

HyperContent 2.0 preview

*Slides for the Introduction to HyperContent seminar at the JA-SIG conference in
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Agenda:

- Introductory slides
- Hands-on demonstration

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What is HyperContent 2?

HyperContent 2 is an interactive web content server.

- Author, store, and publish files of any type
- Maintain history of file revisions
- Enforce access controls to projects and files
- Allow separation of design from content
- Reuse content in many ways (XML, HTML, PDF)

Compare Versions 1 & 2

Version 1.x

- uPortal channel
- static content constructed and pushed via asynchronous batch requests
- fixed three-step workflow (edit, build, publish)
- fixed management GUI

Version 2

- standalone web server
- content published dynamically in real-time via pipelines
- configurable workflow (coming soon - will support "batch 'n' push")
- customizable management screens

HyperContent 2 Design

HyperContent 2 uses a tiered approach to content processing:

File

An unprocessed byte stream of data and associated metadata

FileAsset

A byte stream of data and associated metadata, possibly processed, backed by a file.

Subclasses provided content-specific additional functionality

Examples: XMLAsset, XSLAsset, NavigationAsset

Pipeline

A reusable sequence of stateless processing stages that operate on a task

Task

An asset buffer generated by a request, initialized with a FileAsset, and processed by a Pipeline

2 kinds of pipelines

Static Pipeline

Associated with a particular *FileAssetDefinition*, has a specific content type and optional base directory

Used for static views of content which could be pushed to a separate web server or cached for re-use.

Modal Pipeline

Same as a static pipeline, with an additional *mode* parameter

Used for dynamic and interactive views which cannot be cached or pushed to another server.

AuthN, AuthZ and Groups

Authentication

HyperContent 2 uses JAAS for authentication. While it is not the perfect design for web applications, it is a standard and it works. The built-in implementation looks for username & password in a user's user.xml file. This is NOT meant to be secure!

Authorization

HyperContent 1.x was able to leverage uPortal Groups and Permissions management for authorization. In 2.0, Permissions are stored in an XML file in a project's repository.

Groups

As yet unimplemented, groups will also be stored as an XML file in a project's repository.

The loss of uPortal Groups and Permissions is the single biggest "Con" in the evolution from 1.x to 2.0. Hopefully we will get them back someday!

Form Handling

IFormProcessor API:

Process some FormInput against a FileOpener, which provides access to the user Session and optionally a specific file.

Form Binding

- A FormBinding maps a FormProcessor to a FileOpener
- A FormBinding is referenced by a UID
- Form inputs must be prefixed with this UID to reach the processor
- IFormProcessors are bound within a pipeline.
- UID is available to XSL or Velocity templates executed in the same pipeline
- Form action is non-specific: any input received in a request to HyperContent will be processed if the binding prefix is found in the user's session

I18n and L10n

Internationalization

HyperContent is UTF-8 transparent, supporting the full range of Unicode characters

New in 2.0: even properties files are UTF-8 transparent - no more `\uXXXX` encoding

Localization

HyperContent provides support for mapping localized strings via resource bundles into XSL templates as variables at build time. Velocity support coming soon.

Request Handling

A request path is mapped to a pipeline according to pattern matching rules.

example:

FileAssetDefinition "Book" has pattern **/docs/*/index.xml**

"Book" has an HTML pipeline patterned **/docs/*/index.html**

"Book" has a PDF pipeline patterned **/docs/*/index.pdf**

"Book" has an accessible HTML pipeline patterned **/acc/docs/*/index.html**

A request for **/acc/docs/manual/index.html** is matched to the accessible HTML pipeline and thus to the FileAsset **/docs/manual/index.xml**

New in HyperContent 2:

Want to be able to put a JPG file anywhere?

//*.*.jpg**

Authoring Tools

HyperContent versions 1.4 and 2.0 provide the same core set of 7 authoring tools:

- WYSIWYG xhtml + xml
- Dublin Core metadata
- Upload/download
- Spell check
- Image crop/resize
- VCard (contact info)
- Navigation / site map

Unfinished for 2.0

Why is this just a *preview*??

Workflow

Completely configurable: from publish-on-save to multiple levels of approval, batch processing and job scheduling

All the little things . . .

Copy and move files, upload and download zips, user groups, rebuild search indices, user feedback enhancements, localization of velocity templates, user history anomalies, production-level QA, etc.

Beyond 2.0

And then?

- Notification (to enhance power of Workflow)
- WebDAV (seamless desktop authoring)
- WSRP/UDDI (serve up portlet content)
- Template library
- Project Configuration wizard