

# ActiveX

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## Outline

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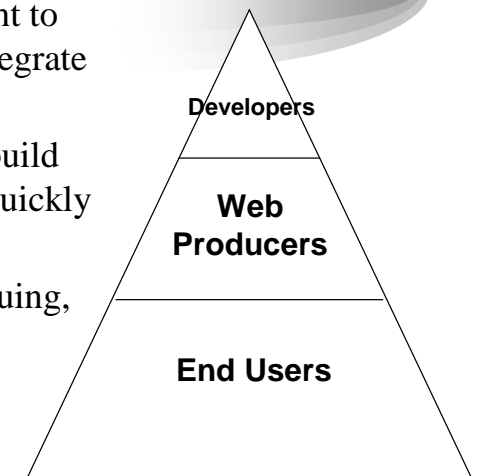
## Introduction

- ActiveX technology is changing the interaction with the World Wide Web.
- ActiveX has brought interactive objects such as animation, audio, video and virtual reality together on the Web.
- Web sites can now include user control and choice.

## Motivation For ActiveX

Bring Component-based Development to the Internet

- Software Developers - want to easily create, reuse and integrate software components
- Web Producers - want to build rich, engaging Web sites quickly and easily
- End Users - want an intriguing, exciting experience



## *What is ActiveX?*

- ActiveX is a set of technologies from Microsoft that enables interactive content for the World Wide Web, which is based on COM.
- ActiveX makes it easy to integrate and reuse any components such as HTML documents, Java Applets, Java Script and more.

## *Elements of ActiveX*

Three main elements of ActiveX are:

- ActiveX Controls
- ActiveX Scripting
- ActiveX Documents

## *ActiveX Controls*

- Are interactive objects in a Web page that provide user-controllable functions and are manipulated visually by GUI development tools.
- Provide tools for linking desktop applications to the World Wide Web .
- Programmable by other components and scripts.

## *ActiveX Scripting*

- Used as a medium to initialize and manipulate the various elements on an HTML page including forms, Java applets, and ActiveX controls from the browser or server.
- Currently available ActiveX Scripting languages are VBScript and JavaScript (default script).

## *ActiveX Documents*

- Are structured storage files that are displayed by an ActiveX component
- Enable users to view non-HTML documents, such as Microsoft Excel or Word files, through a Web browser.

## *ActiveX Documents*

- Features:
  - Use the entire client area
  - Provide printing support
  - Have menu merging and toolbars
  - Integrates existing documents into the browser or any other application.

## *Mapping Controls To HTML*

- Use the W3C <OBJECT> tag
  - <EMBED> also supported for plug-ins
- ID = name used by scripting language
- CLASSID=Globally unique identifier for the ActiveX Control
- CODEBASE = Control to download
- <PARAM> = Properties of the Control

```
<OBJECT
ALIGN=CENTER CLASSID="clsid:99B42120-6EC7-11CF-A6C7-
00AA00A47DD2" WIDTH=200 HEIGHT=200 ID=MyObject
CODEBASE="http://foo/bar/myoc.ocx#ver=4,70,0,1062">
<PARAM NAME="FontName" VALUE="Verdana">
</OBJECT>
```

## *Example of ActiveX Controls in a Web page*

```
<html>
<head>
  <title> Example ActiveX Control </title>
</head>
<body>
  <h2> Example of ActiveX control: Net Meeeting </h2>

  <object
    id="NetMeeting Application"
    classid="clsid:3E9BAF2D-7A79-11d2-9334-0000F875AE17"
    width=150
    height=75>
  </object>

</body>
</html>
```

## *Example of ActiveX Controls in a Web page*



## *ActiveX and Java*

- ActiveX controls are very similar to Java applets.
- ActiveX controls are saved to the hard drive when the page is first downloaded, whereas Java applets must be downloaded each time the page is viewed.

## *Advantages*

- Allows the creation of web pages having active content with impact that will attract and retain users.
- Can be created using a wide assortment of tools and programming languages.
- There is an existing inventory of ActiveX controls available today for immediate use.

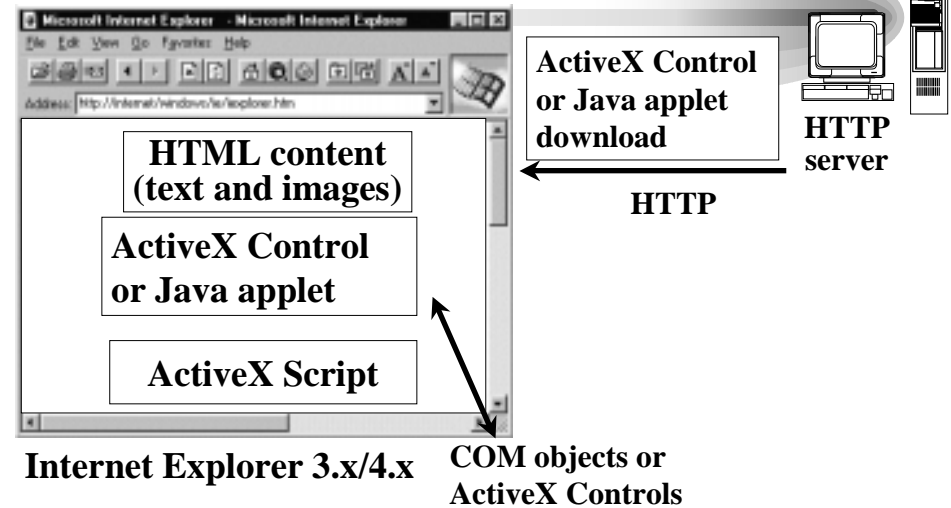
## *Advantages*

- Can be re-used in other applications, or can be used to create new controls with extended functionality.
- ActiveX components are automatically downloaded from the specified server when the page is opened.

## *Disadvantages*

- It is only supported on Intel architectures and in Internet Explorer (version 3.0 and above). Can be used in Netscape, but a third party plug-in is required.
- ActiveX components can currently only run on Windows.
- Security problems -has no restrictions to prevent controls from using resources on the user's computer.

## *User Experience: How It Works*



## *The End*

ActiveX provides exciting alternatives to designing web pages because it brings new and innovative functionality. An area where ActiveX controls have been used successfully is in company Intranets, where security is not an issue.

Examples of ActiveX controls:

<http://members.tripod.com/~activecontrol>