Introduction to XSLT

Jean-Michel HUFFLEN
LIFC (FRE CNRS 2661)
University of Franche-Comté
16, route de Gray
25030 BESANÇON CEDEX
FRANCE
hufflen@lifc.univ-fcomte.fr
http://lifc.univ-fcomte.fr/~hufflen

Extended abstract

We propose a didactic demonstration of XSLT[1] [12], the language of transformations used for XML[2] texts. We use the xsltproc program [10], built out of the libxml2 library [9]. Both are written using the C programming language and are parts of the GNOME[3] project. Both are running on Windows and Linux, but our demonstration is performed on the latter.

First, we show how to check the syntax of an XML text by means of the xmllint program, using the libxml2 library. This program can also be used to check or find out XPath[4] expressions [11].

Then, we put into action a simple stylesheet and run it by means of the xsltproc program. We demonstrate the main features of XSLT by enriching this simple program. In particular, we show that XSLT is suitable for computation, and it can also be used to produce 'simple texts' — e.g., source files for LaTeX — as well as structured documents w.r.t. XML or HTML[5].

Last, if we have time and people are interested, we can also demonstrate xsltproc's debugger.

Our show does not require any knowledge about XML and XSLT[6]. We also mention that XSLT may be used to process documents written in DocBook, an XML-based system for writing structured documents [5, 7, 13]. Besides, the nbst language [1], used to design *bibliography styles* in MlBibTeX — our multilingual reimplementation of the bibliography processor BibTeX [4], usually associated with the LaTeX word processor [2] — can be viewed as an extension of XSLT.

[1] e**X**tensible **S**tylesheet **L**anguage **T**ransformations.

[2] e**X**tensible **M**arkup **L**anguage. Readers who would like to read an introductory book to this formalism can refer to [6].

[3] GNU **N**etwork **O**bject **M**odel **E**nvironment.

[4] XPath is the language used to address parts of an XML document.

[5] **H**yper**T**ext **M**arkup **L**anguage, the language used for *Web* pages. Details can be found in [3].

[6] A didactic introduction to XSLT is [8].

References

[1] Jean-Michel HUFFLEN: "MlBibTeX's Version 1.3". TUG*boat*, Vol. 24, no. 2, p. 249–262. July 2003.

[2] Leslie LAMPORT: *LaTeX. A Document Preparation System. User's Guide and Reference Manual.* Addison-Wesley Publishing Company, Reading, Massachusetts. 1994.

[3] Chuck MUSCIANO and Bill KENNEDY: HTML*: the Definitive Guide.* 3rd edition. O'Reilly & Associates, Inc. August 1998.

[4] Oren PATASHNIK: *BibTeXing.* February 1988. Part of BibTeX's distribution.

[5] Tomasz PRZECHLEWSKI: „DocBook, praktyczne wykorzystanie standardu XML“. *Biuletyn* GUST, tom 19, strony 93–96. In *BachoTeX 2003 conference.* maj 2003.

[6] Erik T. RAY: *Learning* XML. O'Reilly & Associates, Inc. January 2001.

[7] Thomas SCHRAITLE: *DocBook*-XML — *Medienneutrales und plattformunabhändiges Publizieren.* SuSE Press. 2004.

[8] Doug TIDWELL: XSLT. O'Reilly & Associates, Inc. August 2001.

[9] Daniel VEILLARD: *The* XML *C Parser and Toolkit of Gnome. libxml.* http://xmlsoft.org. March 2003.

[10] Daniel VEILLARD: *The* XML *C Parser and Toolkit of Gnome.* XSLT. http://xmlsoft.org/XSLT. March 2003.

[11] W3C: XML *Path Language (XPath). Version 1.0.* W3C Recommendation. Edited by J. Clark and S. DeRose. November 1999. http://www.w3.org/TR/1999/REC-xpath-19991116.

[12] W3C: XSL *Transformations (*XSLT*). Version 1.0.* W3C Recommendation. Edited by J. Clark. November 1999. http://www.w3.org/TR/1999/REC-xslt-19991116.

[13] Norman WALSH and Leonard MUELLNER: *DocBook: The Definitive Guide.* O'Reilly & Associates, Inc. October 1999.