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Client Side	Server Side	
Helper Applications	CGI scripts and programs	
Netscape Plug-ins	Server API Programs	
ActiveX Controls	* ISAPI	
	* NSAPI	
	* Apache Modules	
Java Applets	Java Servlets	
Scripting Languages	Server-side scripting	
* JavaScript	* Active Server Pages (ASP)	
* VBScript	* ColdFusion	













Closs Title: XHTML & CSS 2 Lecture #: 5 More on Plug-in HTML syntax The <embed> tag will not validate as it is not part of the standard. The W3C suggest <object> however, it is not advisable to use this syntax for plug-ins yet since it will break older browsers. One interesting technique is to use scripting in order to test for the availability of a particular plug-in and build a page on the fly. Plug-ins may have to "talk" to each other. Netscape has called this technology LiveConnect.



Class Title: XHTML & CSS 2 ActiveX < object> Syntax • <object classid="clsid: class-identifier" height=100 width=100 id="obj1"> <param name="fontsize" value="36"> <param name="fontsize" value="36"> <param name="caption" value="hello"> <bello for non-activex users </object> • One of the big problems with ActiveX controls is knowing the CLSID values and setting all the values. This can be automated using some editors

ActiveX <object> Syntax

 Most of the attributes for <object> are similar to those for any other binary object like ALIGN, BORDER, HEIGHT, WIDTH, HSPACE, and VSPACE. There may be others including things for advanced object use in the generic sense (e.g. imagemaps), but these are not well supported.

Lecture #:

- ActiveX controls are very Microsoft specific so there may be scripting or fall through support required for other browsers.
- In future versions of HTML the <object> element may be much more generic than it already is.

Lecture #: **Java Applets** Java Applets are small applications written in Java which must run within a browser environment Java is similar to C++ but without some of the more confusing aspects · Java is platform independent (sort of) Compile source code to an intermediate form called byte code and this byte code is then run on a local system by a virtual machine. .java file translated to a .class file which is sent to the browser. Browser compiles/interprets the file for local system - Performance can be a problem with Java applets because of the compile/interpret time. Platform specific features are often desirable, but the idea of Java is to stay away from this

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- **Java Applets**
- · Java applets generally have a limited environment they can operate within called the "sandbox" No disk writes or operating system calls

 - Sandbox is being loosened because developers want it
- · Java compatibility is problematic
 - Many versions of the language
 - Serious bugs and nuances that make developing hard
 - Start up time is a big problem, not really execution speed
- · Java applets were first introduced via the <applet> element. HTML 4.0 is pushing the <object> element, though <applet> is favored for the moment.

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<applet> Element

- <applet code="helloworld.class" height="50" width="100">
 - You don't have Java my friend. </applet>
- · The markup enclosed by the element is what is rendered by browsers which don't support Java
- As an object the main attributes for this element are ALIGN, HEIGHT, HSPACE, VSPACE, and WIDTH.
- Other elements like MAYSCRIPT, ID, and NAME are useful to scripting
- Because of download speed zipped up class files JAR files are indicated with the ARCHIVE attribute

UCSD EXTENSION

class Title: / XHTML & CSS 2 <applet archive="bunchofclasses zip" code="sampleApp.class" width="560" height="270"></applet> Rather than having many specific attributes for each element the cparam name="Message" value="Hello World" /> The NAME attribute serves as the generic NAME of the parameter to be passed in. Do not confuse this with NAME on other elements which is like ID. The VALUE attribute contains the info to be passed in. It may also be useful to set VALUETYPE or TYPE to indicate the type of data being passed in. Interestingly despite the market failure of Java applets the w3c implicitly endorses them over plug-ins in HTML/XHTML syntax

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Closs fille: XHTML & CSS 2
More on Applets
Java may expose many of its methods to JavaScript for direct manipulation from the browser. This is also often called LiveConnect, though it is not specific to a particular browser vendor

See example on page 14 and 15 of Chapter 14

It is possible to use the <OBJECT> syntax for Java applets though this is not well supported.

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