

WEB ARCHITECTURE AND INFORMATION ARCHITECTURE: EMERGING TOOLS OF INFORMATION SCIENCE EMPHASIZING RELATIONSHIP AND BASIC

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ABSTRACT

Web Architecture and Information Architecture are the most valuable term in the field of Information Science [IS]. Information Architecture and its applications changes the entire concept of web designing. Information Architecture is the categorization of information into a coherent structure, preferably one that the most people can understand quickly, if non inherently. The principle and mechanism when applied in the field of web designing and development is called Web Architecture. Web Architecture provides a meaningful and usable, clear websites arranged structured and content wise logical. Paper is talks about website, Web Architecture and Information Architecture and their each other relationship; briefly paper specially mentions the advancement of web architecture and its importance.

Keywords: Web Architecture, Information Architecture, Information Sciences, Computer Science, Web Development, Content Management, Content Development, Information Design

INTRODUCTION

Information Architecture is actually an art and science which is responsible for the expressing a model or concept of information used in activities that needs some explicit details in activities that needs some explicit details of complex systems [01, 07, 08]. Information Architecture may differ its characteristics and behavior depends upon situation. This is happens in Information Science and Information Technology field [02, 03]. In Information Science field, Information Architecture may be for manual technical writing / content management or computing based content management or development; while in the field of Information Technology, Information Architecture mainly useful in computing or electronic content management [04, 05]. Information Architecture helps in web development and web designing as hierarchical or concentric or even chaotic. Thus, it allows a website which more useful, meaningful and structured content which is easy to understand.

OBJECTIVE

The aim and objective of this study is includes:-

- To learn basic about Web Architecture and Information Architecture;
- To find out main features and characteristics of both domain;
- To find out main importance and role of Web Architecture and Information Architecture in contemporary world;
- To find out main challenges, opportunities and pre requisite of Web Architecture and Information Architecture.

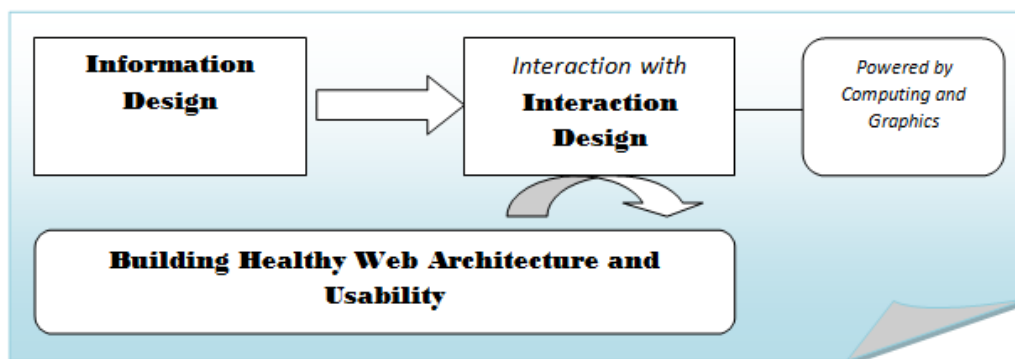


Fig.1. Depicted Information Design and its interaction with Interaction Design and ultimate result

Web Architecture and Basics

Web Architecture is actually nothing but the involvement of technical, aesthetic and functional criteria in building websites and web pages apart from user and user demand, in Web Architecture several things are essential to take care, particularly its needs, attention to web content, a business plan, usability, interactive design and Information Architecture[06, 07, 10]. In a website several contents are organized, the Web Architecture is talks about the designing and development of website on priorities on Information Architecture and content development. It is essential that the content should be clear and meaningful and arranged logically based on any criteria. Web Architecture has the potential to be a term used for intellectual discipline of organizing website content. For better search results, in Web Architecture based websites content are organized logically more than contemporary practice [11, 12]. We can not say indirectly that, a particular website is based on Web Architecture or not; by studying only home page or first page. This is just an approach and style of content writing than content development. Though it is also essential that continues web management and websites should also updated depending upon user demand and usability engineering, usability experience and Human Computer Interaction. To keep website attractive, usable and easiness these things are very much important to keep in track [13, 14].

Web Architecture and Information Architecture: Relationship

Web Architecture and Information Architecture both are important name in the field of information and computing. Virtually, Web Architecture and Information Architecture are complementary and supplementary to each other. Though in most of the cases, we would find that, application of Information Architecture in website is higher than it's opposite.

Information Architecture is applicable in the website designing, web content development and even content writing [05, 16].

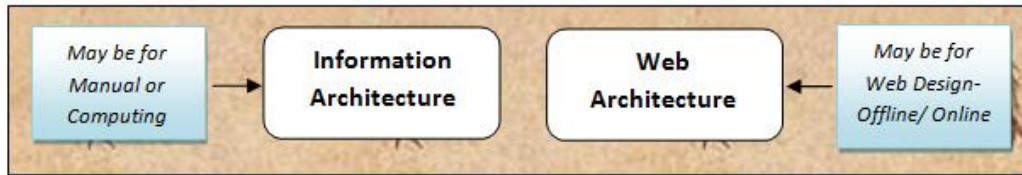


Fig. 2. Depicted broad application of Information Architecture and Web Architecture

The Human Computer Interaction play an important role for building usability and clear interface of WebPages and intranet and extranet. Here use of Information Architecture [which includes information experience design, interactive design] plays an important role [08, 17].

In the context of web information systems designing, Information Architecture plays important role for analysis and design of data stored by information systems, concentrating on entities, their attributes and their interrelationship. Information Architecture is needed for the following web systems:-

- Designing and development of simple webpages under www platform;
- Designing and development of intranet and extranet;
- Designing of homepage and search engines, more simple and optimization based;
- Webpage for electronic gadget other than computer such as mobile, notebook and TV.

Web Architecture: Static and Dynamic Architecture and Design:-

Web Architecture plays an important role for both static web development and designing as well as dynamic web pages and websites. Static web pages are kind of webpage which are delivered to the user exactly as stored, in contrast to dynamic web pages which are generated by a web application. In most of the cases static websites are developed by the HTML and uploaded in the web server over http.

Web Architecture plays a valuable role for modern usable dynamic websites which are based on DHTML, Php, CSS, Dreamweaver and so on. The main disadvantages of not implementing Web Architecture are- any personalization or interactivity has to run client side which is restricting, main thing paper and large pages with out logical arrangement Web Architecture and its application in the field of dynamic website building provides following things:-

- To design webpage based on simplicity and clarity;
- To utilize information loaded or uploaded on webpage;
- To find out information efficiency and thus it saves time to search the required information;
- To fulfills the aim and objectives of the concerned website and webpages;

- To help general information seeker and common man who are new to web uses to find out his/her needed information.

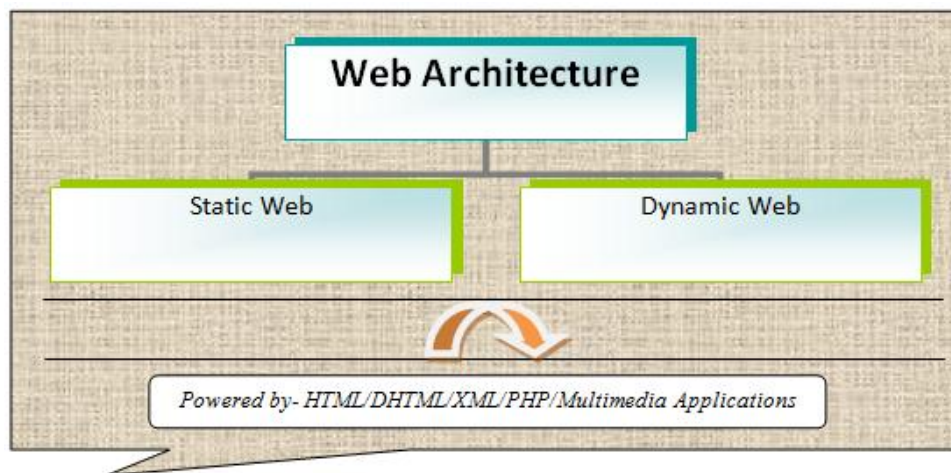


Fig.3. Depicted Static and Dynamic Web sites powered by healthy Web Architecture practices

SUGGESTION

- Information Architecture is more and more needed in Web Architecture than its opposite;
- Better utilization of information and content are possible with the help of Web Architecture and Information Architecture;
- Information Architecture is much more important in better usability fulfillment, resource utilization;
- Still practice on Information Architecture is very less in content and web development industries in most of the developing countries.

SUGGESTION

- For better information representation; general document and content development as well as information systems development needs Information Architecture affiliation[20, 21, 24];
- It is essential to launch programme on Web Architecture and Information Architecture as workshop, seminar, conference and even educational programme may be started in IT/CSE and separately is programme [09, 25, 28];
- Apart from dynamic, it is better to introduce Information Architecture in static webpages [10, 30].

CONCLUSION

Web Architecture is coming within the scope of aesthetes and critical theory and this trend may accelerate with the advent of the semantic web and web 2.0. Better usable and clean,

meaningful websites are possible with solid Information Architecture practice in the website development [09, 15, 31]. Information Architecture may helpful in entire web based information systems and even manual information systems and content management systems. The ‘information are for use’- this law of information science is possible with better Information Architecture practice and utilization.

REFERENCES

1. Cohen, E. B. (2004). Applying the Informing Science Framework to Higher Education: Knowledge Development, Management, and Dissemination. Konferencja Pozyskiwanie wiedzy i zarządzanie wiedzą (Proceedings of the Knowledge Acquisition and Management Conference) May 13-15, 2004 Kule, Poland.
2. Cohen, Eli B. and Nycz Malgorzata (2006). Learning Objects and E-Learning: an Informing Science Perspective. Interdisciplinary Journal of Knowledge and Learning Objects Volume 2, 2006
3. Martin, S.B. (1998). Information technology, employment, and the information sector: Trends in information employment 1970–1995. Journal of the American Society for Information Science, 49(12), 1053–1069.
4. Michael Buckland and Ziming liu (1995).History of information science. Annual Review of Information Science and Technology vol. 30: 385-416.
5. Prantosh Kr Paul, Kalyan Kumar “Green Computing Vis-à-Vis Information Science - Indian Perspective” International Journal of Computer Science and Engineering Systems, 06(04), October 2012, Page-167-171, CSES International, ISSN 0973-4406, July-Dec, 2012, Serials Publications, New Delhi, India
6. Prantosh Kr. Paul, KL Dangwal, (2012) “Green Computing: Opportunities and Problems in the perspective of Developing Countries” Asian Journal of Applied Science and Technology, 01(04), Page- 15-19
7. Paul, Prantosh Kumar, Dipak Chaterjee and Bhaskar Karn(2012) “Cloud Computing: Issues and challenges with probable solution in Indian Perspectives” *IJIDT* International Journal of Information Dissemination & Technology,MMU,Ambala. Vol-2 .No-2.
8. Paul, Prantosh Kumar, Dipak Chaterjee and Bhaskar Karn(2012) “Cloud Computing: emphasizing its possible roles and importance in Information Systems and Centers” in IEM/IEEE sponsored international conference proceedings (IEMCON-12). P-345-348. [indexed, abstracted in Google Scholar[USA], Cite Ceer, EBSCO]
9. Paul, Prantosh Kumar, Dipak Chaterjee and Bhaskar Karn(2012) “Information Science Education and Research: emphasizing contemporary Indian scenario- an overview” in IEM/IEEE sponsored international conference proceedings (IEMCON-12). P-349-353.
10. Prantosh Kumar Paul , Dipak Chaterjee , K V Sridevi , K L Dangwal , (2012) “Computer and Information Science (CIS) Education in the Universities of India: Emphasizing Central Universities – A Brief Study” in International Journal of Marketing and Trade Policy , Page-277-284, July-Dec, 2012,ISSN-0975-6132
11. Prantosh Kr Paul , K V Sridevi, (2012) “Information Science (IS) Education: Challenges, Issues and Opportunities in Indian context” International Journals of Mathematics and Engineering with Computers, , 03(02), Page-87-93, ISSN-2230-8911,

12. Prantosh Kr. Paul, (2012) "Information Science and its increasing scope and utilization in Geo Sciences for sophisticated Sustainable Development" International Journals of Neural Networks and Applications, ISSN-0974-6048, 03(02), Page-85-89
13. Prantosh Kr. Paul, (2012) "Information Science (IS) and Information Technology (IT): Fundamentals emphasizing Comparative Study" International Journal of BSP [IJBSBP], 03(01), ISSN-0975-8186, Page-33-37
14. Prantosh Kumar Paul, Ashok Kumar, Dipak Chatterjee (2012) " Health Informatics and its Practice: Emerging Domain of Information Science-Indian Scenario" in Current Trends in Biotechnology and Chemical Research, 02(02), Page- 83-87
15. Paul, Prantosh Kumar , D Chatterjee, M Ghosh(2012) "Medical Information Science: Emerging Domain of Information Science and Technology (IST) for sophisticated Health & Medical Infrastructure Building — An Overview" in International Scientific Journal of Sports Science 01(02), Page-97-104, ISSN-2277-2804
16. Reichman, F. (1961). Notched Cards. In R. Shaw (Ed.), The state of the library art04(01), pp. 11–55). New Brunswick, NJ: Rutgers, The State University, Graduate School of Library Service.
17. "Berners-Lee on the read/write web". BBC News. 2005-08-09. <http://news.bbc.co.uk/2/hi/technology/4132752.stm>. Retrieved 2012-08-05.
18. DiNucci, Darcy (1999). "Fragmented Future" (pdf). *Print* **53** (4): 32. http://darcy.com/fragmented_future.pdf.
19. Idehen, Kingsley. 2003. RSS: INJAN (It's not just about news). Blog. Blog Data Space. August 21 OpenLinkSW.com
20. Idehen, Kingsley. 2003. Jeff Bezos Comments about Web Services. Blog. Blog Data Space. September 25. OpenLinkSW.com
21. Knorr, Eric. 2003. The year of Web services. CIO, December 15.
22. "John Robb's Weblog". Jrobb.mindplex.org. <http://jrobb.mindplex.org/2003/08/16.html>. Retrieved 2011-02-06.
23. O'Reilly, Tim, and John Battelle. 2004. Opening Welcome: State of the Internet Industry. In San Francisco, California, October 5.
24. Sourav Maitra, A C Mondal, 'Web Technology Enhancement: Accomplishments and future Research Direction in Proceedings of NaCCS-2012, ISBN-978-93-80813-18-9 Page-236-241
25. Rupose some, 'A survey on Web Data Mining and Future Directions in Proceedings of NaCCS-2012, ISBN-978-93-80813-18-9 Page-20-23
26. Waydande, H.S. and Medha V Joshi, "Web Design for Librarians in Science and Technology" in the Twenty First century in T Ashok Babu (Eds.) Vision of FLIS, ISBN-978-81-309-0816-8, Page-144-148.
27. Saracevic, T. (1996). Relevance reconsidered. Information science: Integration in perspectives. In Proceedings of the Second Conference on Conceptions of Library and Information Science (pp. 201–218), Copenhagen, Denmark: Royal School of Library and Information Science.

28. Saracevic, T. (1975). Relevance: A review of and a framework for the thinking on the notion in information science. *Journal of the American Society of Information Science*, 26(6), 321–343.
29. Saracevic, T. (1979a). An essay on the past and future of information science education. I. Historical overview. *Information Processing & Management*, 15(1), 1–15.
30. Saracevic, T. (1979b). An essay on the past and future of information science education. II. Unresolved problems of ‘externalities’ of education *Information Processing & Management*, 15(4), 291–301.
31. Vickery, B.C., & Vickery, A. (1987). *Information science in theory and practice*. London: Butterworths.
32. Wersig, G., & Neveling, U. (1975). The phenomena of interest to information science. *Information Scientist*, 9, 127–140.
33. White, H.D., & McCain, K.W. (1997). Visualization of literatures. *Annual Review of Information Science and Technology*, 32, 99–168.