

Management Information Systems

Web Basics

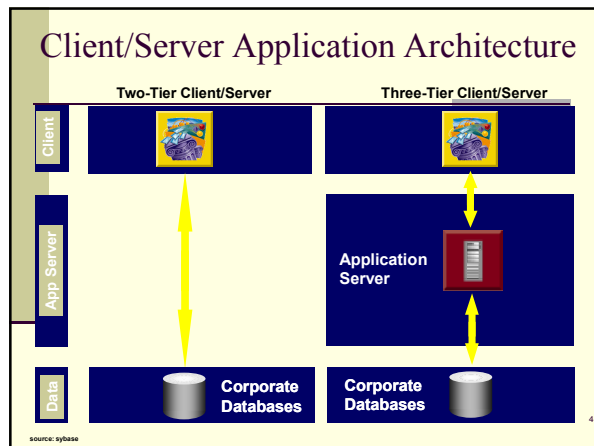
Dr. Shankar Sundaresan

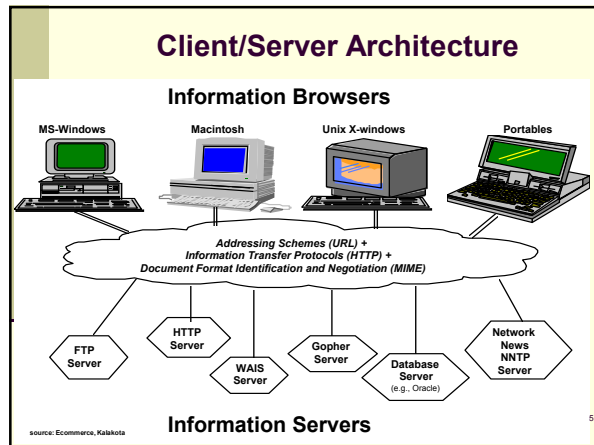
WWW Basics

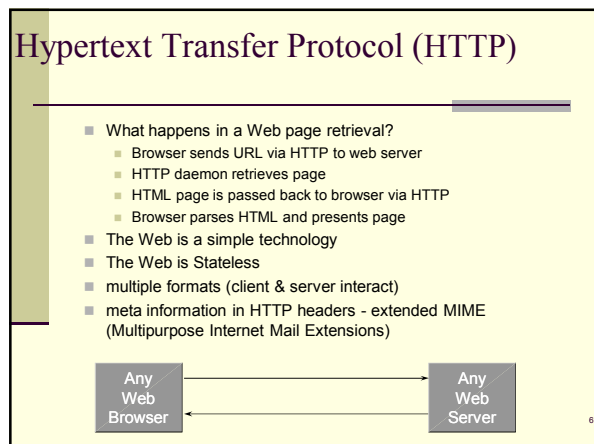
- Web Technology Concepts
- Client/Server Architecture
- Hyper Text Markup Language
- Hyper Text Transfer Protocol
- Common Gateway Interface
- Web Trends

WWW Basics

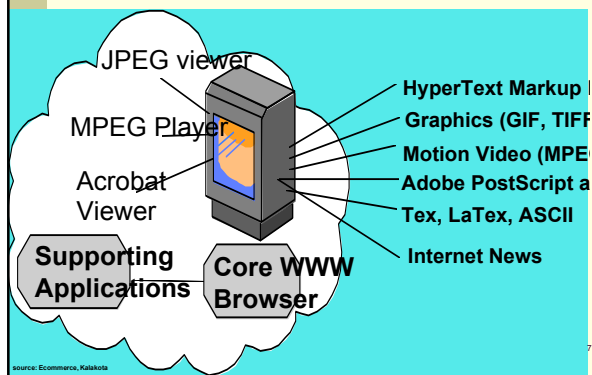
- Client-Server architecture
 - easy growth without centralized control
 - Enablers: HTTP protocol
- Universal Readership
 - common interface for reading variety of documents from any platform
 - Enablers: browsers and supporting applications
- Hypertext publishing
 - all information accessed in a consistent and simple way
 - publish and access many types of data - text, image, sound, animation, video
 - Enablers: HTML and URL







Browsers: WWW Universal Readership



Uniform Resource Locators (URL)

- compact notation for describing resources all over the Internet
- strings used as addresses of objects (documents, images, etc.,)
- multipart addresses
 - type of resource, server name, full file name
 - <http://www.ibm.com/>
 - <ftp://ftp.rutgers.edu/pub/NTE/fix.zip>
 - <news://news.rutgers.edu>
 - address may contain:
 - / for hierarchical space
 - # pointing inside a document
 - ? separator between addresses & query operation
 - Examples

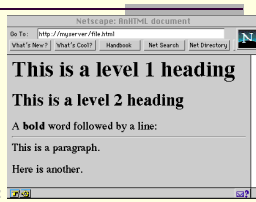
Hypertext Markup Language (HTML)

- simple page description language- logical description, not presentation oriented
- control codes are embedded in ordinary text to indicate titles, headings, graphics, hypertext links, etc.,
- HTML Forms
 - interactive web browsing
 - form structure, interaction, assembled query, directed to CGI script
- Frames
- Style sheets

9

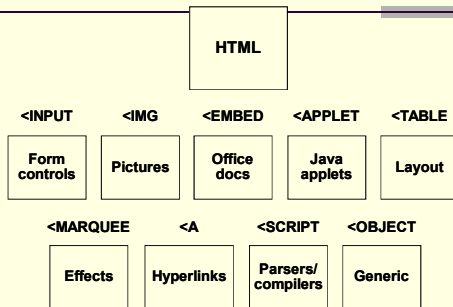
Basic HTML

```
<HTML>
<HEAD>
<!-- a comment -->
<TITLE>An HTML document</TITLE>
</HEAD>
<BODY>
<H1>This is a level 1 heading</H1>
<H2>This is a level 2 heading</H2>
A<B>bold</B> word followed by a line:
<HR>
This is a paragraph.<P>
Here is another.<P>
</BODY>
</HTML>
```



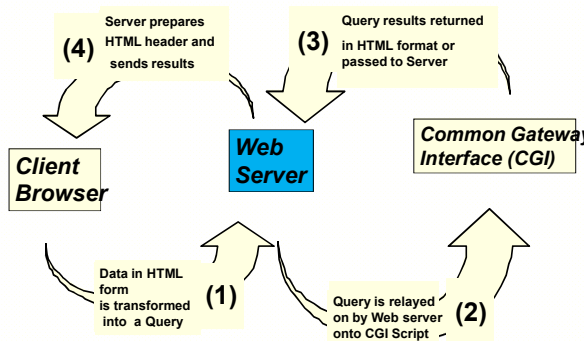
10

Extending HTML



11

CGI Form Processing in WWW



12

HTTP, Server and Client Issues

- HTTP Issues
 - Flow Control
 - HTTP/1.1 and Future versions
 - Data Formats
 - Maintaining State and User Activity
- Web Server technologies
 - Dynamically Generated web pages
 - Accessing Databases from Web forms
 - Server-side Programming Languages
 - Template Systems
 - Web Server Products
- Client Side Technologies
 - Web Browsers
 - Plug-ins and Helper Applications
 - Markup Languages
 - Content transformation and formatting
 - Client-side Programming languages

13

Emerging Trends

- Scripting
- Mobile Applets (Java)
- Capturing and Distributing Documents with Common Look and Feel (Adobe Acrobat)
- Audio/Video extensions (RealAudio, Quicktime)
- 3-Dimensional Visualization (VRML)
- Push Technology
- XML
- Software Agents
- Web Application Development
- Integration with Legacy Databases
- Web Services (Service Oriented Architecture SOA)
- Simple Object Access Protocol (SOAP)
- Non-browser clients

14

P2P networks

Napster-style: Hybrid peer-to-peer

1. Users launch Napster and connect to Napster server
2. Napster creates dynamic directory from users' personal .mp3 libraries
3. **beastieboy** enters song name
4. Napster displays matches to **beastieboy**
5. **beastieboy** makes direct connection to **kingrook** for file transfer

