

# Introducing Manakin: Overview & Architecture

TEXAS A&M UNIVERSITY  
LIBRARIES

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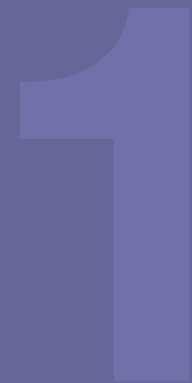
# Outline

- ▶ 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



# 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



The screenshot displays the Manakin DSpace interface. At the top right, the logo "Manakin" is accompanied by a bird icon and the text "A DSpace Project". Below the logo is a navigation bar with links for "Login", "Browse", "My Account", and "XML Test". The main content area is titled "Communities in DSpace" and contains a list of communities with their respective sub-collections. The footer includes the "Digital Initiatives Research & Technology" logo and a disclaimer about the Manakin front end.

**Manakin**  
A DSpace Project

Login  
Browse My Account XML Test

### Communities in DSpace

Select a community to browse its collections.

- [Community One](#)
  - [A John D. Wheelan Collection](#)
  - [Test Collection](#)
  - [Untitled](#)
- [CommunityTest](#)
  - [Top collection 1](#)
  - [Top collection 2](#)
  - [Sub community 1](#)
    - [Sub Top collection 1 - 1](#)
    - [Sub Top collection 1 - 2](#)
    - [Sub sub community](#)
      - [read](#)
      - [Shmoe](#)
      - [Sub sub collection 1](#)
      - [Sub sub collection 2](#)
      - [test clean](#)
      - [Untitled](#)
  - [Sub community 2](#)
    - [New collection](#)
    - [Sub Top collection 2 - 1](#)
    - [Sub Top collection 2 - 2](#)
    - [yay](#)
    - [First pure Manakin-bred community](#)
      - [And also a collection!](#)
- [ETD Tests](#)
  - [TAMU ETDs](#)
  - [TTU ETDs](#)
  - [UT ETDs](#)
- [Red collection](#)
  - [Colors, colors everywhere!](#)
  - [Longer is better](#)
  - [Maron & White](#)
  - [Not Orange](#)
  - [More collections!](#)
    - [One more?](#)
- [Test community](#)
  - [Adam's suggestion](#)
  - [Bob's collection](#)
  - [Ted's collection](#)
  - [Test sub community](#)
    - [Test sub collection](#)
- [Yay for top-level communities](#)

 This website is using Manakin, a new front end for DSpace created by Texas A&M University Libraries. The interface can be extensively modified through Manakin Aspects and XSL based Themes. For more information visit <http://dl.tamu.edu> and <http://dspace.org>  
[Contact Us](#) | [Send Feedback](#)

# 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:

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 Yinqhchieh., Ph. D., The University of Texas at Austin (2004)



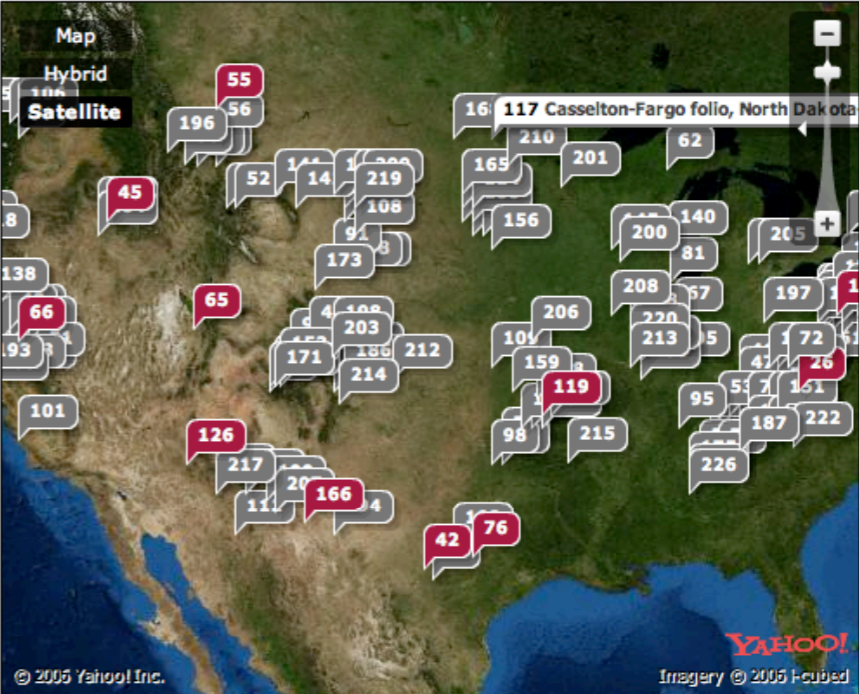
# Visualization

- ▶ Interpret metadata
- ▶ Link metadata
- ▶ Explain metadata

Texas A&M University *digital* REPOSITORY Login

U Digital Repository → Texas A&M University Libraries → Geologic Atlas of the United States

Map  
Hybrid  
Satellite



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## The Geologic Atlas of the United States

### Recent Submissions

- [Fort Benton folio, Montana](#)  
Weed, Walter Harvey, 1862-1944 (1899)
- [El Paso folio, Texas](#)  
Richardson, G. B. (George Burr), 1872-1949 (1909)
- [Coos Bay folio, Oregon](#)  
Diller, J. S. (Joseph Silas), b. 1850 (1901)

# Modularity

- ▶ Extend
- ▶ Adapt
- ▶ Customize

The screenshot displays the Texas Digital Library website interface. At the top, the logo features a star with the letters 'E' and 'D' inside, followed by the text 'TEXAS DIGITAL LIBRARY'. Below the logo is a navigation bar with links for 'Home > Repository > Theses and Dissertations', 'ABOUT', 'PROJECTS', 'SERVICES', 'NEWS', and 'CONTACT US'. The main heading is 'Theses and Dissertations'. A search filter section includes fields for 'Words in text:', 'Author:', 'Committee Chair:', 'Degree Level:' (with a dropdown menu showing 'All', 'Masters', 'Doctoral', 'University of Texas', and 'Texas Tech University'), 'Granting Institution:', and 'Year:' (with a dropdown menu showing 'All', '2006', '2005', and '2004'). A 'Go' button is located at the bottom of the filter section. To the right of the filter section, there is a copyright notice: 'For uses beyond applicable copyright license agreement, it is the user's responsibility to secure permission from the copyright owner. Please consult the copyright statement on the university's collection or contact the granting institution for further information.' Below this is a section titled 'Collections in this community' with a list of links: 'Texas A&M University at College Station', 'Texas Tech University at Lubbock', and 'University of Texas at Austin'. The 'Recent Submissions' section lists three entries, each with a Texas A&M logo, a title, author information, and dates, along with links for 'Full Text' and 'Citation':

- Measuring total longshore sediment transport with a LISST instrumented mini-s**  
Huchzermeyer, Erick Karl, 1974-, M. S., Texas A&M University (December 2005)  
[Full Text](#) [Citation](#)
- Design and synthesis of novel isoelectric buffers**  
Lalwani, Sanjiv Kumar Shankerdass, 1977-, Ph. D., Texas A&M University (August 2005)  
[Full Text](#) [Citation](#)
- Spatial pattern and temporal dynamics of northern bobwhite abundance and agricultural landuse, and potential casual factors**

# 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

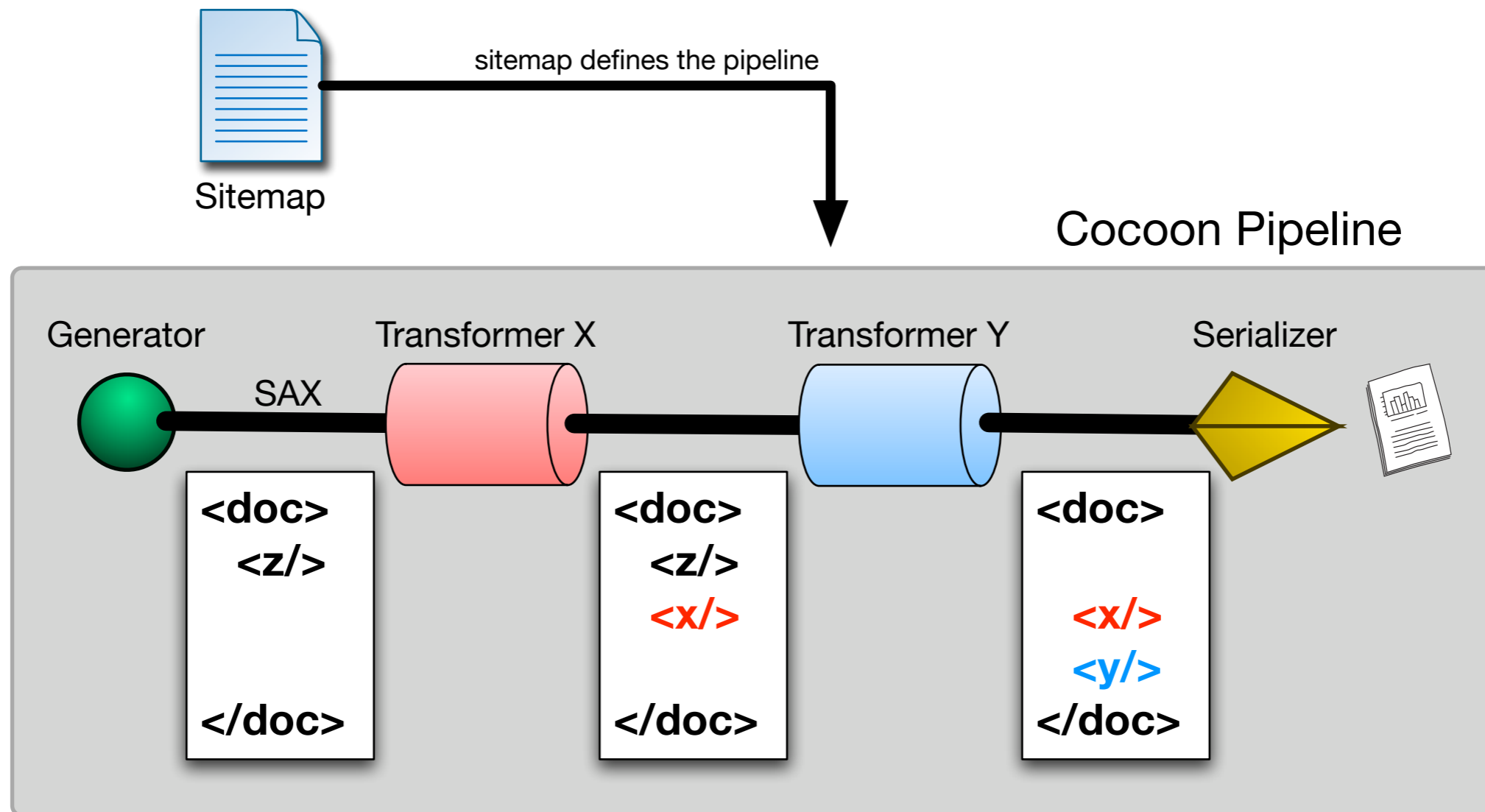
# Architecture

2



# Apache Cocoon

- ▶ Web development framework
- ▶ Pipeline-based architecture
- ▶ SAX-based XML
  
- ▶ Modular components
  - Generators
  - Transformers
  - Serializers

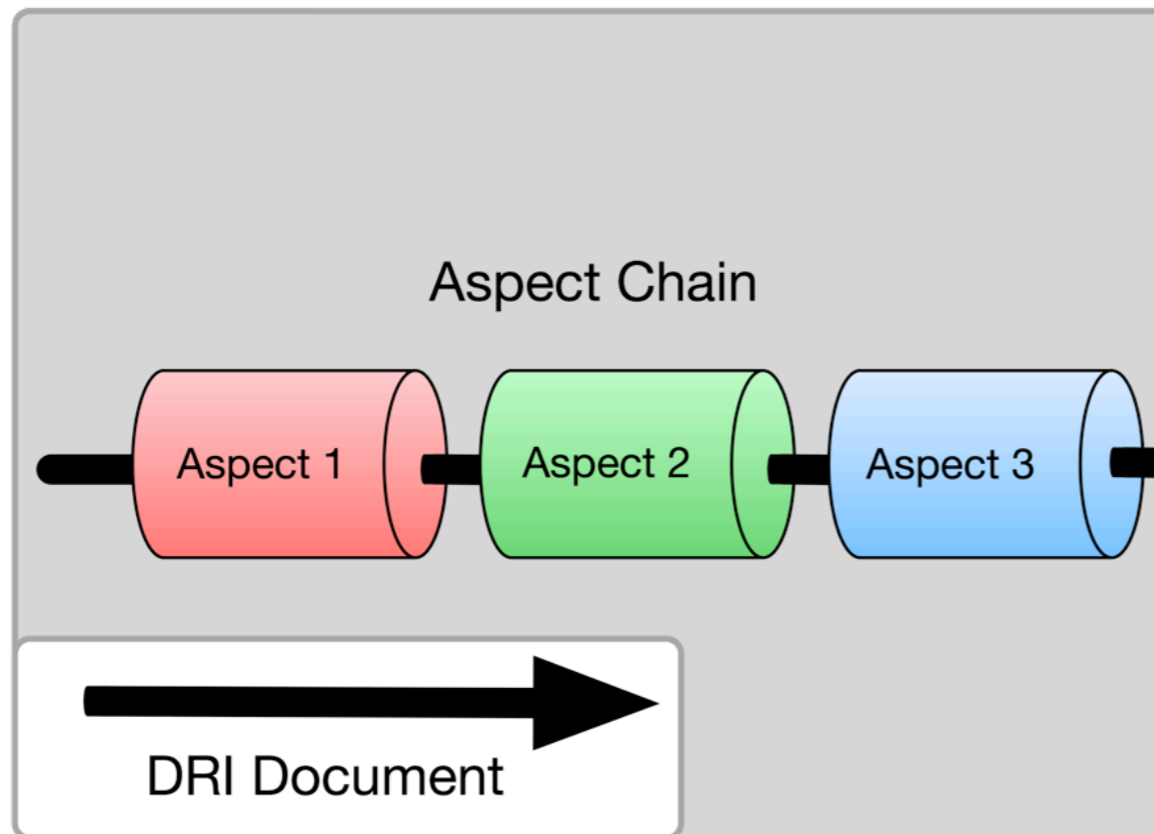


# Cocoon's Pipeline Model

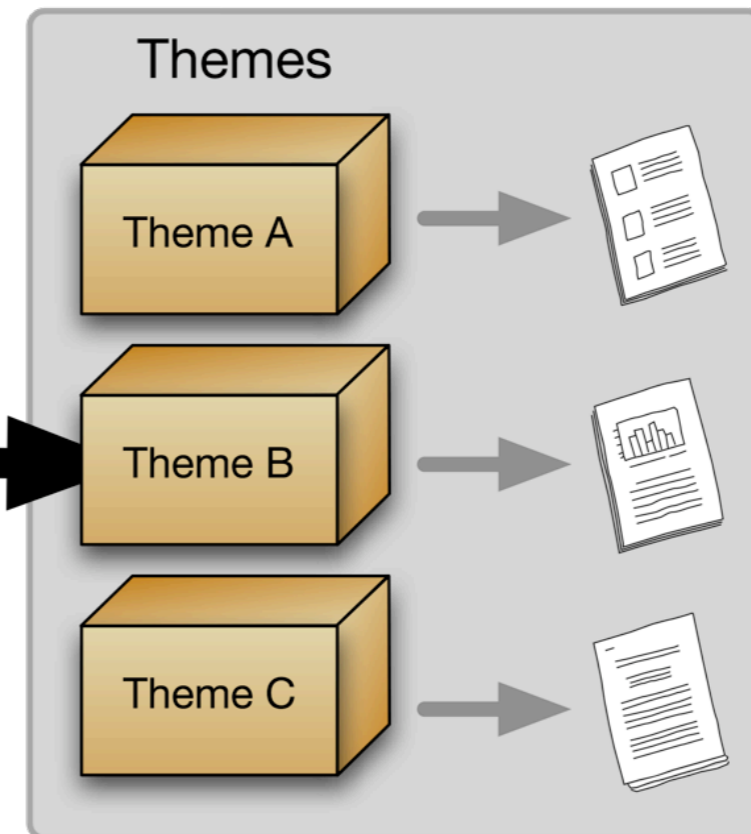
# Three Components

- ▶ Aspects
- ▶ Themes
- ▶ DRI Schema

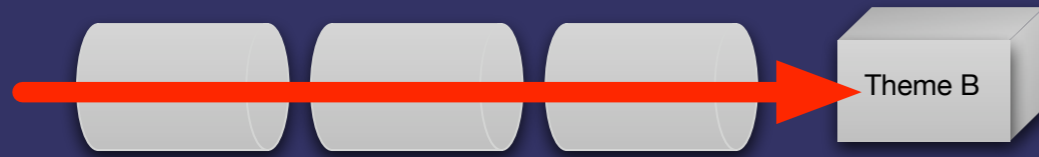
## Content Generation



## Style Application



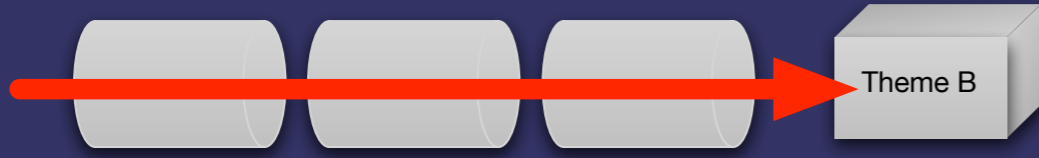
# Structural Overview



# DRI Schema

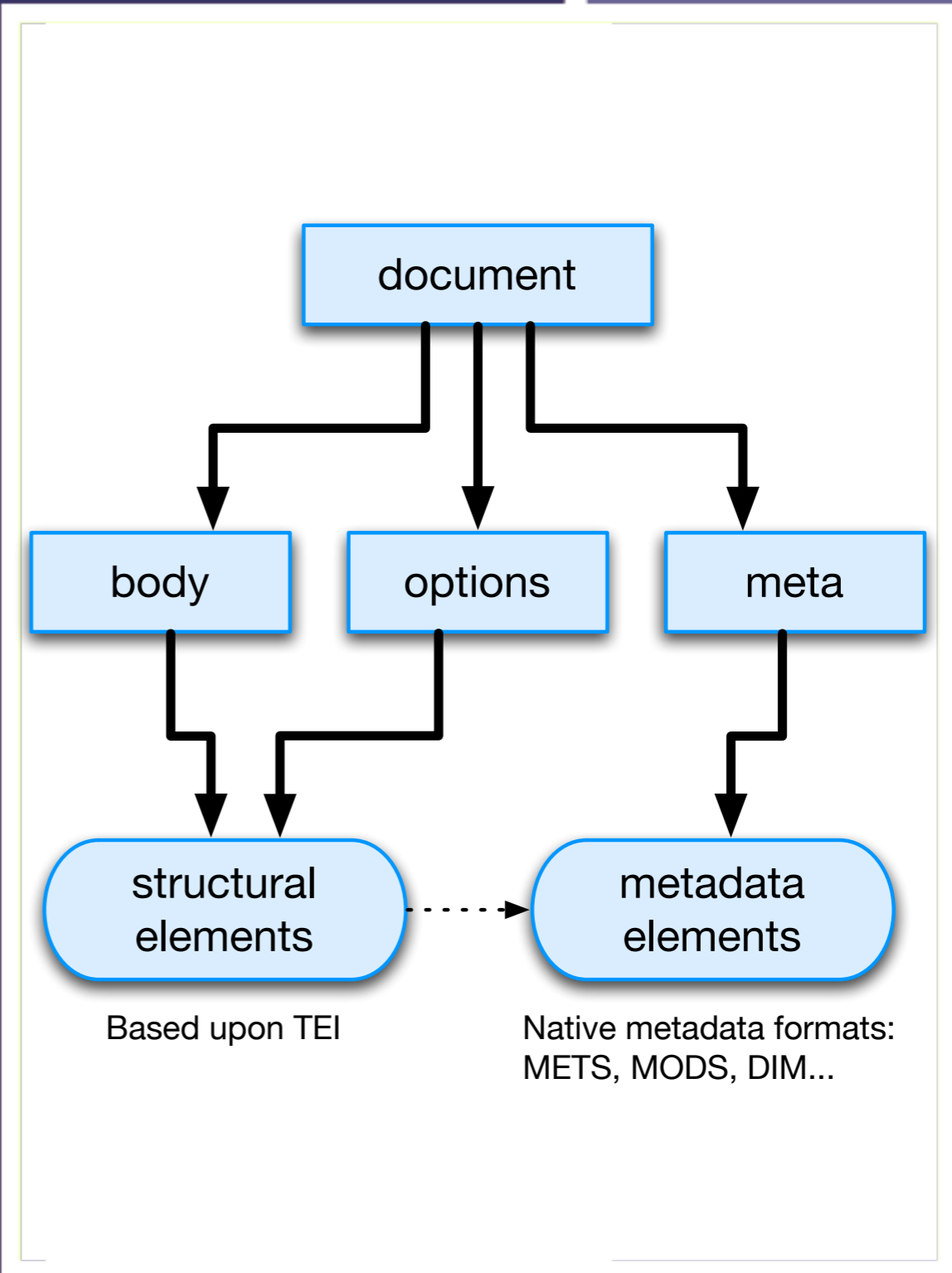
*Abstract representation  
of a repository page*

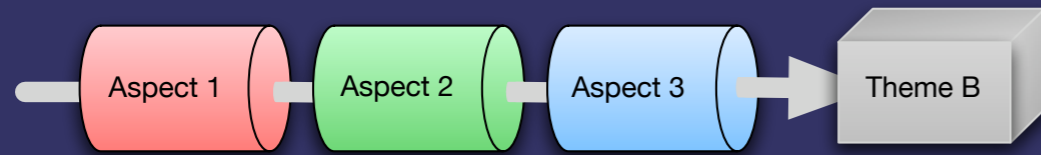
- ▶ **D**igital **R**epository **I**nterface
- ▶ Metadata elements
  - METS, MODS, QDC, DIM
  - Extendable to other metadata formats
- ▶ Structural elements
  - TEI (light)



# DRI Schema

*Abstract representation  
of a repository page*

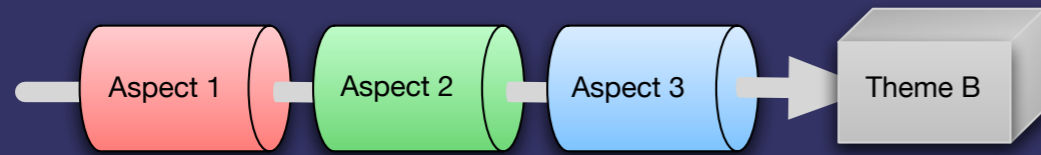




# Aspects

*Implement a set of related features*

- ▶ Applied to **all** pages
- ▶ “Aspect Chain”
  - Input DRI
  - Output DRI



# Aspects

*Implement a set of related features*

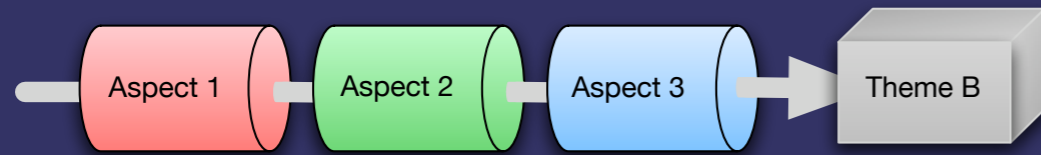
## ▶ Core Aspects:

- Artifact Browser
- E-Person
- Submission
- Administrative

## ▶ Possibilities:

- Shopping cart
- Specialized searching
- Customized workflow

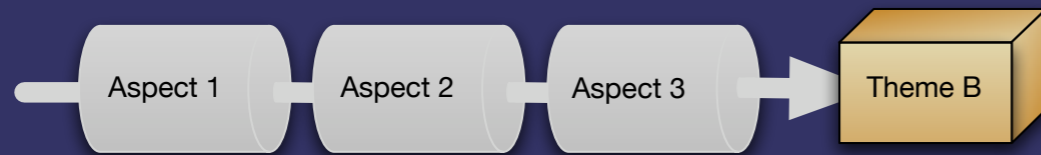




# Aspects

*Implement a set of related features*

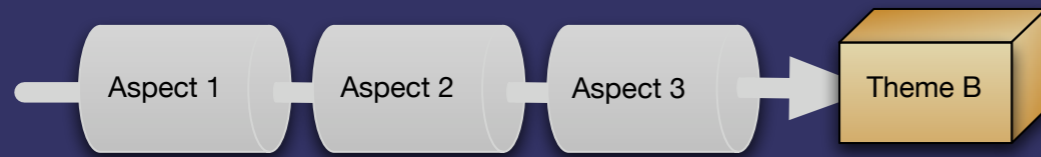
- ▶ Self contained packages
  - Java source code
  - Javascript flow scripts
  - XML Configuration



# 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



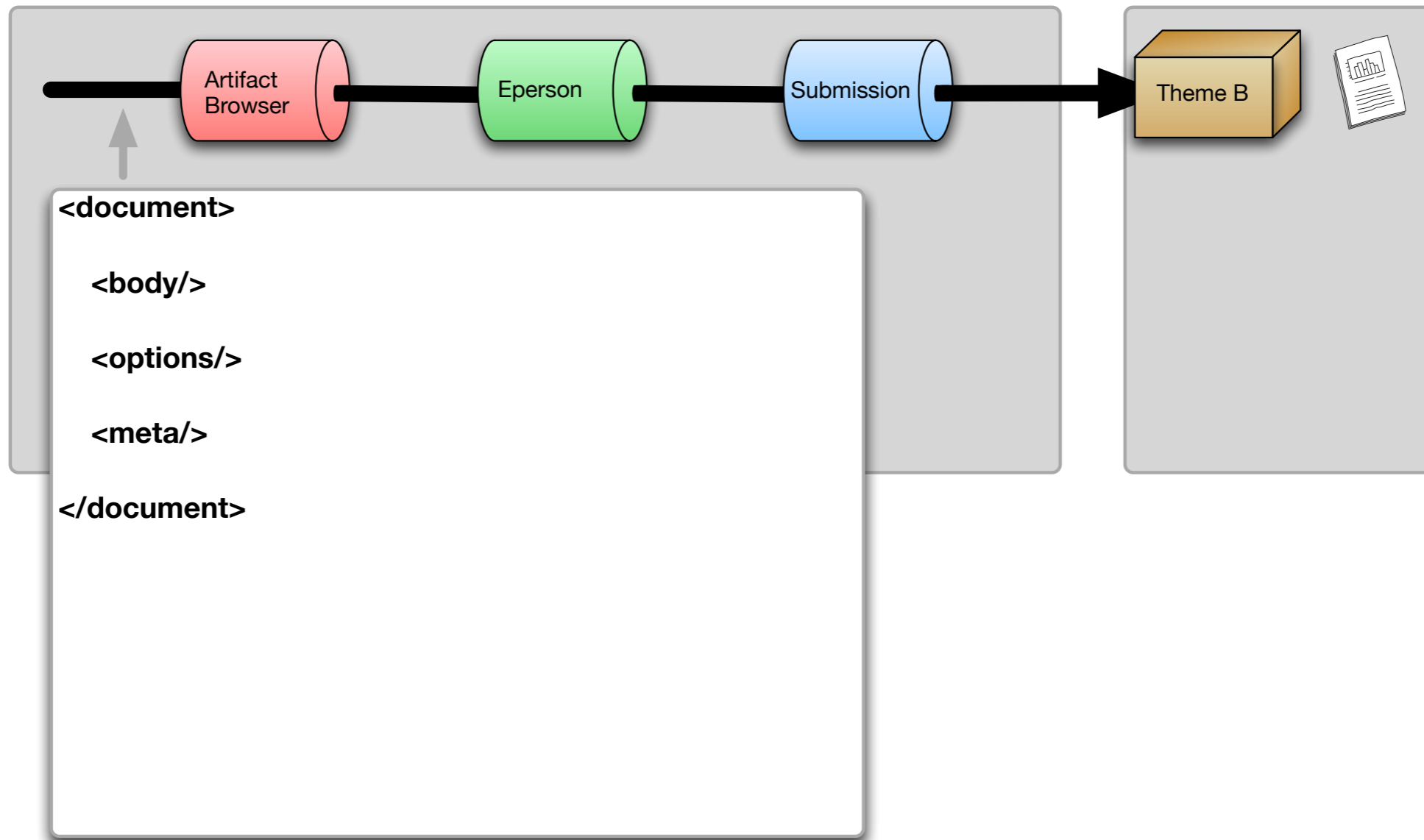
# Themes

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

- ▶ Self contained packages
  - XSL stylesheets
  - CSS stylesheets
  - Images
  - Static resources

## Content Generation

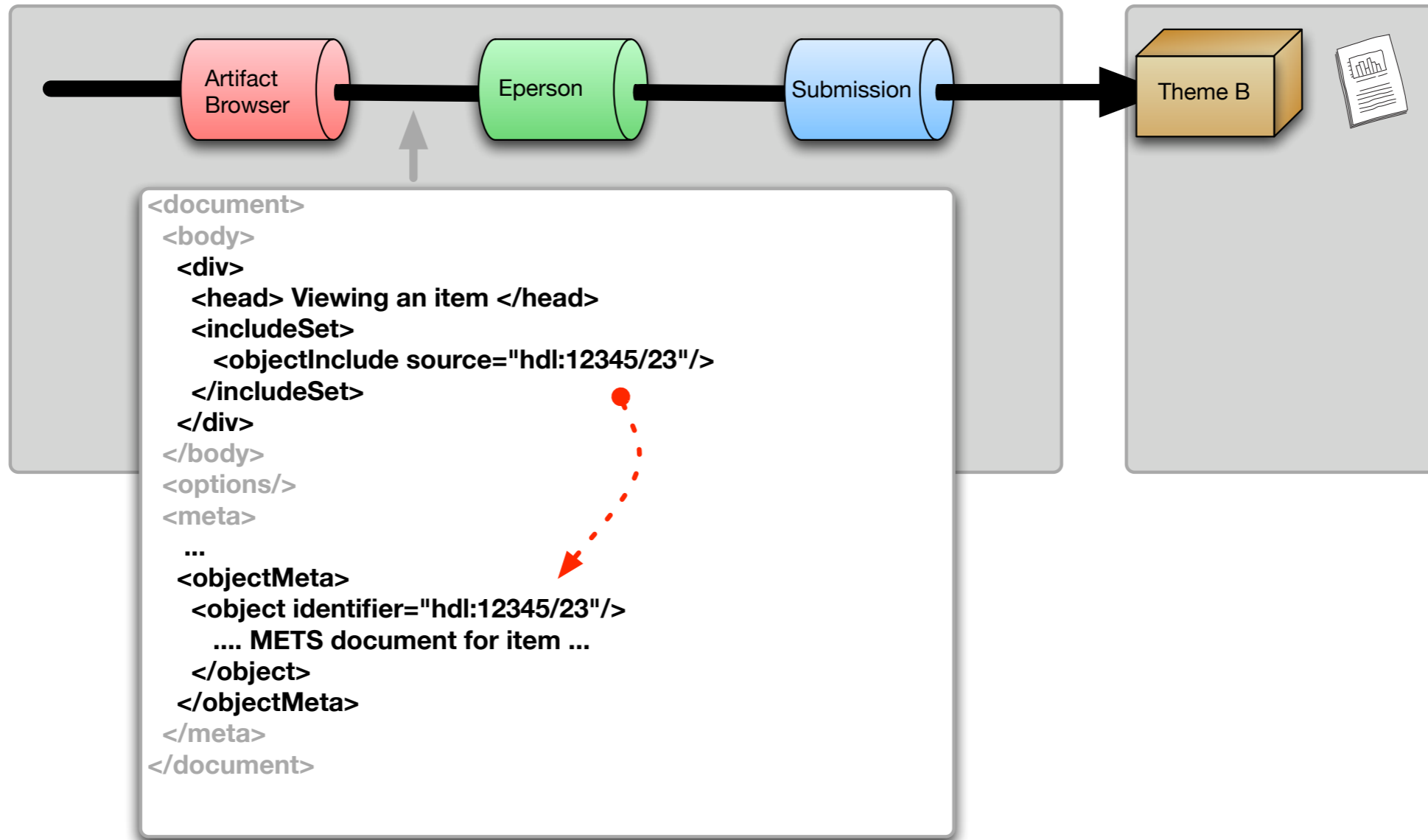
## Style Application



# Putting it all together

## Content Generation

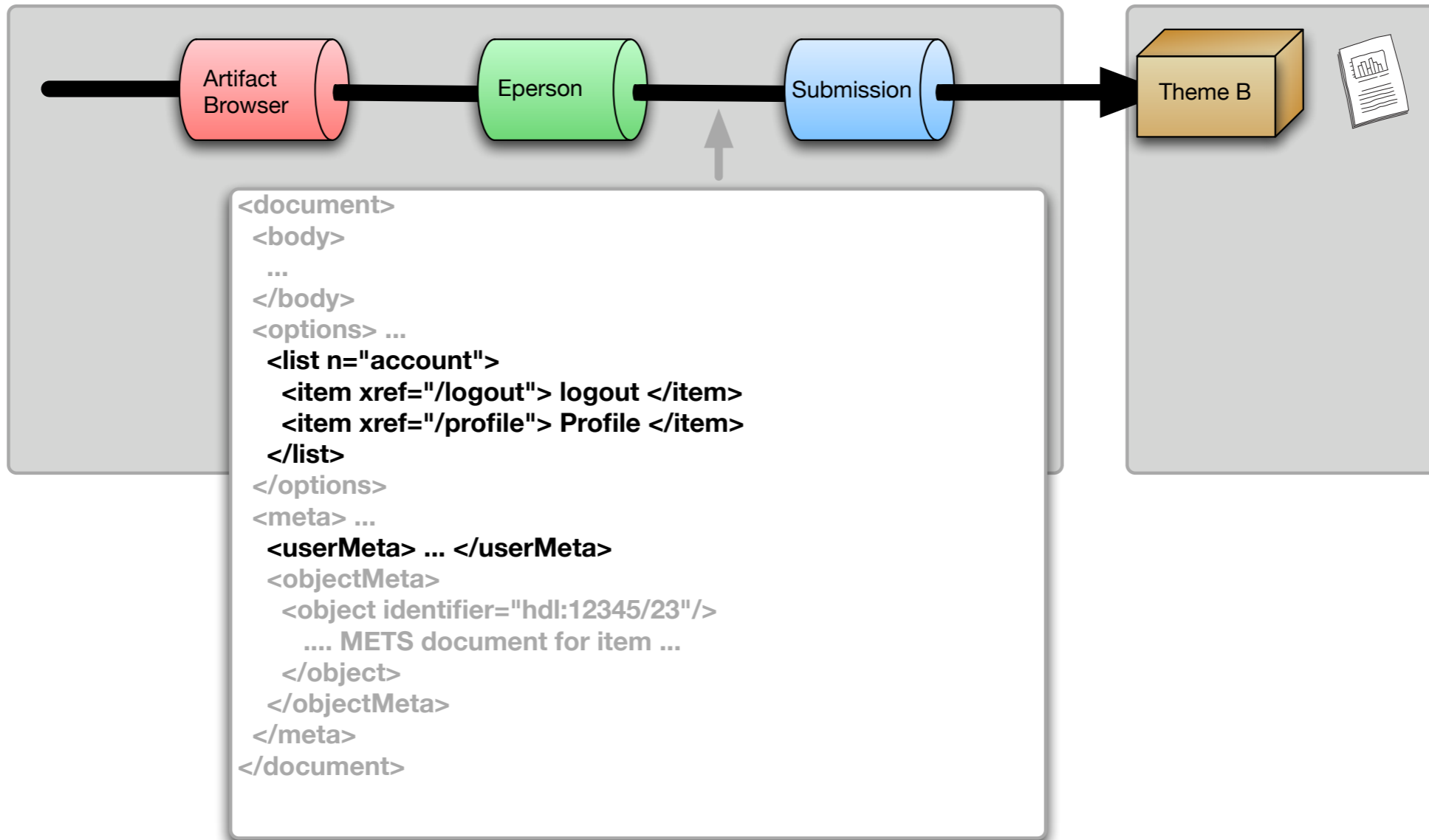
## Style Application



# Putting it all together

## Content Generation

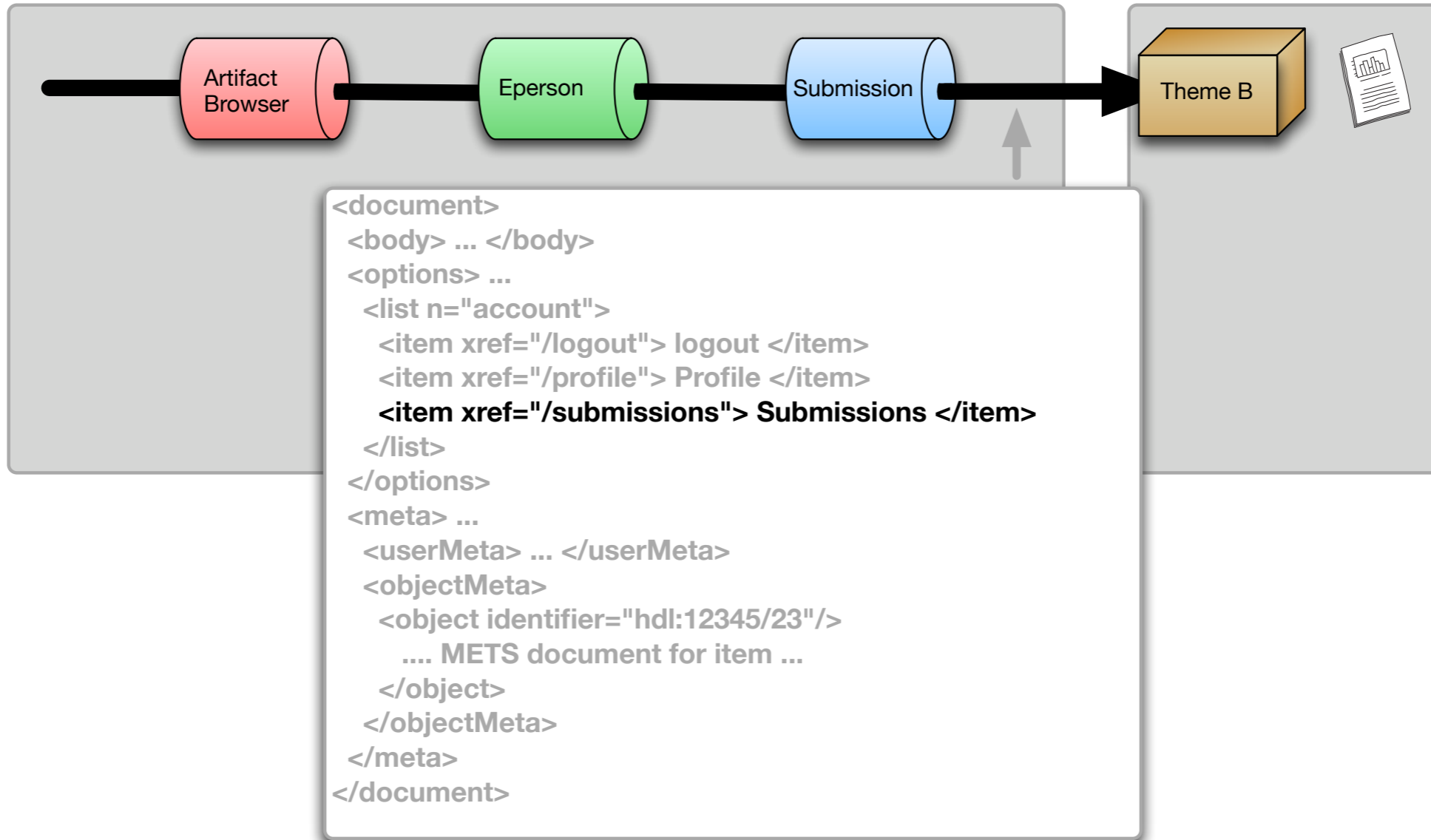
## Style Application



# Putting it all together

## Content Generation

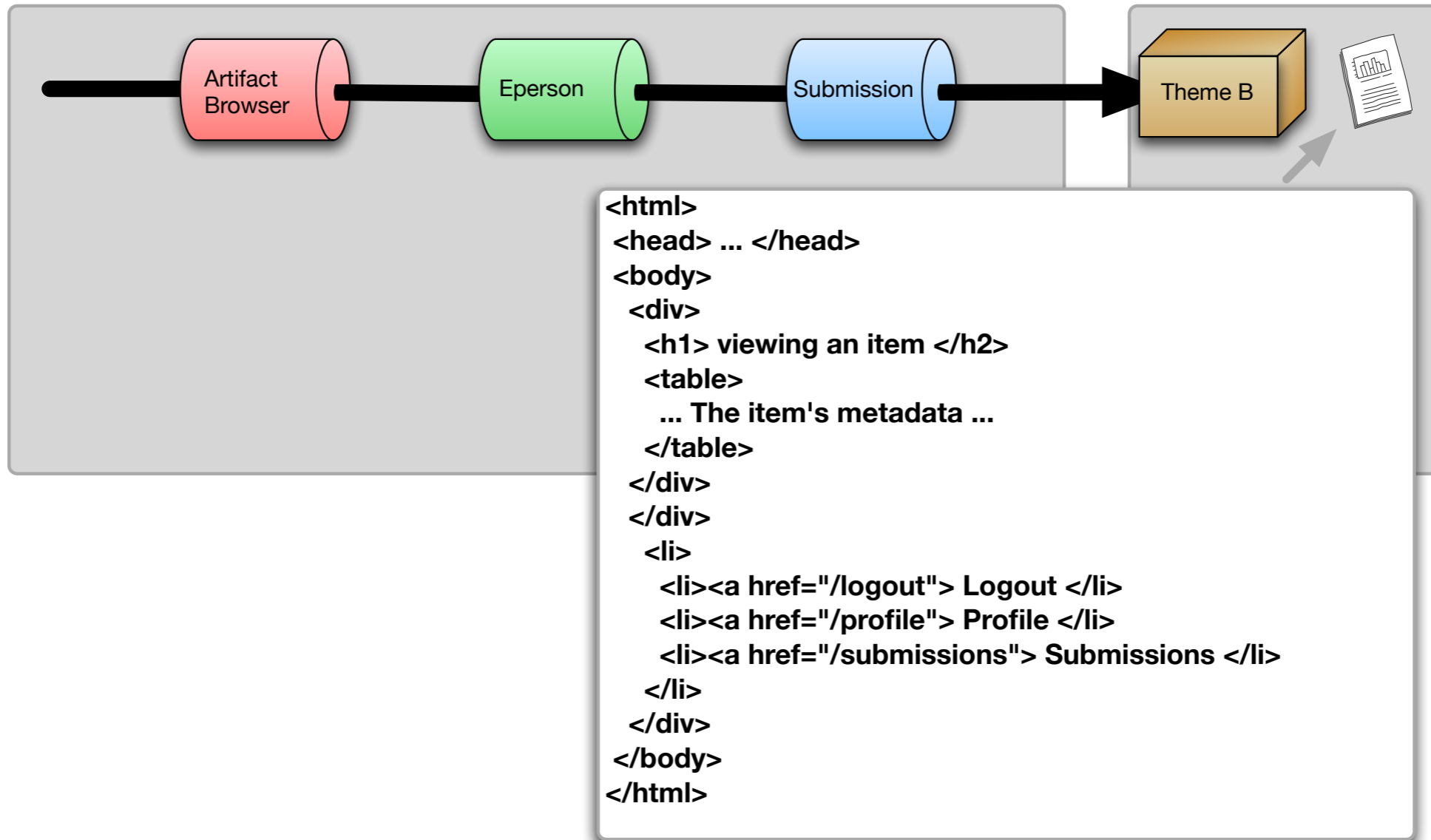
## Style Application



# Putting it all together

## Content Generation

## Style Application



# Putting it all together



# Demonstration

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