

Chapter 5.3

Multilingual Electronic Commerce in a Global Economy

Aryya Gangopadhyay

University of Maryland, Baltimore County, USA

Zhensen Huang

University of Maryland, Baltimore County, USA

INTRODUCTION

One of the major challenges facing organizations involved in electronic commerce (e-commerce) today is to organize and summarize information in such a way that end users can effectively and efficiently search for and analyze relevant information. Users can look for both structured as well as unstructured information in a system designed for electronic commerce. An example of structured information is the price of a specified product. Unstructured information, on the other hand, is information that is not well specified or that has multiple specifications. For example, the user may be looking for spices for cooking a shrimp dish where they can choose from a number of options. The user may have individual preferences for the selection of spices and may not know exactly how the information can be found in the system.

The problem of finding relevant information is exacerbated in global information management, especially in global electronic commerce. While globalization is presenting new opportunities for people and businesses worldwide, several challenges must be addressed in order to realize its full potential. Examples of these challenges include differences in culture and language, which can be an obstacle to unrestricted and free access of information, as well as the disorganization of the potentially precious knowledge asset. While language technology (Nirenburg, 1992; Onyshkevych & Nirenburg, 1995; Sheremetyeva & Nirenburg, 1996) is making rapid progress, much research is needed in managing and accessing multilingual information in order to reach the full potential of global electronic commerce (e.g., Malhotra, 1997, 1998). In Gangopadhyay and Huang (2000), the issue of knowledge requirements for

Figure 1a. Three modes of search in English

The screenshot shows a web interface titled "Food Market" in red. Below the title is a decorative border with the Chinese characters "中国店" (China Store) repeated. The main instruction is "Select one of the category or input a keyword." Below this, there are two green labels: "Select the category:" and "Select the subcategory:". Under "Select the category:", there is a list box containing "Meat", "Spices", and "Vegetables & Fruits", with a "Go..." button below it. Under "Select the subcategory:", there is a list box containing "Beef", "Catonese Spices", "Chicken", "Fruits", "Lamb", and "Other Spices", with a "Go..." button below it. To the right of these is a "Search by keyword:" label, a text input field, and a "Go..." button.

Figure 1b. Three modes of search in Chinese

The screenshot shows a web interface titled "食品超市" (Food Supermarket) in red. Below the title is a decorative border with the Chinese characters "中国店" (China Store) repeated. The main instruction is "请选择一个类目或输入关键词。" (Please select a category or input a keyword.). Below this, there are two green labels: "请选择类目:" (Please select category:) and "请选择子类目:" (Please select subcategory:). Under "请选择类目:", there is a list box containing "调味作料" (Seasoning), "肉制品" (Meat products), and "蔬菜水果" (Vegetables and fruits), with a "确定" (Confirm) button below it. Under "请选择子类目:", there is a list box containing "川味作料" (Sichuan seasoning), "鸡肉" (Chicken), "牛肉" (Beef), "其他作料" (Other seasonings), "水果" (Fruits), and "蔬菜" (Vegetables), with a "确定" (Confirm) button below it. To the right of these is a "按关键词检索:" (Search by keyword:) label, a text input field, and a "确定" (Confirm) button.

building information systems that operate in multiple languages has been studied. Specifically, the focus was on studying user behavior in performing various tasks in a multilingual system. In order to study user behavior and performance in a multilingual electronic-commerce setting, a bilingual electronic catalog was designed and tested by online retailers selling products and/or services to customers interacting either in English or Chinese.

BACKGROUND

An electronic catalog is a graphical user interface that presents product and/or service information to users, typically using the World Wide Web. An electronic catalog is a key component of electronic commerce that has been used for business-to-consumer commerce as well as business-to-business commerce (Adam, Dogramaci, Gangopadhyay, & Yesha, 1998; Gangopadhyay, 2002). Although the term electronic catalog might sound like an electronic extension of paper catalogs, it offers

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