Chapter 20
Design Methodology for Effective User Interface Design for E-Commerce Applications

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ABSTRACT

There are many customers who shop online. Many of these users interact with the system using well-defined user interfaces only. So, there is a need to develop effective user interfaces that are more user friendly, minimize the keyboard operations, and maximize effective interaction with the system. This chapter focuses on designing effective user interfaces by considering human parameters for e-commerce applications.

INTRODUCTION

Electronic commerce is the application of communication and information sharing technologies among trading partners to the pursuit of business objectives. E-Commerce can be defined as a modern business methodology that addresses the needs of organizations, merchants, and consumers to cut costs while improving the quality of goods and services and increasing the speed of service delivery. E-commerce is associated with the buying and selling of information, products and services via computer networks. The effects of e-commerce are already appearing in all areas of business, from customer service to new product design. It facilitates new types of information based business processes for reaching and interacting with customers – online advertising and marketing, online-order taking and on-line customer service etc. It can also reduce costs in managing orders and interacting with a wide range of suppliers and trading partners, areas that typically add significant overhead to the cost of products and

services. Also, E-commerce enables the formation of new types of information-based products such as interactive games, electronic books, and information-on demand that can be very profitable for content providers and useful for consumers. The explosion in the use of electronic commerce (e-commerce) by the business sector has been tremendous since its inception only a few years ago. From governments to multinational companies to one-person start-ups, e-commerce is increasingly viewed as a key business modality of the future. Ease of transaction, widening markets, and decreased overheads are factors that make e-commerce solutions more and more attractive, as evident with the growth of online sales. Virtual enterprises are business arrangements in which trading partners separated by geography and expertise are able to engage in complex joint business activities, as if they were a single enterprise. One example would be true supply chain integration, where planning and forecast data are transmitted quickly and accurately throughout a multi-tier supply chain. Another example would be non-competing suppliers with a common customer using E-commerce to allow that customer to do "one stop shopping" with the assurance that a single phone call will bring the right materials to the right location at the right time.

Development of E-Commerce (EC) applications started in the early 1970s with electronic funds transfer (EFT), which refers to the computer-based systems used to perform financial transactions electronically. However, the use of these applications was limited to financial institutes, large corporations, and some businesses. Electronic data interchange (EDI) was then developed in the late 1970s to improve the limitation of electronic funds transfer. Electronic data interchange enlarged the pool of participating company from manufacturers, retailers, services, and others. Such systems were called Interorganizational System (IOS). An Interorganizational System (IOS) allows the flow of information to be automated between organizations to reach a desired supply-chain management system, which enables the development of competitive organizations.

The user interface design of website plays a vital role in bringing high volume web traffic to it. Therefore, web designers should give due importance to the user interface of the site which is being designed by them. The use of effective and simple user interface design will be of immense help in achieving the objectives of a website. A good user interface not only increases the site usability but also leads to the smooth completion of any task at hand thereby making everything enjoyable and flexible as per the requirements of users. A fundamental reality of application development is that the user interface is the system to the users. What users want is for developers to build applications that meet their needs and that are easy to use. Constantine (1995) points out that the reality is that a good user interface allows people who understand the problem domain to work with the application without having to read the manuals or receive training. Interface design is important for several reasons. First of all the more intuitive the user interface the easier it is to use, and the easier it is to use the cheaper it is. The better the user interface the easier it is to train people to use it, reducing training costs. The better the user interface the less help people will need to use it, reducing support costs. The better the user interface the more users will like to use it, increasing their satisfaction with the work that have done.

The design of interfaces that attempt to encompass an extensive amount of merchandise has to employ methods where the product is either display successfully in a smaller scope while retaining its informational value. When it comes to e-commerce, User Interface design makes a difference between customers who abandon their carts and the ones that place an order. Elements like high quality product images are useful to persuade users to make a purchase. Clear call to action buttons and Seamless checkouts demonstrate that graphic and intuitive design must combine to make user navigation easy to use. Attention to user interface design details like the shopping cart, images, and call to actions will increase purchases and boost customer satisfaction.

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