

Overview of HTML and XML

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HTML

- What is HTML?
- Who created HTML?
- What is the relationship between SGML and HTML?
- What is the usage of HTML?
- What was the purpose of HTML?

What is HTML?

- HTML stands for Hyper Text Markup Language.
 - Mark up is used to describe the pieces and parts of a document.
 - The Key function of the markup is to add labels to bits of text, and based on text the output device can decide how best to format the content.

Who created HTML?

- HTML was created by Tim Berners-Lee at European Laboratory for Particle Physics (CERN) in late 1980's.
 - In 1992, Marc Anderson Created MOSAIC, first graphic interface for HTML documents at UIUC. (University of Illinois at Urbana-Champaign)

Relationship with SGML

- SGML (Standard Generalized Markup Language) was created by the folks at IBM in the 1960's.
 - SGML can truly be called the parent of HTML.
 - SGML is an International Standard that describes the relationship between a document's content and its structure.

Usage of HTML

- More than 100 Million web pages
- Supported by all major browsers
- Simple and Cheap

Purpose of HTML

- To be simple enough to support authoring of web pages.
- Rich enough to support multimedia embedding in documents
- Flexible enough to support hypertext linking

XML

- What is XML?
- What is the purpose of XML?
- What are the Advantages of XML?
- What are the *Attributes* and *Elements* of XML?

What is XML?

- XML stands for Extensible Markup Language
- XML is a markup language for documents containing structured information
- XML is a language for describing other languages

Purpose of XML

- XML was designed with some goals in mind.
 - Simple Enough for everyone to learn
 - Broad enough to support Rich Media
 - Should not have any HTML drawbacks
 - Should allow the user to create his own tags
 - should be able to interpret other languages

Elements and Attributes

■ Elements

- An XML element is made up of a *start tag*, an *end tag*, and data in between. The start and end tags describe the data in between, which is considered the value of the element. E.g. The following element is a element with the value "Boston".
- `<city>Boston</city>`

Elements and Attributes

■ Attributes

- An element can optionally contain one or more attributes. An attribute is a name-value pair separated by an equal sign (=)

- `<CITY ZIP='02115'>Boston</CITY>`

- In the above example, `CITY ZIP` is an *attribute* of the "CITY" element

HTML Example

Look at the same HTML Code shown. HTML tags are for browsing; they are meant for interactions between humans and computers.

```
<p><b>Mr. Joe Shmoe</b>  
<br>  
320 Berkeley Street  
<br>  
Boston, MA 02115</p>
```

Example Continued

When rendered, the HTML in the previous example looks like this. As you can see, HTML tags describe how something should render. They don't contain any information about what the data is, they only describe how it should look.

Mr. Joe Shmoe

320 Berkeley Street

Boston, MA 02115

Example of XML

Now let's look at some sample XML Code. With XML, you can understand the meaning of the tags. More importantly, a computer can understand them as well.

```
<address>  
<name>  
<title>Mr.</title>  
<first-name>Joe</first-name>  
<last-name>Shmoe</last-name>  
</name>  
<street>320 Berkeley Street</street>  
<city>Boston</city>  
<state>MA</state>  
<zipcode>02115</zipcode>  
</address>
```

Example Continued

XML from the previous example might be rendered like this. Notice that even though the tags are different, they can still be rendered just like HTML.

Mr. Joe Shmoe

320 Berkeley Street

Boston, MA 02115

Advantages of HTML

- HTML document browser interfaces are easy to build
- HTML is easy to learn because it is very simple.
- HTML works across systems that are otherwise unrelated
- There are some specialized structures in HTML

Disadvantages of HTML

- HTML's Simplicity - a disadvantage as well
- HTML is a weak presentation tool
- HTML is also a weak markup tool
- Linking in HTML is rudimentary
- HTML is very instable

Advantages of XML

- XML is an easy on-ramp to structured markup for HTML users
- XML is a true subset of SGML designed for use on the Internet
- It is easy to write programs that can process XML documents
- XML, like SGML, is not owned by any vendor of hardware or software
- Current XML specification is 26 pages

Disadvantages of XML

- XML requires a processing application
- In future, XML would require different browsers
- XML is comparatively new

That's it Folks !

- The END

