DSPACE 1.5 :
MOVING TOWARDS THE DSPACE OF THE FUTURE

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IDEALS
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JCDL Tutorial: June 16, 2008

Morning Schedule

- DSpace 1.5 Overview
  - What's changed?
  - Introducing new features…
- Upgrading/Moving to 1.5
  - Strategies, Planning, What to expect
- Questions / Discussion throughout
  - Trouble-shooting, time-permitting

DSpace 1.5 Feature Overview

- Maven Build Architecture

  - DSpace “modules”
  - Application “Overlays”
- XMLUI (aka. Manakin)

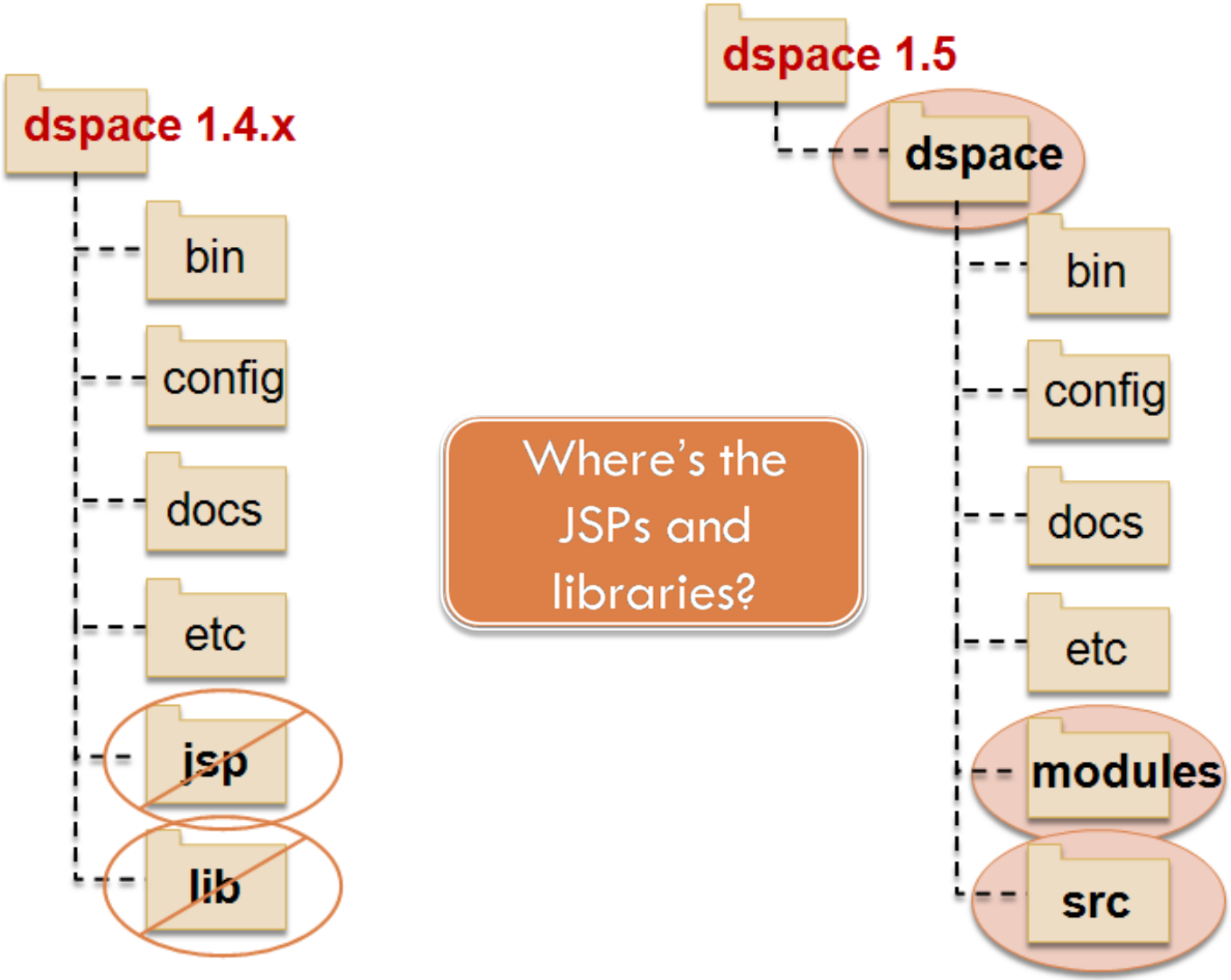
- Configurable Submission
- Streamlined Browse System
- SWORD Interface

- LNI (Lightweight Network Interface)

DSpace 1.5 Build Architecture

- Introducing Maven…
- So, why did we change this?

Restructuring DSpace…



Introducing Maven…

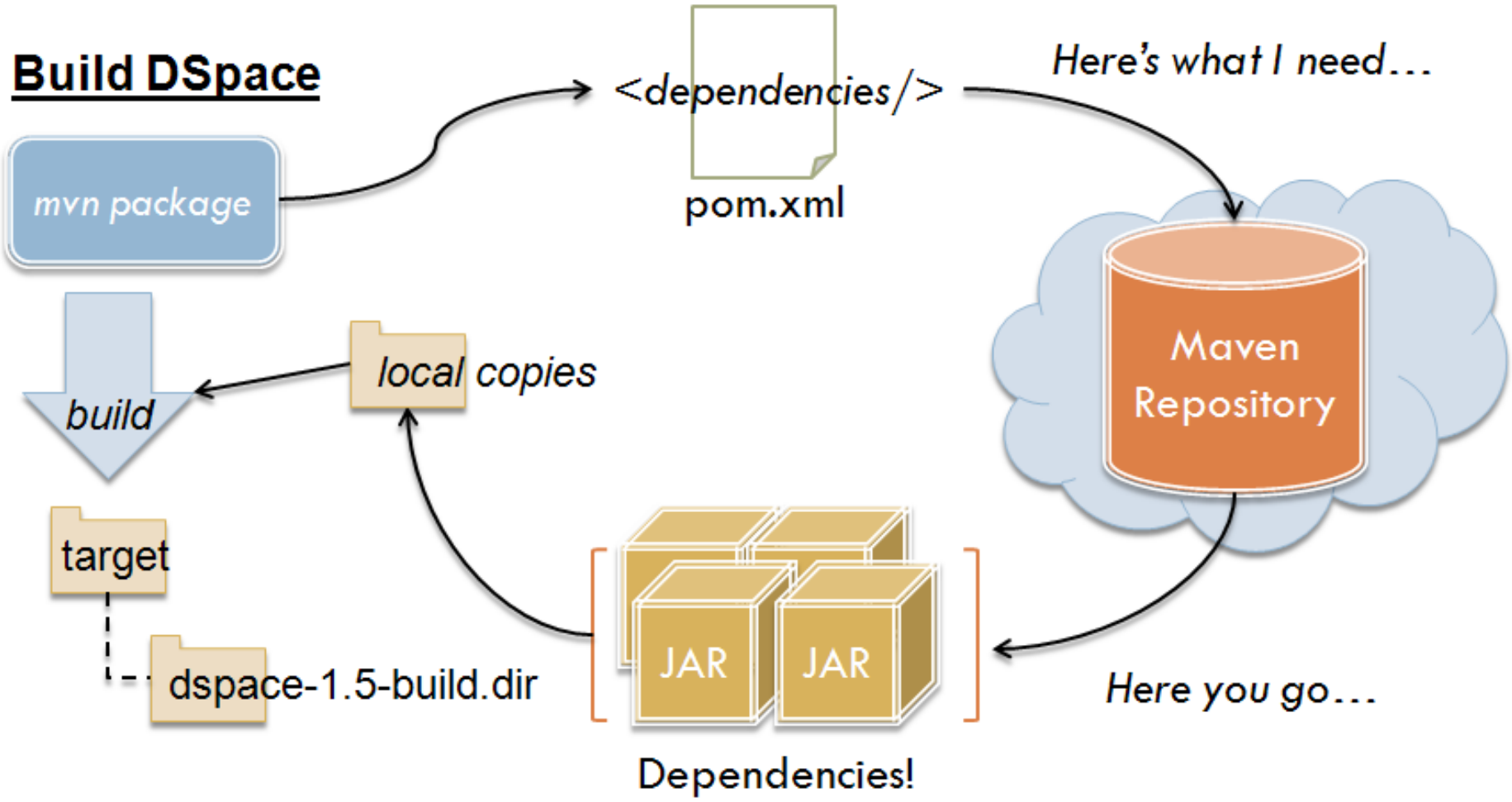
- Apache Software Foundation
- Java Project Build / Management Tool

- Advantages:
  - Manages dependencies
  - Easier to manage/build many “modules”
  - Allows for basic application customizations via “overlays”
- Disadvantages:
  - Yet Another XML config (many actually…)
  - Somewhat complex, if doing more than basic overlays

Maven v. Ant

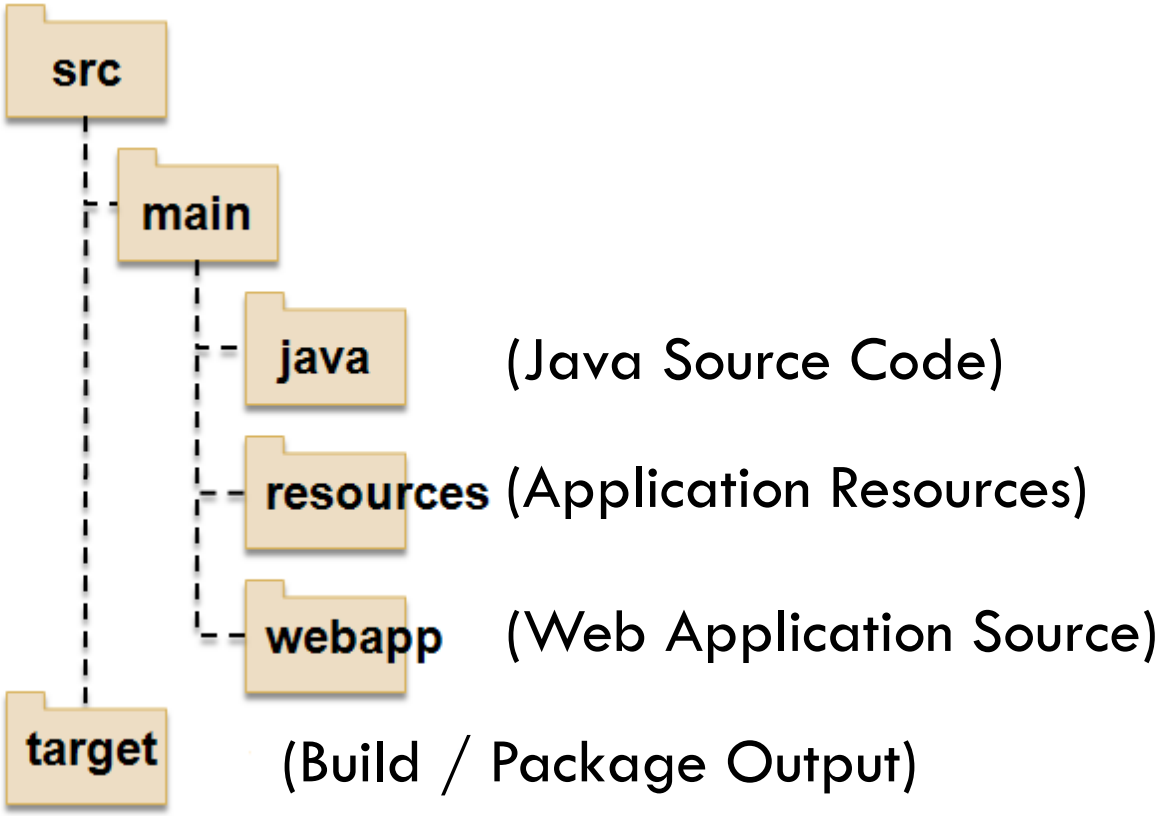
- DSpace 1.x-1.4 used Ant to build & install DSpace
- DSpace 1.5 uses both Maven & Ant
  - Maven – Builds / Assembles DSpace "package"
    - Includes applying "overlays" and pulling down all the necessary 3rd party dependencies
  - Ant – Installs or Updates your DSpace Installation

Ok, so what really is Maven?

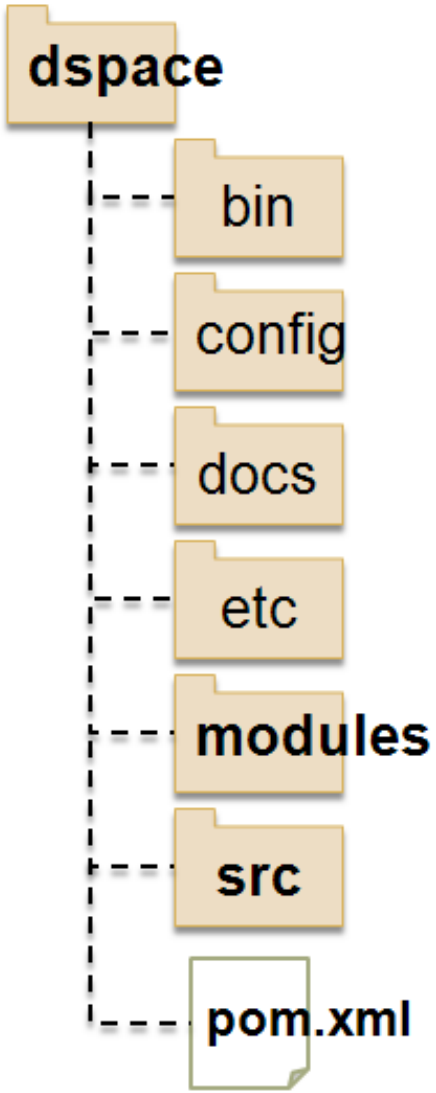


Maven Concepts: An Overview

- pom.xml (Project Object Model)
- Standard directory layout



DSpace 1.5 Release

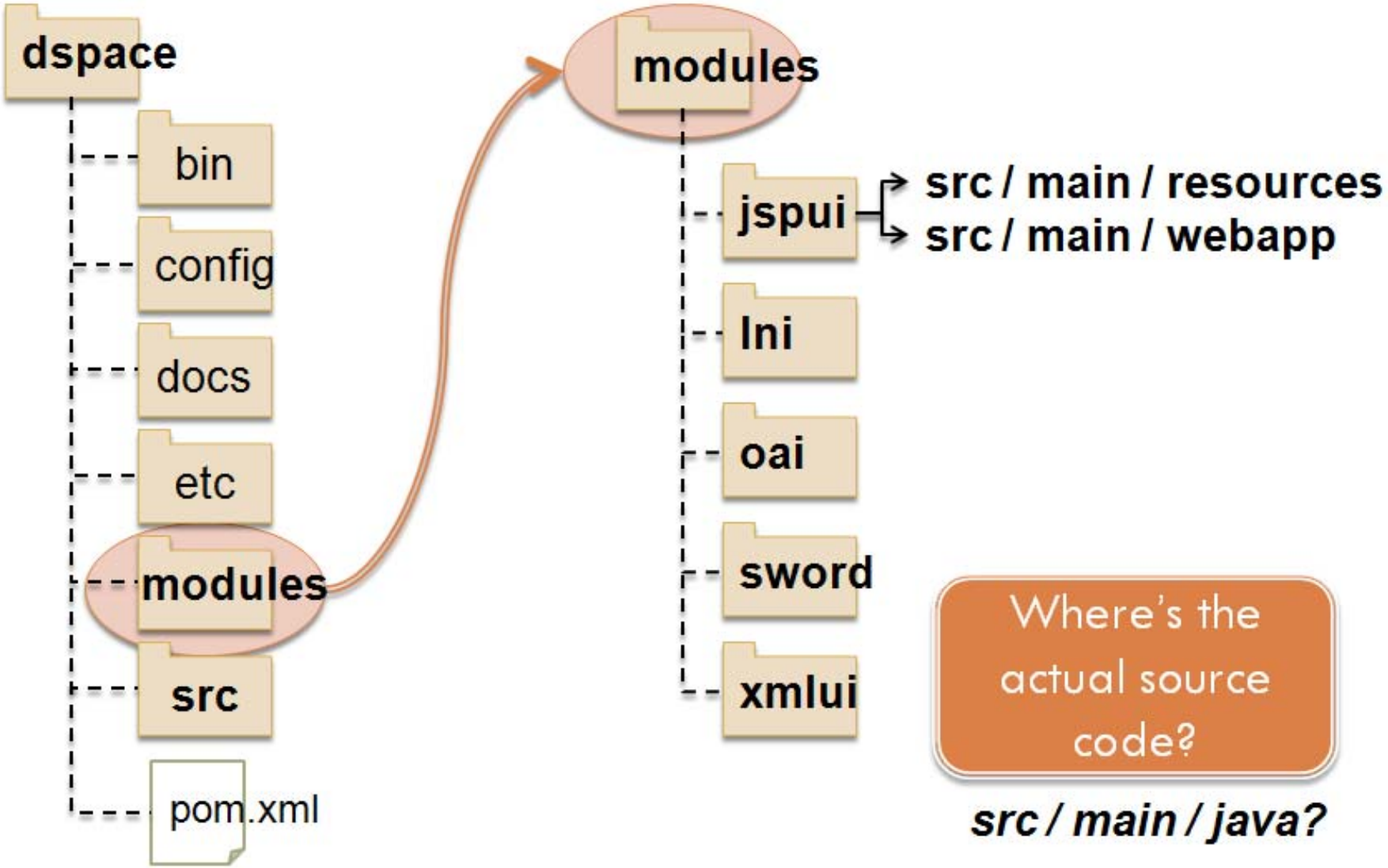


(Module Overlays)

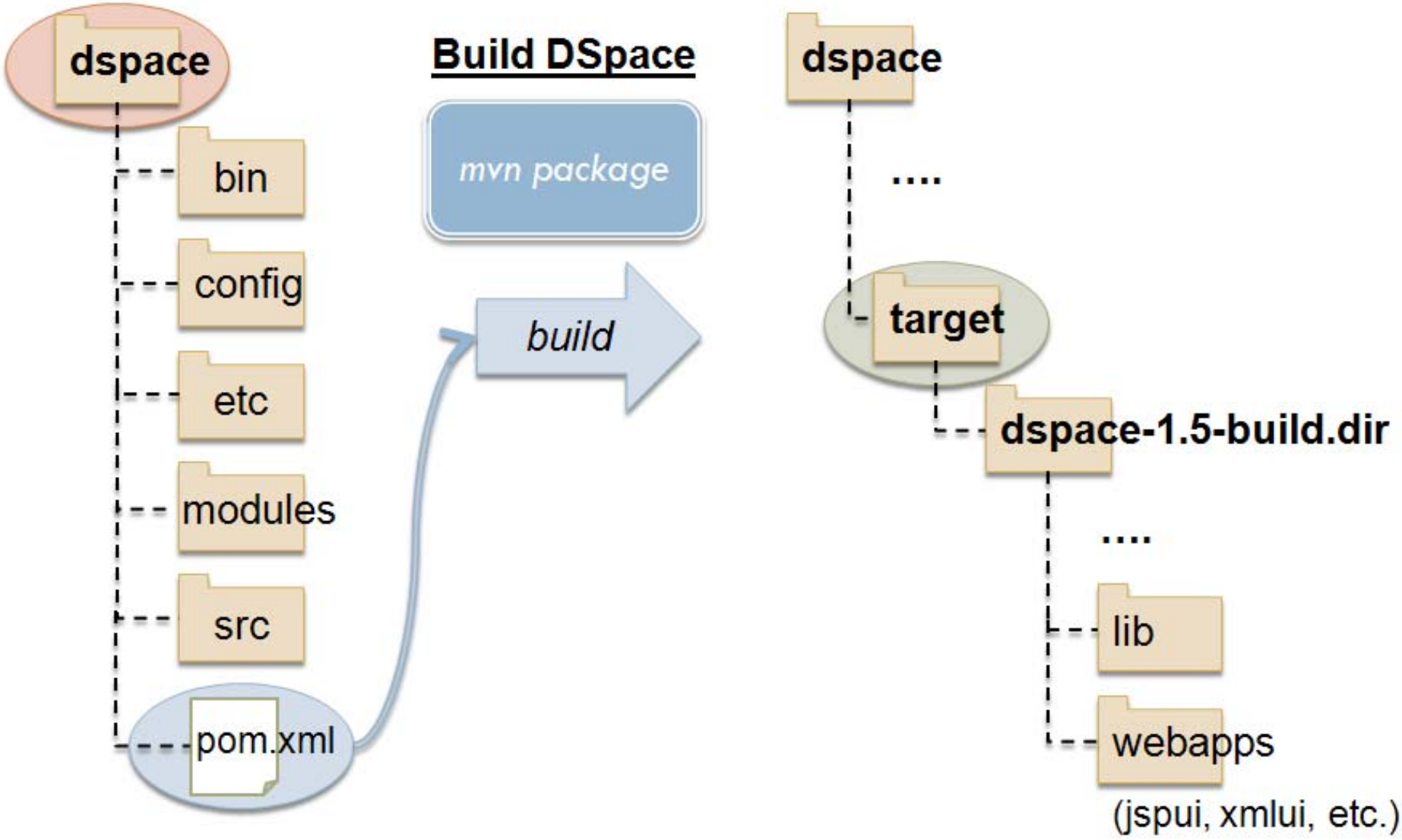
(Maven Build Settings – no Java here…)

(Maven Project Object Model settings)

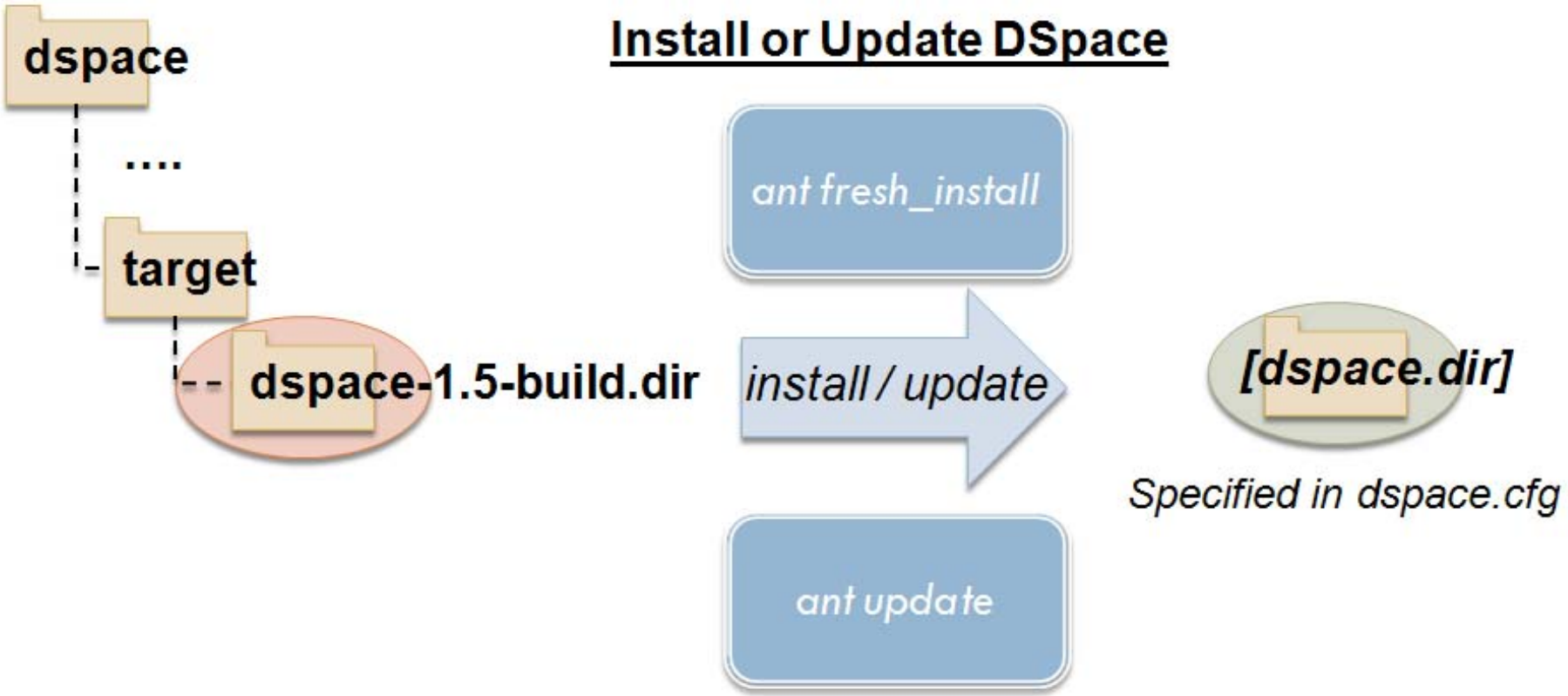
DSpace 1.5 “Modules”



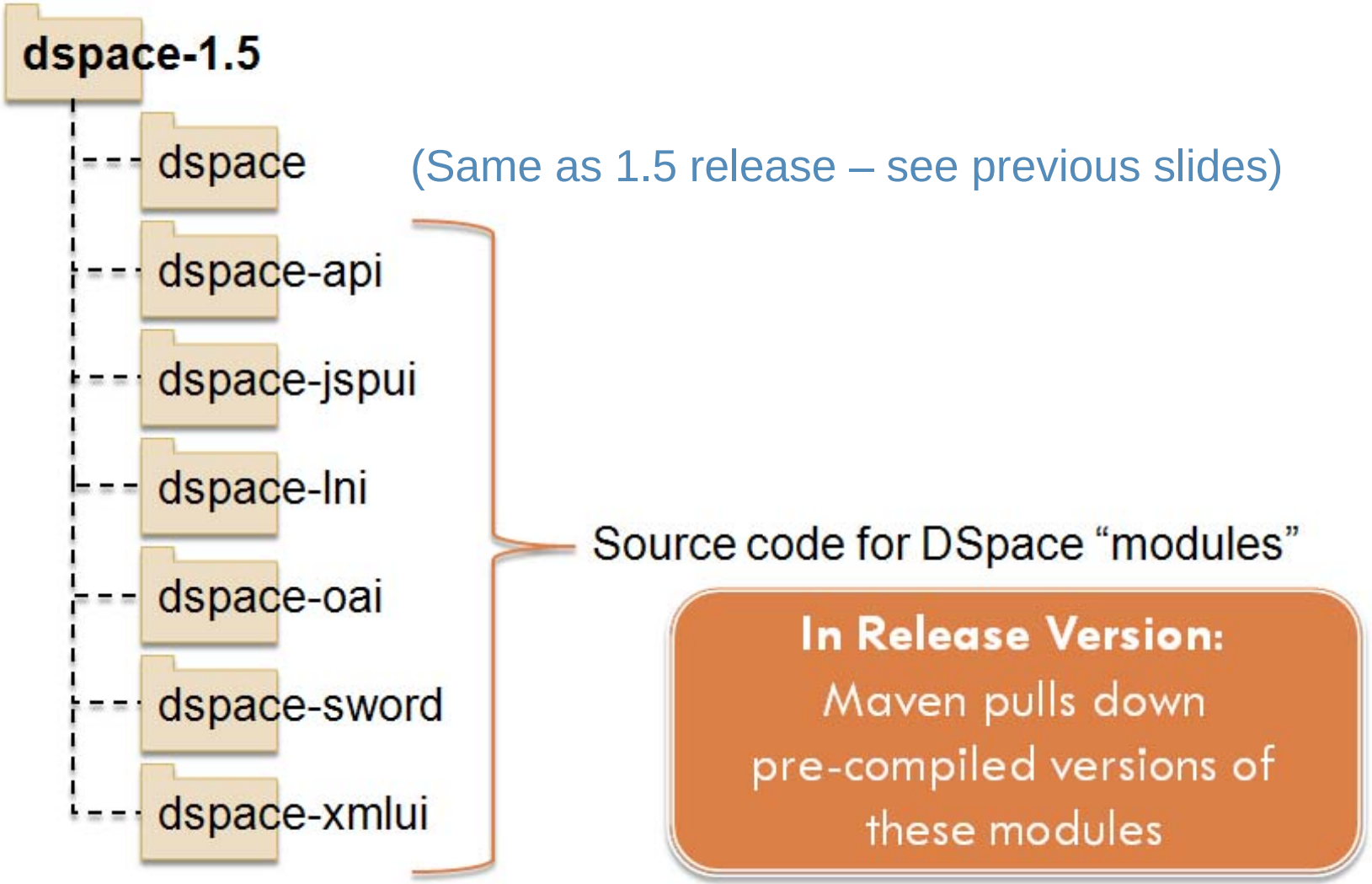
Building DSpace 1.5 (Maven)



Installing DSpace 1.5 (Ant)



DSpace 1.5 Source (SVN)



So, why'd we change this?

- Why the Maven Build Architecture?
  - More flexibility for future releases…
  - DSpace now consists of many "modules"…you can choose which ones you want to use!
  - Easier to extend / customize DSpace
    - Especially through "overlays"…(more on that later)

XML-UI Overview

- Intro to Manakin / XMLUI
- Tiered interface development

Credit: Scott Phillips, Texas Digital Library + Texas A&M
(Most of this content is borrowed heavily from Scott's numerous Manakin tutorials)

XMLUI, Classic Theme

XMLUI, Reference Theme

Login

DSpace Home

Search DSpace

Enter some text in the box below to search DSpace.

Go

Communities in DSpace

Select a community to browse its collections.

- Test Community

Search DSpace

Go

Advanced Search

Browse

- All of DSpace
  - Communities & Collections
  - By Issue Date
  - Authors
  - Titles
  - Subjects

My Account

- Login
- Register

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://di.tamu.edu and http://dspace.org

Contact Us | Send Feedback

XMLUI, Kubrick Theme

Why XMLUI?

- Module design – easier to extend
- Multiple interfaces / views, per community, collection or item
- Metadata in its native formats
- No knowledge of Java/JSPs necessary

Picture borrowed from:
http://www.flickr.com/photos/lambdageek/

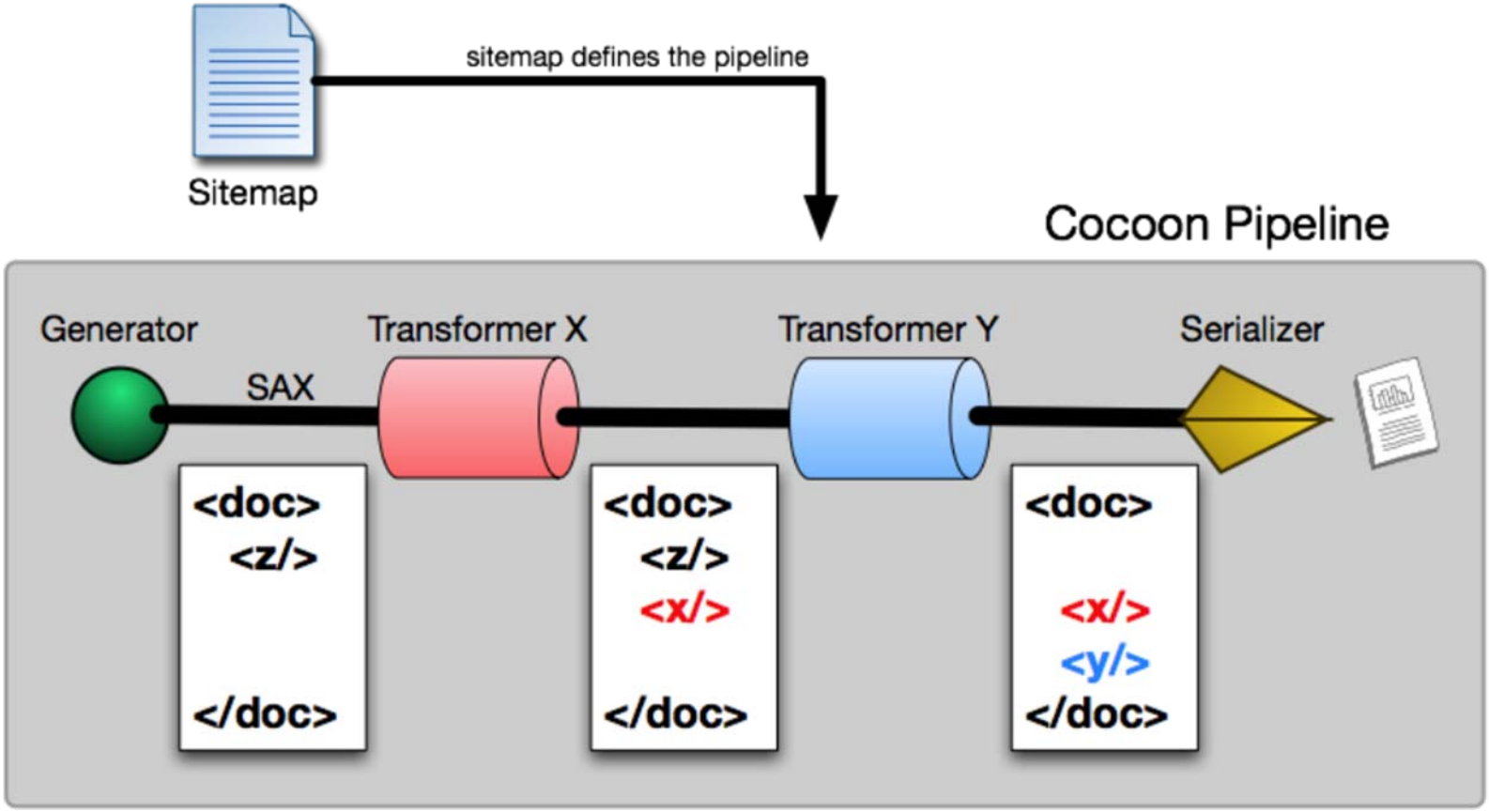
XMLUI Tiers

- Style Tier
  - Simple Themes: XHTML + CSS
- Theme Tier
  - Complex Themes: XSL + XHTML + CSS
- Aspect Tier
  - Add new features (aspects)
  - Java (or XSL) + Cocoon

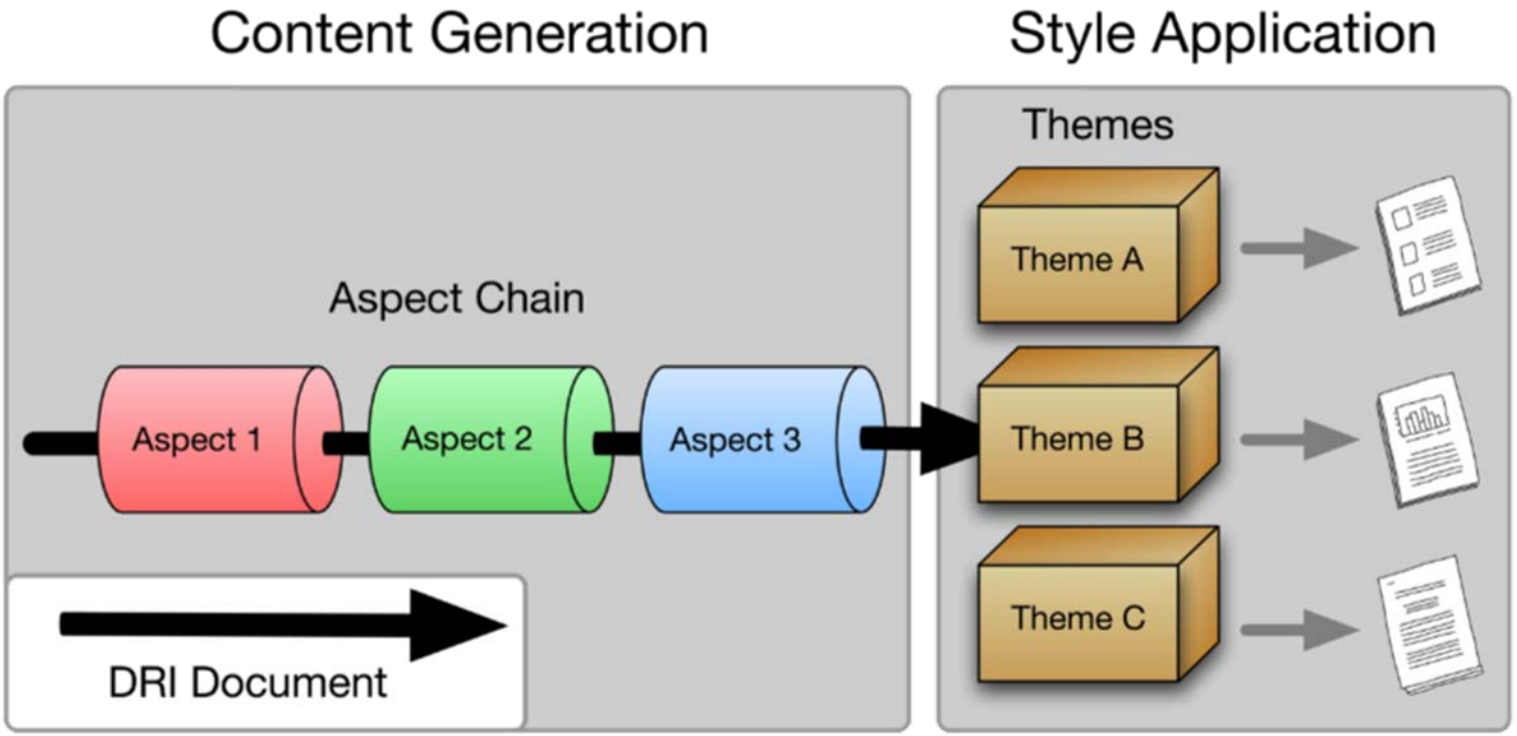
XMLUI Architecture

- Built on Apache Cocoon
  - Modular, web-development framework
  - *Pipeline based architecture*
- DRI (Digital Repository Interface) Schema
  - XML schema specific to XMLUI
- Aspects and Themes
  - Aspects = functionality in system
  - Themes = style / look & feel

Cocoon's Pipeline Model



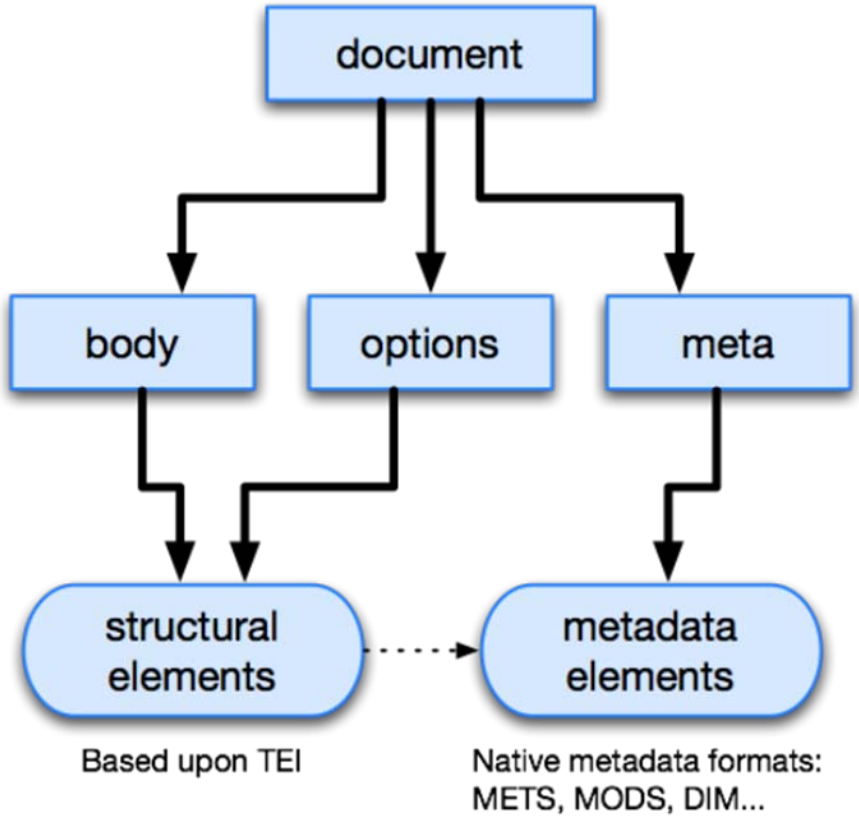
XMLUI Architecture Overview



Notice the similarities to Cocoon pipeline model!

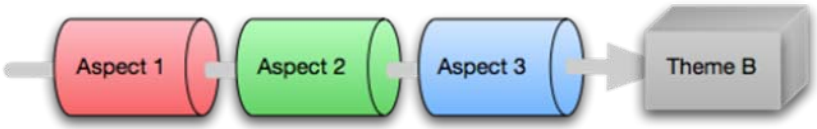
Digital Repository Interface (DRI)

- DRI is XML
- Abstract representation of page in a repository
- View from any page by appending ?XML or &XML onto URL



Aspects

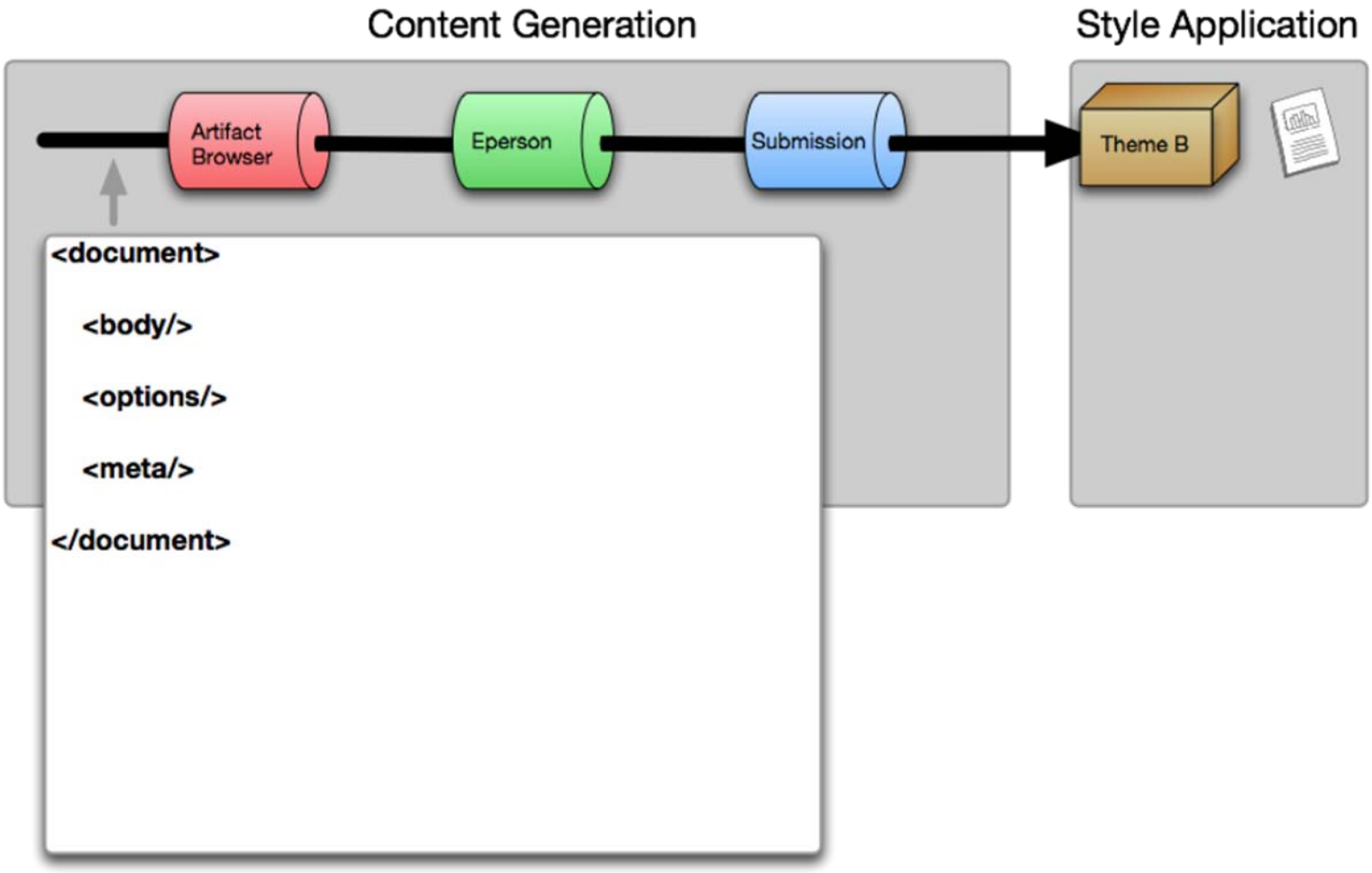
- Implement set of features across *entire* repository
  - Java or XSL
- "Aspect Chain" (see below)
  - Each requires valid DRI document as input/output
- Core Aspects in DSpace 1.5
  - Artifact Browser (browse / search)
  - E-Person (login / logout)
  - Submission (submit new items)
  - Administrative (admin and management tools)



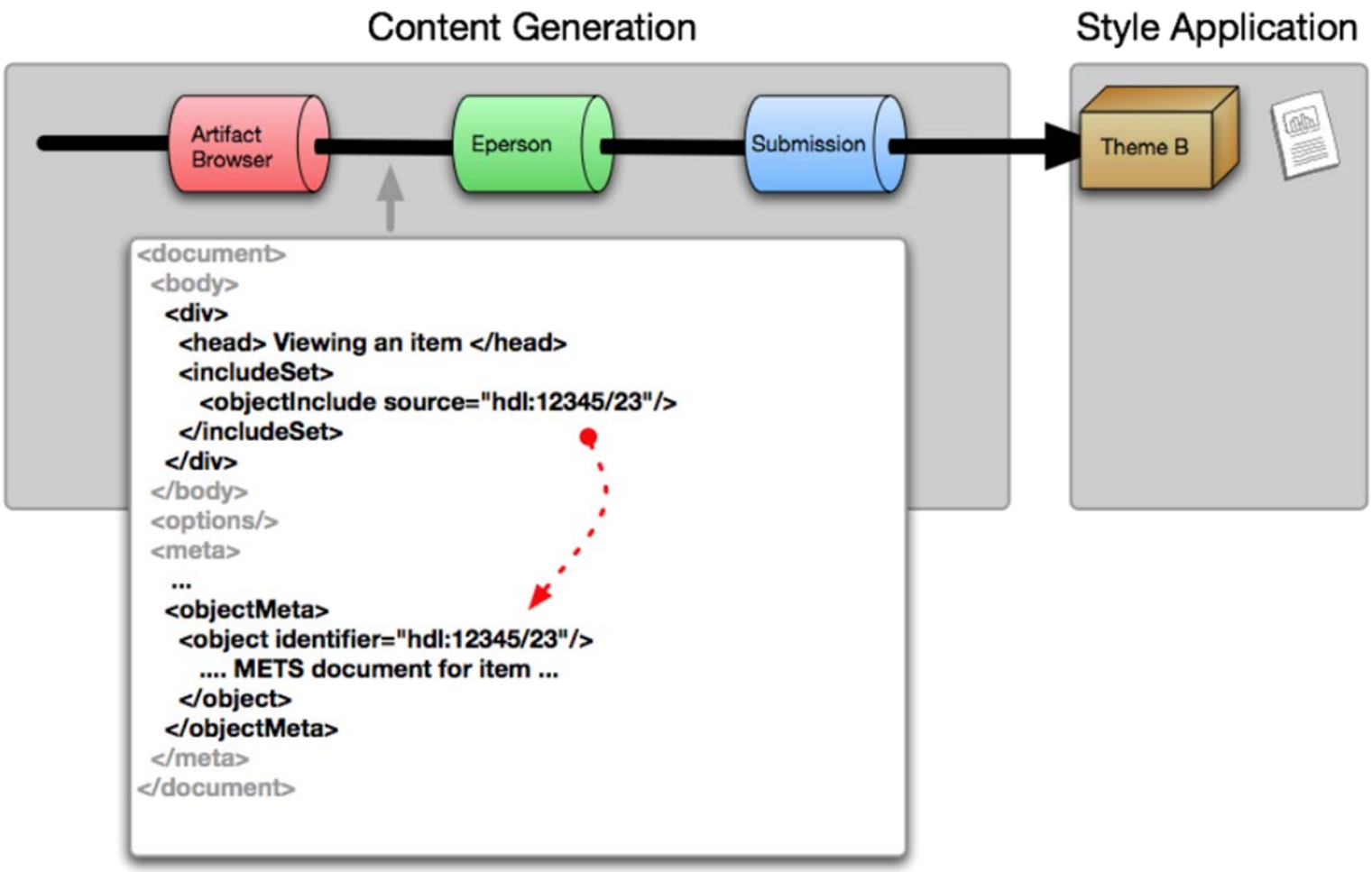
Themes

- Look and feel of repository
- May apply to any of following:
  - item, collection, community, whole repository
- Theme folders can include
  - XSL (restructure site)
  - CSS (add style)
  - Images
  - Other static resources?

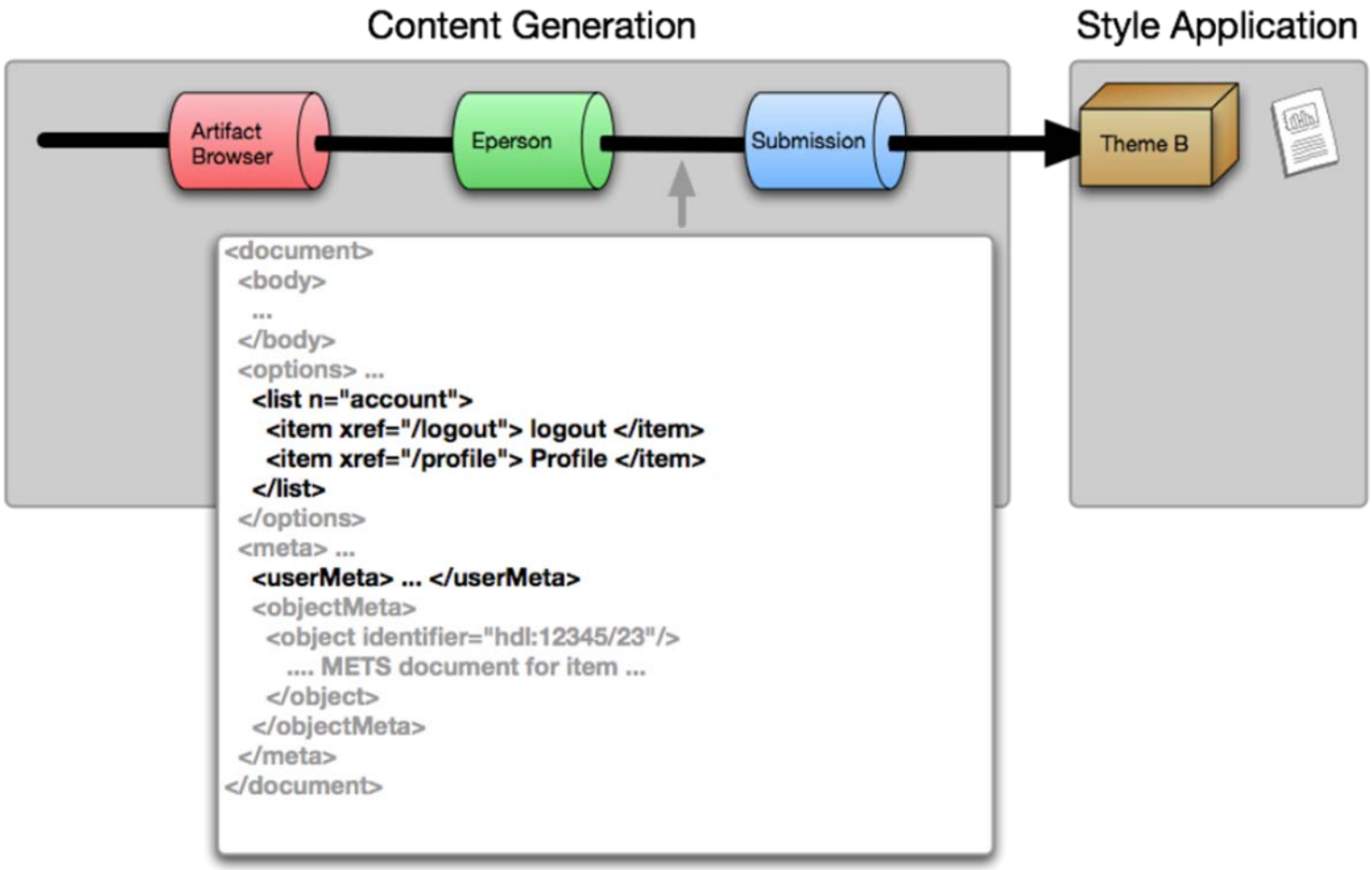
Putting it all together : DRI doc



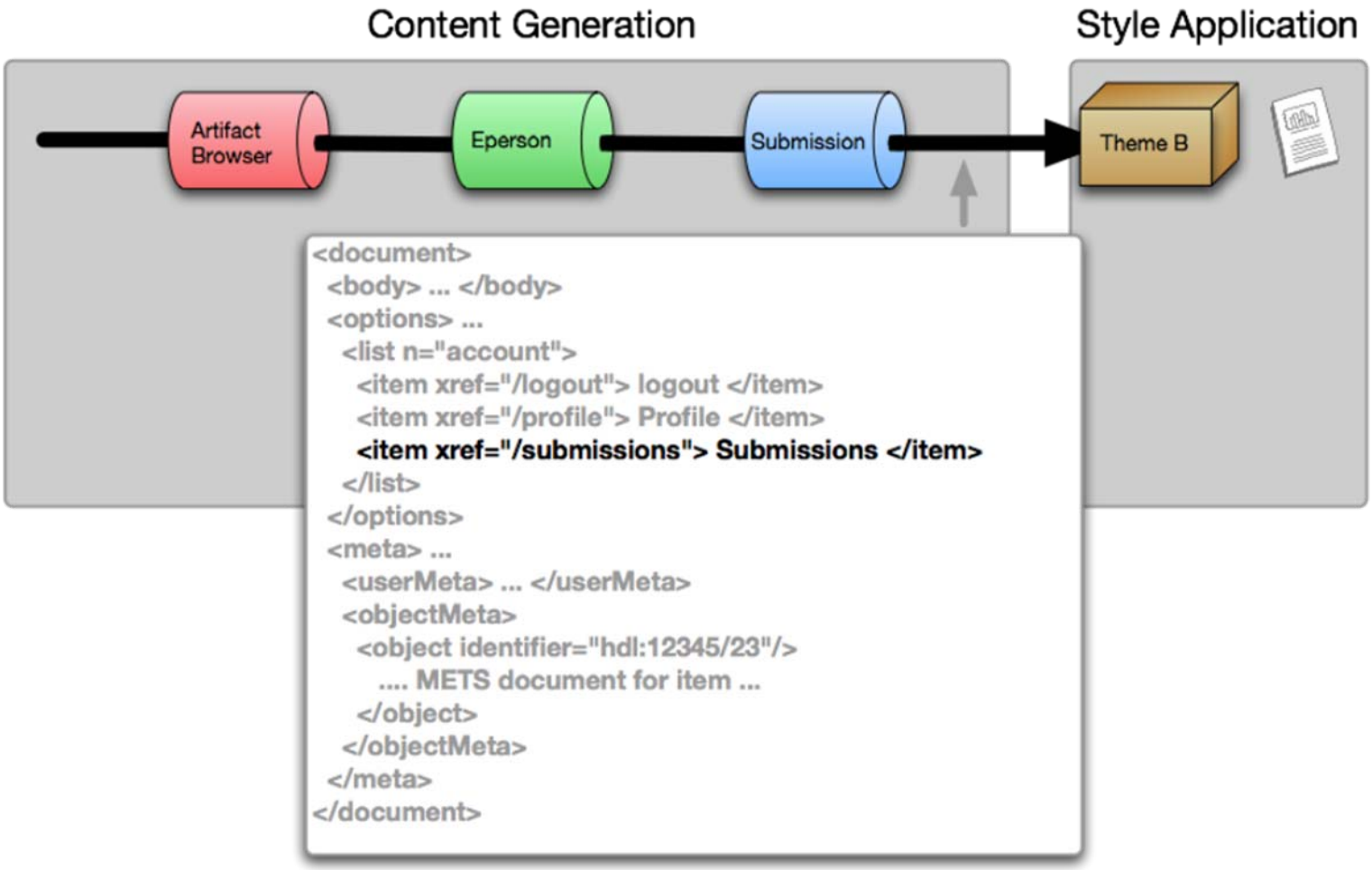
Putting it all together : Aspect 1



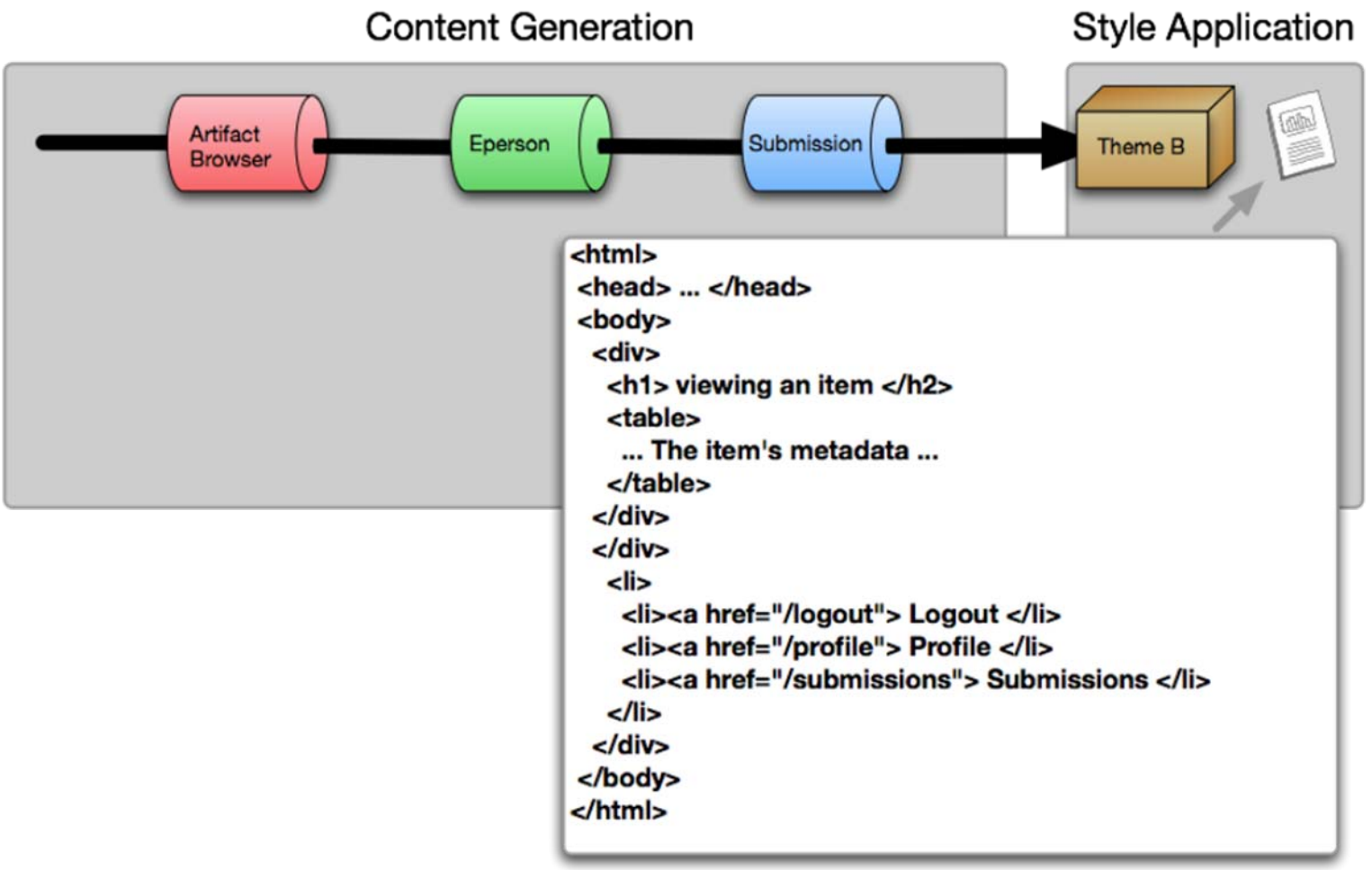
Putting it all together: Aspect 2



Putting it all together: Aspect 3

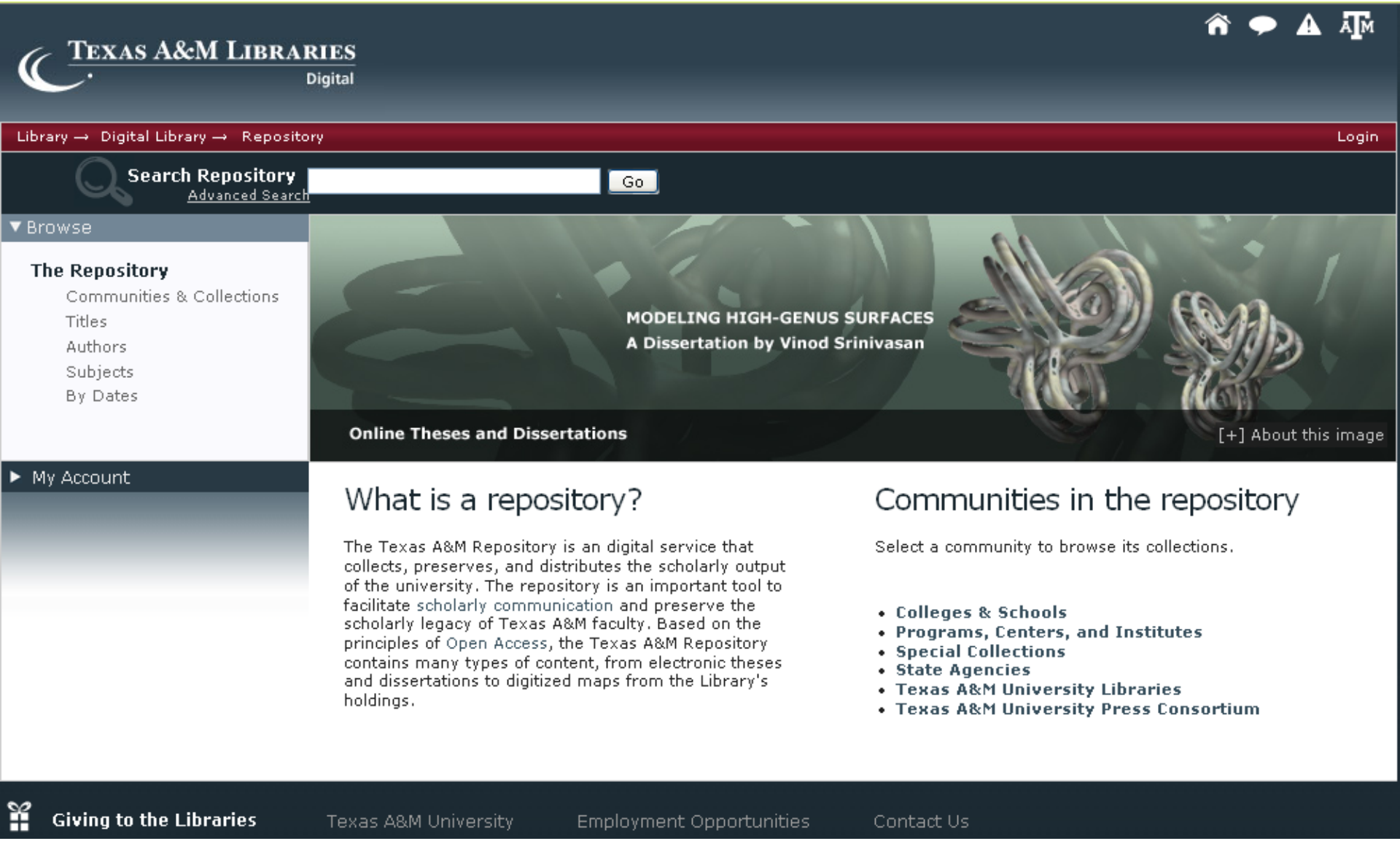


Putting it all together: Theme



Review: customization on any tier!

- Style Tier
  - Simple Themes: XHTML + CSS
- Theme Tier
  - Complex Themes: XSL + XHTML + CSS
- Aspect Tier
  - Add new features (aspects)
  - Java (or XSL) + Cocoon



http://txspace.tamu.edu/

TEXAS DIGITAL LIBRARY

TDL Home → Repositories → Repository

Faculty Services

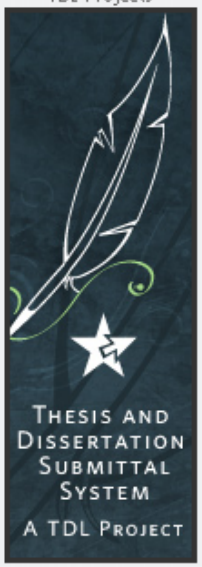
Scholarly Blogs

Research Wikis

Peer-Reviewed Journals

Repositories

TDL Projects



Welcome to the Texas Digital Library Repository

The TDL Repository is composed of digital collections submitted from TDL member institutions across the state of Texas. The TDL Repository serves to preserve and promote the research output of Texas, including electronic theses and dissertations, faculty datasets, departmental databases, digital archives, course management and learning materials, digital media, and other special collections.

Submission Guidelines and Login

If you are a faculty member at a participating TDL institution and are interested in contributing material to the repository, please contact your local institutional representative for more information; your representative will be able to facilitate your use of TDL services. The login link at the right under My Account allows the owners of collections in the repository to manage their materials.

Communities in the Repository

Select a community to browse its collections.

- Conference Proceedings
- Periodicals
- Research
- Theses and Dissertations

Login

SEARCH THE REPOSITORY

Go

Advanced Search

BROWSE

Entire Repository

Communities & Collections

By Issue Date

Authors

Titles

Subjects

http://repositories.tdl.org/tdl/

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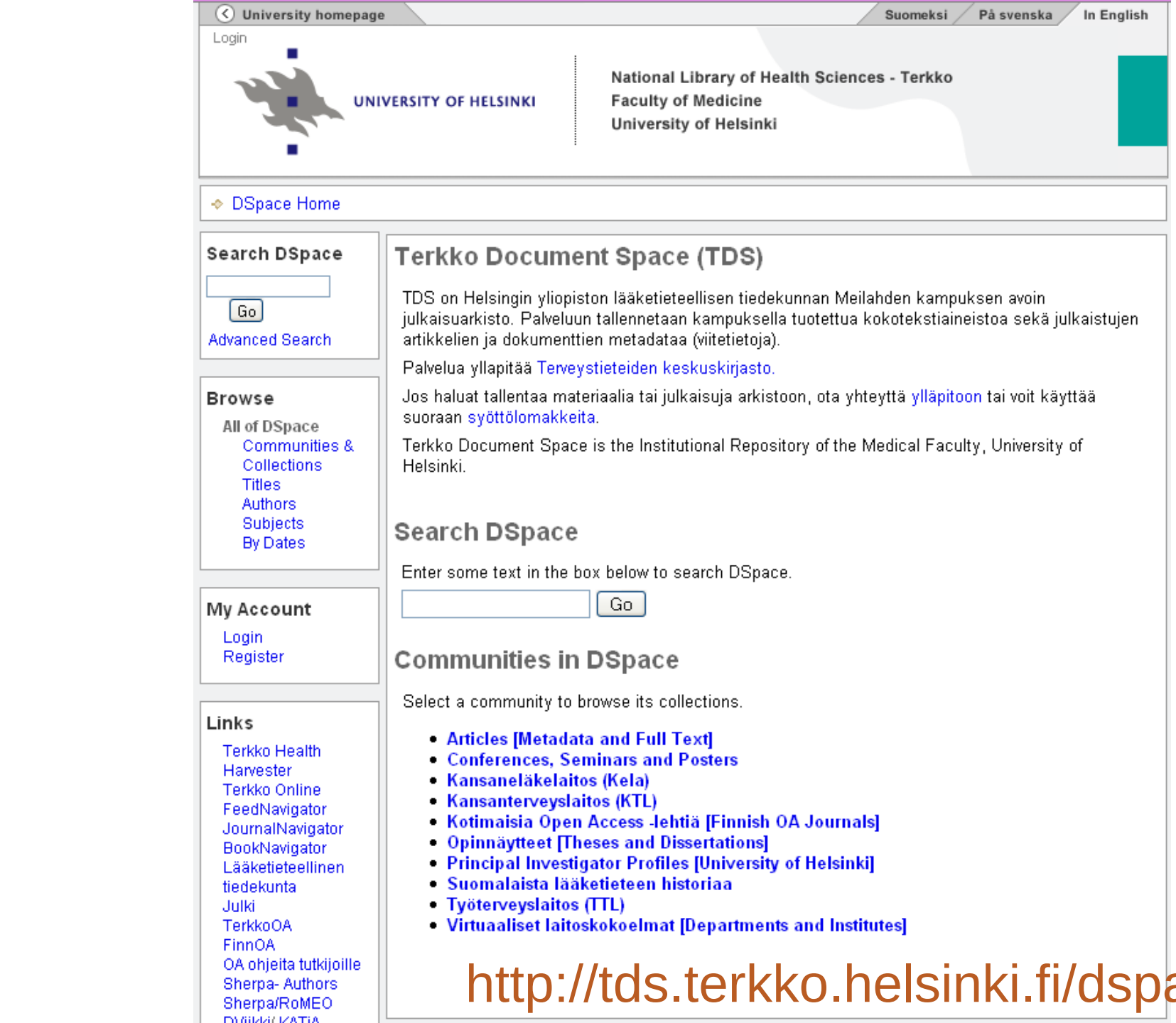

University homepage
Suomeksi
På svenska
In English
Login
UNIVERSITY OF HELSINKI
National Library of Health Sciences - Terkko
Faculty of Medicine
University of Helsinki
DSpace Home
Search DSpace
Go
Advanced Search
Browse
All of DSpace
Communities & Collections
Titles
Authors
Subjects
By Dates
My Account
Login
Register
Links
Terkko Health Harvester
Terkko Online FeedNavigator
JournalNavigator
BookNavigator
Lääketieteellinen tiedekunta
Julki
TerkkoOA
FinnOA
OA ohjeita tutkijoille
Sherpa- Authors
Sherpa/RoMEO
Terkko Document Space (TDS)
TDS on Helsingin yliopiston lääketieteellisen tiedekunnan Meilahden kampuksen avoin julkaisuarkisto. Palveluun tallennetaan kampuksella tuotettua kokotekstiaineistoa sekä julkaistujen artikkelien ja dokumenttien metadataa (viitetietoja).
Palvelua yllapitää Terveystieteiden keskuskirjasto.
Jos haluat tallentaa materiaalia tai julkaisuja arkistoon, ota yhteyttä ylläpitoon tai voit käyttää suoraan syöttölomakkeita.
Terkko Document Space is the Institutional Repository of the Medical Faculty, University of Helsinki.
Search DSpace
Enter some text in the box below to search DSpace.
Go
Communities in DSpace
Select a community to browse its collections.
Articles [Metadata and Full Text]
Conferences, Seminars and Posters
Kansaneläkelaitos (Kela)
Kansanterveyslaitos (KTL)
Kotimaisia Open Access -lehtiä [Finnish OA Journals]
Opinnäytteet [Theses and Dissertations]
Principal Investigator Profiles [University of Helsinki]
Suomalaista lääketieteen historiaa
Työterveyslaitos (TTL)
Virtuaaliset laitoskokoelmat [Departments and Institutes]
http://tds.terkko.helsinki.fi/dspace/

XMLUI Resources

- DSpace Wiki
  - http://wiki.dspace.org/index.php/Manakin
  - http://wiki.dspace.org/index.php/DspaceResources
- "Learning to Use Manakin" – Scott Phillips
  - www.dpace.org > Resources > Training Materials
- DSpace 1.5 Documentation

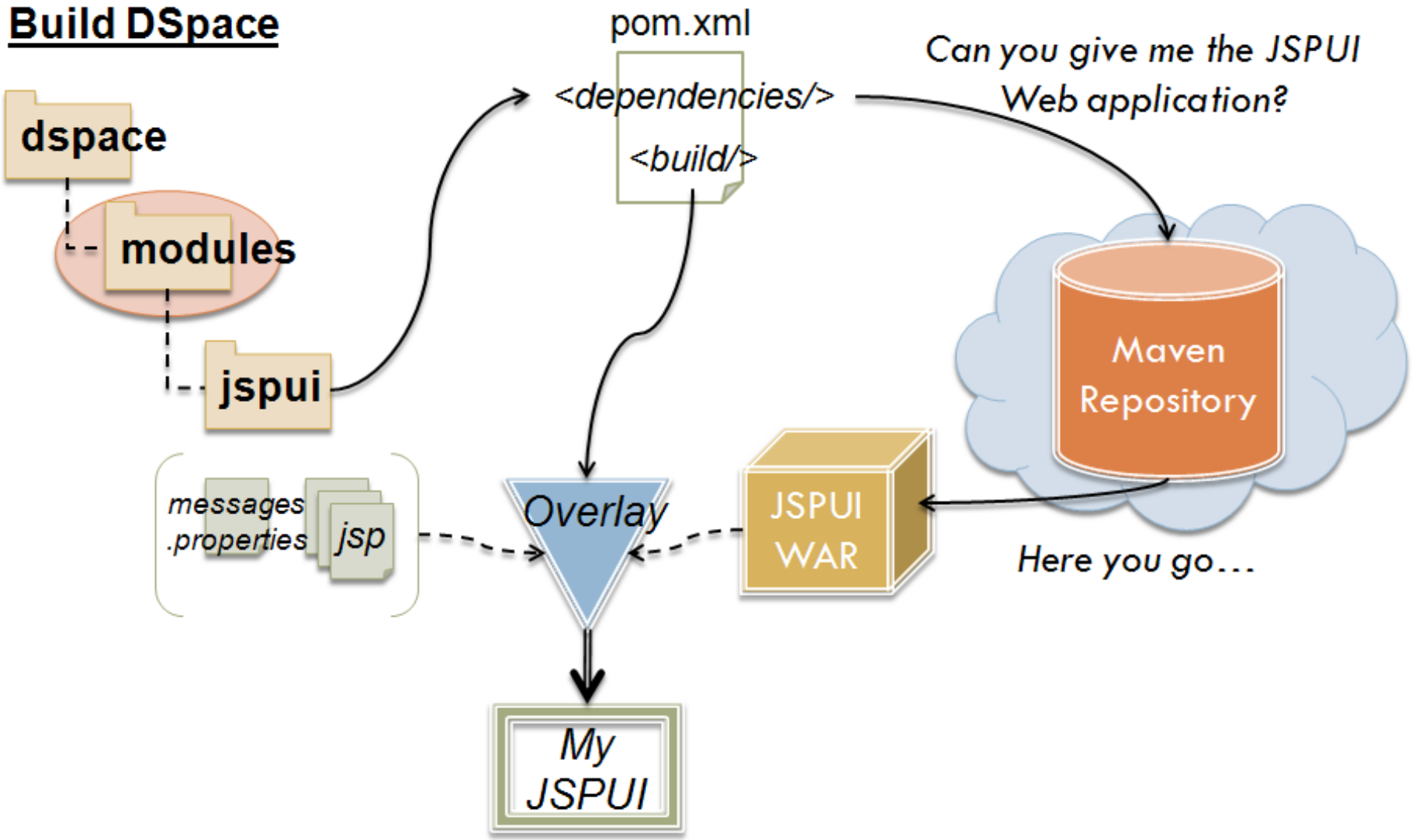
DSpace 1.5 Overlays

- A different customization model…
- So, why did we change this?

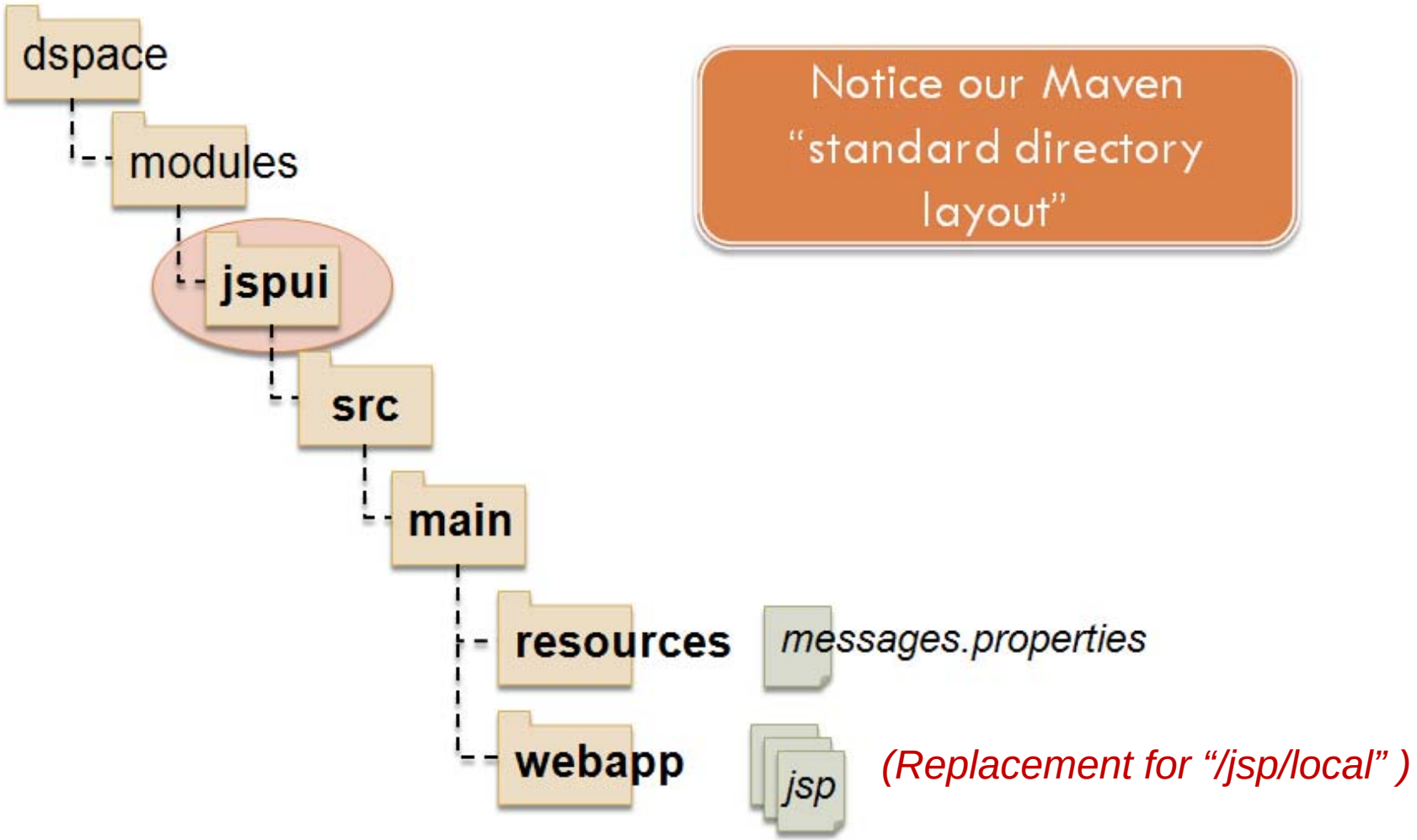
What are Overlays?

- Overlay is Maven term ("Maven WAR Overlays")
- Simple way to override defaults with your own basic customizations and code
- Allow you to more easily manage your customizations separately
- What can you "overlay"?
  - User interface look-and-feel (JSPUI, XMLUI Themes)
  - Language / terminology
  - Java code to add functionality (basic XMLUI Aspect)
    - Although, this may be better built into a custom "module"

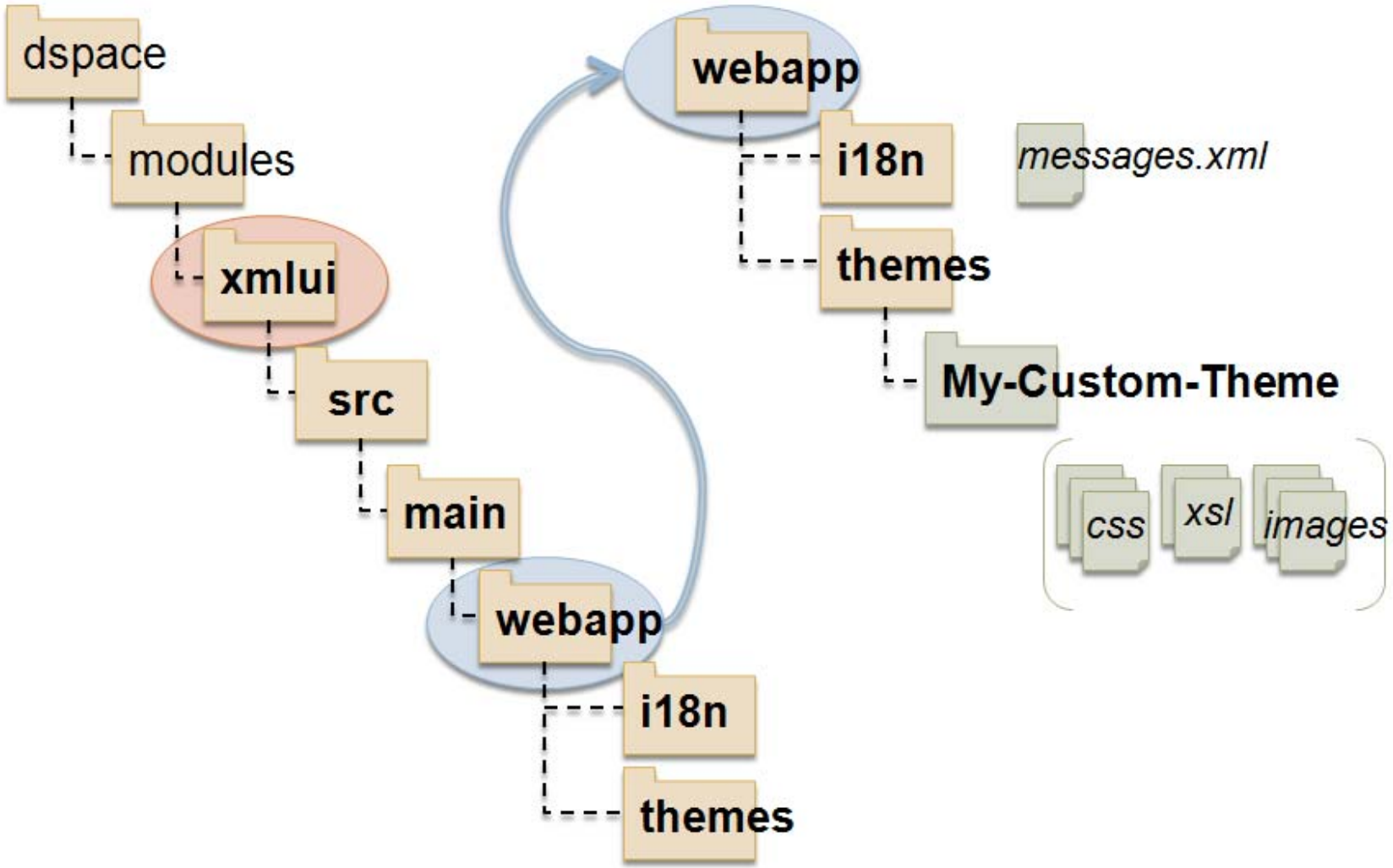
Modules + Maven = Overlays



Creating a Basic Overlay - JSPUI



Creating a Basic Overlay - XMLUI



Building/Installing an Overlay

- Add your files to appropriate "/dspace/modules/" directory (see previous slides)
- Rebuild DSpace: **mvn package**
  - Builds to [dspace-src]/dspace/target/
- Update DSpace installation: **ant update**
  - Installs to [dspace.dir] (as specified in dspace.cfg)

Why Overlays?

- Essentially, they came along with move to Maven
- You can manage your own customizations separate from DSpace source code
  - "dspace/modules" is empty by default…
- Replacement for "jsp/local" from pre-1.5 DSpace

Configurable Submission

- Intro to Configurable Submission

Why Configurable Submission?

- DSpace 1.0 to 1.4
  - Submission steps are “hardcoded”
  - Only major option is to change metadata entry page(s)

- Goals:
  - Allow easier changes to entire submission process
  - Make it easier to *share* changes between institutions

Configurable Submission Features

- Reorder, remove or add “steps” to Submission
- Different submission processes for different collections

DSpace™

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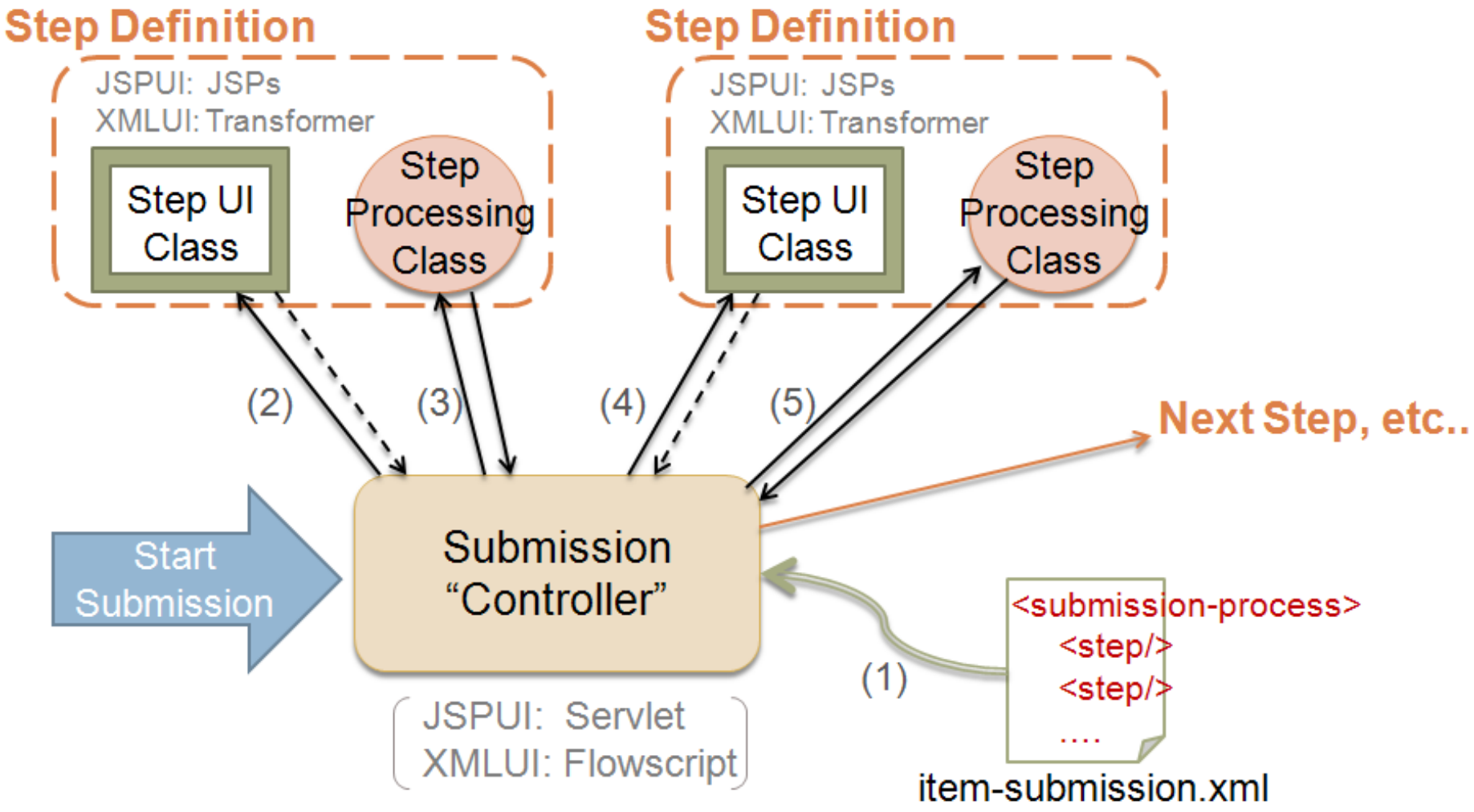
Configurable Submission Features

- Can also create “invisible” (to your users), processing-only steps
  - (e.g.) A virus scanning step?
- Steps are as ‘standalone’ as possible, to promote sharing

- Add New Steps – requires Java knowledge
- Remove / Reorder Steps – an XML config change

Configurable Submission "Flow"



Configurable Submission in 1.5

- Feature of both JSPUI and XMLUI
- “Invisible” feature - looks the same out-of-the-box
- No new “steps” come out-of-the-box, yet

Example Custom Step

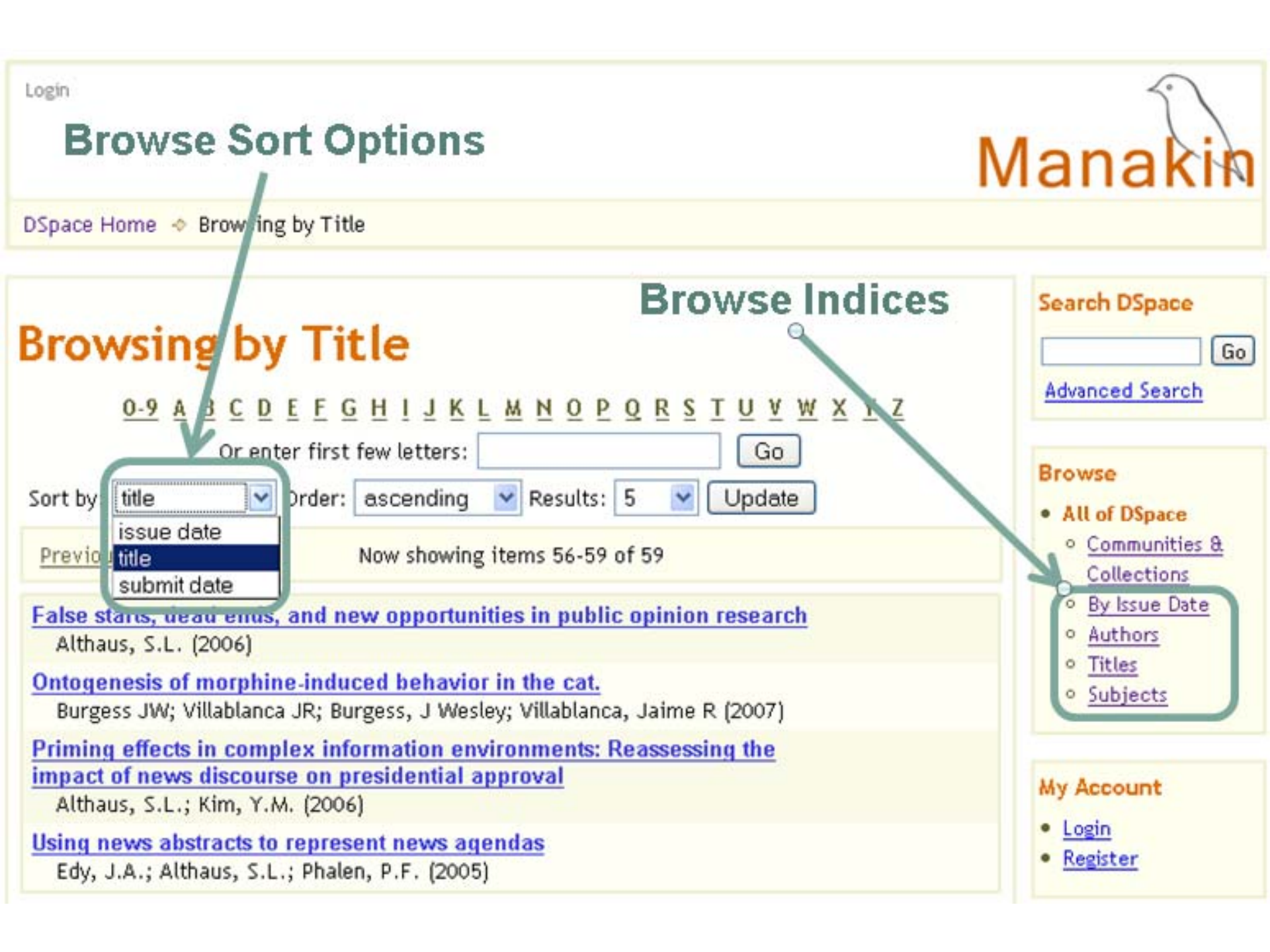
- PubMed Prefill – Graham Triggs, BioMedCentral
  - User is given option to enter in a PubMed ID
  - With PubMed ID, metadata is pulled down directly from PubMed and pre-populated in DSpace forms
  - "How To" on Dspace Wiki: http://wiki.dspace.org/index.php/PopulateMetadataFromPubMed

Configurable Browse

- Intro to Configurable Browse
- Features…

Improved Browse Configuration

- Feature of both JSPUI and XMLUI
- Configured from dspace.cfg
- Define your own Browse Indices
  - Defaults: Date (Issued), Author, Title, Subject
- Define your own Sort Options (all Browse UI)
  - Defaults: Title, Date (Issued), Date (Accessioned)
- Define Browse "Links" (JSPUI Only)
  - Default: Author names link directly to Browse by Author
  - XMLUI – Can create via Themes…See HowTo's on Wiki!


Login
Browse Sort Options
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DSpace Home
Browsing by Title
Browse Indices
Browsing by Title
0-9 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 first few letters:
Go
Sort by
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submit date
Order:
ascending
Results:
5
Update
Previous
Now showing items 56-59 of 59
False starts, dead ends, and new opportunities in public opinion research
Althaus, S.L. (2006)
Ontogenesis of morphine-induced behavior in the cat.
Burgess JW; Villablanca JR; Burgess, J Wesley; Villablanca, Jaime R (2007)
Priming effects in complex information environments: Reassessing the impact of news discourse on presidential approval
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Using news abstracts to represent news agendas
Edy, J.A.; Althaus, S.L.; Phalen, P.F. (2005)
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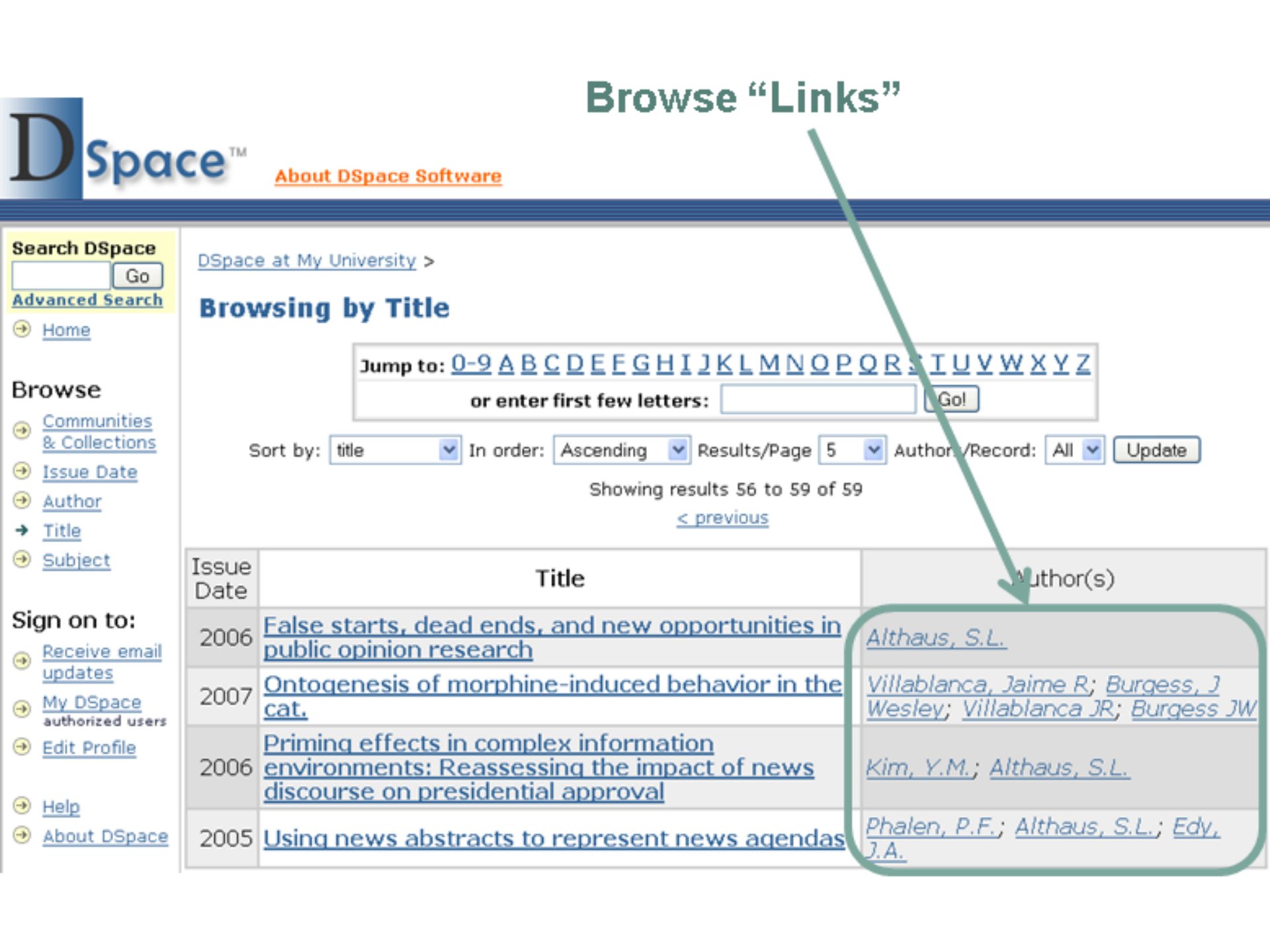
Browse "Links"
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Search DSpace
Go
Advanced Search
Home
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Communities & Collections
Issue Date
Author
Title
Subject
Sign on to:
Receive email updates
My DSpace authorized users
Edit Profile
Help
About DSpace
DSpace at My University >
Browsing by Title
Jump to: 0-9 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 first few letters:
Go!
Sort by: title
In order: Ascending
Results/Page 5
Author/Record: All
Update
Showing results 56 to 59 of 59
< previous
Issue Date
Title
Author(s)
2006
False starts, dead ends, and new opportunities in public opinion research
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2005
Using news abstracts to represent news agendas
Phalen, P.F.; Althaus, S.L.; Edy, J.A.

SWORD Interface

- New web-service interface to DSpace
- What is it, why is it important?

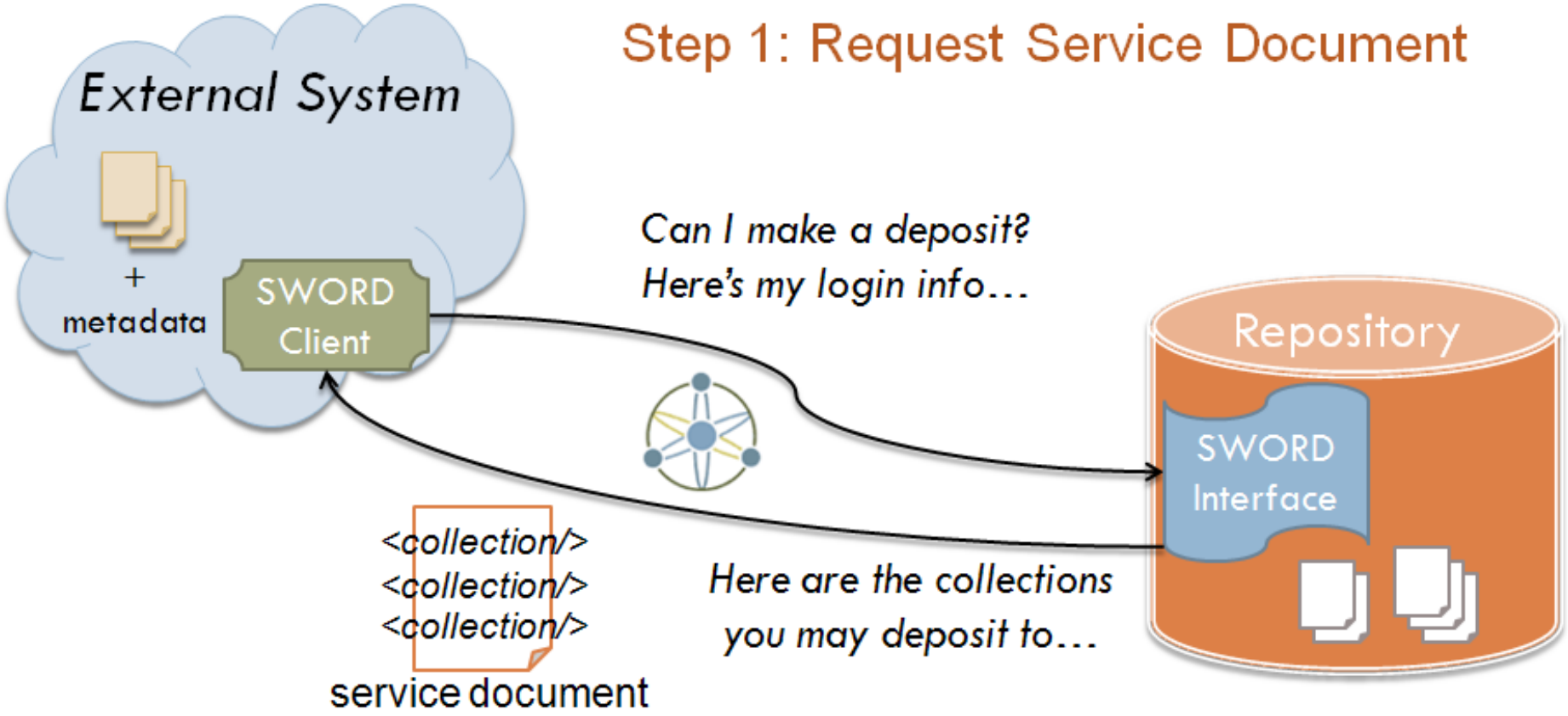
SWORD is…

- Simple Web-service Offering Repository Deposit
- a Protocol:
  - Allows external system / program to deposit items directly into DSpace
  - A Profile of the Atom Publishing Protocol
    - http://AtomEnabled.org/

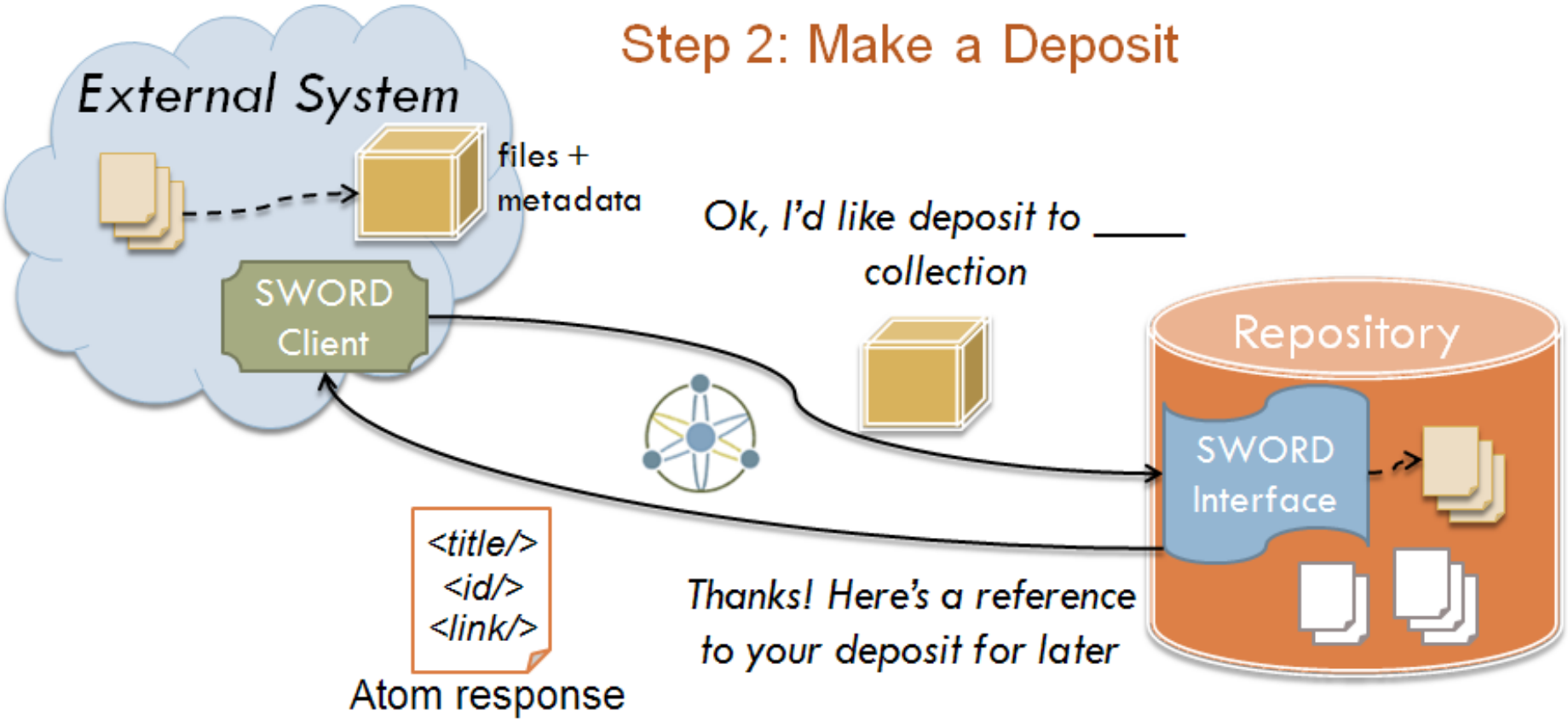
- a Common "Standard":
  - DSpace, Fedora, EPrints are all adopting SWORD

SWORD Wiki: http://www.ukoln.ac.uk/repositories/digirep/index/SWORD

How SWORD works…



How SWORD works…



SWORD…a real life scenario

- BibApp (U of Wisconsin & U of Illinois)
  - A Campus Research Gateway
    - Helps gather information (metadata) about published research on campus
    - Helps promote campus by promoting research
    - Provides import/export of research data (metadata)
  - An "Expert Finder"
    - Help locate potential collaborators on campus

http://bibapp.googlecode.com/

bibapp

We're putting **0 papers** online, for free. **This is true.**

WE ALREADY HAVE DATA!

FAQ Login

Citations Groups People Publications Publishers

Find an Expert: Go

At the library, we ♥ our researchers.

People

10 Althaus

7 Tewksbury

5 Caughlin

5 Clark

4 Harrison

4 Finnegan

3 Gill

3 Brashers

3 Conley

3 Dixon

Citations

Anthropology before anthropology

Liebersohn, Harry Kuklick, H.
Unknown (2008)

Find It

Genealogies of Orientalism: History, Theory, Politics

Prochaska, David Burke, Edmund, III
Unknown (2008)

Find It

The dark side of relational uncertainty: Obstacle or opportunity

Knobloch, L.K. Spitzberg, B. Cupach, W.
Unknown (2007)

Find It

Groups

Speech Communication (13)

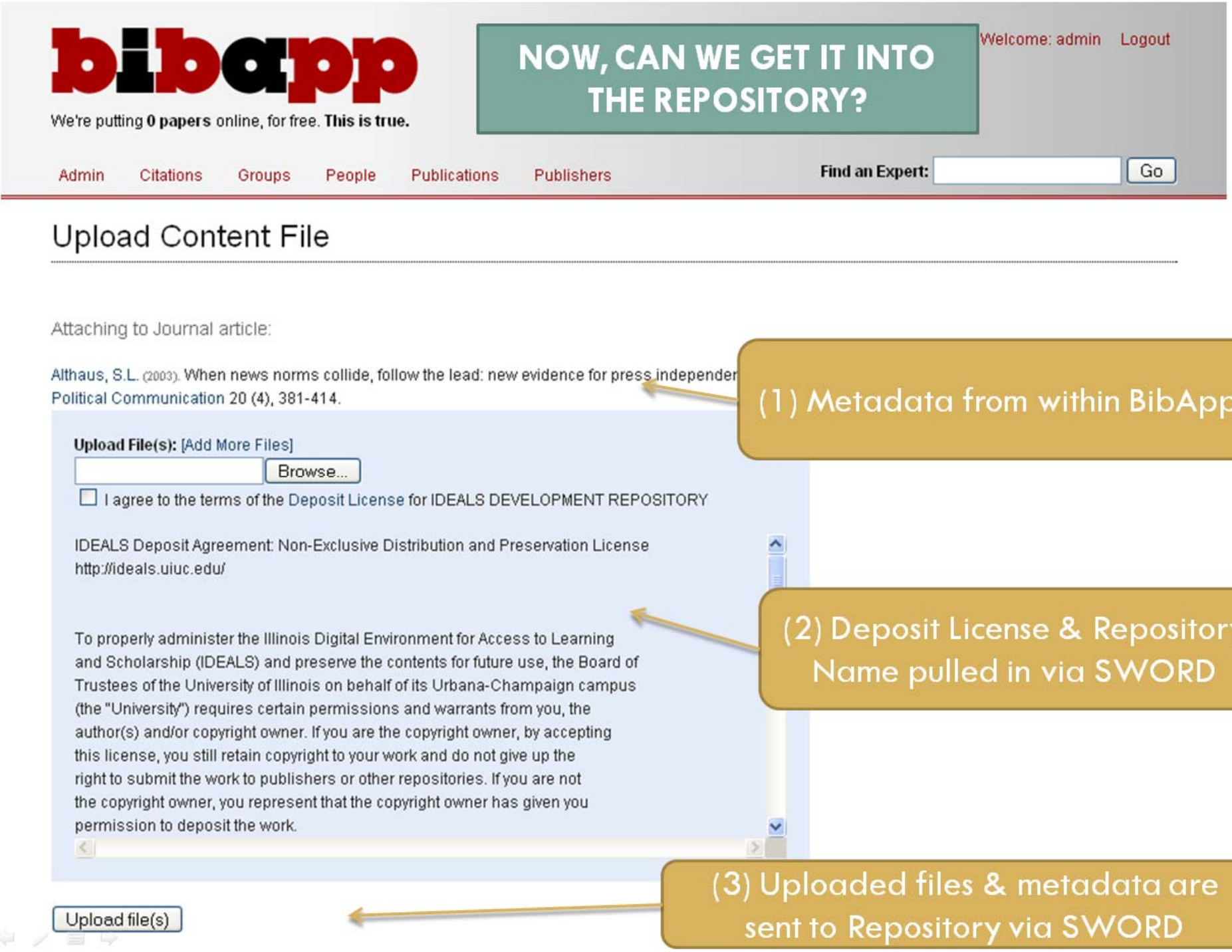
More...

Publications

Human Communication Research (32)
Communication Monographs (28)
Communication Research (20)
Journal of Communication (16)

Publishers

Routledge (113)
Sage Publications (111)
Blackwell Publishing (94)
Cambridge University Press (63)


bibapp
We're putting 0 papers online, for free. This is true.
NOW, CAN WE GET IT INTO THE REPOSITORY?
Welcome: admin Logout
Admin Citations Groups People Publications Publishers
Find an Expert: Go
Upload Content File
Attaching to Journal article:
Althaus, S.L. (2003). When news norms collide, follow the lead: new evidence for press independer
Political Communication 20 (4), 381-414.
Upload File(s): [Add More Files]
Browse...
I agree to the terms of the Deposit License for IDEALS DEVELOPMENT REPOSITORY
IDEALS Deposit Agreement: Non-Exclusive Distribution and Preservation License
http://ideals.uiuc.edu/
To properly administer the Illinois Digital Environment for Access to Learning and Scholarship (IDEALS) and preserve the contents for future use, the Board of Trustees of the University of Illinois on behalf of its Urbana-Champaign campus (the "University") requires certain permissions and warrants from you, the author(s) and/or copyright owner. If you are the copyright owner, by accepting this license, you still retain copyright to your work and do not give up the right to submit the work to publishers or other repositories. If you are not the copyright owner, you represent that the copyright owner has given you permission to deposit the work.
Upload file(s)
(1) Metadata from within BibApp
(2) Deposit License & Repository Name pulled in via SWORD
(3) Uploaded files & metadata are sent to Repository via SWORD

Lightweight Network Interface

- Another new web-service interface to DSpace
- What is it, why is it important?

LNI is…

- Lightweight Network Interface (DSpace-specific)
- WebDAV server implementation (www.webdav.org)
  - Web-based Distributed Authoring and Versioning
  - Extensions to HTTP protocol for editing/management
- Features:
  - Retrieve, Update, or Add Items in DSpace
  - Language-neutral (non-Java applications can use)
- Meant for developers to build applications against

Before Moving to 1.5

- Strategies, planning…
- What to expect along the way…

Updating Now versus Waiting…

- Lots of new Features!
- More abilities to share customizations in 1.5
- Support, support, support
- Many others in your same shoes…

Picture borrowed from:
http://www.flickr.com/photos/amerinocasino/

Choosing your upgrade path…

- Which User Interface (JSPUI v. XMLUI)?
- How much customizing have we done / are we planning?
- One-fell-swoop, or staged upgrade?

Picture borrowed from:
http://www.flickr.com/photos/mukluk/

Which User Interface?

JSPUI

- Familiar
- Customize via JSP or CSS
- Changes are Site-level only
- Slightly better performance

XMLUI

- Newer
- Customize via XHTML, CSS, or XSL
- Changes at Site, Community, Collection, or Item level
- Some scalability issues? (being fixed)

Interface Features Differ, Slightly

JSPUI-Only

- Very basic Statistics
- Customize some pages (esp. Item) via configs
- Controlled-Vocab
- Item Recommendations

XMLUI-Only

- No Statistics (1.5.1)
- Customize all pages via Themes!
- Community List caching
- Understands metadata files (e.g. METS, MODS)

Many potential upgrade paths

- 1.4 JSPUI to 1.5 JSPUI
- 1.4 & Manakin 1.1 to 1.5 XMLUI
- 1.4 JSPUI to 1.5 XMLUI

How “easy” is my upgrade?

- Depends on:
  - Path chosen
  - # of local customizations
  - Dedicated staff
- Is a Staged Upgrade more plausible?
  - 1.4 JSPUI to 1.5 JSPUI
  - 1.5 JSPUI to 1.5 XMLUI

Picture borrowed from:
http://www.flickr.com/photos/drachmann/

General Upgrade Tips

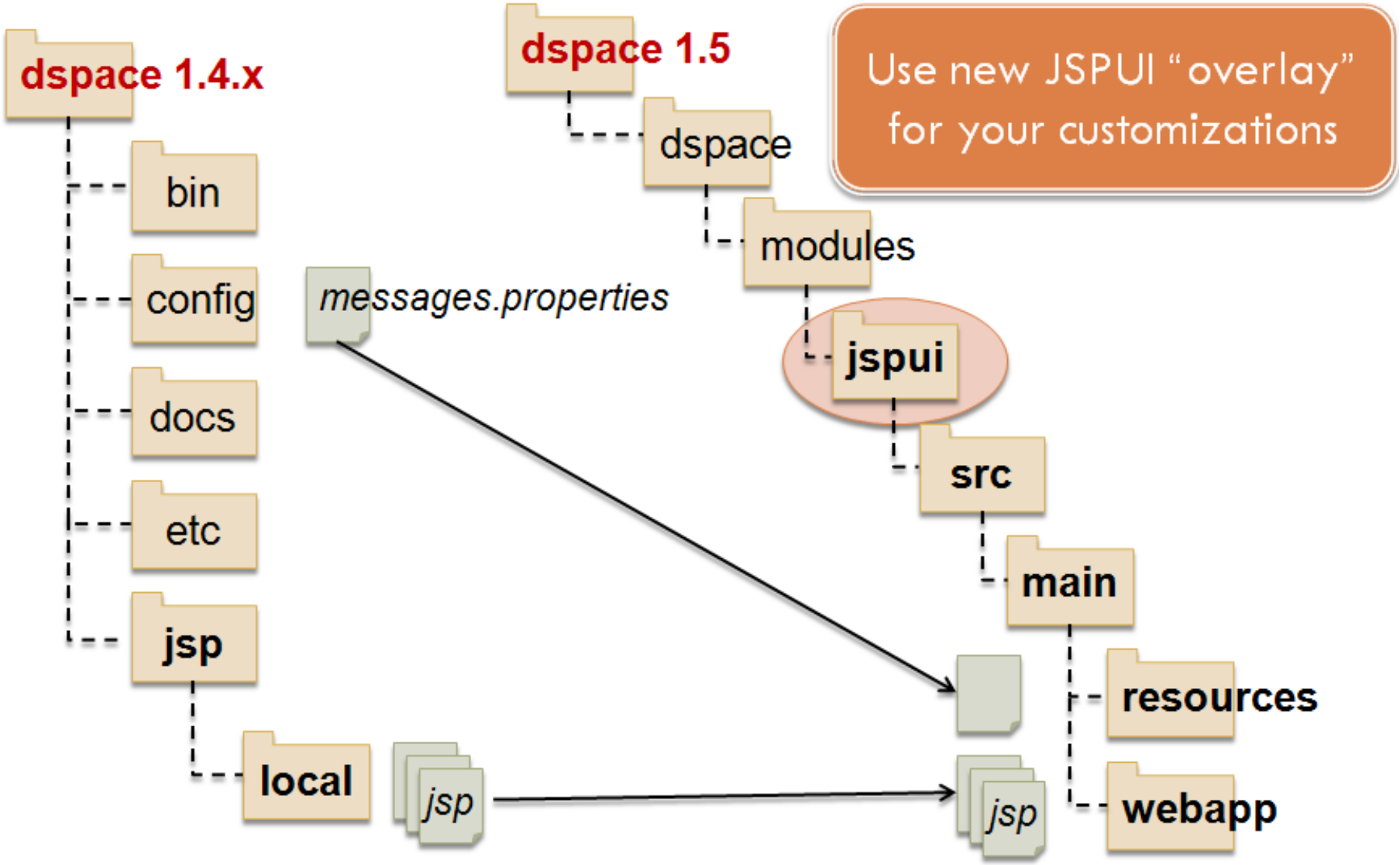
- That's just what they are, tips!
- Not a "one size fits all" solution…

HOW do I upgrade?

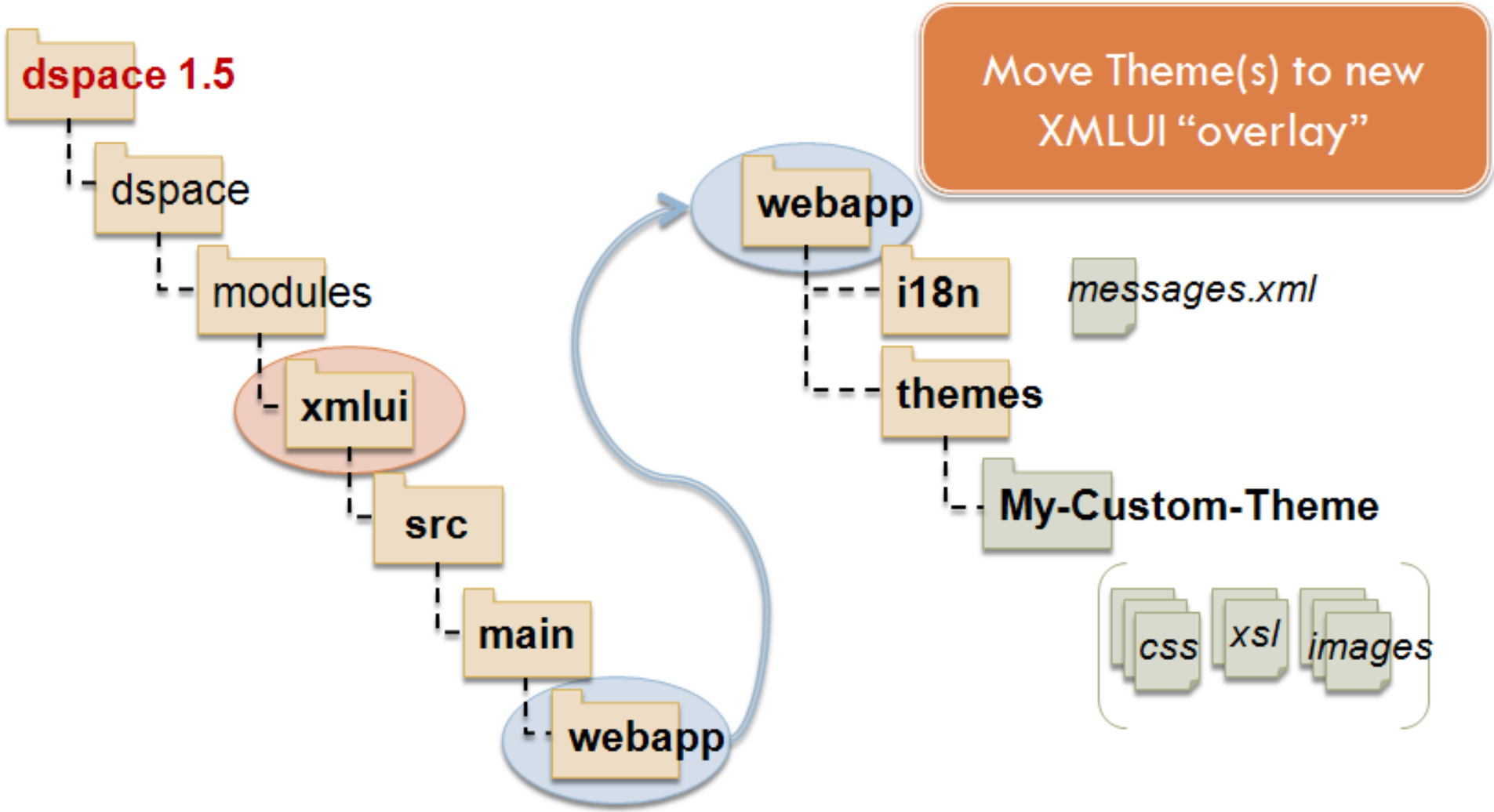
- Plan the Upgrade process…
  - Test your plan somewhere other than Production
  - Do not upgrade on Production until you've done a successful upgrade elsewhere!

- Follow Upgrade Instructions in `/dspace/docs/update.html`
  - Database upgrade
  - Config file changes, new configs
    - May wish to start with a fresh `dspace.cfg`

Basics: 1.4 JSPUI to 1.5 JSPUI



Basics: 1.4 + Manakin to 1.5 XMLUI



Basics: 1.4 JSPUI to 1.5 XMLUI

- *Recommended:* Install a "fresh" 1.5 XMLUI
  - Get familiar with it and its settings…
- Re-do any interface customizations for XMLUI
  - Create your custom Theme(s)
  - Place Theme(s) in XMLUI overlay directory
- Upgrade 1.4 to 1.5
  - Follow instructions in DSpace docs
  - Don't forget to install the `/config/xmlui.xconf`

DSpace Community

- Where to go for more help…
- How ***you*** can help
- On the horizon

DSpace Resources

- DSpace System Docs (`/dspace/docs/`)
- DSpace Wiki: http://wiki.dspace.org
  - http://wiki.dspace.org/index.php/DspaceResources
- Dspace Training Materials
  - www.dspace.org > Resources > Training Materials
- Mailing Lists
  - dspace-general : general announcements, q & a
  - dspace-tech : weird errors? upgrade issues?
  - dspace-devel : where hardcore developers are…

How you can help…

- **Help test :** DSpace Testathon
- **Report bugs :** Add to bug list on SourceForge or email dspace-tech list
  - http://sourceforge.net/projects/dspace/
- **Help others, just like you :** Answer questions on dspace-general or dspace-tech lists
- Tech-savvy? **Fix bugs or add functionality :**
  - Announce your work on dspace-tech
  - http://wiki.dspace.org/Guide_to_Developing_with_DSpace

On the Horizon – 2.0

- **DSpace 2.0** – Planning stage right now…early release by OR '09 (mid-May)
  - Potential Features:
    - New data model – Versioning of files
    - Support for more metadata formats (MODS, etc.)
    - Add your request(s)!
      - http://wiki.dspace.org/index.php/Frequently_Asked_For
  - Federation has 75% time from 4 developers

Contact Info

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DSpace Mailing Lists

Technical Questions:
dspace-tech@lists.sourceforge.net

Development Questions / Suggestions:
dspace-devel@lists.sourceforge.net