Designing Web Pages
Using an International (Cyrillic) Script

Over 55 % of worlds Internet population speaks language other than English and writes in a script other than Latin. The majority of Web sites on the Internet are written in English. The idea of this Web site is to promote creation of Web pages using languages other than English and scripts other than Latin.

To create Web pages using international characters you need first to have those international characters (fonts) installed in your computer system (Fonts folder).
In Windows 98 and newer versions, some basic Cyrillic fonts are already part of the system. You can always add more fonts by loading them into the system.
Apple Macintosh operating systems, however, come in various versions. Versions sold in United States and other western countries do not have a variety of non-English fonts as part of their systems. In this case, a Macintosh user needs to load desired fonts into the system.

When international fonts are in the system, than keyboards need to be set to use those international fonts. In this site you can view information on setting keyboards for multilingual typing on Windows and Macintosh computer platforms.
The "internationalization" features of two major computer systems and five major HTML generator applications are reviewed in this site.
Two major computer operating systems (platforms) are:
Microsoft Windows and Apple Macintosh.
Five major HTML generator applications are:
Netscape Composer, Macromedia Dreamweaver, Adobe GoLive, Microsoft FrontPage, and Adobe PageMill.

Font Embedding and Cascading Style Sheets

Font Embedding

The 4.0 versions of popular Internet browsers (Netscape Communicator and Microsoft Internet Explorer) seem to offer a solution to a cross-platform font appearance problem through supporting some variations of font embedding, the technique that enabled Web developers to improve the typographic quality of their Web pages by publishing not only the Web page, but also the fonts needed to view the page (Levine, 2000, p. 721).

When fonts are embedded within the Web Page a Web developer does not need to worry about whether or not the end user has the font installed on his or her computer system; the fonts will be downloaded from the Web server.

Both major Internet browser vendors have developed their own versions of downloadable (embedded) fonts.

- Microsoft's solution is called OpenType and is based on TrueType font format.
- Netscape's solution, called Dynamic Fonts, is based on the Bitstream's TrueDoc technology.

Microsoft's implementation of font embedding enabled embedded fonts to be efficiently compressed, subranged (only characters used on the page are included), and protected from unauthorized distribution.

However, according to Levine (2000), "Internet Explorer relies heavily on the font display services of the operating system, thereby damaging portability" (p. 721).

Netscape's solution based on the Bitstream's TrueDoc technology, on the other hand, is more portable because the browser itself takes complete care of the display (Levine, 2000, p. 721). According to Snell (1995), the TrueDoc technology provided Web developers the capability of including non-Latin characters in Web pages by encoding "character shape information in one compact Portable Font Resource (PFR) file, to create a prototype Web browser that lets electronic publishers use any fonts they want to in their documents" (p. 92).

The greatest disadvantage of font embedding technology, however, is the fact that embedded fonts significantly add to the file size of an HTML document in which they are embedded. That leads to slower downloading time especially for Internet users who use dial-up modems.

Cascading Style Sheets

CSS2 is an alternative solution to the font embedding.

The solution implemented in CSS2 provided precise typographic control in HTML through detailed description, intelligent matching, and format-independent downloading of fonts. According to the official information from the W3C (1998) Web site, CSS2 is defined as: "a style sheet language that allows authors and users to attach style (e.g., fonts, spacing, and aural cues) to structured documents (e.g., HTML documents and XML applications)" (par. 1). Also, CSS2 supports downloadable fonts and significantly simplifies Web authoring and site maintenance by separating the presentation style of documents from the content of documents (W3C, 1998, par 2).

The greatest advancement that CSS2 solution has brought to Web developers was that browsers were enabled to offer choice of one of the four ways to select fonts for the presentation of HTML elements:

1. Exact matching of the font specified in the style sheet with one of the fonts installed in the system.
2. Intelligent matching of the specified font with a similar but different system font, if an exact match is unavailable.
3. Downloading of the font file over the network, if the two previous options are unavailable and if the font's URL is specified.
4. Font Synthesis to create necessary fonts on the fly based on the style sheet's font description. Some user agents [Internet browsers] may perform font synthesis only as a last resort. (Levine, 2000, p. 722).

References:

Levine, J. R. (2000). Internet Secrets®. 2nd Ed. Foster City, CA: IDG Books Worldwide, Inc.

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W3C. (1998, May 12). Cascading Style Sheets, level 2: CSS2 specification. MIT, Cambridge, MA. Retrieved on June 19, 2001, from the World Wide Web: http://www.w3.org/TR/REC-CSS2/