Web Technology & Programming

XSL & XSLT : TRANSFORMING XML

LECTURER: KRUNAL PATEL

ICCT ENGG. COLLEGE

NEW VALLABH VIDYANAGAR

XSL

- XSL - Extensible stylesheet language
- Style Sheets for XML documents
- XSL describes how the XML document should be displayed
- XSL consists of three parts:
  - XSLT - a language for transforming XML documents
  - XPath - a language for navigating in XML documents
  - XSL-FO - a language for formatting XML documents

XSLT

- XSLT stands for XSL Transformations

- XSLT is used to transform an XML document into another XML document, or another type of document that is recognized by a browser, like HTML and XHTML or **XSLT transforms an XML source-tree into an XML result-tree**.

- XSLT uses XPath to find information in an XML document

XSLT

- In the transformation process, XSLT uses XPath to define parts of the source document that should match one or more predefined templates.

- When a match is found, XSLT will transform the matching part of the source document into the result document

XSLT

- With XSLT we can,

  - add/remove elements and attributes to or from the output file

  - rearrange and sort elements

  - perform tests and make decisions about which elements to hide and display

XSLT

- The root element that declares the document to be an XSL style sheet is:

  <xsl:stylesheet> or <xsl:transform>

  - <xsl:stylesheet version="1.0"
    xmlns:xsl="http://www.w3.org/1999/XSL/Transform">

  - <xsl:transform version="1.0"
    xmlns:xsl="http://www.w3.org/1999/XSL/Transform">

XSLT

- Steps

  - Create XML file (filename.xml)

  - Create XSL file (filename.xsl)
    Format

  - Link XSL file to XML document
    Result

XSLT

- \<xsl:template>
  - An XSL style sheet consists of one or more set of rules that are called templates
  - A template contains rules to apply when a specified node is matched
  - \<xsl:template> element is used to build templates
  - The match attribute is used to associate a template with an XML element and to define a template for the entire XML document

XSLT

Example flow

- XSL style sheet is an XML document, it always begins with the XML declaration

- **<xsl:stylesheet>** defines XSLT style sheet document

- **<xsl:template>** element defines a template

- The **match="/"** attribute associates the template with the root of the XML source document

- Content inside the <xsl:template> element defines some HTML to write to the output

- End of the template and the end of the style sheet

XSLT

- \<xsl:value-of>

  - The \<xsl:value-of> element is used to extract the value of a selected node.

XSLT

- \<xsl:sort\>
  - \<xsl:sort\> element is used to sort the output
  - To sort the output, simply add an \<xsl:sort\> element inside the \<xsl:for-each\> element in the XSL file:

XSLT

- <xsl:if>
  - <xsl:if> element is used to put a conditional test
  - <xsl:if test="*expression*">

    ....

    ....
    </xsl:if>

XSLT

- \<xsl:choose\>
  - \<xsl:choose\> element is used to express multiple conditional tests
  - \<xsl:when\> and \<xsl:otherwise\>

  - \<xsl:choose\>
    \<xsl:when test="*expression*"\>
    .....
    \</xsl:when\>
    \<xsl:otherwise\>
    .....
    \</xsl:otherwise\>
    \</xsl:choose\>

XSLT

- \<xsl:apply-templates\>

  - \<xsl:apply-templates\> element applies a template to the current element or to the current element's child nodes.

  - Adding a select attribute to the \<xsl:apply-templates\> element will process only the child element that matches the value of the attribute.