Dynamically generated pages using database-to-web technologies

Enhancing library services and operations

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Database-to-web technologies

- Gaining popularity with libraries

- Creates pages "on the fly" (when the page is requested)
  - vs. static pages (completely written in advance)

- Common on business sites for catalogs and e-commerce

Why now?

- Inherent efficiency through re-use of data

- Software makes the technology accessible to non-programmers

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Applications

- Commercial
  - Web accessible OPACs
  - Online indexes

- Local
  - List of available indexes
  - Catalog of local collections, eg. standards
  - Data collection and report generation

How is this done?

- CGI (Common Gateway Interface)
  - Needs a programmer to write in C or Perl
    - Labor intensive and resource intensive

- ASP (Active Server Pages)
- PHP
  - Scripting languages, a little more accessible than CGI, embedded in page

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How is this done?

- Zope
- ColdFusion
  - Middleware, accessible to non-programmers, embedded in page

ASP vs. ColdFusion

- ASP
```
<%
strSQLQuery = "SELECT * FROM tablename WHERE Name = 'Fred'"
Set rs = Server.CreateObject("ADODB.Recordset")
rs.Open strSQLQuery, conn, 3, 3
%>
```

- ColdFusion
```
<CFQUERY name="getFred" datasource="database">
    SELECT *
    FROM tablename
    WHERE Name="Fred"
</CFQUERY>
```
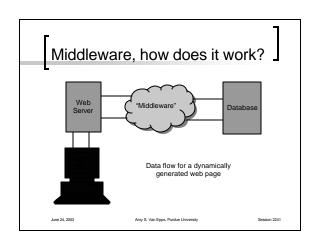
SQL and you

- Regardless of programming interface, knowledge of SQL (Standard Query Language) is needed

- Example:
  SELECT name, description, URL
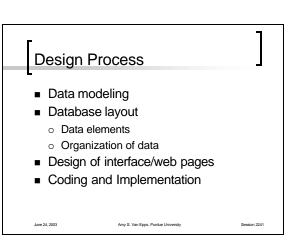 FROM indexes
  WHERE URL like 'http://hwwilsonweb.com/%'

Software choices

- Based on what's already available
  - Windows – IIS
    - ASP
    - Zope
    - ColdFusion
  - Linux/Unix – Apache
    - ColdFusion
    - Zope
    - PHP

Middleware, how does it work?

Data flow for a dynamically generated web page

Programming – Who will do it?

- Student Employee
  - Cheap, current skills
  - Rapid turn-over

- Regular Staff member
  - "longevity"
  - Added duties

Design Process

- Data modeling
- Database layout
  - Data elements
  - Organization of data
- Design of interface/web pages
- Coding and Implementation

The Purdue Experience

- Instruction Session Reporting
  - Statistics on instruction offered throughout the year
  - Old Way
    - Fill out an information card on the session
    - Send to a staff member
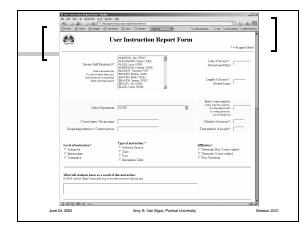   - Staff member entered into a database and later generated necessary reports

Instruction Reporting (con't)

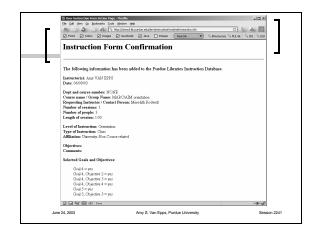- New way
  - Instead of filling in card, instructor fills in a web form
    - Alleviates staff data entry time
    - Automatically more legible
    - Consistency of reporting departments/courses
    - Individual instructors can generate their own reports as needed
    - Confirmation of data entry

Additional Projects

- Review of Approval Books
  - Web presentation of approval books for faculty review
  - Item information already maintained in a database
- Index of Paper Standards Collection
  - Provide access to an un-cataloged collection
  - Keyword searching capability
  - Included a collection inventory

Coding tips

- Comment your code!
- Remember the field types
- DATES!!
- Test the code in small sections
- "Rubber ducking"

Thank you

- Questions?