Introducing XML

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Contents

- Defining XML and how it is used
- Interpreting XML Documents
- XSL and XPath – Style sheet languages
- DTD and XML Schema

Suggested Reading:
XML = eXtensible Markup Language

• Specification for storing information and describing its structure
• Has no built-in tags (unlike HTML)

(Example on the next page)
Example

<?xml version="1.0"?>
<my_children>
    <child>
        <name>Logan</name>
        <gender>Male</gender>
        <age>18</age>
    </child>
    <child>
        <name>Rebecca</name>
        <gender>Female</gender>
        <age>14</age>
    </child>
</my_children>
Advanced use of XML

• Use it to define a custom markup language
  – then, create documents in that language
• Data storage and transportation
  – portable between different platforms
  – XML serialization
  – XML validation
  – XML documents

• All modern browsers can read and display XML documents
Common XML Usage

• Use XML to manage and organize information
• Use XSL (extensible stylesheet language) to convert XML into HTML
• XML is also used in other applications, such as:
  – RSS (Really Simple Syndication) for subscribing to news and other feeds
  – Ajax (Rich client interface, along with JavaScript)
Who Created XML?

• The W3C organization – [http://www.w3.org](http://www.w3.org)
  – an international consortium that is responsible for developing Web standards and specifications
Interpreting XML Documents

- Custom tags cannot be understood by Web browsers
- You have to specify how an XML document should be displayed, using XSL style sheets.
  - translate XML into HTML
eXtensible Stylesheet Language has three sublanguages:

- XSLT – transforms XML docs
- XPath – navigates through XML docs, identifies elements
- XSL-FO – formats XML docs
XML Validation

• Define (validate) the structure of XML documents:
  – DTD -- Document Type Definition
  – XML Schema

• They define what tags you can use in an XML document, and what content and attributes those tags may contain
A Final XML Example

```xml
<?xml version="1.0"?>
<ancient_wonders>
    <wonder>
        <name language="English">Colossus of Rhodes</name>
        <name language="Greek">Κολοσσός της Ρόδου</name>
        <location>Rhodes, Greece</location>
        <height units="feet">107</height>
        <main_image filename="colossus.jpg" w="528" h="349"/>
        <!-- the research on this wonder of the world came in
            ... identified in the source tag below -->
        <source sectionid="101" newspaperid="21"/>
    </wonder>
</ancient_wonders>
```