



Introduction to XML (II) - XML Technologies

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IT Insight podcast

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XSL

(eXtensible Stylesheet Language)

- XSL was designed as a way to describe how to present XML documents
- It is made of three separate technologies
 - XSLT, a language to transform XML documents
 - XPath, a language to extract parts of an XML document
 - XSL-FO, a language to format XML documents



XSLT (XSL Transformations)

- XSLT is a language designed to easily transform XML documents into HTML, XHTML or other XML documents
- XSLT uses XPath to extract information from the original document
- It is a W3C recommendation, originally created by Microsoft
- XSLT is the most widely used part of XSL



XSLT (XSL Transformations)

Suppose that we have the following XML document:

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<catalog>
  <cd>
    <title>Confessions on a dance floor</title>
    <artist>Madonna</artist>
    <country>USA</country>
    <price>12.99</price>
  </cd>
  <cd>
    <title>Avant que l'ombre...</title>
    <artist>Mylene Farmer</artist>
    <country>France</country>
    <price>15.99</price>
  </cd>
  .
  .
  .
</catalog>
```



XSLT (XSL Transformations)

and that we need to convert it into this (HTML):

```
<html>
<body>
  <h2>My CD collection</h2>
  <table border="1">
    <tr bgcolor="#9acd32">
      <th align="left">Title</th>
      <th align="left">Artist</th>
    </tr>
    <tr>
      <td>Confessions on a dance floor</td>
      <td>Madonna</td>
    </tr>
    <tr>
      <td>Avant que l'ombre...</td>
      <td>Mylene Farmer</td>
    </tr>
  </table>
</body>
</html>
```



XSLT (XSL Transformations)

Then, we would have to use the following transformation:

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<xsl:stylesheet version="1.0" xmlns:xsl="http://www.w3.org/1999/XSL/Transform">
<xsl:template match="/">
  <html>
  <body>
    <h2>My CD collection</h2>
    <table border="1">
      <tr bgcolor="#9acd32">
        <th align="left">Title</th>
        <th align="left">Artist</th>
      </tr>
      <xsl:for-each select="catalog/cd">
        <tr>
          <td><xsl:value-of select="title"/></td>
          <td><xsl:value-of select="artist"/></td>
        </tr>
      </xsl:for-each>
    </table>
  </body>
</html>
</xsl:template>
</xsl:stylesheet>
```



XSLT (XSL Transformations)

- How do we use XSLT?
 - XSLT is supported by most current browsers and is used to nicely display XML documents
 - Java programmers can apply XSLT transformations using Xalan
 - XSLT is also currently used in brokers to transform XML messages in Enterprise Application Integration scenarios





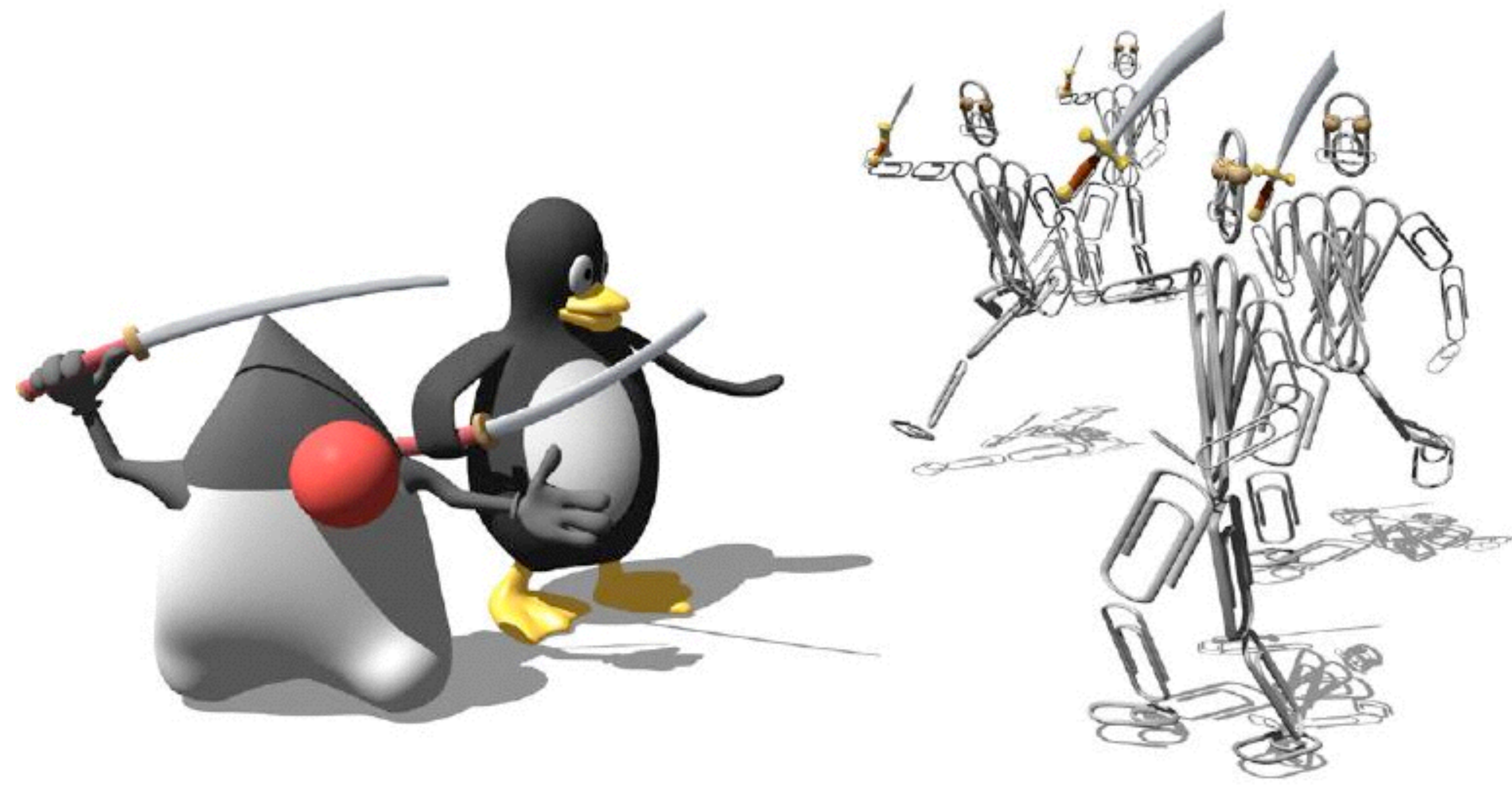
XPath

- XPath is a language used to describe parts of an XML document
- For example, in the prior example, catalog/cd was a valid XPath expression
- XPath includes a library of functions to work with all the elements of an XML document
 - Mathematical expressions
 - Logical functions



XSL-FO

- XSL-FO makes it possible to format an XML document either for viewing it on a web page or printing it
- XSL-FO is similar to HTML in that both describe how to present information To create a dynamic document you have to combine XSLT and XSL-FO
- Currently, most XSL-FO users apply this technology to generate dynamic PDF documents from XML documents
- XML-FO allows to create high quality printed documents. It is a great tool for creating printed documents that change constantly such as large product catalogs



For more information, please contact me at huibert_aalbers@mac.com