

CPET 581 E-Commerce & Business Technologies

Design and Build E-Commerce Web Sites, Mobile Sites, and Apps

Lecture Note 1 of 2

References:

*Chapter 4. Building an E-Commerce Presence: Web Sites, Mobile Sites, and Apps, text book: *e-Commerce: Business, Technology, and Society*, 8th edition, 2012, by K. C. Laudon and C. G. Traver, publisher Pearson Education Inc.,

Paul I-Hai Lin, Professor
<http://www.etcs.ipfw.edu/~lin>

2/14/2012

A Specialty Course for
M.S. in Technology IT/Advanced Computer Applications Program
Burdig, University, Fort Wayne, Indiana

1

Topics

- Building an E-Commerce Presence: A Systematic Approach
- Software for E-Commerce Sites
 - Client-side Programming
 - Server-side Programming
- Choosing the Hardware
- Exampled of E-Commerce Apps

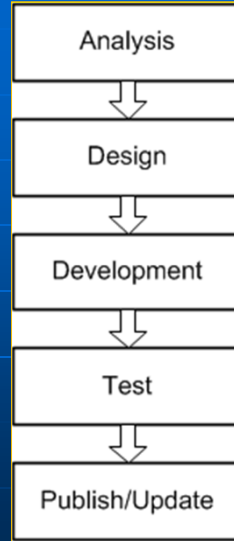
2/14/2012

CPET 581 E-Commerce & Business
Technology, Paul I. Lin

2

Design & Build An E-Commerce Site

- Web Site Design
 - Business and Services
 - System requirements
 - Modular Design
 - Web server
 - Database server
 - Application server
 - Programming Tools

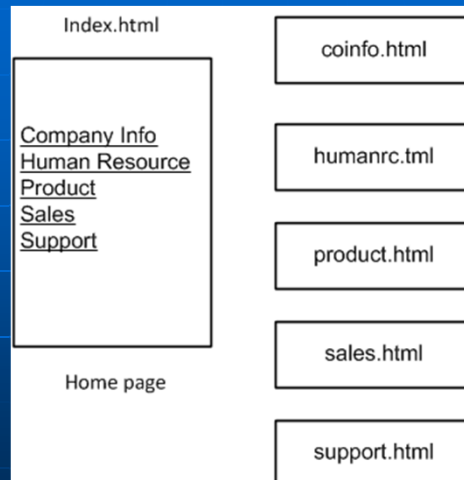


2/14/2012

CPET 581 E-Commerce & Business
Technology, Paul I. Lin

3

Design An E-Commerce Site



2/14/2012

CPET 581 E-Commerce & Business
Technology, Paul I. Lin

4

Design & Build An E-Commerce Site

- Web Site Design
 - Business and Services
 - System requirements – Analysis Phase
 - Modular Design – Design Phase
 - Presentation tier, Business logic tier, Data tier
 - Web server
 - Apache, IIS (Microsoft Internet Information Server), IBM WebSphere
 - Application server
 - JBoss, Tomcat, Oracle WebLogic
 - Database server
 - Application authoring and Programming Tools

2/14/2012

CPET 581 E-Commerce & Business
Technology, Paul I. Lin

5

Design & Build An E-Commerce Site

- Microsoft E-Commerce Server 2009, phased out
- Ascentium Commerce Server,
<http://www.commerceserver.net/Pages/default.aspx>
 - Commerce Server R2, Product Info,
<http://www.commerceserver.net/Pages/Products/Commerce-Server-Overview.aspx>

2/14/2012

CPET 581 E-Commerce & Business
Technology, Paul I. Lin

6

Design & Build An E-Commerce Site

- IBM WebSphere Commerce, <http://www-01.ibm.com/software/genservers/commerceproductline/>
 - Product editions
 - B2C and Cross-Channel Retailing
 - B2B e-Commerce
 - Marketing & merchandising
 - Social Commerce
 - Mobile Commerce
 - Etc
- IBM WebSphere Application Server, <http://www-01.ibm.com/software/webservers/appserv/was/#>

2/14/2012

CPET 581 E-Commerce & Business
Technology, Paul I. Lin

7

Design & Build An E-Commerce Site

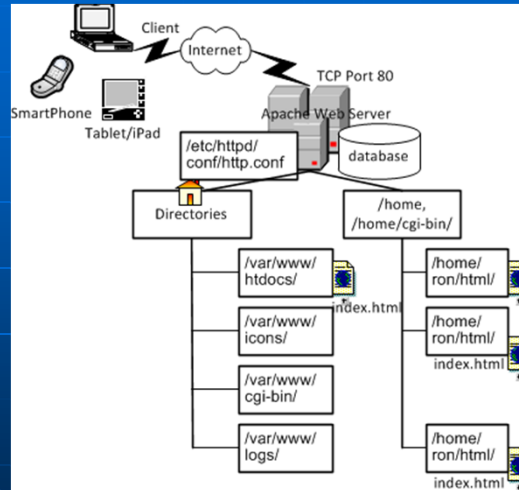
- Oracle, WebLogic Server, <http://www.oracle.com/us/products/middleware/application-server/index.html>
- Jboss Application Server, <http://www.jboss.org/jbossas>
- Apache Tomcat, <http://tomcat.apache.org/>
- Microsoft Application Server, Windows Server 2008, [http://technet.microsoft.com/en-us/library/cc754024\(v=ws.10\).aspx](http://technet.microsoft.com/en-us/library/cc754024(v=ws.10).aspx)

2/14/2012

CPET 581 E-Commerce & Business
Technology, Paul I. Lin

8

An Apache Web Server – Basic Configuration



2/14/2012

CPET 581 E-Commerce & Business
Technology, Paul I. Lin

9

Software for E-Commerce Site

- HTML (HyperText Markup Language) Web page authoring
- XML (eXtensible Markup Language) page authoring
- Common Gateway Interface programming
- Generating and parsing HTML and XML
- Creating dynamic HTML pages
- HTTP clients and server Apps
- Web site management
- Databases and Apps
- Web applications

2/14/2012

CPET 581 E-Commerce & Business
Technology, Paul I. Lin

10

Software Tools: W3C Standards

- W3C Standards, <http://www.w3.org/>
- Web Design and Applications, <http://www.w3.org/standards/webdesign/>
 - HTML & CSS, JavaScript Web APIs, Graphics, Audio and Video
 - Accessibility, Internationalization, Mobile Web, Privacy
- Web Architecture, <http://www.w3.org/standards/webarch/>
 - Architecture Principles; Identifiers: URL, URI, IRI; Protocols: HTTP, XML, SOAP (Simple Object Access Protocol), etc
- XML Technology
- Semantic Web
- Web of Services
- Web of Devices
- Browsers and Authoring Tools

2/14/2012

CPET 581 E-Commerce & Business
Technology, Paul I. Lin

11

Software Tools

- HTML
- Java Applet, Java Servlet, JSP
- JavaScript/Jscript
- AJAX (Asynchronous JavaScript and XML)
 - Microsoft AJAX Overview, <http://msdn.microsoft.com/en-us/library/bb398874.aspx>
 - Microsoft ASP.NET – AJAX: Enhanced Interactivity and Responsiveness, <http://www.asp.net/ajax>
 - AJAX Programming, http://en.wikipedia.org/wiki/Ajax_%28programming%29
- Perl (Practical Extraction and Report Language)
 - The Perl Programming Language, <http://www.perl.org/>
 - ActivePerl, <http://www.activestate.com/activeperl>
- PHP
- VB.NET, C#

2/14/2012

CPET 581 E-Commerce & Business
Technology, Paul I. Lin

12

Software Tools

- HyperText Markup Language
- HTML 4.01 Specifications, <http://www.w3.org/TR/html4/>
- XHTML2 Working Group, <http://www.w3.org/MarkUp/>
- HTML5, A vocabulary and associated APIs for HTML and XHTML, W3C, <http://dev.w3.org/html5/spec/Overview.html>
- HTML5 and Web Standards, Apple – HTML5, <http://www.apple.com/html5/>
- Java Applet, Java Servlet, JSP
- JavaScript/Jscript

2/14/2012

CPET 581 E-Commerce & Business
Technology, Paul I. Lin

13

Software Tools

- JavaScript
 - Client-Side JavaScript References, <http://docs.oracle.com/cd/E19957-01/816-6408-10/>
 - JavaScript.com, <http://www.javascript.com/>
 - Building your first Windows Metro Style App using JavaScript, Microsoft, <http://msdn.microsoft.com/en-us/library/windows/apps/br211385.aspx>

2/14/2012

CPET 581 E-Commerce & Business
Technology, Paul I. Lin

14

Server-Side Programming Tools

Server-Side Scripting/ Programming

CGI Processes

- C/C++
- Perl
- PHP
- Python
- ODBC

Java Servlet Engines

- Pool of Java Servlets
- Java Server Page (JSP)
- JavaBeans
- JDBC
- JDBC-ODBC

Internet Information Server API

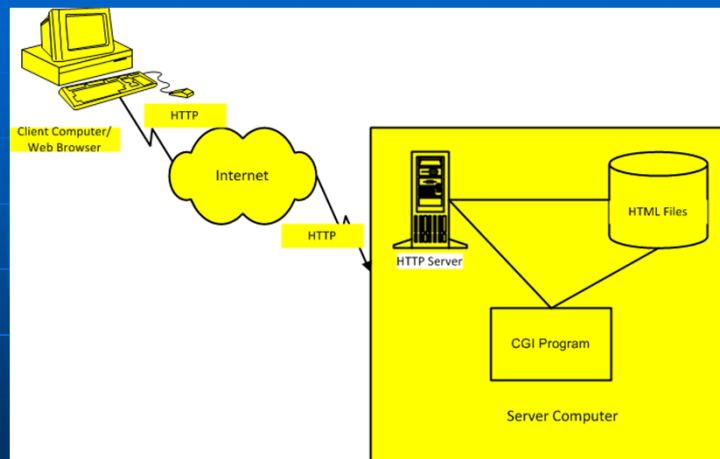
- VB.NET, C#.NET, VBScript
- IDC-ODBC

2/14/2012

CPET 581 E-Commerce & Business
Technology, Paul I. Lin

15

Common Gateway Interface

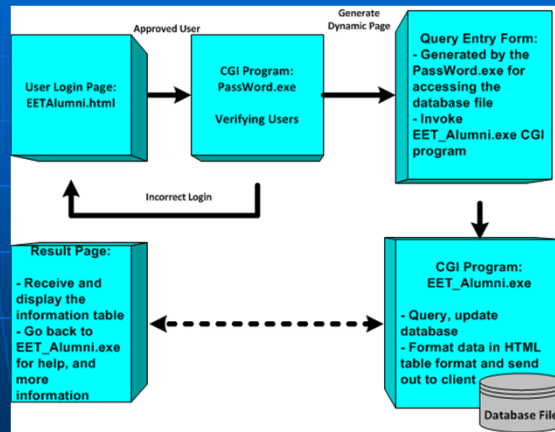


2/14/2012

CPET 581 E-Commerce & Business
Technology, Paul I. Lin

16

CGI Server Scripts: Database Query

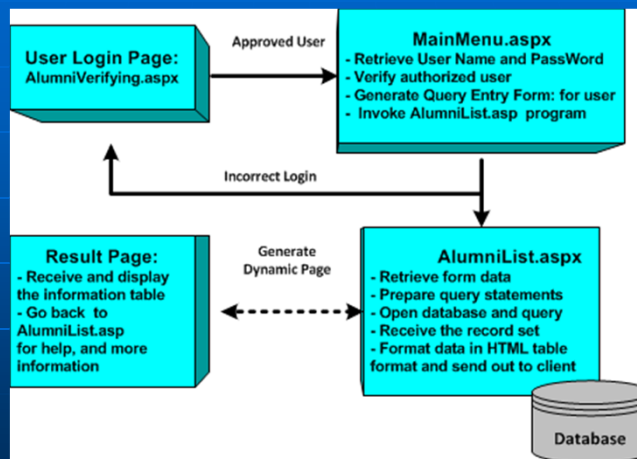


2/14/2012

CPET 581 E-Commerce & Business
Technology, Paul I. Lin

17

User Login and Authentication

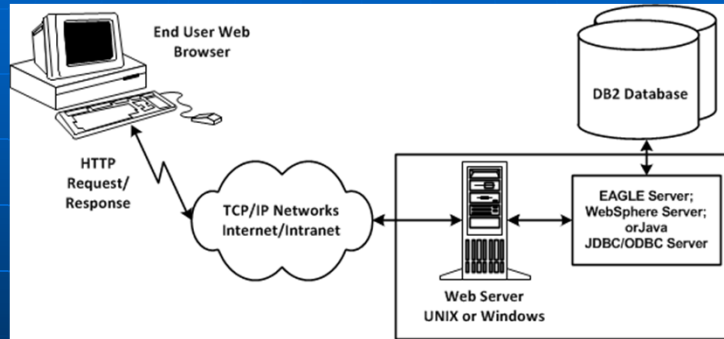


2/14/2012

CPET 581 E-Commerce & Business
Technology, Paul I. Lin

18

Database Server Interface

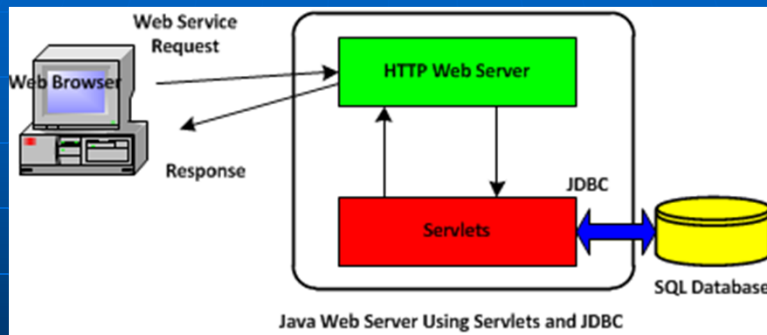


2/14/2012

CPET 581 E-Commerce & Business
Technology, Paul I. Lin

19

Java Servlets and Database Interface

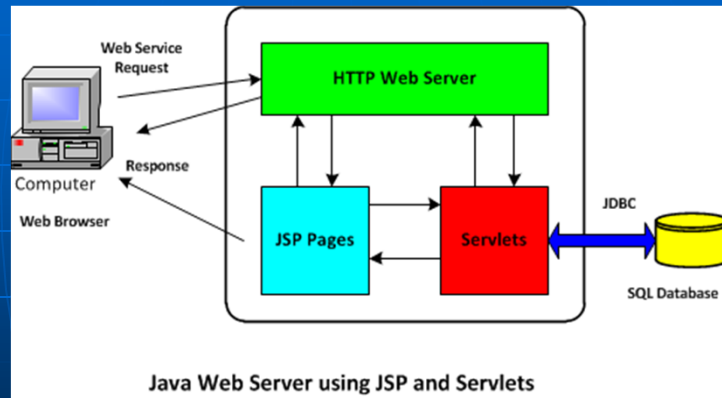


2/14/2012

CPET 581 E-Commerce & Business
Technology, Paul I. Lin

20

Java Webserver using JSP and Servlets

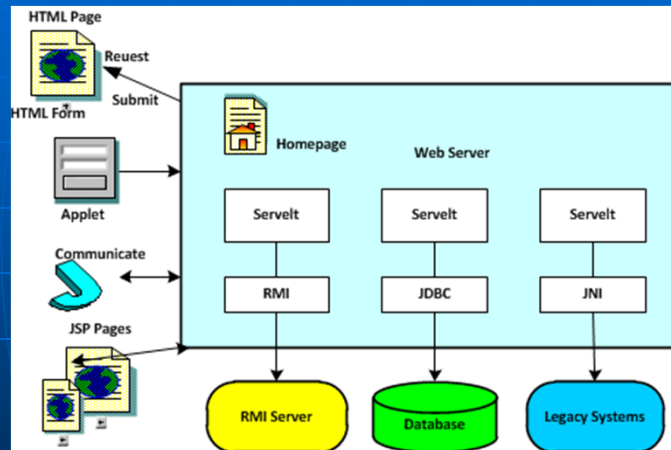


2/14/2012

CPET 581 E-Commerce & Business
Technology, Paul I. Lin

21

Java Web Server, App and Database Servers

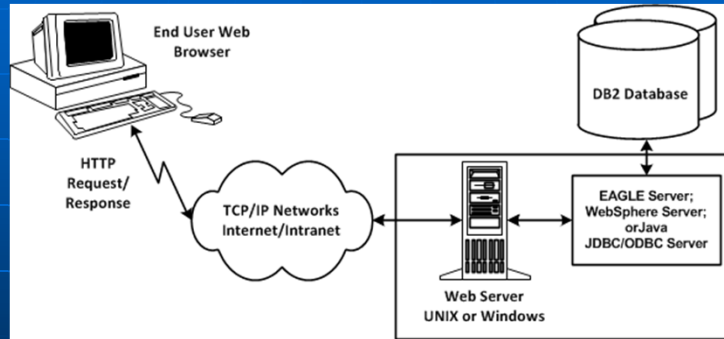


2/14/2012

CPET 581 E-Commerce & Business
Technology, Paul I. Lin

22

Database Server Interface

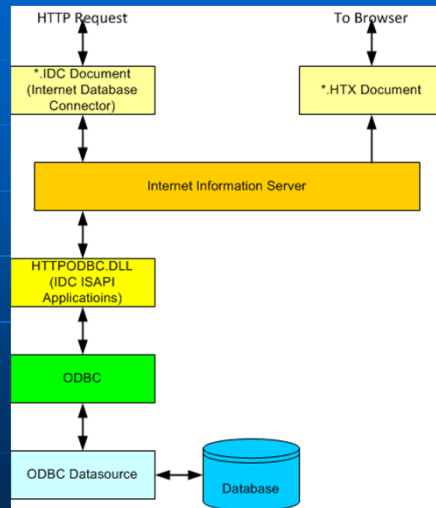


2/14/2012

CPET 581 E-Commerce & Business
Technology, Paul I. Lin

23

Open Database Connectivity (ODBC) Interface

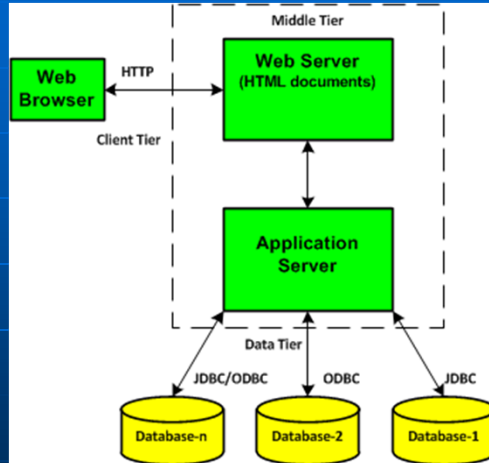


2/14/2012

CPET 581 E-Commerce & Business
Technology, Paul I. Lin

24

Web-based Databases (Data Mart, warehouse)



2/14/2012

CPET 581 E-Commerce & Business
Technology, Paul I. Lin

25

Software Tools

- Perl (Practical Extraction and Report Language)
 - The Perl Programming Language, <http://www.perl.org/>
 - ActivePerl, <http://www.activestate.com/activeperl>
 - Introduction to Perl, <http://www.perl.org/learn.html>
 - CGI: Application, <http://cgi-app.org/>
 - Cg-lib Home Page, <http://cgi-lib.berkeley.edu/>

2/14/2012

CPET 581 E-Commerce & Business
Technology, Paul I. Lin

26

Software Tools

- AJAX (Asynchronous JavaScript and XML)
 - ASP.NET AJAX 2.0 download, <http://www.microsoft.com/download/en/details.aspx?displaylang=en&id=971>
 - Microsoft AJAX Overview, <http://msdn.microsoft.com/en-us/library/bb398874.aspx>
 - Microsoft ASP.NET – AJAX: Enhanced Interactivity and Responsiveness, <http://www.asp.net/ajax>
 - AJAX Programming, http://en.wikipedia.org/wiki/Ajax_%28programming%29

2/14/2012

CPET 581 E-Commerce & Business
Technology, Paul I. Lin

27

Software Tools

- Java Applet, Oracle – Sun Developer Network (SDN), <http://java.sun.com/applets/>
 - Lesson: Java Applets, <http://docs.oracle.com/javase/tutorial/deployment/applet/>
 - Applets Demos, <http://docs.oracle.com/javase/1.5.0/docs/relnotes/demos.html>
- Java Plugin Technology, <http://www.oracle.com/technetwork/java/index-jsp-141438.html>
- Java Servlet
 - Java Servlet Technology Tutorial, http://java.sun.com/j2ee/tutorial/1_3-fcs/doc/Servlets.html
- Apache Tomcat, <http://tomcat.apache.org/>
 - Java Servlet
 - JavaServer Pages

2/14/2012

CPET 581 E-Commerce & Business
Technology, Paul I. Lin

28

Software Tools

- PHP (Hypertext Processor)
 - PHP, <http://www.php.net/>
 - PHP Manual, <http://php.net/manual/en/index.php>
 - What is PHP? <http://www.php.net/manual/en/intro-what-is.php>
 - What can PHP do?
 - Server-side scripting
 - Command line scripting
 - Writing desktop applications

Software Tools

- Microsoft Programming Languages, [http://msdn.microsoft.com/en-us/library/aa292164\(v=vs.71\).aspx](http://msdn.microsoft.com/en-us/library/aa292164(v=vs.71).aspx)
 - Visual Basic.NET, Visual C#.NET, Visual C++.NET,
 - VBScript, User's Guide, [http://msdn.microsoft.com/en-us/library/sx7b3k7y\(v=vs.71\).aspx](http://msdn.microsoft.com/en-us/library/sx7b3k7y(v=vs.71).aspx)
- Microsoft Visual Studio, <http://www.microsoft.com/visualstudio/en-us>
- Visual Studio 10 and 11, <http://msdn.microsoft.com/en-us/vstudio/aa718325>

Summary

2/14/2012

CPET 581 E-Commerce & Business
Technology, Paul I. Lin

31