

## **Technology Review: XSL**

Businesses today struggle with changing business needs due to the continuous advances in technology. Customers are looking for real-time information for things such as shopping, banking, and job searching. Therefore, businesses continue to search for ways to provide this on-demand information in the most cost-effective way. One way businesses are accomplishing this is by the use of XML and XSL in the development of their web-based applications.

### **What is XML?**

XML (extensible markup language) is a meta-markup language that is used to exchange data between various applications. XML is customizable and is only concerned with the content and structure of the data, rather than the visual output.

### **What is XSL?**

XSL (extensible stylesheet language) is used to format and display data from an XML file. In order to achieve this, XSL consists of two components: XSL transformation (XSLT) and XSL formatting objects (XSL-FO).

First, XSLT is used to transform the original XML file into a new XSL-FO file by using the information dictated in the XSL stylesheet file. The XSL-FO file is then used to display the output of the file. XSL goes beyond traditional cascading style sheets (CSS) in that the output can be web pages, PDFs, and even sheets of paper.

Since the original XML file is not altered (like it would using CSS) the original XML file can be reused across applications and for many outputs. For example, data could be rendered for display in a web browser, PDF, printer, or PDA.

There are currently two types of tools needed in order to implement XSL: design/authoring tool and rendering/processing tool. The design tool is used to generate the XSL style sheet. The rendering tools is used to render to output file. A list of available tools is below.

### **How Are Businesses Using XSL?**

Today, many businesses are providing real-time information to its customers. Businesses, such as banks, provide customer's with real-time account information. For example, a customer may want to access and print a bank statement. In many cases, the bank statement would be rendered in HTML (perhaps with the use of CSS) and displayed on the screen. Since it is formatted for a web browser, printing is not controlled. Therefore, if the customer prints the statement formatted in HTML, words could be cut off the right side or page breaks may be in odd places, among other printing issues.

The use of XSL allows for those print items to be controlled. If the same bank statement in the example above were rendered with XSL, a printer-friendly format could be achieved.

Using the bank statement example, banks would likely have at least two different formats, one to be displayed in the web browser and one for printing. Therefore, the formatting information would be stored in an XSL stylesheet file(s) and depending on which type of display is being requested, the correct one will be rendered. That is, if the customer wants to see an online version of the bank statement, the web browser formatting would be rendered, whereas if the customer wanted to print it, the print formatting would be rendered.

## **SIDEBAR – List of Tools**

<b>Design/Authoring Tools</b>	<b>Rendering/Processing Tools</b>
<ul style="list-style-type: none"><li>• Altova StyleVision 2007</li><li>• Ecrion XF Designer 2004</li><li>• IBM XSL Formatting Objects Composer</li></ul>	<ul style="list-style-type: none"><li>• Antenna House XSL Formatter v4.0</li><li>• Apache FOP</li><li>• Ecrion XF Rendering Server 2007</li><li>• RenderX XEP Engine</li></ul>