Organizing Project Code for Digital Library Applications

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Target Audience

Target Achievement

The Way We'll Travel

- Alleviating the worst pain first
- Drawing out principles
- Looking at Patterns
- Looking at Antipatterns
- Applying to Digital Library projects

The Way We'll Travel

Escaping the Hazards

Escaping the Hazards

- Intermixed user interface and program code
- Dynamic data delivery throughout project
- Data calls throughout code
- Co-mingled more or less secure code
- Personal coding "conventions"

Escaping the Hazards

Doing anything and everything
anywhere and everywhere
as the need arises,
without careful forethought,
and with an inability to
adapt to the unexpected
as needs evolve

Project Parts

- User interface
- Data handling
- Program work
- Managing the "mechanics"

User Interface

Main Navigation

Witness to the Early American Experience

New York City has always played a central role in the history of the United States. The century and a half between the establishment of the original Dutch colony of New Amsterdam in 1624 and the end of the Revolutionary War in 1783 was a turbulent time for the city. During this period New York changed from a Dutch colony to a British one, then became a British military stronghold during the American Revolution.

The digital images of original documents presented in this web site contain the words of hundreds of individuals who were eyewitnesses to these massive changes. The letters, newspapers, broadsides, legal records, and maps presented here record events large and small from the early years of the Dutch settlement of New Amsterdam, through the political crises of the 1760s, and on through the British occupation of the city during the American Revolution.

- What can I find here?
- Browse the Early American Experience
- Search the Early American Experience
- Take a Guided Tour of the Early American Experience

- Resources for teachers (coming soon)
- Other resources about Early American History and Life
- Where can I find the original documents?

Search Screen

Witness to the Early American Experience

Search entire Collection

By searching across all three types of material it is possible to pull together a variety of sources related to a single event. Searching for a place name, such as White Plains, will retrieve letters written at White Plains as well as maps of the vicinity. By searching for a particular date, you can retrieve newspapers, broadsides, and manuscripts published or written on that date. By searching on "note" you can retrieve documents where the collection archivist has used your entered search text in their description of the item. Bear in mind that you cannot search the contents of these materials, so a search for Benedict Arnold will retrieve letters by him but not newspaper articles about him.

Search on:
term Washington
OR date (YYYY)
OR note

Document type: All types

Archive: Entire collection

Submit

Results Screen

Witness to the Early American Experience

Here are the records containing: Washington

Title
Irving, Washington, 1783-1859., ALS (Sunnyside, July 15, 1859), 2 pages
Irving, Washington, 1783-1859., ALS (Sunnyside, October 1, 1846), 2 pages
National Intelligencer, Washington Advertiser, newspaper (Washington City, PA, June 11, 1810), 4 pages
Washington, George, 1732-1799, LS (Harlem Heights, October 13, 1776), 4 pages
Washington, George, 1732-1799., ADS (Dobbs Ferry, July 13, 1781), 4 pages
Washington, George, 1732-1799., ALS (Newburgh, May 10, 1782), 2 pages
Washington, George, 1732-1799., ALS (White Plains, July 27, 1778), 4 pages
Washington, George, 1732-1799., LS (Headquarters, June 24, 1782), 4 pages
Washington, George, 1732-1799., LS (Skippock Camp, October 11, 1777), 2 pages
Washington, George, 1732-1799., LS (White Plains, August 13, 1778), 4 pages
Washington, George, 1732-1799., LS (White Plains, August 3, 1778), 2 pages
Washington, George, 1732-1799., LS (White Plains, July 21, 1778), 2 pages

Object Display Window

Washington, George, 1732-1799, LS (Harlem Heights, October 13, 1776), 4 pages

Description: To Artemas Ward. Reports that 'yesterday the enemy landed at Frogs Point.' Body in hand of Robert Hanson Harrison, signed by Washington. folded half sheet, multiple repairs
Creation information: Harlem Heights
Date: October 13, 1776
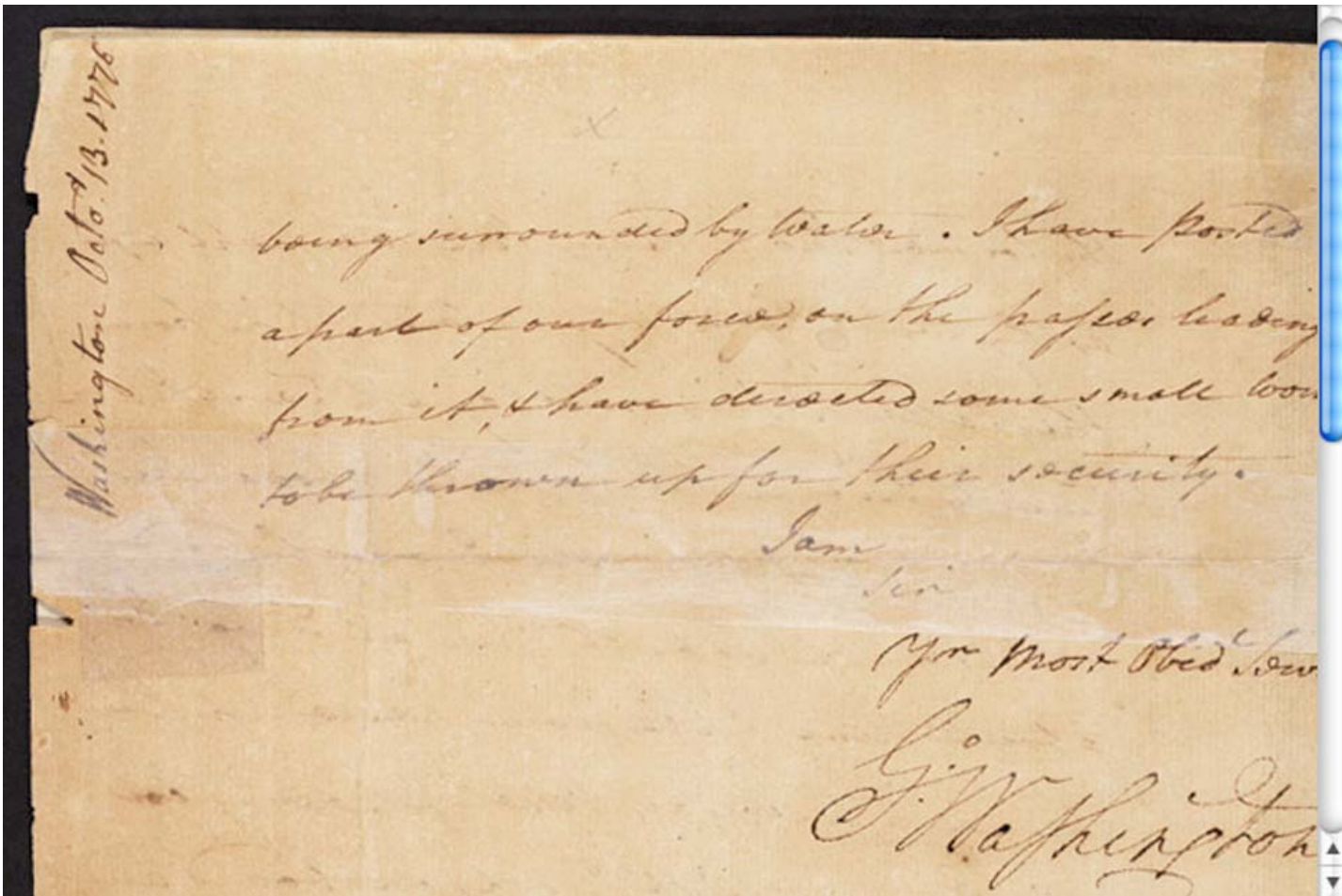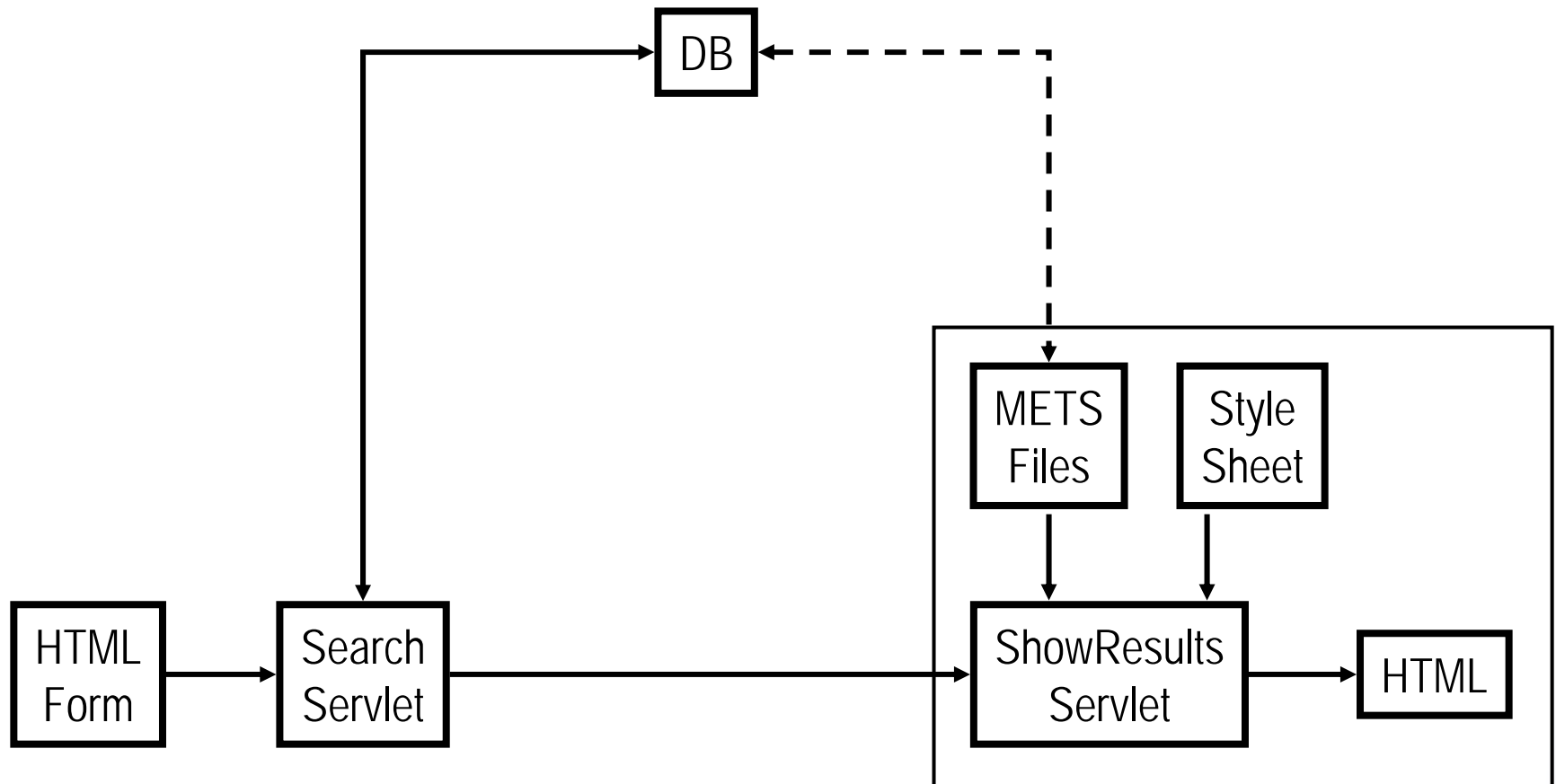**Format:** 23.0 cm. wide by 37.0 cm.high, 4 pages
Identifier: 055-002-a-0446

055-002-a-0447

055-002-a-0448

Object Display Window

Project Components

Servlets and JSP

- Servlet - Java code that receives a request, does its work and returns a response
- Servlet container - intercepts a request, routes it to the servlet, receives a response and routes it to the user
- Java ServerPages (JSP) - web pages with Java code in them

Potential Gotchas

1st Gotcha - Database Access

Database Access

- Restrict database connectivity
- Centralize database functionality
- Separate database access and interaction to its own component
- Pattern — Data Access Object (DAO)
- Separate code that receives data requests and returns data objects

Project Components
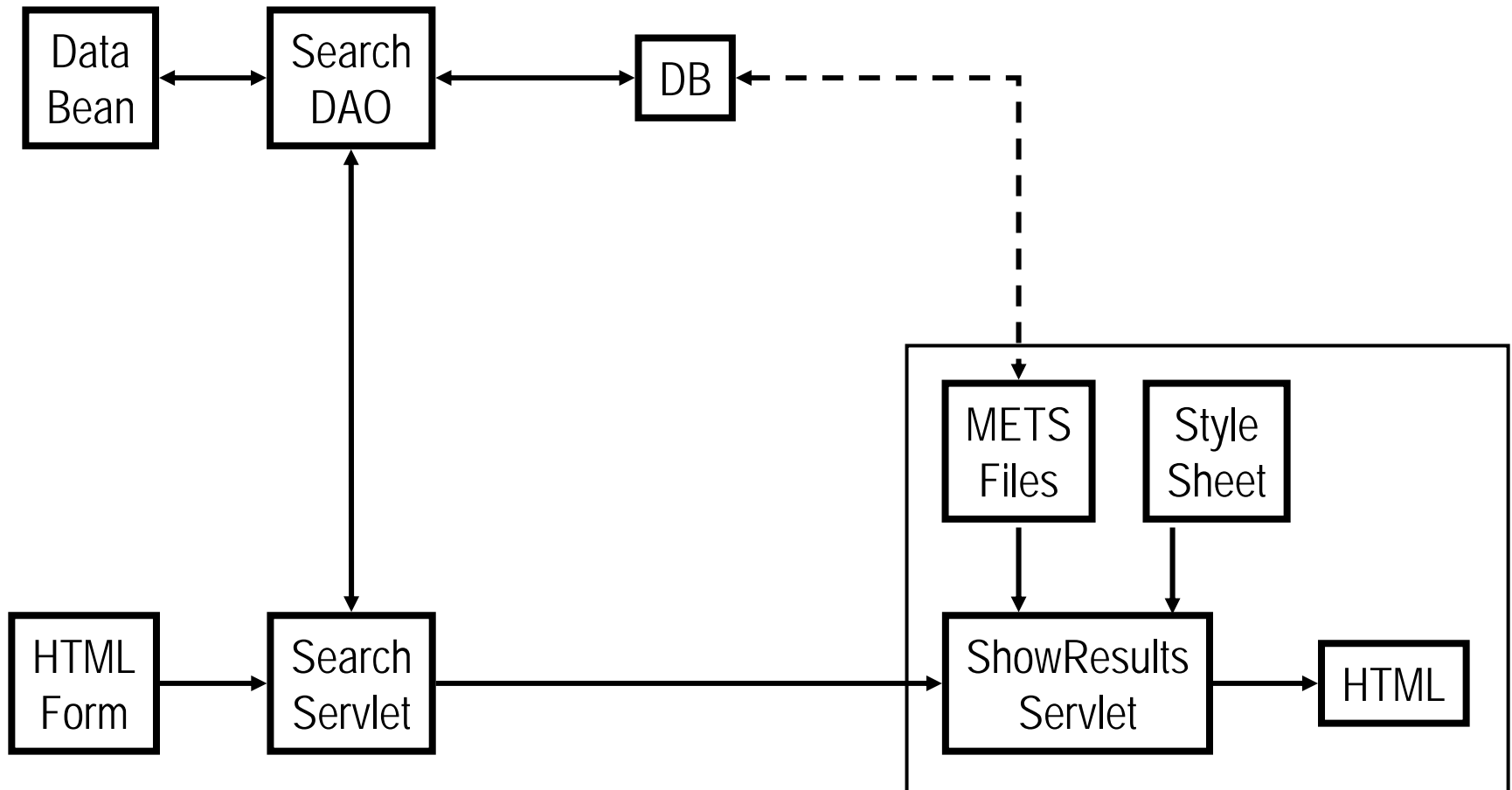
2nd Gotcha - Results Display

Results Display

- Isolate display from program code
- Separate results display and interaction to its own component
- Pattern — Front Controller
- Java ServerPages (JSP) receives results from servlet and returns a display
- Potential use of JSP to submit request from client to servlet

Project Components
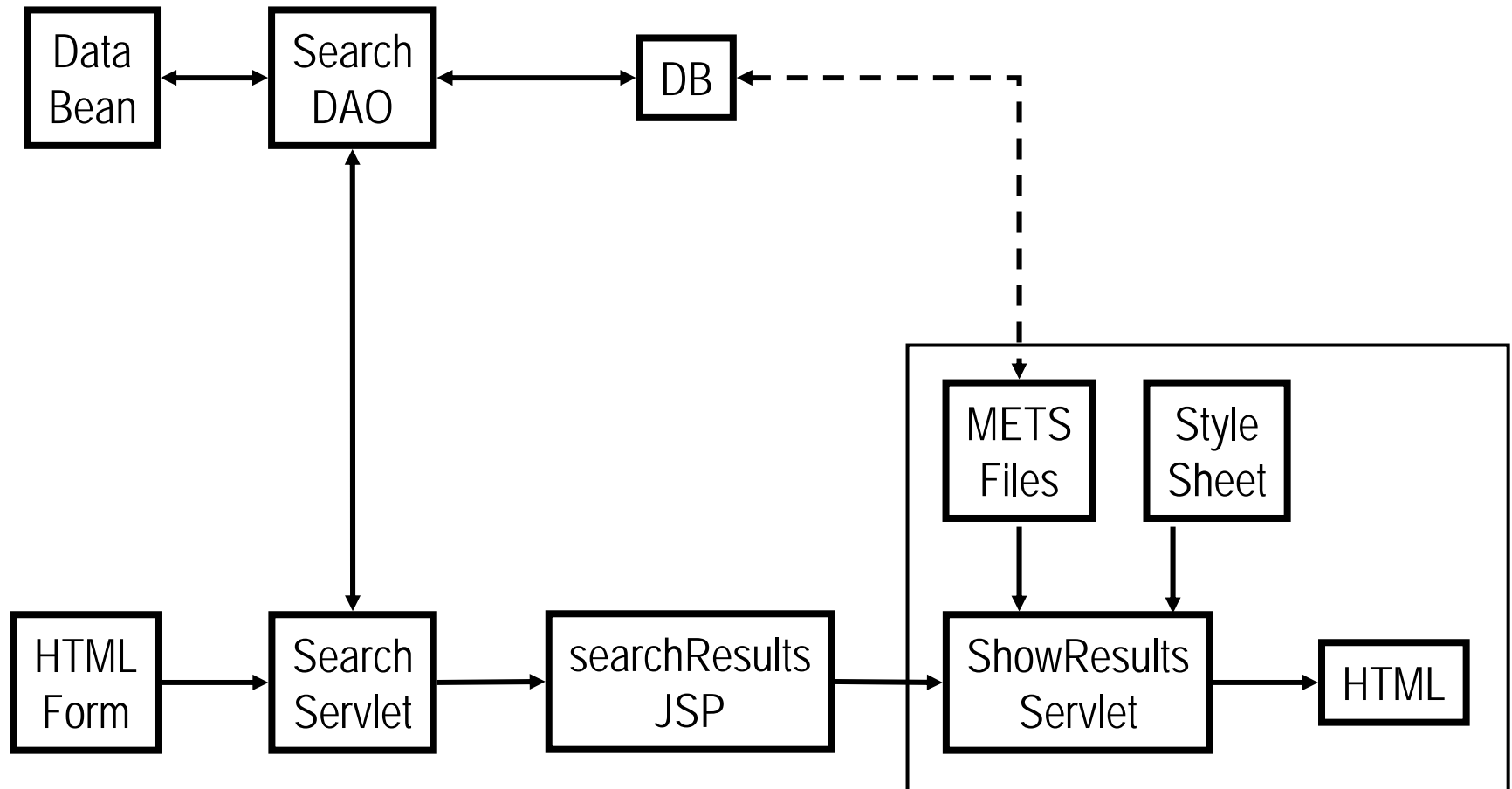
3rd Gotcha - Code in Display
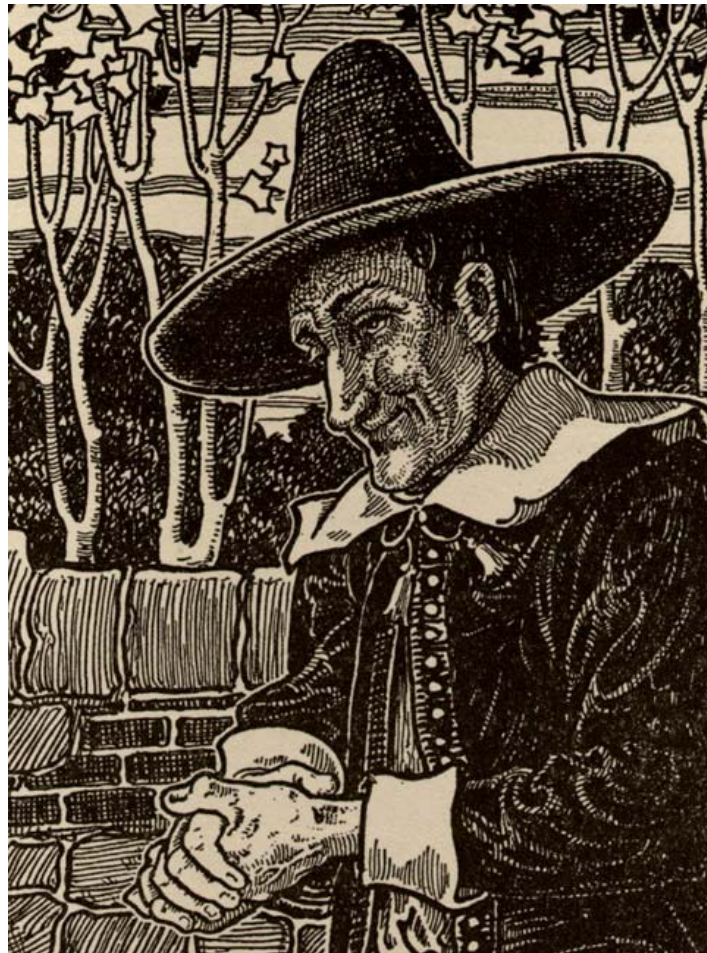
Code in the Display

- Relegate as much of the code in the servlet as possible

- Delegate JSP to non-programmers

- Use custom tags where practical

Project Components
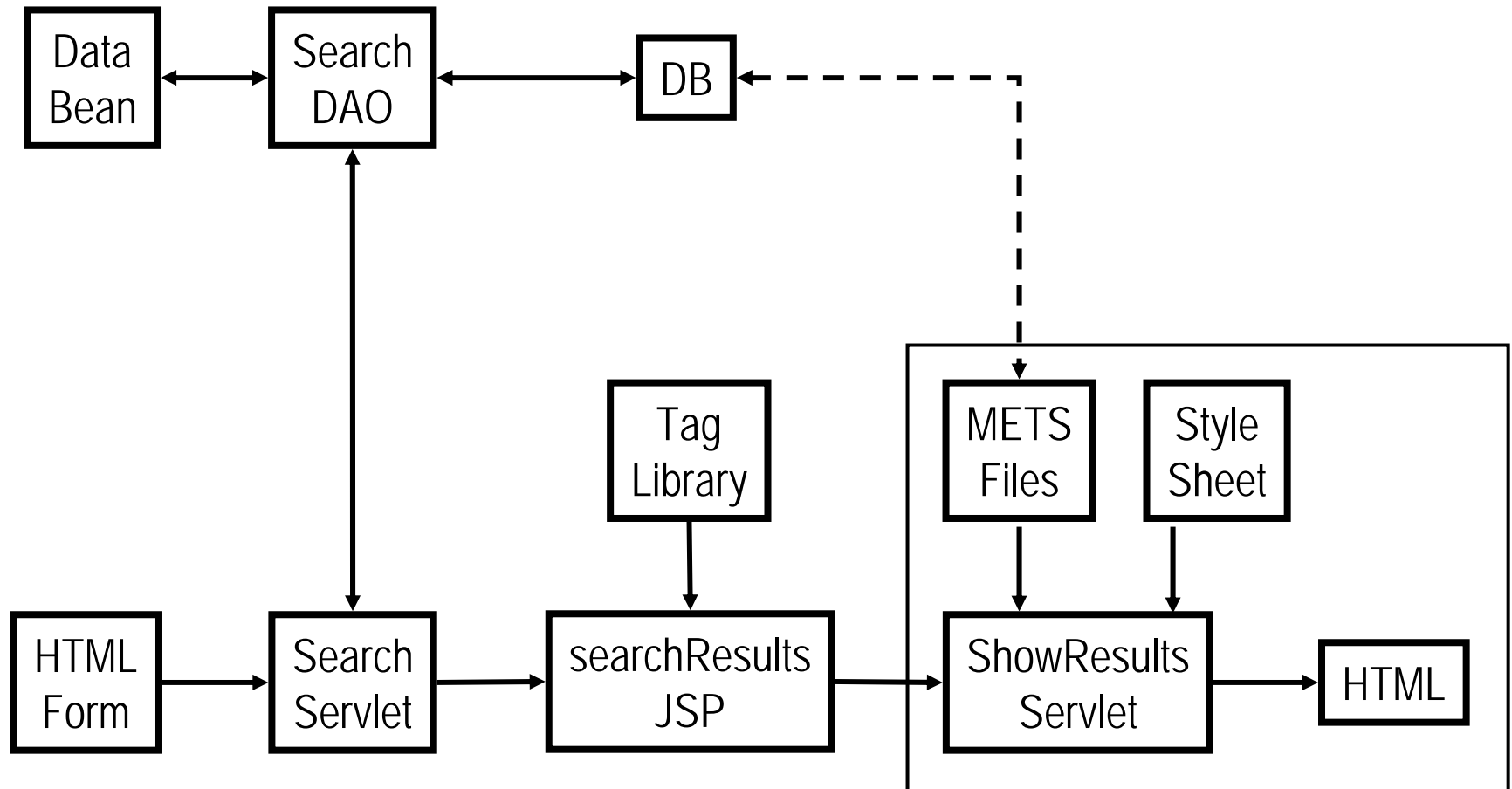
Architecture

- N-tier development model
- Pattern — Model-View-Controller (MVC)

Project Components

New User Interface

Witness to the Early American Experience

home   archives   feature   resources   tour
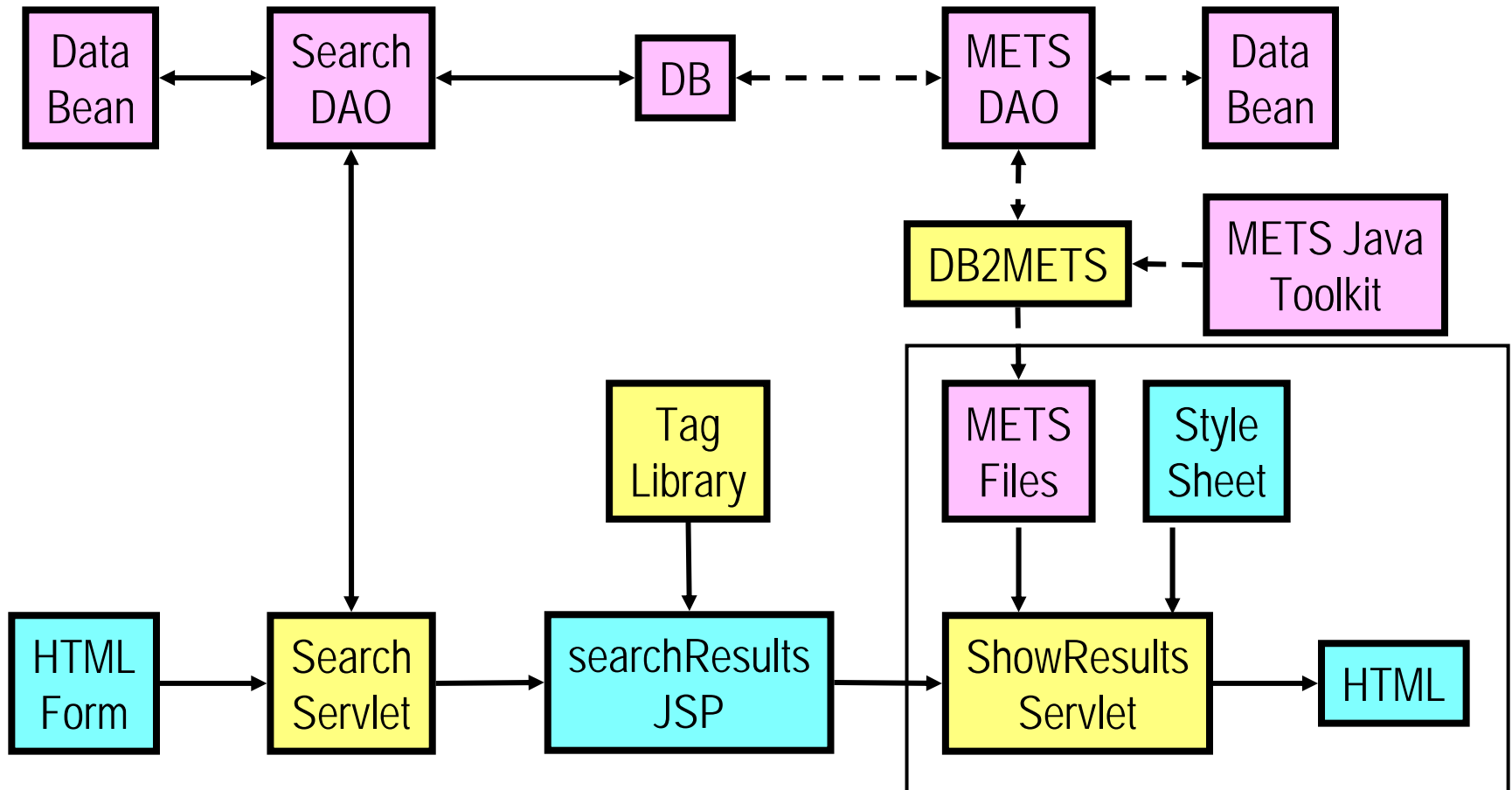
ARCHIVE

The digital preservation of original documents in this archive contain the words of hundreds of individuals who were eyewitnesses to these massive changes. The letters, newspapers, broadsides, legal records, and maps presented here record events from the early years of the Dutch settlement of New Amsterdam, through the political crises of the 1760s, and on to the British occupation of the city during the American Revolution...

FEATURE

Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur.

LEARN

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TOUR

New York City has always played a central role in the history of the United States. The guided tour will give a brief overview of New York City during the colonial and revolutionary periods. The tour is arranged in chronological order with each page including a single relevant example from the thousands of

New Search Screen

Witness to the Early American Experience

home   archives   feature   resources   tour

Search the Archives*

search for:

in [all fields ▼]

[search]

*full text searching is not available

Search the Experience

By searching across all types of material it is possible to pull together a variety of sources related to a single event. Searching for a place name, such as White Plains, will retrieve letters written at White Plains as well as maps of the vicinity. By searching for a particular date, you can retrieve newspapers, broadsides, and manuscripts published or written on that date. By searching on "note" you can retrieve documents where the collection archivist has used your entered search text in their description of the item.

Please note that you cannot search the full text of the materials in this archive. For example, a search for Benedict Arnold will retrieve letters by him but not newspaper articles about him.

Keyword Search

search for:

in [all fields ▼]

limit to [all types ▼]

[submit search]

Browse Search

browse the archives by: [genre ▼]

limit to [all types ▼]

[submit search]

New Results Screen
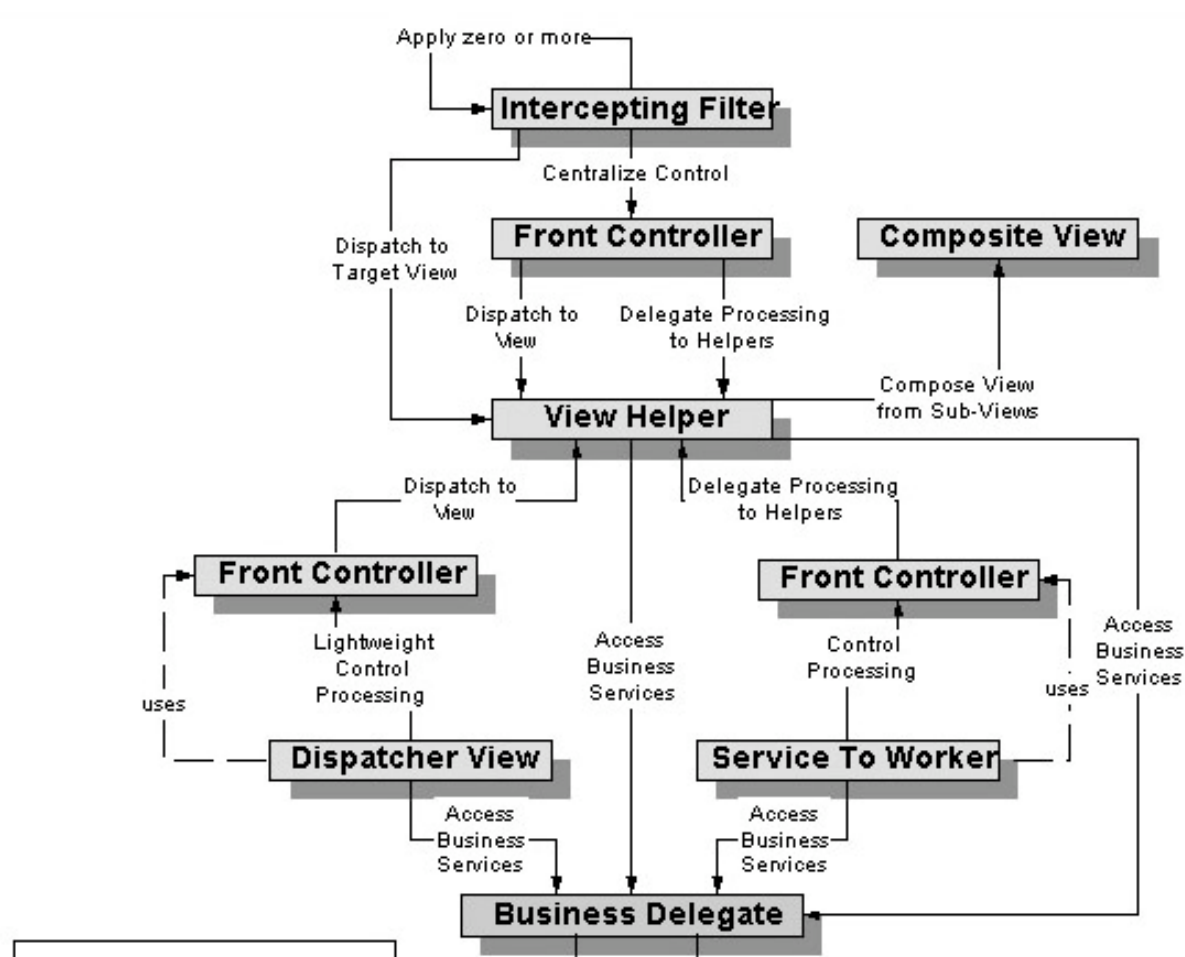
New Object Display

Patterns

- Architectural origins
- The "Gang of Four" (GoF)
- Pattern catalogs
- Patterns in Java
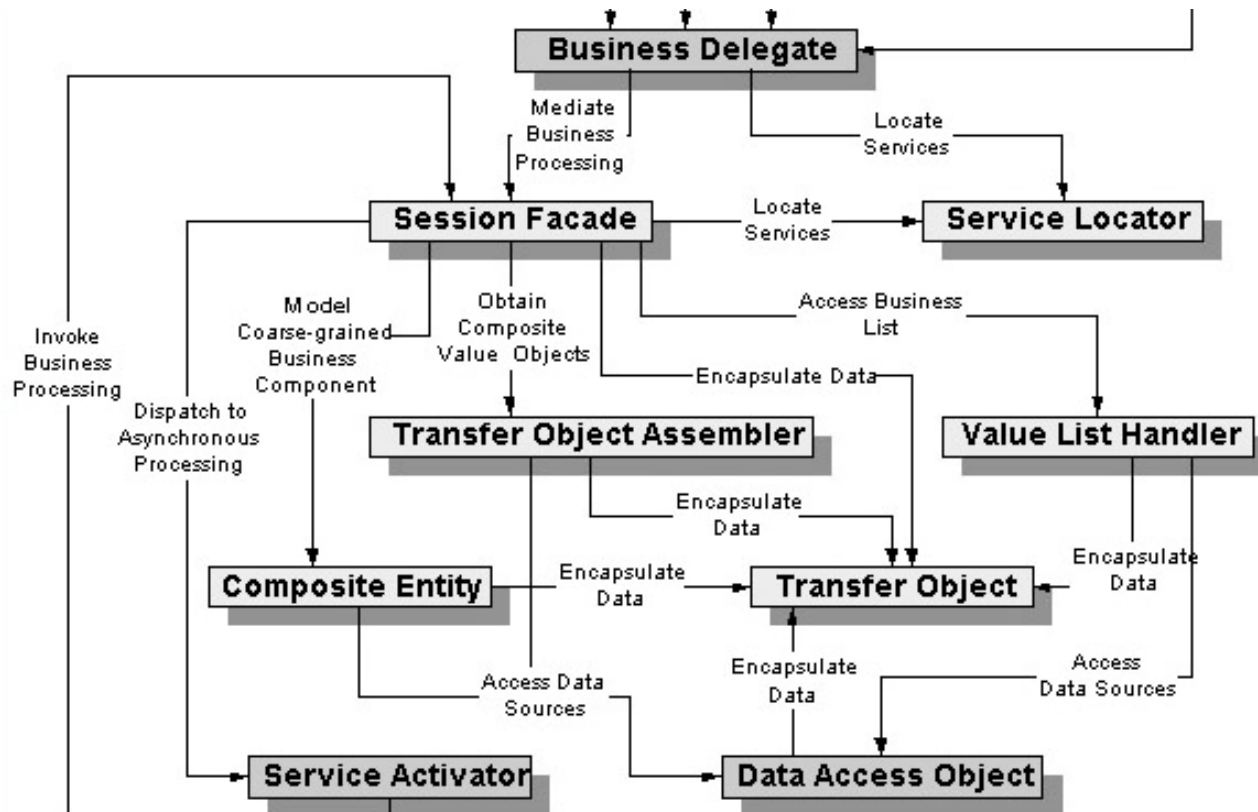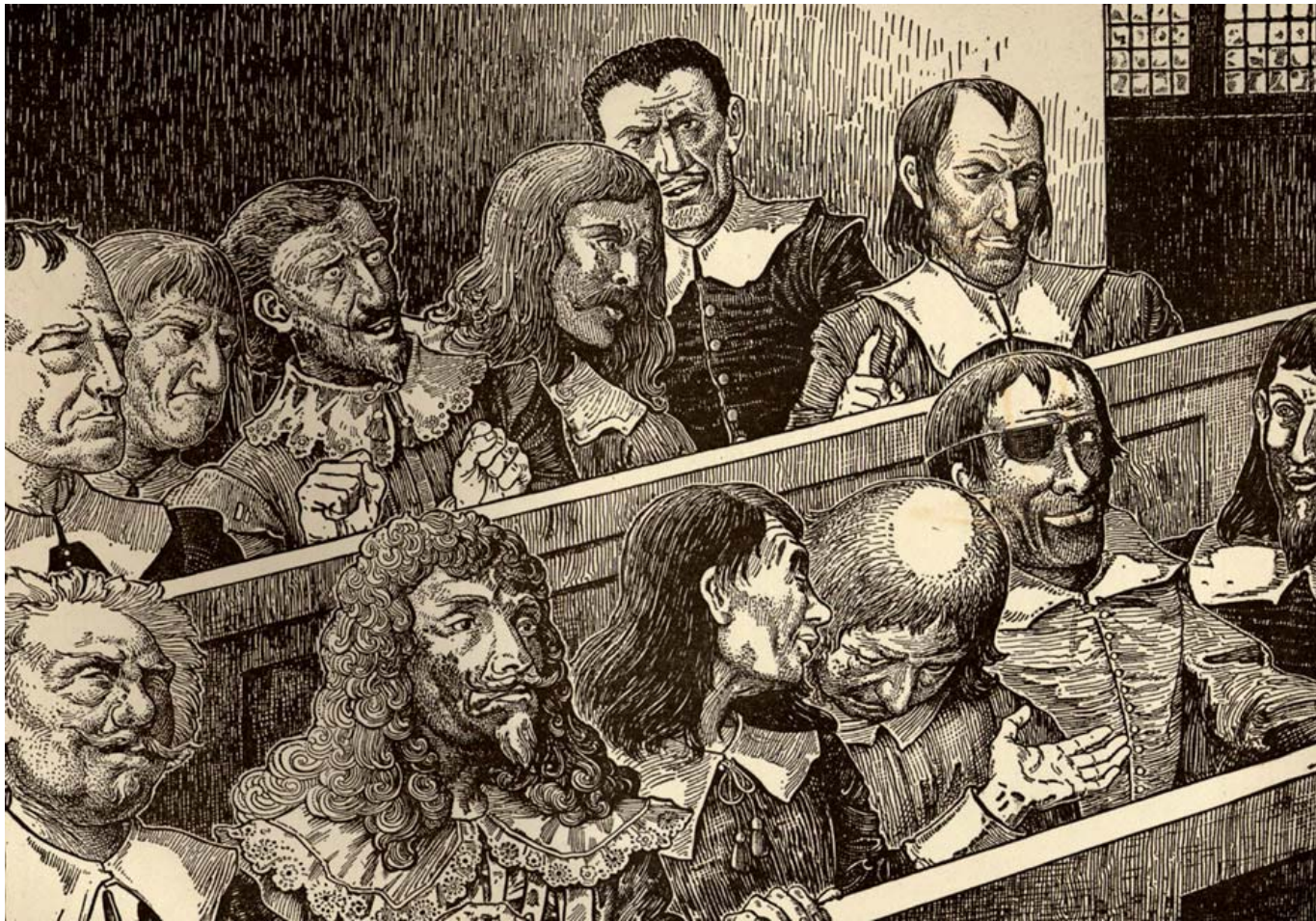- Pattern proselytism

J2EE Patterns
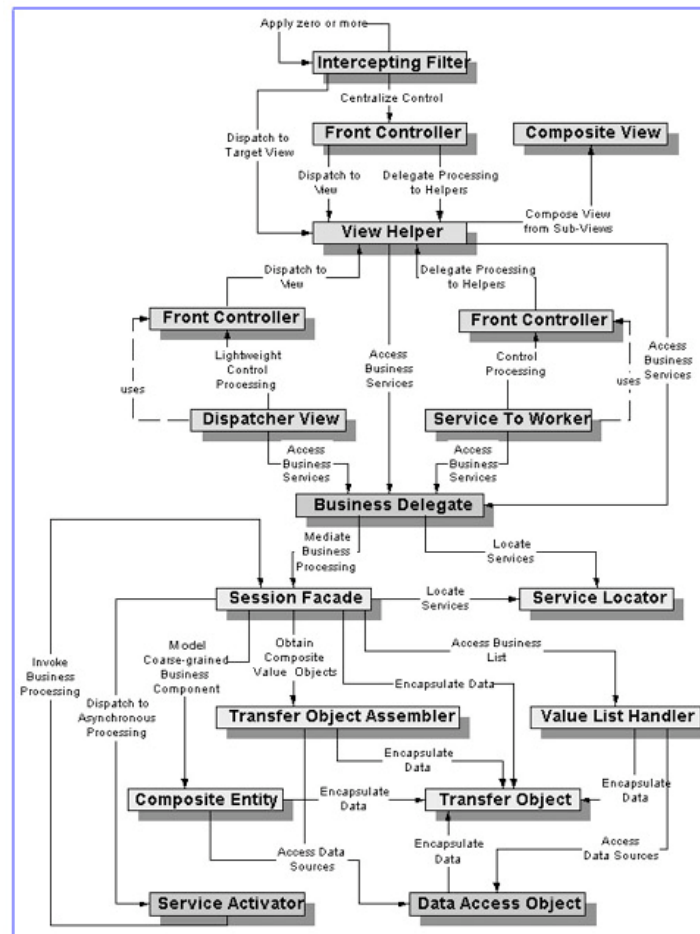
J2EE Patterns

J2EE Patterns

Antipatterns

Antipatterns

*"I like learning
from my mistakes…
but I would much rather learn
from your mistakes"*

Bruce Tate
Bitter Java

Antipatterns

- The "Magic Servlet"
- The Round-Tripping antipattern
- Y2K

Further Work

- Other Gotchas…
- Other Patterns…
- Other Antipatterns...

Further Work

- Further separating business logic from component navigation and control
- Managing access to overall application
- Aliasing virtual addresses and paths
- Further abstracting out user interface
- Extending approach to other projects, programmers and teams

A Glorious Future!

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Thank you!

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