# Introducing Manakin:
## Overview & Architecture

TEXAS A&M UNIVERSITY LIBRARIES

*Scott Phillips, Cody Green, Alexey Maslov, Adam Mikeal, and John Leggett*
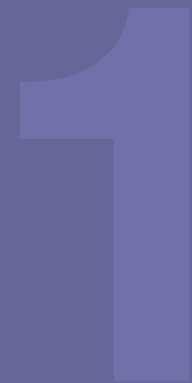
# Outline

▶ Overview

▶ Architecture

▶ Demonstration

▶ Session 6: Manakin Themes & Applications

■ **Manakin Themes**

▶ Alexey Maslov

■ **Manakin Case Study**

▶ Adam Mikeal

■ **Content interchange and the invisible Repository**

▶ Scott Yeadon

# Session 6 ( Wednesday @ 11:00 )

# Manakin Overview

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# What is Manakin?

- ▶ Interface framework
  - ▪ *Modular*
  - ▪ *Extendable*
  - ▪ *Tiered*

- ▶ A new interface to DSpace

# What can Manakin do?

- ▶ Modify **Look-and-Feel**

- ▶ **Brand Content**

- ▶ **Visualize** Metadata

- ▶ Provide **Modularity**

# Look & Feel

- ▶ Style

- ▶ Integration

# Branding

▶ Repository

▶ Communities

▶ Collections

▶ Items

## Browse By Title

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Or enter the first few letters: [          ] Go

Now showing items 41-51 of 4046

Previous Page                                                     Next Page

**Adaptive protocols for mobile ad hoc networks**
Holland, Gavin Douglas, 1966-, Ph. D., Texas A&M University (December 2004)
Full Text     Citation

**Adaptive responses of central cholinergic systems in transgenic mice**
Hartmann, Joachim, Doctor of Philosophy, Texas Tech University (2006-07-14)
Full Text     Citation

**Adaptive run-to-run control of overlay in semiconductor manufacturing [electronic resource]**
Martinez, Victor Manuel., Ph. D., The University of Texas at Austin (2002)
Full Text     Citation

**An adaptive tabu search approach to cutting and packing problems [electronic resource]**
Harwig, John Michael., Ph. D., The University of Texas at Austin (2003)
Full Text     Citation

**Adaptive tool selection strategies for drilling in flexible manufacturing systems**
Chander, Karthik Balachandran, M. S., Texas A&M University (May 2004)
Full Text     Citation

**Addressing spatial complexities in residential location choice models [electronic resource]**
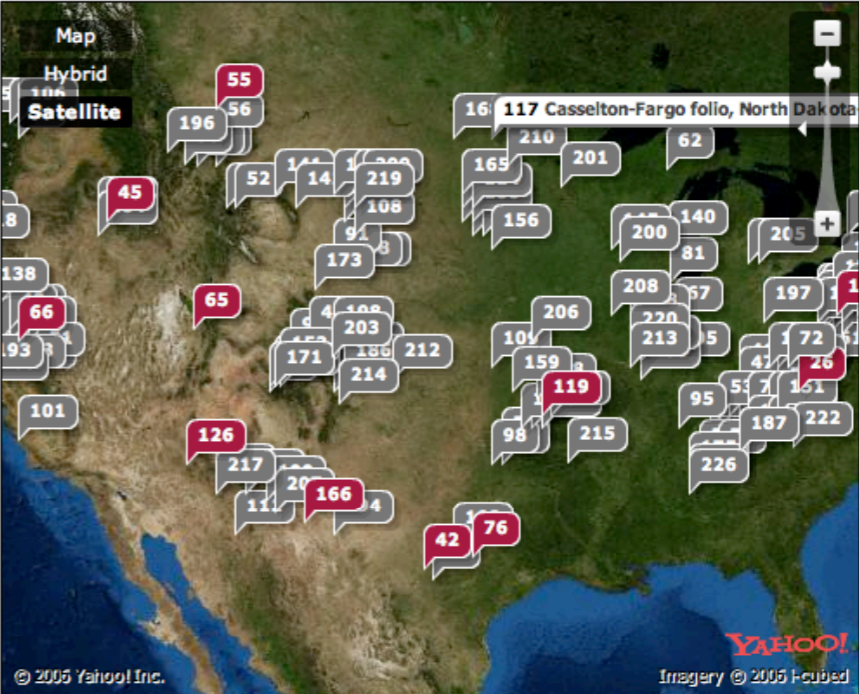Guo, Jessica Yinghchieh., Ph. D., The University of Texas at Austin (2004)

# Visualization

▶ Interpret metadata

▶ Link metadata

▶ Explain metadata

# Modularity

- ▶ Extend
- ▶ Adapt
- ▶ Customize

# Manakin vs JSP UI

▶ JSP UI

- *Difficult & expensive to extend*

- *One monolithic interface for all collections regardless of content*

▶ Manakin

- *Modular design makes extensions easier*

- *Multiple interfaces that can adapt to the needs of a collection*

- *Metadata in native formats*

# It is ready now

▶ Manakin 1.0 released

- Browsing, Searching

- Authentication

- Submission Workflow

- Administration

http://di.tamu.edu/projects/manakin/

# How do I get started?

▶ You will need an installation of DSpace

▶ First, install Manakin on your DSpace

▶ Next, design your new interface

# Tiers

1. Style Tier
   - Create simple themes
   - XHTML + CSS

2. Theme Tier
   - Create complex themes
   - XSL + XHTML + CSS

3. Aspect Tier
   - Add new features
   - Cocoon + Java

# What resources are available?

- ▶ Documentation
  - ◻ Aspect Developers Guide
  - ◻ Theme Writing Tutorial
  - ◻ Schema Reference Manual

- ▶ Mailing lists
  - ◻ dspace-dev
  - ◻ dspace-manakin

- ▶ Open Repositories 2007
  - ◻ Session 6

# Architecture

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# Apache Cocoon

- ▶ Web development framework

- ▶ Pipeline-based architecture

- ▶ SAX-based XML

- ▶ Modular components
  - ▪ Generators
  - ▪ Transformers
  - ▪ Serializers
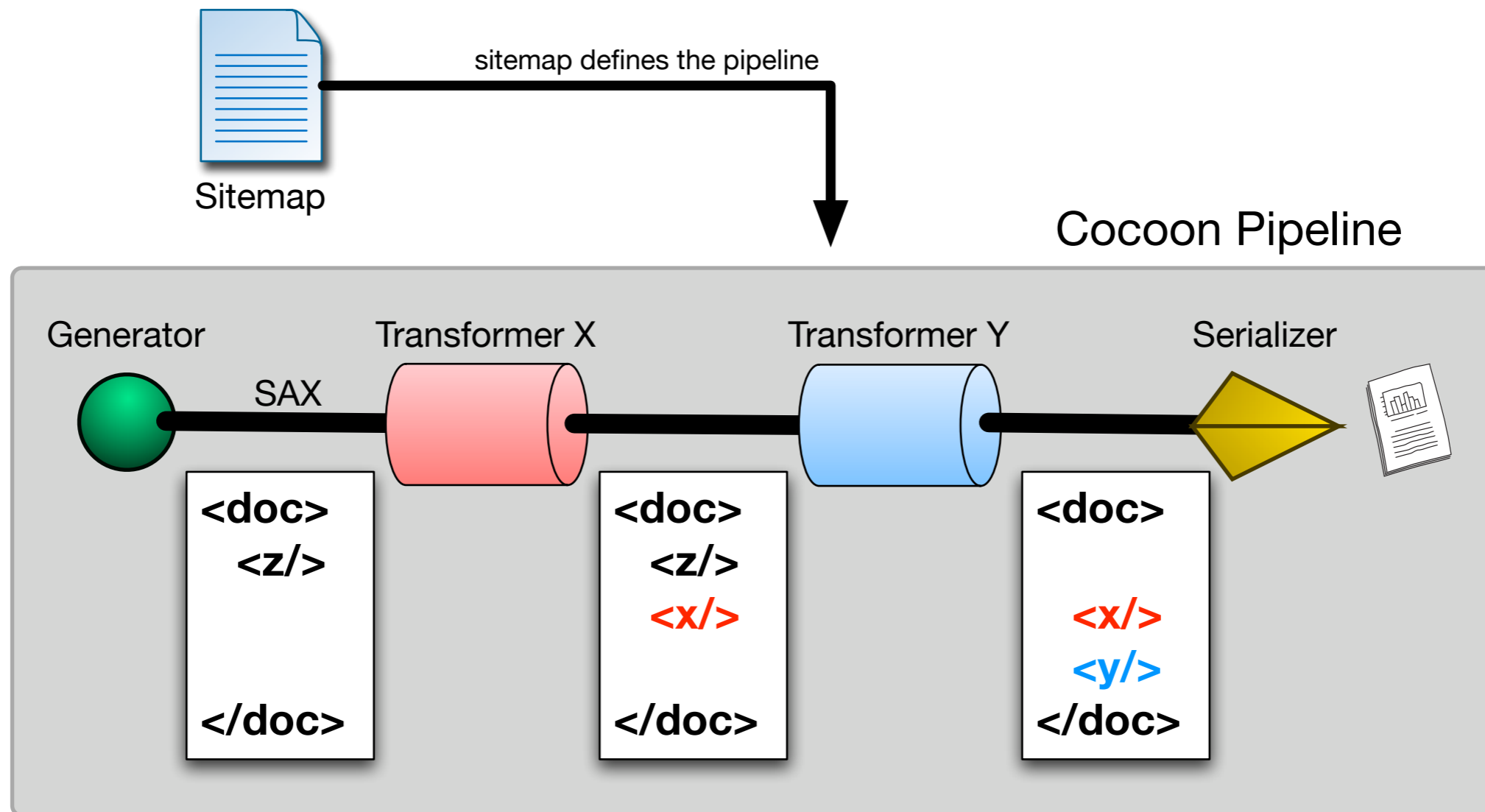
Cocoon's Pipeline Model

# Three Components

- ▶ Aspects

- ▶ Themes

- ▶ DRI Schema
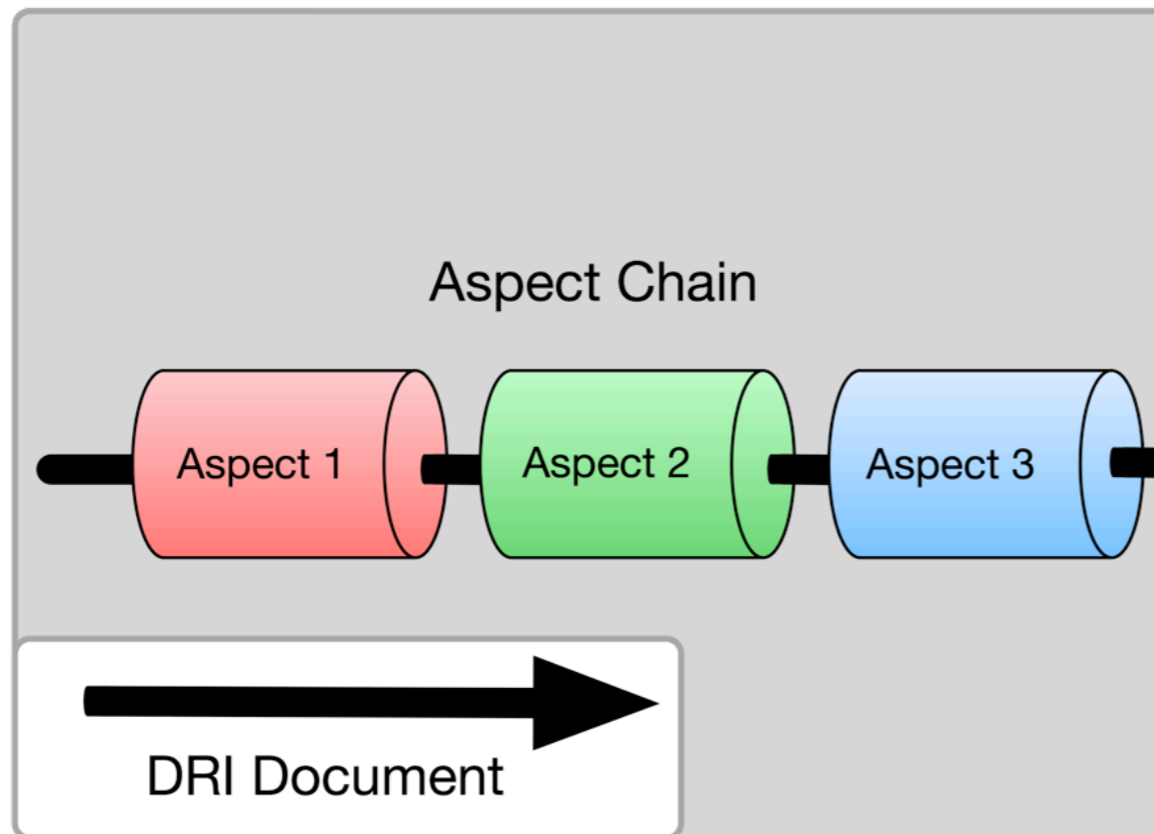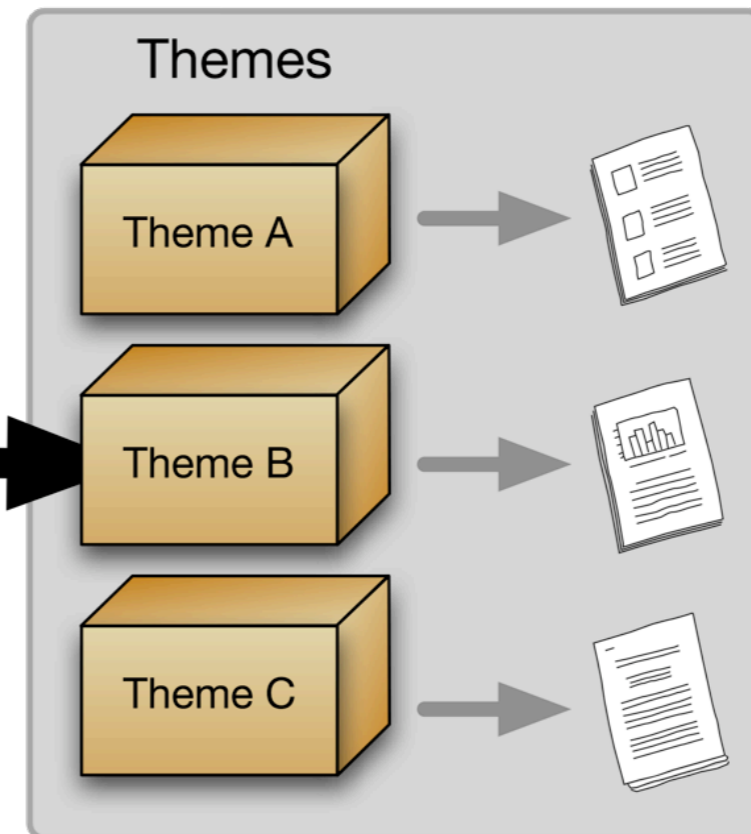
# Structural Overview
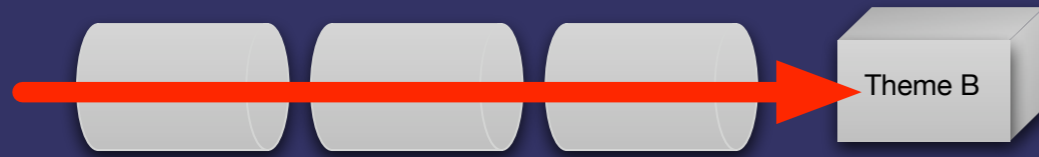
# DRI Schema

*Abstract representation of a repository page*

- ▶ **D**igital **R**epository **I**nterface

- ▶ Metadata elements
  - ▪ METS, MODS, QDC, DIM
  - ▪ Extendable to other metadata formats

- ▶ Structural elements
  - ▪ TEI (light)
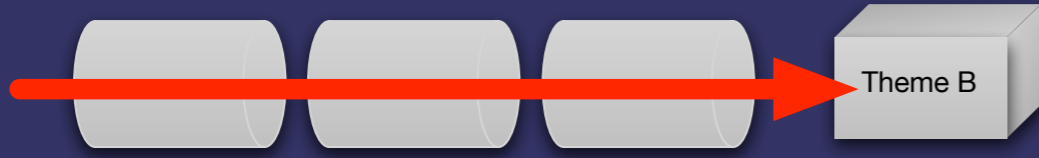
# DRI Schema

*Abstract representation of a repository page*

Theme B

document

body

options

meta

structural elements

metadata elements

Based upon TEI

Native metadata formats: METS, MODS, DIM...

# Aspects

---
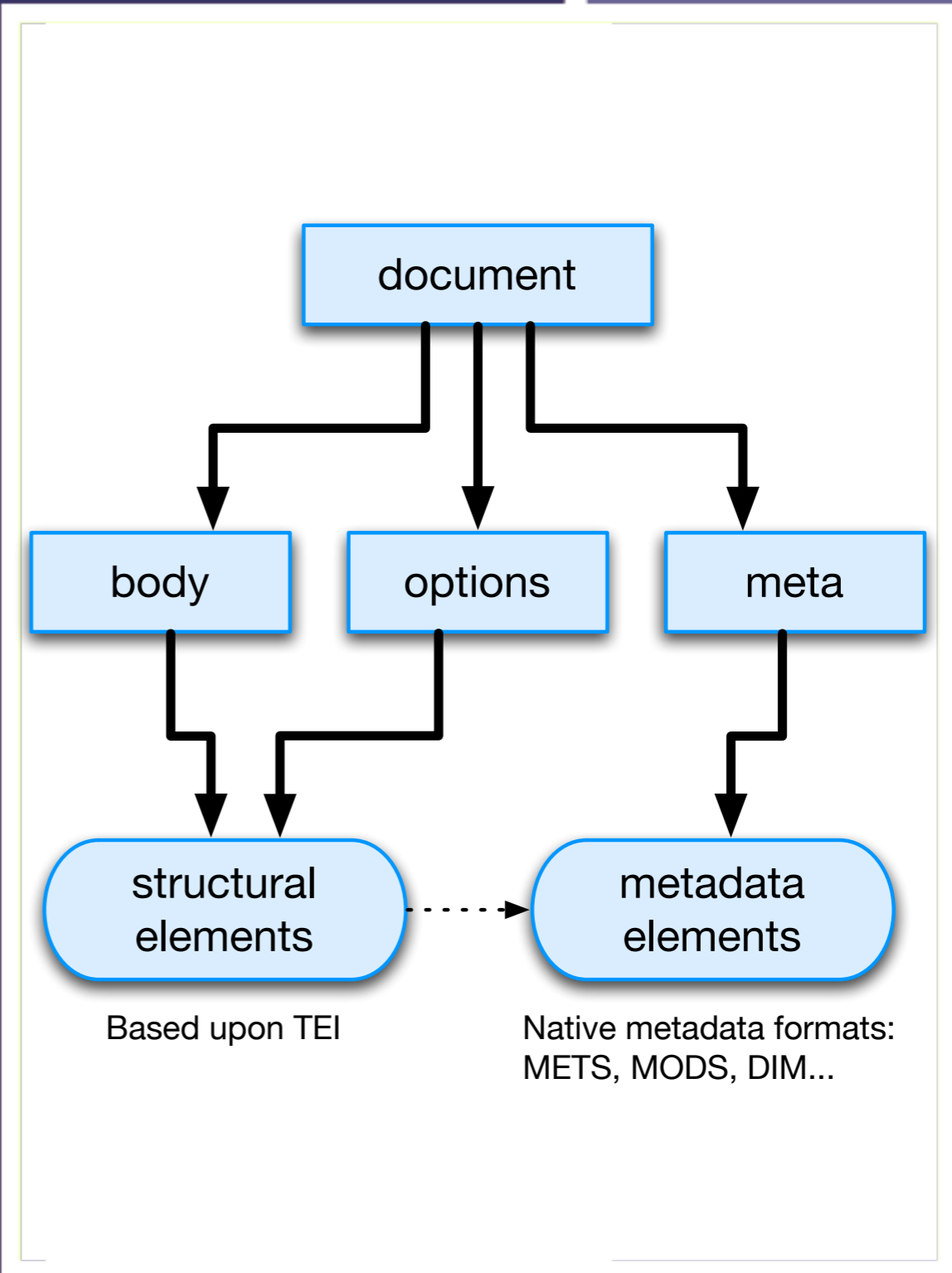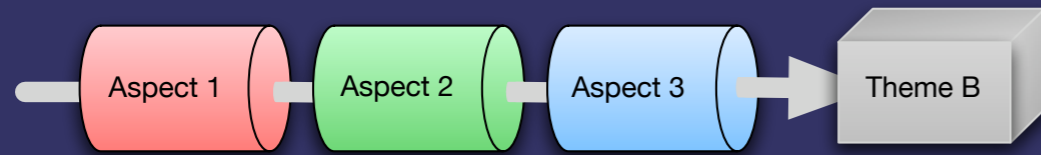
*Implement a set of related features*

▶ Applied to **all** pages

▶ "Aspect Chain"

■ Input DRI

■ Output DRI
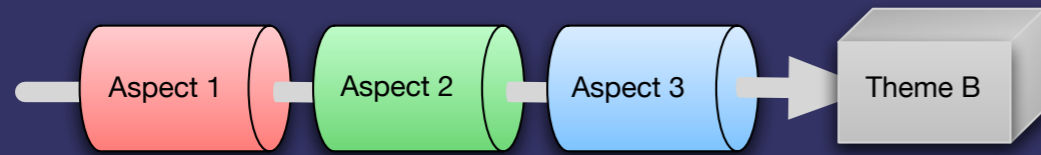
# Aspects

*Implement a set of related features*

- ▶ Core Aspects:
  - ■ Artifact Browser
  - ■ E-Person
  - ■ Submission
  - ■ Administrative

- ▶ Possibilities:
  - ■ Shopping cart
  - ■ Specialized searching
  - ■ Customized workflow
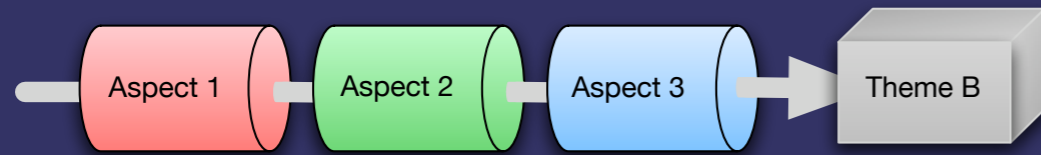
# Aspects

*Implement a set of related features*

- ▶ Self contained packages
  - ▪ Java source code
  - ▪ Javascript flow scripts
  - ▪ XML Configuration
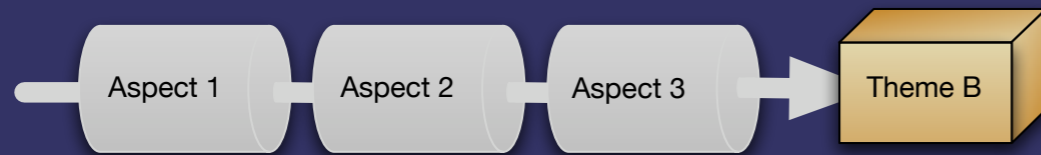
# Themes

*Stylize content into a particular look-and-feel*

▶ May apply to:

- A Single page
- All pages in a collection
- All pages in a community
- The whole repository

Aspect 1 — Aspect 2 — Aspect 3 → Theme B

# Themes

---
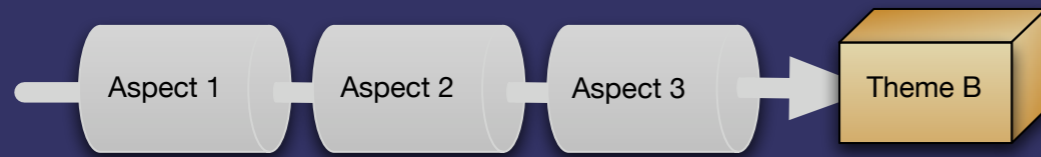
*Stylize content into a particular look-and-feel*

▶ Self contained packages

- XSL stylesheets

- CSS stylesheets

- Images

- Static resources

Content Generation
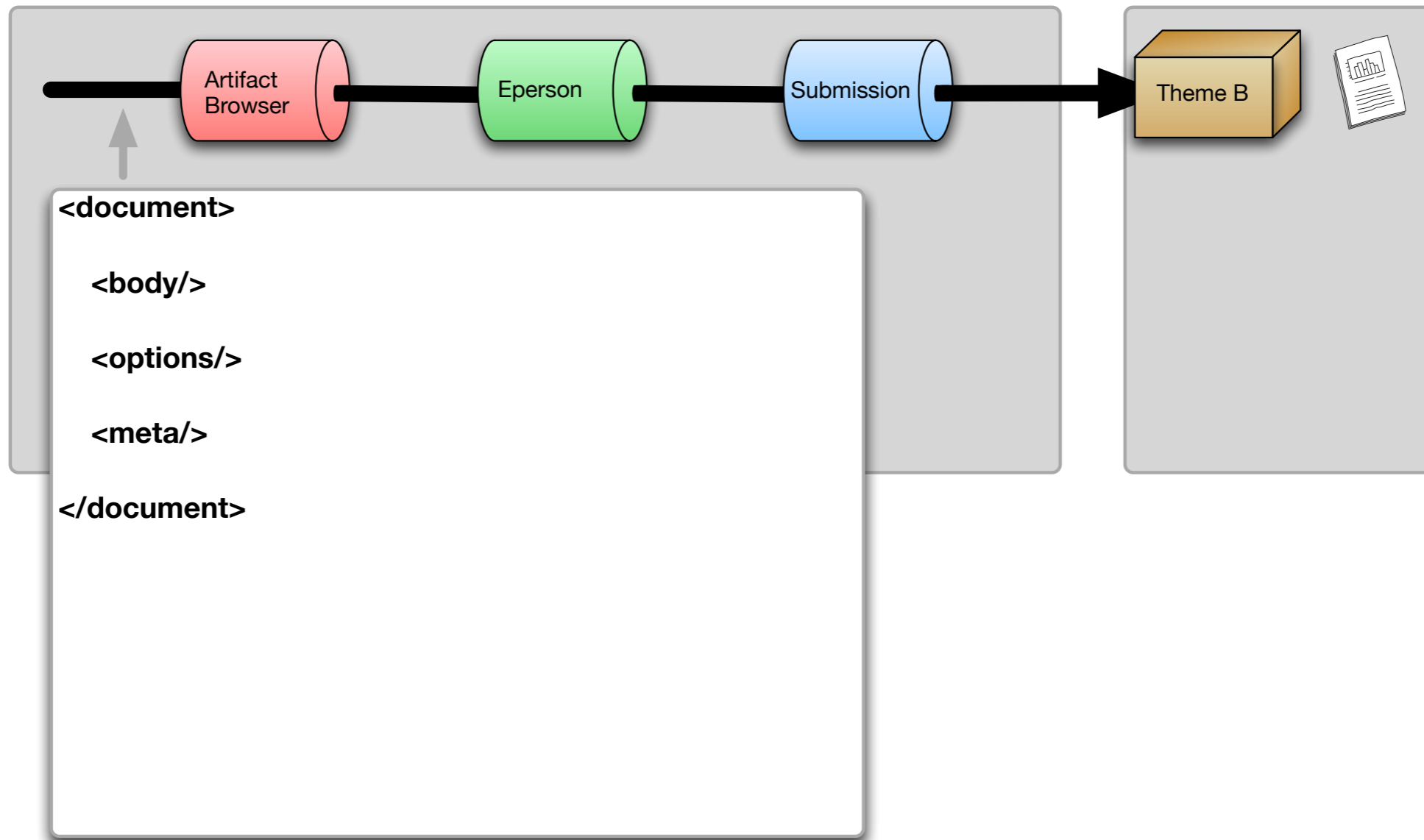
Style Application

Artifact
Browser

Eperson

Submission

Theme B

**<document>**

   **<body/>**

   **<options/>**

   **<meta/>**

**</document>**

# Putting it all together

Content Generation

Style Application

Artifact Browser

Eperson

Submission

Theme B

```
<document>
 <body>
  <div>
   <head> Viewing an item </head>
   <includeSet>
    <objectInclude source="hdl:12345/23"/>
   </includeSet>
  </div>
 </body>
 <options/>
 <meta>
  ...
  <objectMeta>
   <object identifier="hdl:12345/23"/>
    .... METS document for item ...
   </object>
  </objectMeta>
 </meta>
</document>
```

# Putting it all together

Content Generation

Style Application

Artifact Browser → Eperson → Submission → Theme B

```
<document>
 <body>
  ...
 </body>
 <options> ...
  <list n="account">
   <item xref="/logout"> logout </item>
   <item xref="/profile"> Profile </item>
  </list>
 </options>
 <meta> ...
  <userMeta> ... </userMeta>
  <objectMeta>
   <object identifier="hdl:12345/23"/>
     .... METS document for item ...
   </object>
  </objectMeta>
 </meta>
</document>
```

# Putting it all together

```
<document>
  <body> ... </body>
  <options> ...
    <list n="account">
      <item xref="/logout"> logout </item>
      <item xref="/profile"> Profile </item>
      <item xref="/submissions"> Submissions </item>
    </list>
  </options>
  <meta> ...
    <userMeta> ... </userMeta>
    <objectMeta>
      <object identifier="hdl:12345/23"/>
        .... METS document for item ...
      </object>
    </objectMeta>
  </meta>
</document>
```

# Putting it all together

Content Generation

Style Application

Artifact Browser

Eperson

Submission

Theme B

```
<html>
 <head> ... </head>
 <body>
  <div>
   <h1> viewing an item </h2>
   <table>
     ... The item's metadata ...
   </table>
  </div>
  </div>
   <li>
     <li><a href="/logout"> Logout </li>
     <li><a href="/profile"> Profile </li>
     <li><a href="/submissions"> Submissions </li>
   </li>
  </div>
 </body>
</html>
```
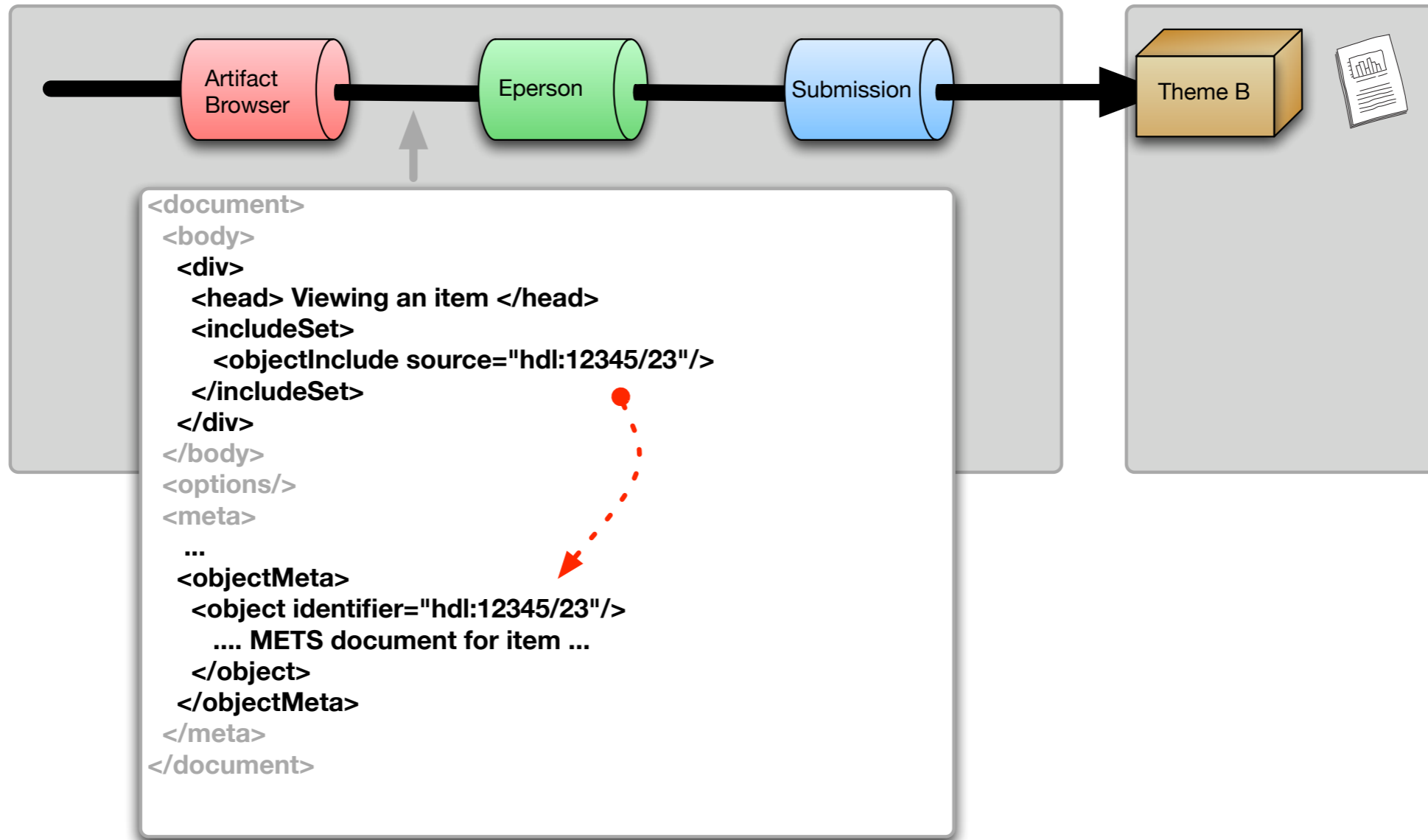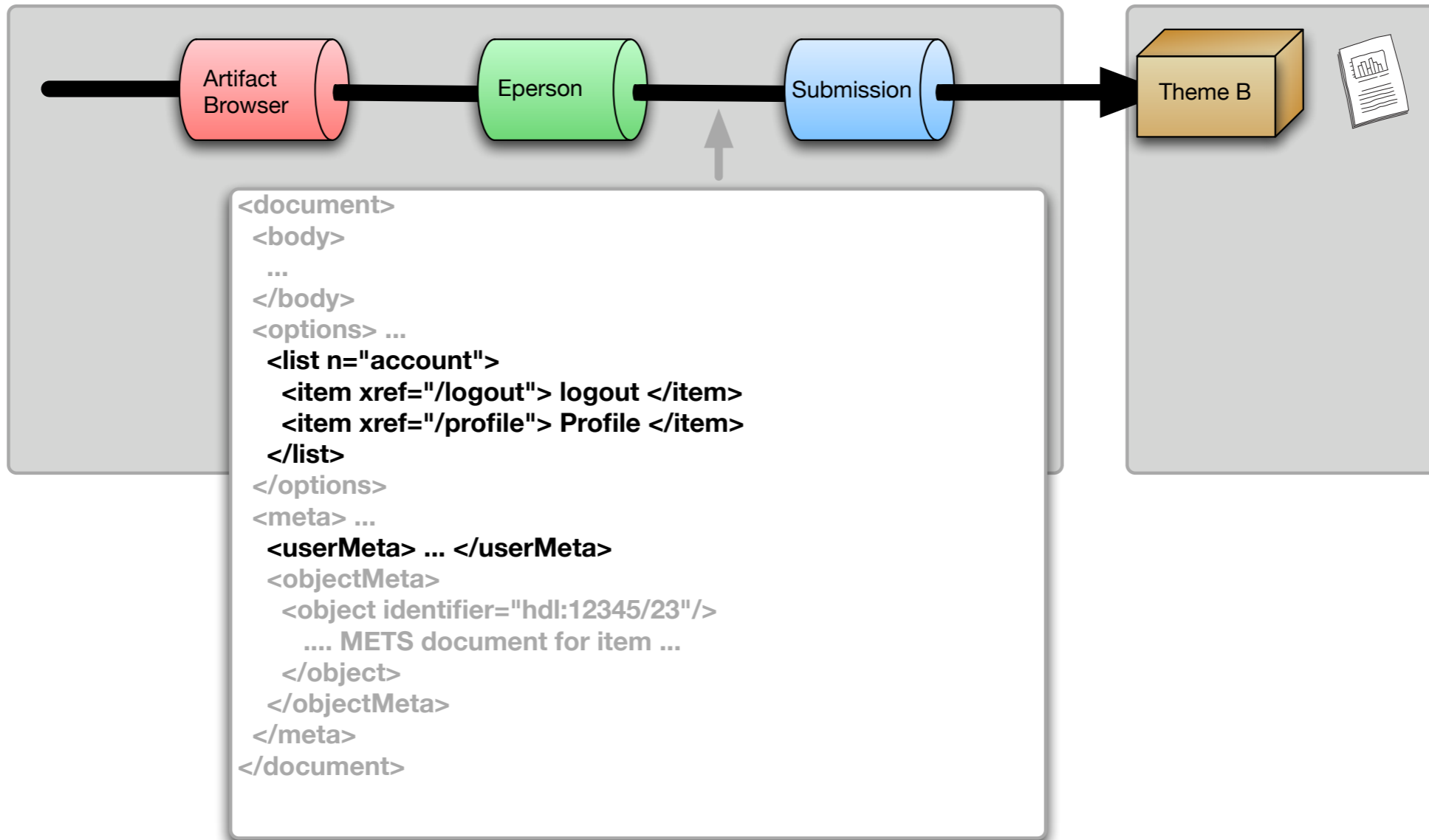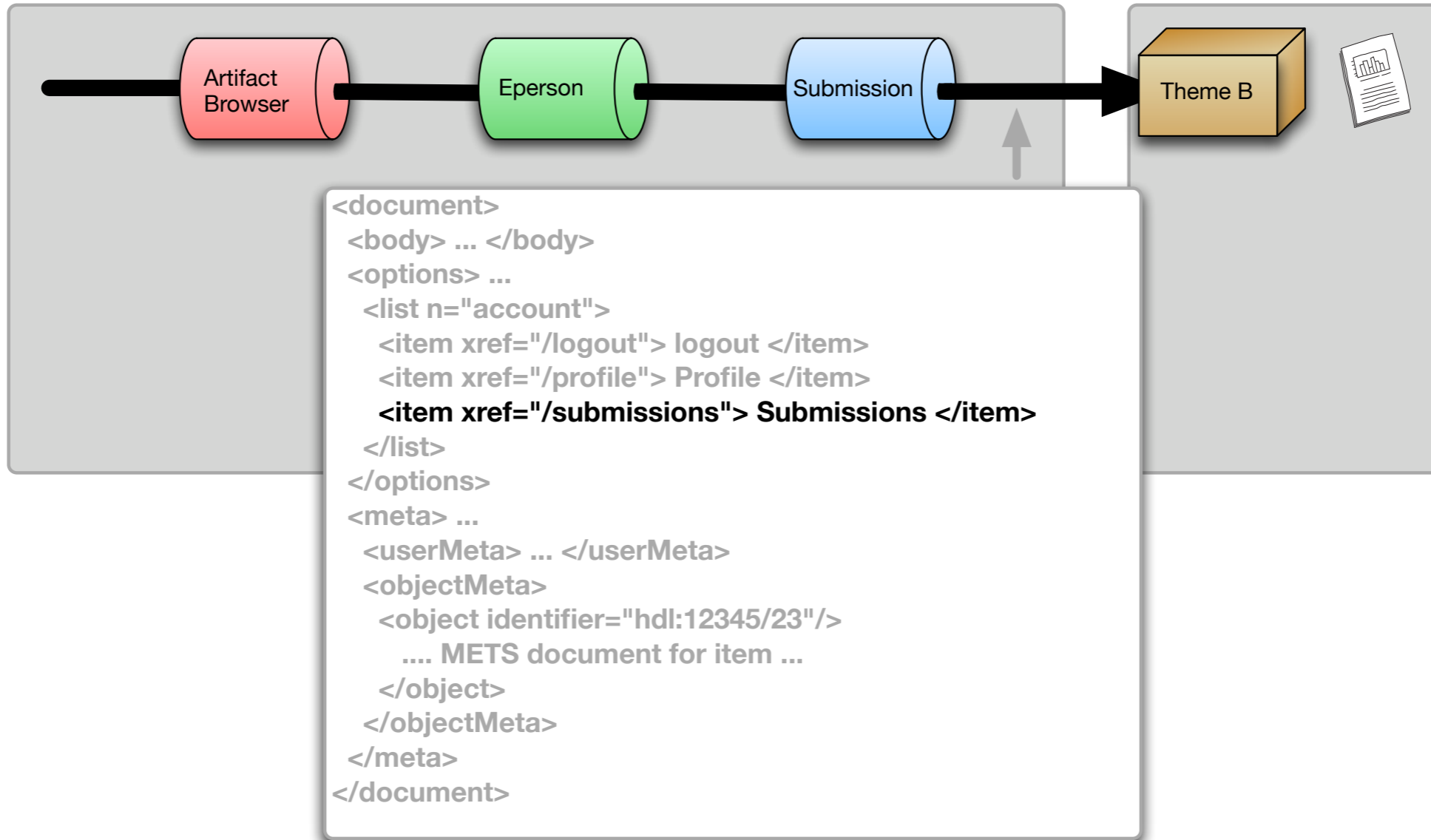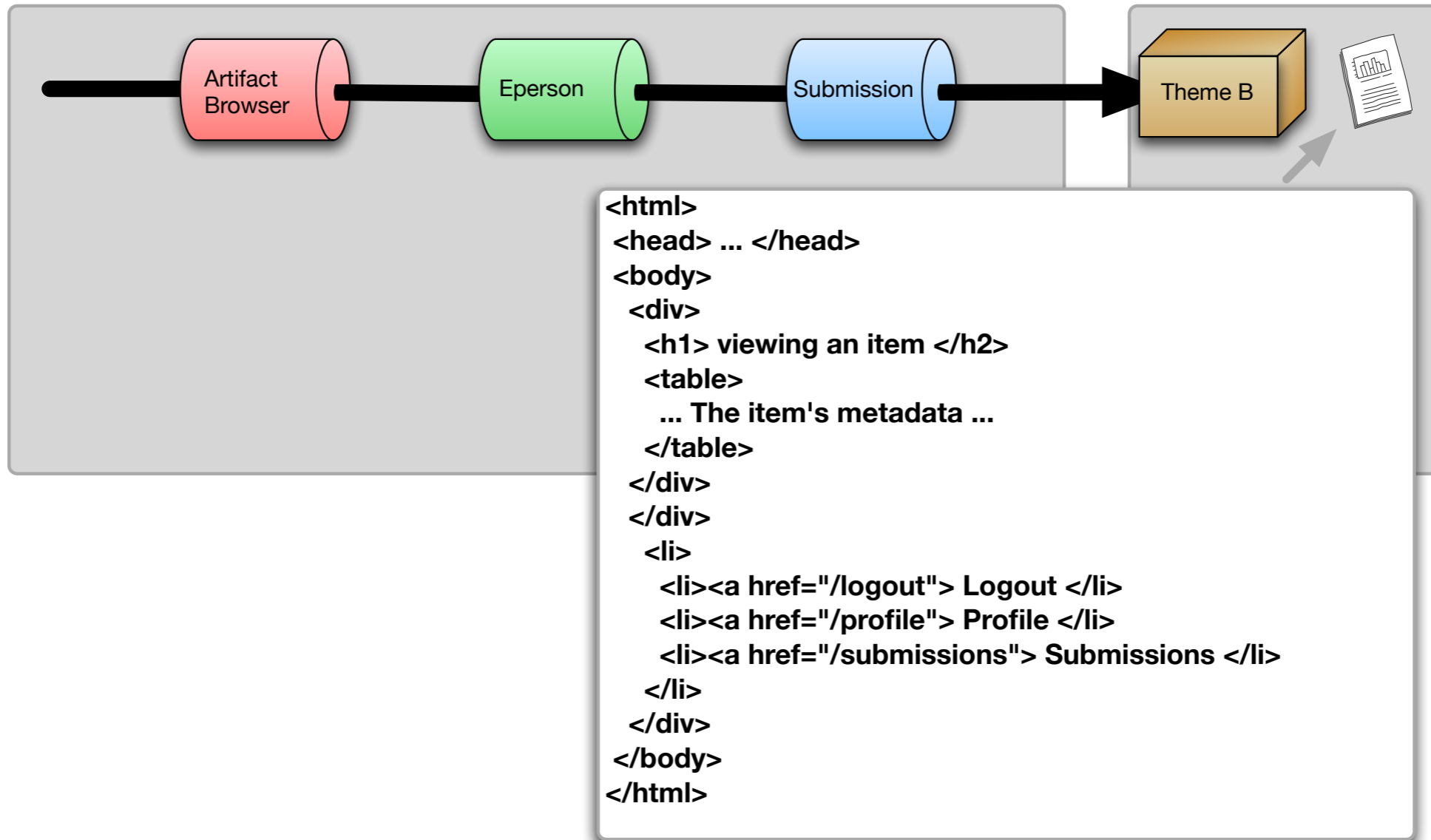
# Putting it all together

# Demonstration

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