Chapter 4

Quality Assurance Aspects of Web Design

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ABSTRACT

The chapter introduces the definition of usability, usability assessment techniques to be adopted during the whole application life cycle for promoting usability. Then, the chapter includes design features for evaluating e-commerce websites such as navigation, content, design, ease of use and structure features and designing usable e-commerce websites. Then the chapter discussed the user testing method followed by a case study which comprises data collection by users’ preferences, data analysis and the results. The latter in the chapter, we briefly describe the effectiveness of usability evaluation methods. Lastly, we describe the usability problem areas, strength and weaknesses on different features and sub-features of e-commerce websites followed by a conclusion.

INTRODUCTION

Due to highly suited capabilities, the World Wide Web continues to generate substantial frustration among users. The difficulty was downloading content that is text based formats, audio, video and 3D graphics. Poorly designed websites can lead to lost productivity and revenue.

Web site quality is dependent on the quality of the software. In the early years, the quality of software provided effective support to develop the websites’ performance. Nevertheless the quality assurance process became the challenges for the new discipline of website application. There were a number of experts or organizations who researched on different proposals to improve website quality, including quality frameworks, criteria, evaluation methodologies, approaches and metrics. In fact, since the website quality process became a particularly valuable topic which is ongoing and commercially researched, especially in website quality metrics. A set of metrics has been proposed for quantifying website quality

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attributes since the 2000s (Consortium 2000, Offut 2002). Although the quality of website has valuable background and been well developed in recent years, a big question is “why is the quality of websites still poor and lack of quality characteristics cause user dissatisfaction in most websites.” (Brajnik 2001, Calero 2005) There are some reasons shown below.

Web site software technologies evolve extremely fast, possibly many new software tools are developed each year. Websites blindly applied these software tools. Some of them support websites that have become very successful (e.g. YouTube, Blog and Ask.com), but some are not (Sqrum & Medaglia 2009). So these new website technologies need to be verified and may or may not be used and some may even be eliminated (e.g. Auto-refresh, image ALT). In this case, a complicated website can contain multiple elements: “massive website” is no longer exists. The application domains of websites are developing widely. Websites are becoming the preferred media instrument for information search, company presentation, shopping, entertainment, education, and social contacts. Traditional quality of websites issues does not fit the new multiple-technology website application. Based on the above factors, the new website quality features determine to establish a new website quality metric which will have more practical measurement criteria and appropriate approaches for website quality evaluation needs.

Although most prominent web sites are created by professional design firms, many smaller sites are built by consequence, web sites those belonging to non profits and small businesses often have substandard usability. What makes a high quality web site design? A crucial element in website success is usability among the different Quality factors they are functionality, reliability, usability, efficiency, maintainability, portability.

Usability is a quality attribute that assesses how easy user interfaces are to use. The word “usability” also refers to methods for improving ease-of-use during the design process. On the Web, usability is a necessary condition for survival. If the quality is poor, the user will simply leave the website and go elsewhere. Generally, there is no second chance to get a user back to the website. Therefore, in order to improve the quality of a website. The quality of a website makes a website profitable, user friendly and accessible, and it also offers useful and reliable information, providing better design and visual appearance to meet the users’ needs and expectations (Hartmann 2008). This can be done by defining the measurable website criteria (Gledec 2005). When home pages consist of address usability and incorporate other essential design criteria, it gives higher traffic, more repeat visitors and greater customer satisfaction. To attract and maintain online users, web site designers must offer interfaces that address specific needs and functions.

To consider these key points, We now review the chapters covered in sequence, section by section.

Section 1 begins with an overview of quality. Section 2 gives a brief definition of usability according to the different authors. Basic aspects of usability evaluation methods are introduced to facilitate the discussion of different types of usability evaluation methods, which include user-based, heuristic-based and tool-based evaluation methods. Section 3 provides designing issues for e-commerce websites followed by different characteristics of e-commerce websites from the users’ perspective. The role of the designing features such as navigation, content, ease of use, design and structure for evaluating e-commerce websites are explored. Section 4 illustrates a case study of the concepts introduced in section 2 and section 3 on e-commerce websites. The data collection, data analysis, and the results are described sequentially in this section. Section 5 presents the effectiveness of usability evaluation methods. Typical usability problems with different features and sub-features are described. Section 6 concludes the chapter with remarks. The references and authors’ biographies are present.
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