XML

- xml is a extensible markup language
- Uses

    Transfer data

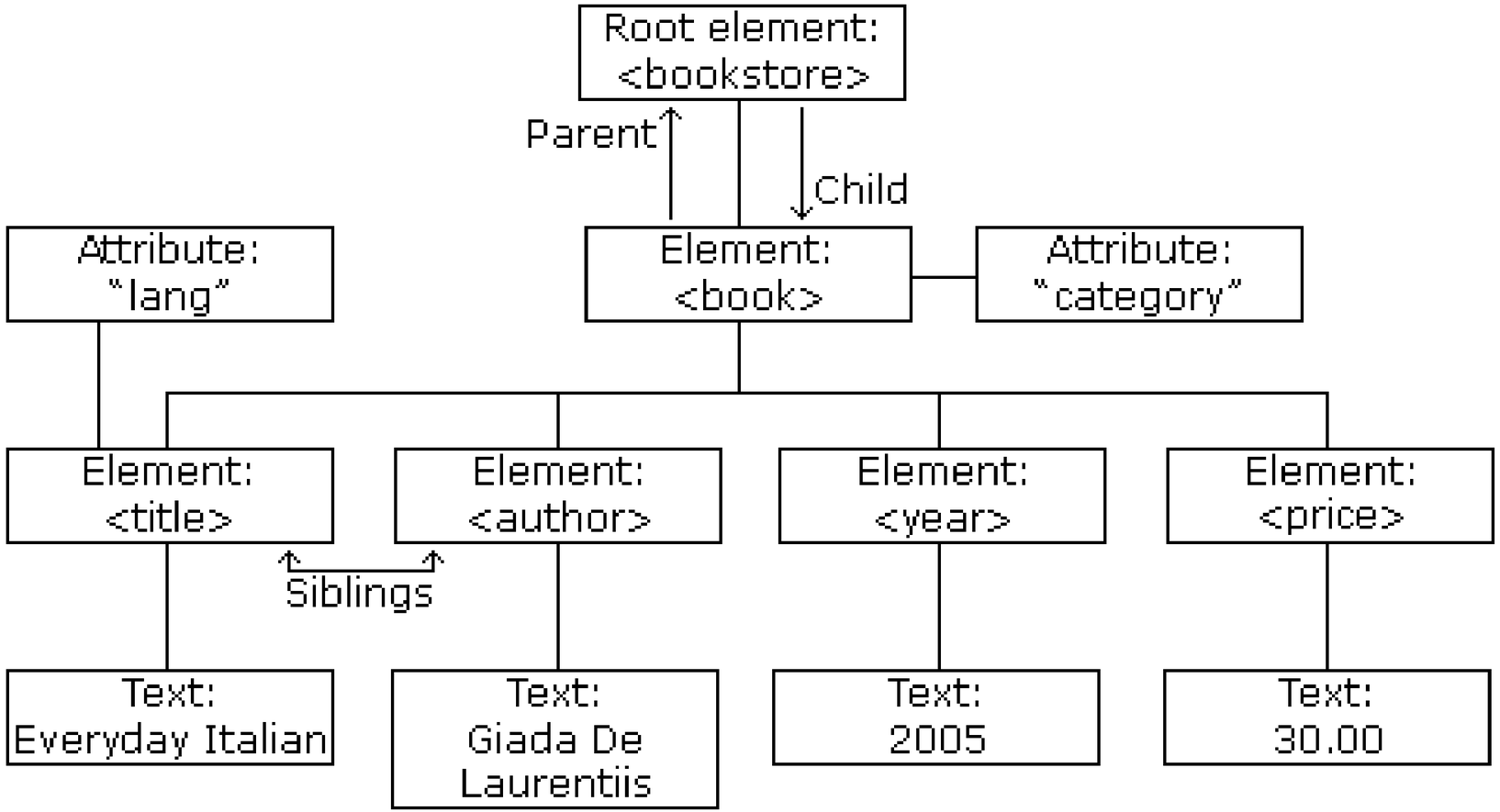
    configure framework

The Difference Between XML and HTML

XML and HTML were designed with different goals:

XML was designed to carry data - with focus on what data is
HTML was designed to display data - with focus on how data looks
XML tags are not predefined like HTML tags are

Tree data structure



Rules of xml tag

- all xml values must have a closing tag
- xml file should have a one root tag
- xml is case sensitive
- xml attributes must always be quoted

Solving the Name Conflict Using a Prefix
Name conflicts in XML can easily be avoided using a name prefix.

This XML carries information about an HTML table, and a piece of furniture:

```
<h:table>
  <h:tr>
    <h:td>Apples</h:td>
    <h:td>Bananas</h:td>
  </h:tr>
</h:table>

<f:table>
  <f:name>African Coffee Table</f:name>
  <f:width>80</f:width>
  <f:length>120</f:length>
</f:table>
```

The XMLHttpRequest Object

The XMLHttpRequest object can be used to request data from a web server.

The XMLHttpRequest object is a developers dream, because you can:

- **Update a web page without reloading the page**
- **Request data from a server - after the page has loaded**
- **Receive data from a server - after the page has loaded**
- **Send data to a server - in the background**

xpath

XPath is a major element in the XSLT standard.
XPath can be used to navigate through elements and attributes in an XML document.

- **XPath is a syntax for defining parts of an XML document**
- **XPath uses path expressions to navigate in XML documents**
- **XPath contains a library of standard functions**
- **XPath is a major element in XSLT and in XQuery**
- **XPath is a W3C recommendation**

xslt

With XSLT you can transform an XML document into HTML.

Displaying XML with XSLT
XSLT (eXtensible Stylesheet Language Transformations) is the recommended style sheet language for XML.

XSLT is far more sophisticated than CSS. With XSLT you can add/remove elements and attributes to or from the output file. You can also rearrange and sort elements, perform tests and make decisions about which elements to hide and display, and a lot more.

XSLT uses XPath to find information in an XML document.

XQuery

XQuery is to XML what SQL is to databases.

XQuery was designed to query XML data.

- **XQuery is the language for querying XML data**
- **XQuery for XML is like SQL for databases**
- **XQuery is built on XPath expressions**
- **XQuery is supported by all major databases**
- **XQuery is a W3C Recommendation**

XML, XLink and XPointer

XLink is used to create hyperlinks in XML documents.

XLink is used to create hyperlinks within XML documents
Any element in an XML document can behave as a link
With XLink, the links can be defined outside the linked files
XLink is a W3C Recommendation

What is a DTD?
DTD stands for Document Type Definition.

A DTD defines the structure and the legal elements and attributes of an XML document.

XML Schemas are More Powerful than DTD
XML Schemas are written in XML
XML Schemas are extensible to additions
XML Schemas support data types
XML Schemas support namespaces
Why Use an XML Schema?
With XML Schema, your XML files can carry a description of its own format.

With XML Schema, independent groups of people can agree on a standard for interchanging data.

With XML Schema, you can verify data.

XML Schemas Support Data Types
One of the greatest strengths of XML Schemas is the support for data types:

It is easier to describe document content
It is easier to define restrictions on data
It is easier to validate the correctness of data
It is easier to convert data between different data types
XML Schemas use XML Syntax
Another great strength about XML Schemas is that they are written in XML:

You don't have to learn a new language
You can use your XML editor to edit your Schema files
You can use your XML parser to parse your Schema files
You can manipulate your Schemas with the XML DOM
You can transform your Schemas with XSLT