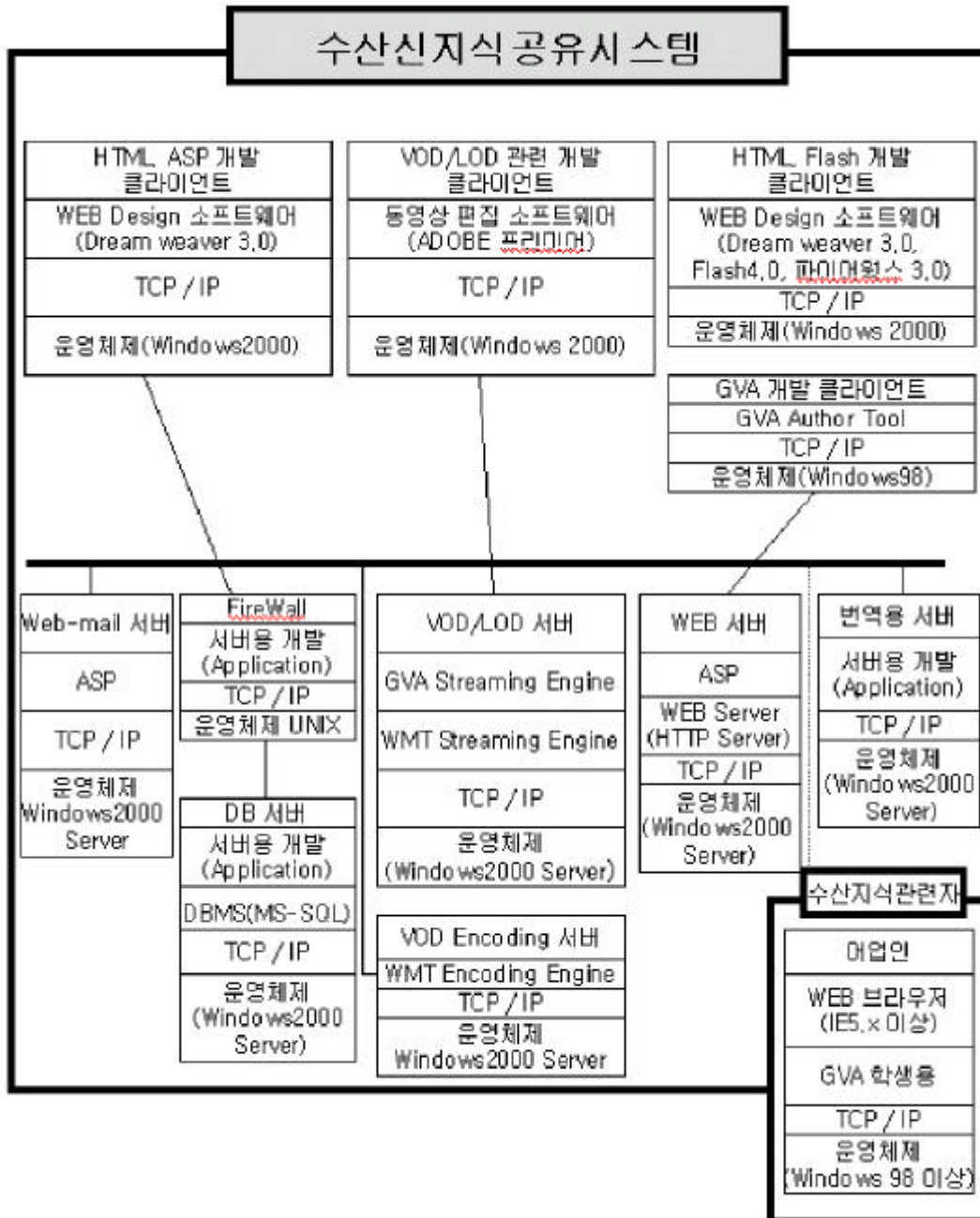
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Softw are	
O/S	MS Windows 2000Server 5User
DBMS	MS- SQL 2000 Server
	IIS 5.0
	ASP 3.0, Visual Basic 6.0
	GVA - Stand- Alone - - On/ Off- Line

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- [1] Athula Ginige, San Murugesan, "Web Engineering: an Introduction",
IEEE Multimedia, Volume: 8 Issue: 1, pp14- 18, Jan.-March 2001
- [2] Athula Ginige, San Murugesan, "The Essence of Web Engineering",
IEEE Multimedia,
- [2] Christoph Kuhnke, Josef Schneeberger, Andreas Turk, "A
Schema-Based Approach to Web Engineering", Proceedings of the
33rd Hawaii International Conference on System Sciences,
pp2298- 2298, 2000
- [3] Daniel Schwabe, Rita de Almeida Pontes, "A Method-based Web
Application Development Environment", Position Paper, Web
Engineering Workshop, WWW8, 11 May 1999
- [4] David L. Jones , Dominique C. Cutts , Tomas A. Powell, "Web
Site Engineering: Beyond Web Page Design", Prentice Hall, 1998
- [5] Dimitrov E., Schmietendorf A., Dumhe R., "UML-based
performance engineering possibilities and techniques", IEEE
Software , Volume: 19 Issue: 1, pp74- 83, Jan.-Feb. 2002
- [6] Frank Maurer, Sebasten Martel, "Extreme Programming. Rapid
Development for Web-Based Applications", IEEE Internet
Computing , Volume: 6 Issue: 1, pp86 -90, Jan.-Feb. 2002
- [7] Kaoru Hiramatsu, Toru Ishida,, "An Augmented Web Space for
Digital Cities ", Applications and the Internet, 2001. Proceedings.

- 2001 Symposium on, pp105- 112, 2001
- [8] Louis Rosenfeld, Peter Morville, "Information Architecture for World Wide Web" O`Reilly, 1998
 - [9] Monika R.Henzinger, "Hyperlink analysis for the Web", IEEE Internet Computing , Volume: 5 Issue: 1, pp45- 50, Jan.-Feb. 2001
 - [10] Rahul Chaubey, J.K. Suresh, "Integration vs. Development: an Engineering Approach to Building Web Applications", Software Engineering Conference, 2001. Proceedings. 2001 Australian pp171 - 181, 2001
 - [11] Roger S. Pressman, "Software engineering: a practitioner's approach, fifth edition", McGRAW-HILL International Editions, 2001
 - [12] Yanlong Zhang, Hong Zhu, Sue Greenwood, Qingning Huo, "Quality modelling for Web-based information systems", Proceedings of the Eighth IEEE Workshop on Future Trends of Distributed Computing Systems (FTDCS.01), pp41-47, 2001
 - [13] , , , "Windows 2000 server Bible", copyright youngjin.com, 2002
 - [14] , , , , , "Web Master Bible", copyright youngjin.com, 2001
 - [15] , "Java Web Application programming Bible", copyright youngjin.com, pp42-47, 2001
 - [16] , , , "ASP 3.0 bible", copyright youngjin.com, 2000

- [17] , , , “Visual Basic Bible”, copyright
youngjin.com, 2000
- [18] “2000
” , 2001. 4
- [19] “2001
(), ()” , 2002. 1
- [20] Web engineering: creating a discipline among disciplines
Deshpande, Y.; Hansen, S.
- [21] IEEE Multimedia , Volume: 8 Issue: 2 , April-June 2001 Page(s):
82 -87