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Creating Multilingual Web Content

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ABSTRACT

Any organization preparing to conduct business globally will need to create and execute a web site globalization plan. This plan involves a multidisciplinary approach to tackle a range of web site strategic and tactical initiatives. With the help of web based information systems it is easier for every firm to show its presence worldwide. Therefore in order to stay competitive organizations are forced to seriously consider their multilingual presence on web. This paper briefly discusses the challenges faced by an organization in the process of construction and implementation of multilingual web site. Further it goes on explaining the key components of true multilingual web site, detailed strategy involved in creating a successful multilingual site, and how global content management systems play an important role in maintaining multilingual web sites.

Keywords

Multilingual websites, Unicode, Framework, Content Management, Language Translation, Global business.

INTRODUCTION

Conducting international commerce by small and mid-sized organizations before the advent of Internet was not an easy task. International commerce was mostly restricted for Fortune 500 companies. These organizations had an advantage over small and mid-sized organizations in respect to size and capital. Due to this limitation small and mid-sized companies were restricted to do business within their geographical proximity. Today, the situation is different. Small and mid-sized companies have a huge opportunity for expanding their operations by doing international trade with the help of Internet technologies. Recent research shows that the United States now represents only about 20 percent of the world's Internet users (CIA 2005). As the number of people using Web all over world is increasing, everyday more and more companies are taking advantage of Web for setting up their global operations. This is forcing organization to seriously consider the option for having a multilingual e-commerce site. Unlike other types of mass media, Web sites are instantly and automatically available in every country, and organizations can present sites to virtually any Internet user in any language (Starr 2005).

This paper addresses the importance of having a true multi-lingual web site. The discussion includes the various key issues encountered by the organizations in the process of constructing a successful multilingual site, and true infrastructure of a multi-lingual e-commerce site. Section 2 of the paper addresses some of the key issues faced by the organizations in the process of building e-commerce sites in various languages. Section 3 of the paper gives an idea as to how organizations can overcome some of the designing challenges by having a true multi-lingual web site. In Section 4 we suggest a conceptual framework of global content management model used in launching a successful global e-business site. The paper concludes by providing some key recommendation for the managers involved in the creation of the multilingual sites.

CHALLENGES IN DESIGNING A GLOBAL WEB SITE

Despite all the advantages, only few global organizations have a multilingual Web site. The reasons for this low adoption are serious designing challenges faced by some of the early adopters. These challenges are 1) technology, 2) cultural, 3) dialect, 4) web site control, 5) content management, and 6) other.

Technology

This is a major issue in the construction of the e-commerce multilingual site. Software applications should be coded so that they can support and understand Asian characters. There are approximately 12000 characters in Asian languages, which are impossible to cover under current single byte character encoding system i.e. ASCII. Unicode from the Unicode Consortium

is an emerging standard for housing all the characters used in different world languages. Unicode is a superset of the ASCII character set that uses two bytes for each character rather than one. It is able to handle 65,536 character combinations rather than just 256. Unicode provides a unique number for every character, no matter what the platform, no matter what the program, no matter what the language (Coyle 2005). The Unicode Standard has been adopted by such industry leaders as Apple, HP, IBM, JustSystem, Microsoft, Oracle, SAP, Sun, Sybase, Unisys and many others. Unicode is required by modern standards such as XML, Java, ECMAScript (JavaScript), LDAP, CORBA 3.0, WML, etc., and is the official way to implement ISO/IEC 10646. It is supported in many operating systems, all modern browsers. Although Unicode is an emerging standard but it is not totally free from problems. For example Japan and China being the major Asian countries for international e-trade do not fully support the Unicode standard. Despite most of the operating system, and development tools and technologies are adopting to the Unicode standard as a default character set, surprisingly resistance in Japan remains high especially from the people who are in the business of multilingual software (Topping 2001). Languages like Arabic and Hebrew, which is written from right to left is another complicating issue. Only with the help of Unicode it is possible that browser can handle these text consistently. But still Unicode only covers world's principle written languages (Lerner 1999).

Cultural

Cultural factors such as salutations, liking, habits, color, fonts, images, navigation, and icons for any country has to be seriously considered at the time of designing a global site. For example:

- People from East Asian countries are frequently addressed by their surname.
- B2C website of Chipshot.com is tailored for Japanese, American and British, and Germans as brand-focused, price sensitive, and product descriptive respectively (Engler 1999).
- A car manufacturer in Mexico used an hiker as part of the advertisement on its web site. Hikers are usually poor people in Mexico who cannot afford a car. Therefore in Mexico it was not acceptable to show someone who wanted to be a hiker (Alexender 2001)

Dialect

Different dialects can be supported by one official language. For example:

- China official language is Mandarin but it is spoken mainly in north of China. In southern province of HongKong Cantonese dialect is spoken.
- Spanish is differently spoken in Spain, United States, and Latin America. Same word can have different meaning in different countries. For example Coche in Mexico means car and in Guatemala it means pig (Rockwell 1998)
- DHL worldwide Express used classic style of German language on their web site for customers in Germany, Austria, Switzerland and Belgium. But Austria, Switzerland, and some parts of Belgium speak a different style of German (Betts, Silwa & Disabtino 2000).

Content management

Rapid increase in the published information on web is becoming a critical problem for the entities. This is forcing organizations to use available content management systems to solve this problem. Content management system enables organizations to manage and control the large volume of information related with dynamic and interactive web sites. Most content management systems are good for managing the information published from multiple sources and locations, but to manage a web site whose content is multilingual, organizations do not have much choice. In order to manage a multilingual web site organizations are not only faced with the problem of managing the content in the original language but also it needs to coordinate the sites globally.

Other

Date format, currency, international tariffs, sales tax, bandwidth, and supply chain issues are some other vital issues faced by business entities. For example

- A CD purchased online from an U.S. Company costing \$20 resulted in \$160 in Mexico due to transportation and customs (Alexender 2001).
- Some countries like Portugal uses currency symbol to separate units from decimals like 3.524\$89 (Belge 1995).
- Also companies maintaining an international presence through Web, face bandwidth problems present in developing countries. Due to slow Internet speed connections it is sometimes very frustrating for the people to surf the web site and as a result they do not remain too long on the site.

- Retailers in Japan use cash on delivery (COD) model in contrast to credit system used by Western countries.
- Should the Web site have a decentralized, centralized or Hybrid structure of control. For example, companies like Eli Lilly use a decentralized approach whereas IBM uses a centralized approach (Yunker 2000).

INFRASTRUCTURE FOR MULTILINGUAL WEB SITE

In this section, a brief overview of technology infrastructure for multilingual website is presented, followed by a conceptual framework for managing global web content. Organizations contemplating multilingual web site must invest in the following three main components (1) International software palette, (2) Locale supported application module, and (3) Workflow engine.

International software palette

This is the first phase for globalizing a web site. This is an internationalized application in which the software code is made independent of cultural obstacles so that this application can be further used to fit in different locales. In other words when product is internationalized all the country sensitive information is removed from the code and is placed in external files. Organizations make use of "Unicode" for making a site internationalized. Internationalization makes ready the mainline software to be "locale-neutral"-by allowing the locale-specific adaptation to be contained in the external code libraries or tables and integrated at run time as calls from the mainline code (Geddes 2000).

Locale supported application module

Here the company writes a software application in the required local language by converting the text, symbols, date format and other specific information related to locale, so that it serves the purpose for the local environment. Localization is processes of translating and making culturally compatible - software user interfaces, web pages, help files, documentation, and other content for a specific language or locale (Schwartz 2000). Locale can include a state, province, city, town continent or hemisphere. For example, China+Mandarin and China+Cantonese can be two different locales.

Workflow engine

Once the site is localized there is a need to manage this large ever-changing content related with localization of the site. In other words if there is a change in the English content of the Web site it should be simultaneously updated in other languages also. To achieve this, organizations take help of various global content management systems, which integrates the whole process into a workflow. One way to achieve this is by purchasing multilingual content management software from software companies like Global Sight or SDL and contract for ongoing services with companies like Bowne Global Services or Lionbridge. Another option is to source both software and services from the vendors like e-translate, Uniscape or SDL (Schmitt 2000). Global management system helps in leveraging the global workflow and helping the e-business team to maintain a secure and smooth e-business by centralized management of multilingual Web Sites as shown in Fig. 1.

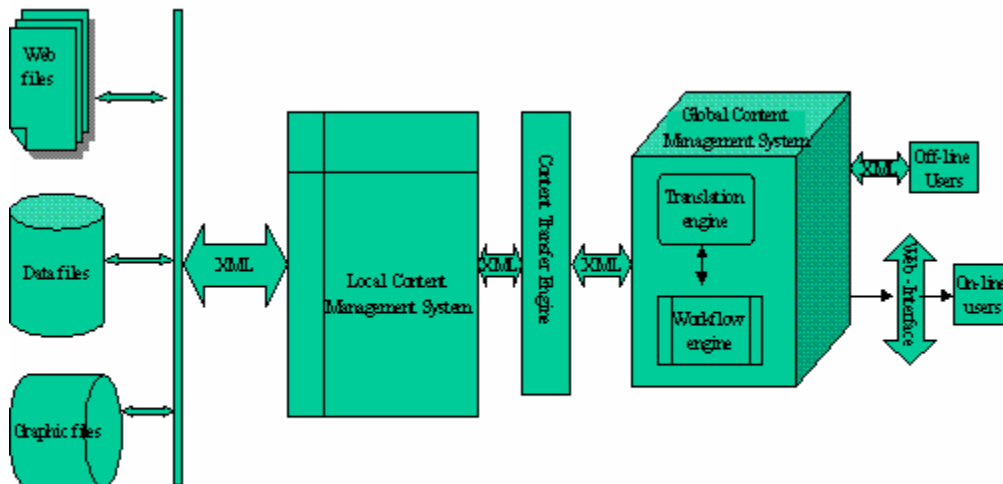


Figure 1: A Conceptual Framework for Multilingual Content Management

Global Content Management

A conceptual framework for multilingual content management system is proposed in Figure 1. This model has three main components:

1. Workflow engine
2. Content transfer engine
3. Translation engine

Content sources comprise of various data sources in different formats. It can be in the form of HTML files, JPEG files, XML files, ASP files, and so on. Any change in this content is instantly transferred to the global content management system through content transfer engine with the help of XML protocol. This content is processed and converted in a translatable format. With the help of Translation memory the content is translated into appropriate language. Workflow engine controls the whole process of work distribution and coordination between various managers. It intimates them with the actual work process plan in timely manner. Translation process is completed by sending the translated text back to the content transfer engine for updating the web site in a localized language.

CONCLUSIONS AND RECOMMENDATIONS

In summary, creating and maintaining a multilingual web-site is not an easy task. Therefore any organization preparing to go global by creating a multilingual web site should especially look for the recommendations as outlined below.

Top management support: There should be full support from the top management for globalizing a web site. Also there should be a proper coordination between top management and the global designing team. Both the sides should think in one direction. This clears the hindrance for getting adequate resources for globalization

ROI Analysis: Although it is difficult to calculate an accurate return on investment (ROI) but organization should calculate a rough estimate of the return on the investment. This will give an idea about the feasibility of the multilingual project.

Proper selection of the locale: Once the organization has a proper support of the management and adequate funds to meet the multilingual project, organization should select a target market (locale) for its project. They should select a market where they already have some presence and if they do not have any global presence then they take the help of the localization ratio mentioned above.

Localization is not literal translation: for example, the word “hotel” has different connotations in different countries- in India it means a restaurant and in Australia it means a bar or pub. Therefore organization must perform proper localization which takes into consideration appropriate language, currency, and cultural issues. Also localization helps in attracting and retaining long-term customers.

As the world is becoming more and more global everyday and technological barriers are falling, multilingual web-site will become an unavoidable task. With the increase in the number of the Web users in Europe and Asia/Pacific rim it will become necessary to launch the web site in the multiple languages. Since English is the official language of only seven countries which just captures as little as 5% of world population, it becomes tremendously important to capture another 95% to become competitive. Therefore sooner or later every organization has to take the advantage of multilingual designing. Now is the time for the organization to think and act globally. Knowing the complexity and the issues related with the project, organization should not be discouraged but should take it as a challenge. They should try to fit their multilingual project, in the three-step strategy mentioned above.

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