

Multimedia and Podcasting with Plone

Plone Symposium 2006
New Orleans, LA
March 8, 2006

Nate Aune

www.jazkarta.com

www.adaptivewave.com

Agenda

- Introductions
- Background
 - Plone4Artists
 - PloneMultimedia
 - Podcasting
- Implement
- Extend

/me

- 2006 - AdaptiveWave (co-founder)
 - offers hosted CMS & multimedia solutions
- 2005 - Plone foundation (member)
 - active in marketing, documentation, sprints
- 2004 - Jazkarta (founder)
 - Plone consulting & training - Boston, MA
- 2003 - Plone4Artists (founder)
 - project to build online artist communities

Background

A Brief History of Plone4Artists

What is Plone4Artists?

- Grassroots project to build an out-of-the-box portal solution for artist communities
- Built on top of the core Plone product
- Leveraging many existing 3rd party products
 - Code reuse
 - Focus is on integration
- Easy to install and pre-configured

Plone4Artists Features

- Artist / group portfolios
- Easy to add content (drag-n-drop)
- Calendaring (iCal)
- Audio / video / photos podcasting (RSS 2.0)
- Creative Commons licensing
- Community: forums, blogs, chat/IM, polls
- Easy to install (customization policy)
- Special look-n-feel (custom skin)

Plone4Artists Status

- 230 users registered on plone4artists.org
 - up from 146 in July 2005
- Demo site: www.plone4artists.com
- Example site: www.bostonjazz.net
 - (sorely in need of an update)
- Roadmap: <http://www.plone4artists.org/about/roadmap/>


Why Plone?

- Authoring content is easy
- Group collaboration (users/groups)
- RSS syndication
- WebDAV/FTP
- Member registration + member folders
- Custom content types with Archetypes

What's missing?

- Audio/video/photo
- RSS 2.0 syndication
- Storing large files
- Uploading large files
- Extensible members
- Extensible groups

Community steps up

- Audio/video/photo PloneMultimedia
- RSS 2.0 syndication qRSS2Syndication
- Storing large files  ExternalStorage
- Uploading large files PloneTramline
- Extensible members Membrane
- Extensible groups Teamspace

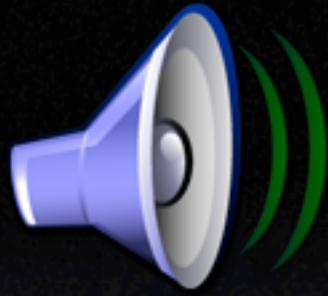
PloneMultimedia

An overview of the products



PloneMultimedia

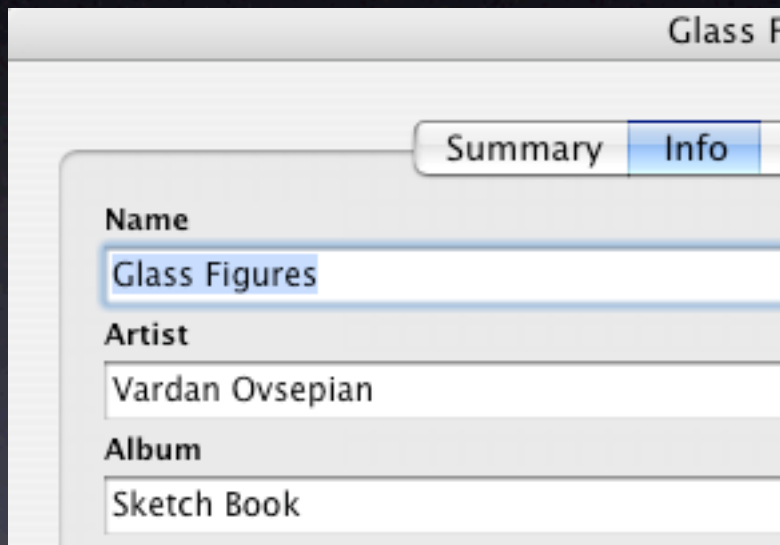
- Developed at Multimedia Sprint, Vienna 2005
- Suite of add-on components for Plone
 - ATAudio, ATPhoto, ATVideo, PloneTramline, PloneJUpload, and more...
- Extends Plone with multimedia capabilities
- Provides a framework for building your own multimedia web applications



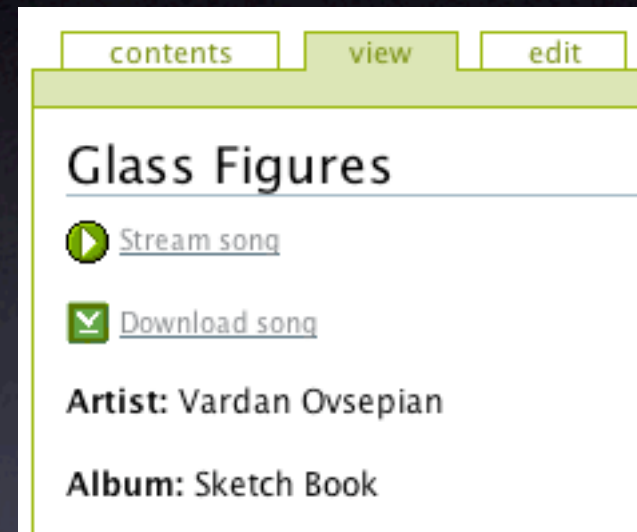
ATAudio

- Add-on for handling audio files in Plone
- ID3 metadata is extracted and populates form fields
- Generates stream or download links
- Flash player for playback embedded in page
- File is stored on file system (stream from Zope or external server)

Metadata extracted



Song Metadata
(from iTunes)



Plone/ATAudio
auto-extracts ID3 tags

Embedded music player

Music player slim

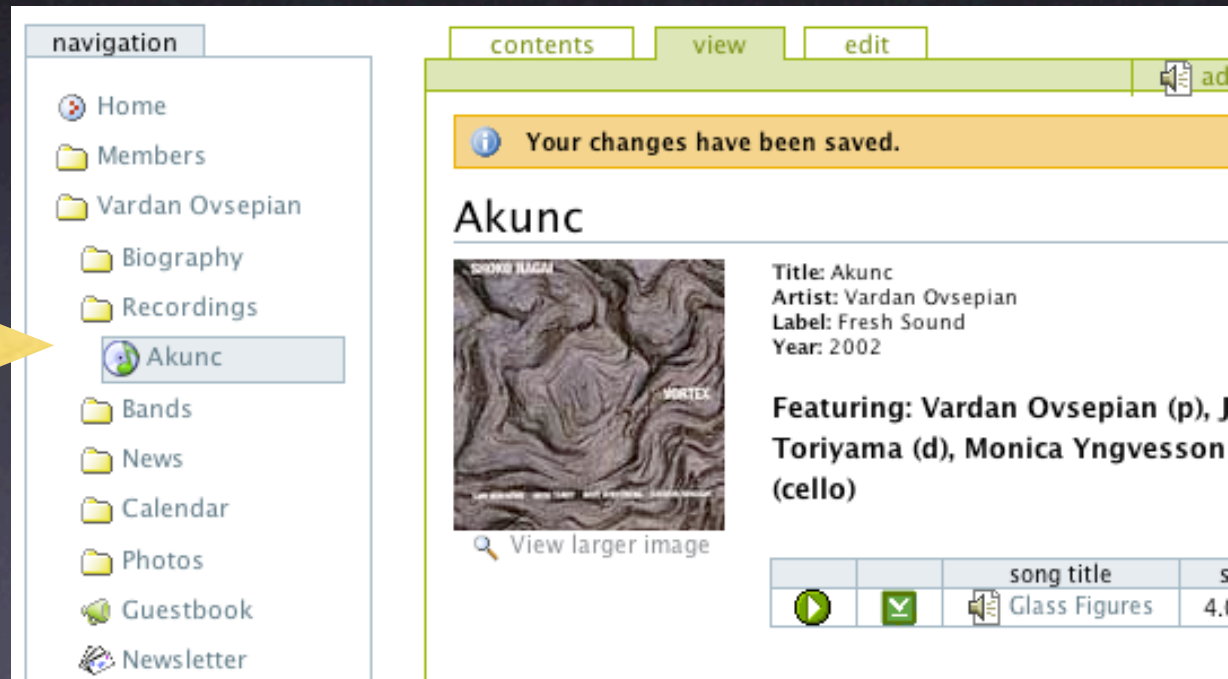
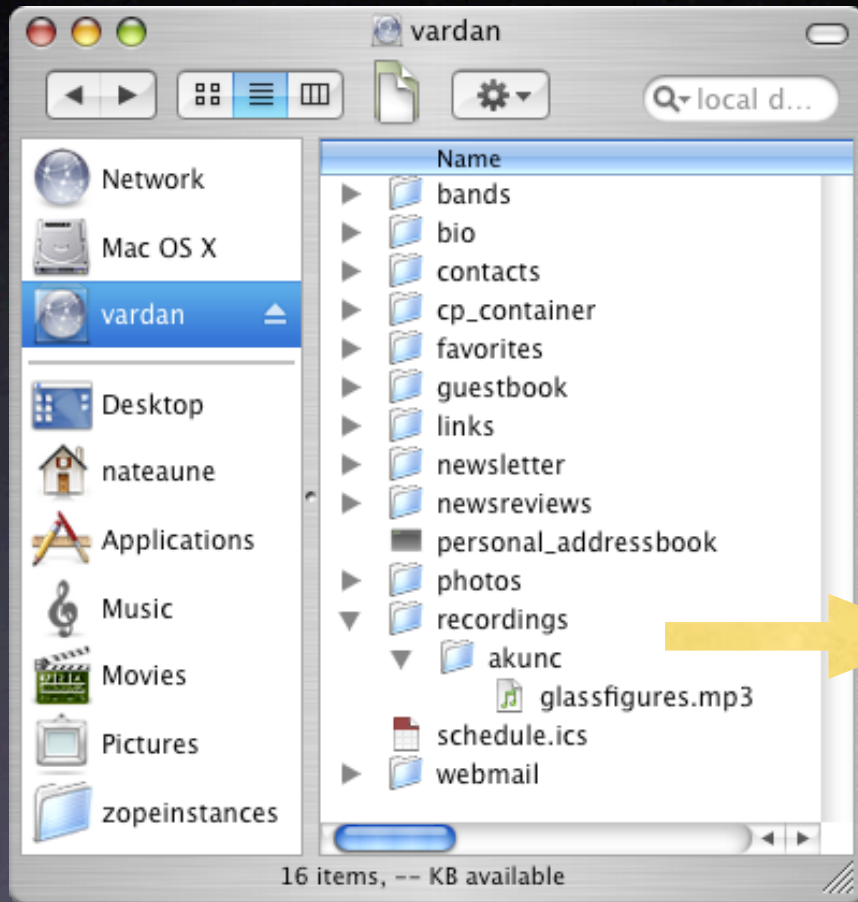


Music player extended



<http://musicplayer.sourceforge.net>

Drag-n-drop MP3s



Drag-n-drop MP3s to
WebDAV folder

MP3s appear in recordings folder



ATVVideo

- Add-on for handling videos in Plone
- Quicktime, Real, Windows Media, Flash
- Video files stored on file system
- Optionally create Bittorrents

ATVVideo screenshot

[Home](#) → [Members](#) → [henrydoe](#) → [videos](#) → Austrian carnaval

[View](#) [Edit](#) [Sharing](#) [Actions](#) ▼

Austrian carnaval

Dancing and merry making in Kolpinghaus.



The screenshot shows a video player interface. At the top, there is a breadcrumb trail: Home → Members → henrydoe → videos → Austrian carnaval. Below this is a toolbar with buttons for View, Edit, Sharing, and Actions (with a dropdown arrow). The video title is "Austrian carnaval" and the description is "Dancing and merry making in Kolpinghaus." The video frame shows a group of people dancing in a room decorated with colorful balloons. The video player interface includes a progress bar and control buttons.



ATPhoto

- Implements ZPhotoSlides features
- Photo album to contain photos
- Slideshow (cross-fade effects)
- Based on ATImage (incl. ATContentTypes)

ATPhoto vs. ATImage

- ATImage features
 - EXIF parsing
 - Image scaling, rotation, flip
- ATPhoto features
 - IPTC parsing
 - Import/export as Zip
 - Import/export Flickr.com

dscf0023.jpg



Size: 425.0 kB - File type: JPEG image



EXIF

key	value	key	value	key	value
Image YCbCrPositioning	2	MakerNote FlashMode	Off	Image ExifOffset	252
EXIF ComponentsConfiguration	YCbCr	EXIF LightSource	Unknown	MakerNote Macro	Off

Export photo

Export format

Choose here the format to export

JPG ▾

Width

Set to 0 if you want to keep their original width.

1600


Height

Set to 0 if you want to keep their original height.

1200

Zip the file?

Should we send you the photo compressed in a zip file?

 export

Flickr Export

Authenticated!

Title

Title of the photo you want in your flick account.

Tags

Tags of the photo you want in your Flick account.

Description

Description of the photo you want in your Flick account.

Transform the photo

The screenshot shows a web-based photo editing interface. At the top, there is a navigation bar with buttons for 'w', 'edit', 'properties', 'transform', 'export', and 'sharing'. The 'transform' button is circled in red. On the right side, there is an 'actions' dropdown menu, also circled in red, which is open and displays a list of actions: 'cut', 'copy', 'delete', 'rotate 90 clockwise', 'rotate 90 counterclockwise', 'rotate 180', 'flip around vertical axis', 'flip around horizontal axis', and 'set as symbolic photo'. Below the navigation bar, the filename 'f0023.jpg' is displayed. To the left of the main editing area, there is a small thumbnail of a photo showing a building with a green dome and a statue. Below the thumbnail, the text 'Original size: 425.0 kB Transform' is visible. At the bottom of the interface, there is a dropdown menu with the text 'around vertical axis' and a small arrow icon, followed by an 'execute' button with a play icon.

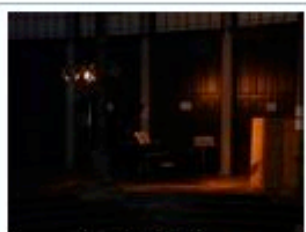
Thumbnails

[contents](#)[view](#)[edit](#)[properties](#)[export](#)[import](#)[slideshow](#)[actions](#) ▾ [display](#)

Vienna 2005

[▲ Up one level](#)

Plone Conference 2005



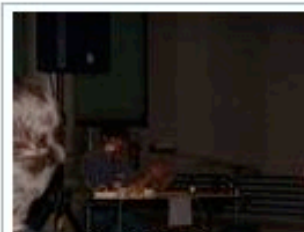
dscf0039.jpg



dscf0040.jpg



dscf0037.jpg



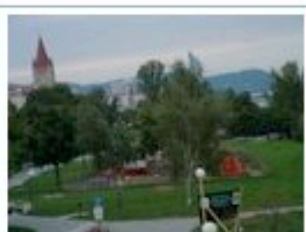
dscf0038.jpg



dscf0041.jpg



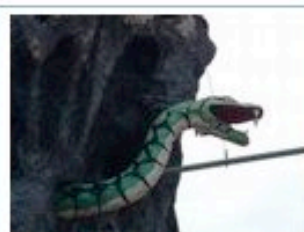
dscf0042.jpg



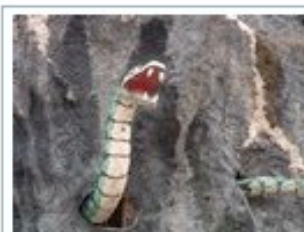
dscf0030.jpg



dscf0029.jpg



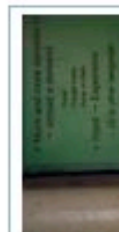
dscf0028.jpg



dscf0027.jpg






dscf0034.jpg



dscf0035.jpg


Slideshow feature

contents view edit properties export import **slideshow** actions display add item state: public draft


dscf0029.jpg   

Size: 393.8 kB - File type: image/jpeg

Slide show control

 Transition Scale Delay

<< 1 previous items 1 2 3 4 5 6 7 [8] 9 10 11 ... 30 1 next items >>



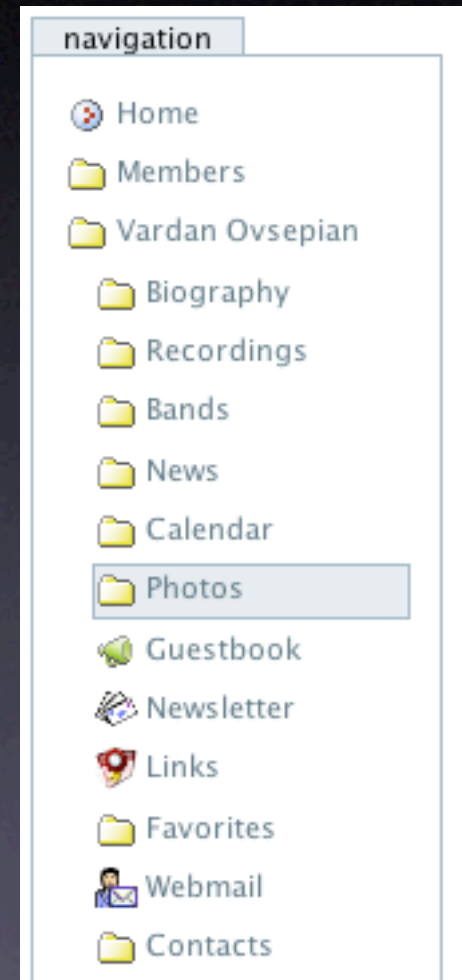
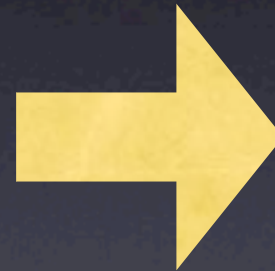
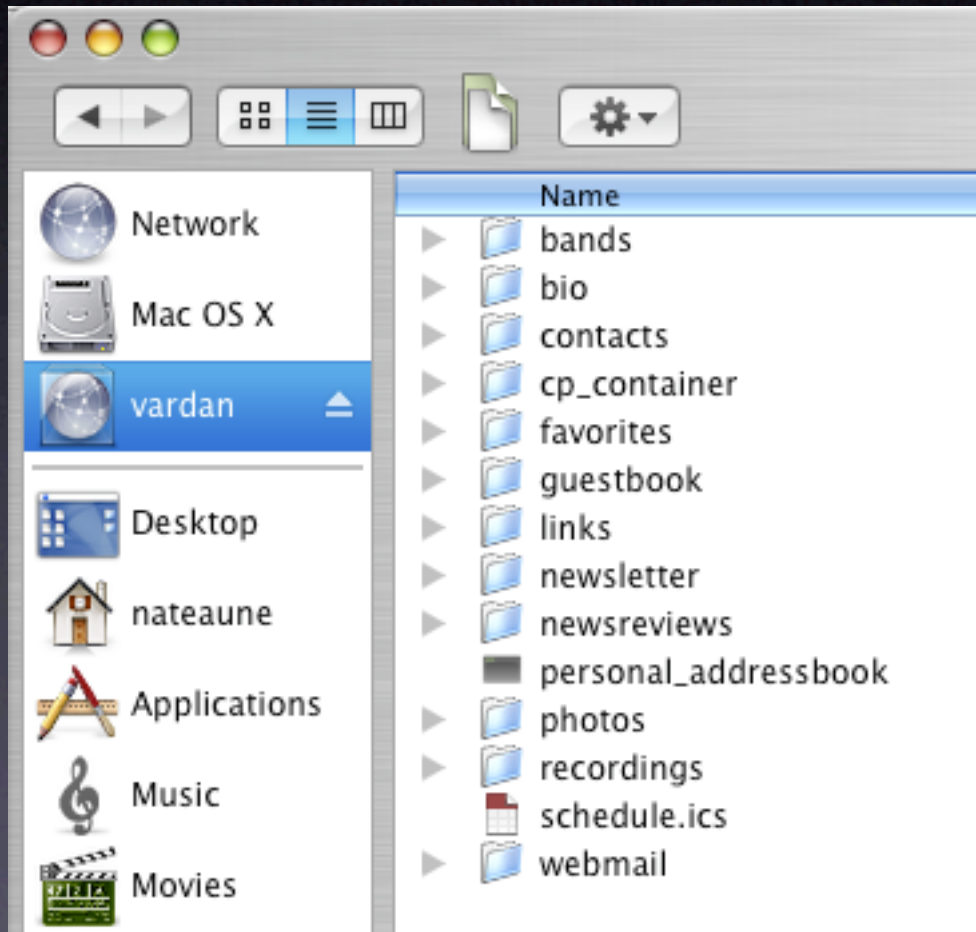
Import from Zip / bulk upload

The screenshot shows a web application interface with a top navigation bar containing the following items: contents, view, edit, properties, export, **import** (circled in red), and slideshow. To the right of the navigation bar are dropdown menus for actions, display, add item, and state: public dra.

Below the navigation bar, there are three main sections:

- Import photos from ZIP file**
 - Zip file**
This file must be a zip, tar, gz or bz2 file
 - Input field with a **Browse...** button
 - import** button
- Batch Import**
 - Buttons: **Browse...**, **Remove Selected**, **Remove All**
 - Table with columns: Name, Size, Directory, Modified, Readable?
 - Progress bar: **Upload** 0% **STOP**
 - Log output: **INFO** : Post URL = http://localhost/PloneBE/vienna-2005/PloneJUpload_script
- Flickr Export**
 - Authenticated!

Drag-n-drop via WebDAV



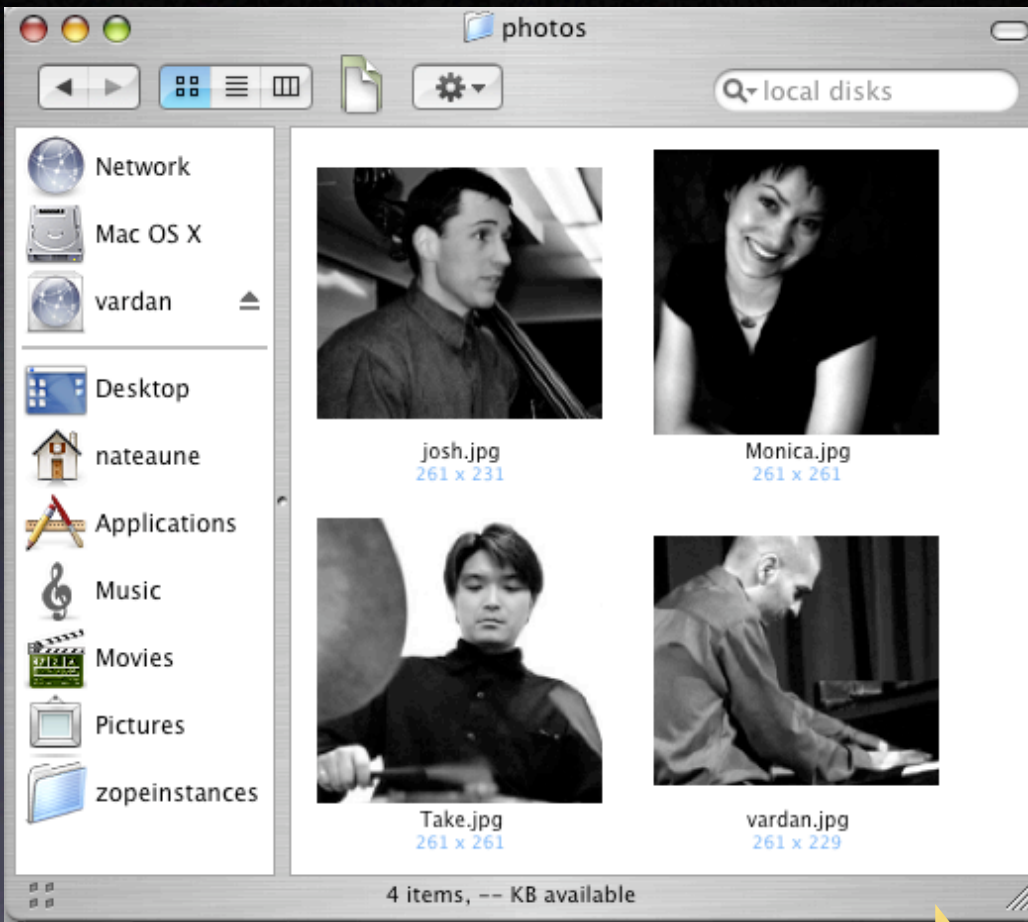
WebDAV mounted Plone folder

Multimedia and Podcasting with Plone (3/8/06)

Drag-n-drop to Plone

www.jazkarta.com 866.864.4918

Drag-n-drop photos



Drag-n-drop photos
to WebDAV folder



Plone/PIL auto-resizes photos



Creative Commons

- Started by law professor Lawrence Lessig (highly recommend his book Free Culture)
- Creative Commons protects the creator
- Use Google, Yahoo, Flickr, Limewire to find CC licensed content
- Creativecommons.org is running Plone! :)

PloneCreativeCommons

- Plone product developed by Song Huang
- Assign Creative Commons licenses to any item
- Using the familiar Plone interface
- Limitation: moving the item loses the license (need to reimplement using Archetypes reference engine)

Podcasting

An introduction and Plone's answer



What is podcasting?

- From Wikipedia:
- “Podcasting is the distribution of audio or video files, such as radio programs or music videos, over the internet using either RSS or Atom syndication for listening on mobile devices and personal computers.”

Podcast defined:

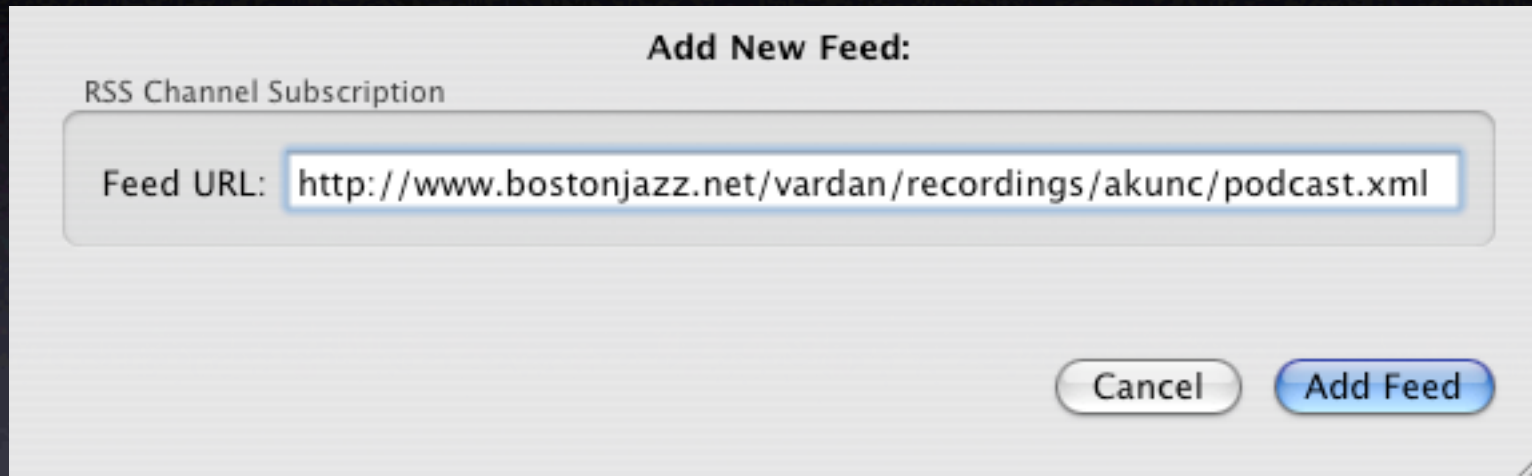
- a web feed of audio, video, photos or files
 - vodcast - video
 - photocast - photos
- anyone can subscribe to the feed
- different from streaming in that the user can download the entire file to their computer and/or portable media player (iPod)

Subscribe to a podcast

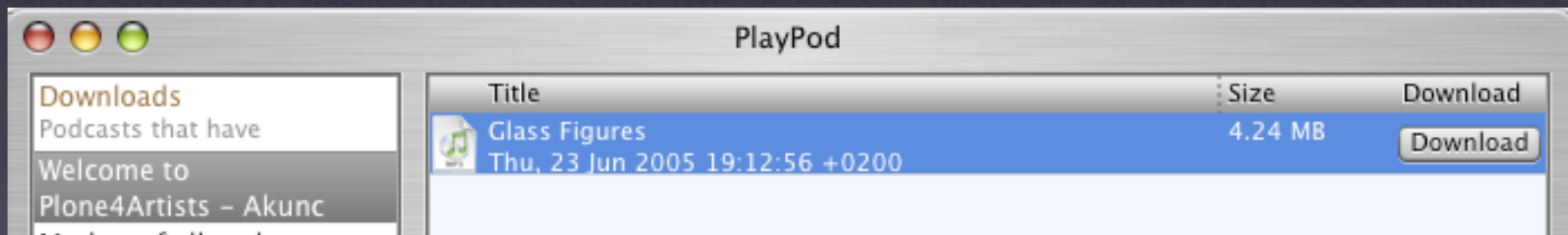
- Download iTunes (if you don't have it already)
- Go to the iTunes Music Store
- Click on Podcasts
- Find a podcast you like
- Click on Subscribe

MP3s get into your iPod automagically




1.



2.



3.

Song Name	Time	Artist	Album	Genre
<input checked="" type="checkbox"/> Glass Figures 	4:24	Vardan Ovsepian 	Sketch Book 	Jazz

Songs appear in iTunes and sync with iPod

What if...?

- You could:
 - distribute your own multimedia content
 - upload audio/video/photo files somewhere
 - easily create searchable podcast feeds
 - integrate all of this within your existing CMS, instead of having another system

You can... with Plone!

- Upload your multimedia content to Plone
- Create podcast feeds from folders or Smart Folders
- Integrate with your existing website rather than setup separate system

Implement

Setting up the basic components
for multimedia and podcasting with Plone

Steps

1. Download PloneMultimedia bundle
2. Install core components into Plone
 - ATAudio, ATVideo, ATPhoto
 - qRSS2Syndication for pod/vod/photocasting
3. Optionally install
 - PloneJUpload, PloneCreativeCommons

Exercise:

Download PloneMultimedia

```
$ cd $INSTANCE/Products
```

```
$ wget http://plone.org/products/plonemultimedia/  
releases/1.0-alpha1/plonemultimedia-1-0-alpha1.tar.gz
```

```
$ tar xvfz plonemultimedia-1.0-alpha1.tar.gz
```

```
$ ln -s PloneMultimedia-1.0-alpha1/* .
```












Restart Zope

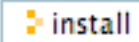
Note: if you don't have a Plone install, follow along at demo.plone4artists.com

Exercise: Install products

- ATAudio
- ATPhoto
- ATVideo
- PloneJUpload
- qRSS2Syndication

Products available for install

-  **ATAudio 0.6**
[Product Description](#)
-  **ATMediaFile 1.0-alpha1 build 29**
[Product Description](#)
-  **ATPhoto 1.0-alpha1 build 53**
[Product Description](#)
-  **ATVideo 1.0-alpha1 build 24**
[Product Description](#)
-  **CMFContentPanels 2.3**
[Product Description](#)
-  **MediaCoop 0.1 build 35**
-  **PloneErrorReporting 0.11**
[Product Description](#)
-  **PloneJUpload 1.0alpha2**
[Product Description](#)
-  **PloneLanguageTool 0.9**
[Product Description](#)
-  **PodcasterStudioTheme 2006-03-03**
-  **qRSS2Syndication 0.4.1**
[Product Description](#)



Exercises: create content

1. Create a CD folder

- add an audio file to it (.mp3)

2. Create a Video

- upload a video file (.mov .avi .rm .wmv)

3. Create a photo album

- add some photos to it (.jpg)

Exercises: bulk upload

1. Upload files in bulk using PloneJUpload
 - Click on the 'Upload files' tab
 - Must not be logged in via ZMI
2. Upload files in bulk using WebDAV
 - OSX: mount via 'Go' menu
 - Windows: mount using Windows explorer

Exercises: import photos

1. Upload photos using Zip importer

- OSX: 'Create archive' of JPEGs
- Windows: Use Winzip to create ZIP file
- Click on 'Import' tab. Browse for ZIP.

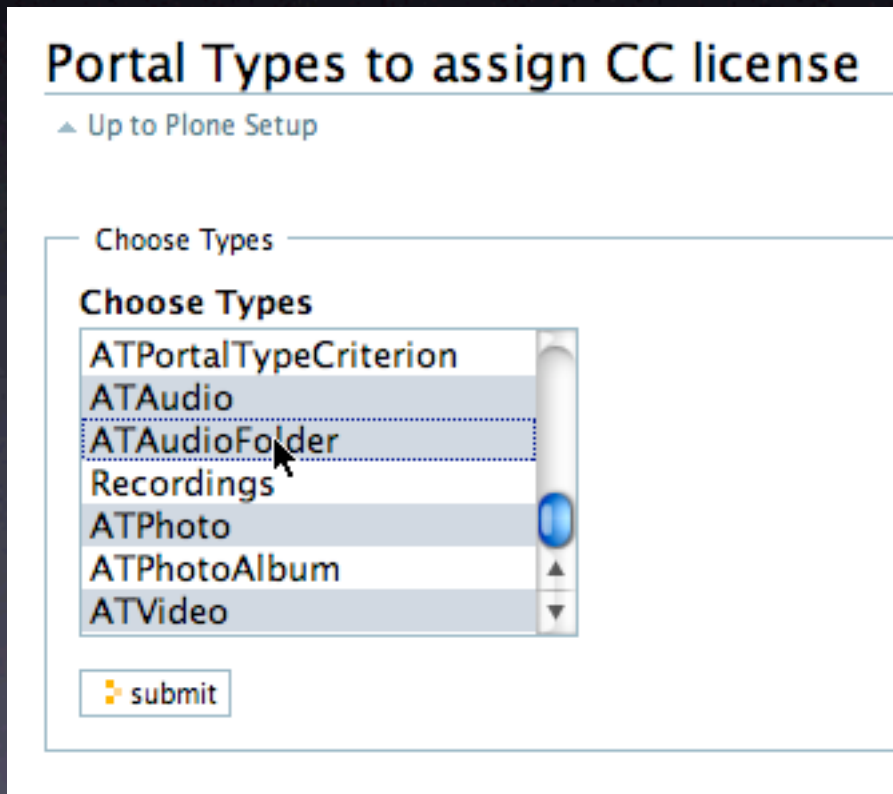
2. Import photos from Flickr

- You need an account at Flickr.com
- Click on 'Import' tab. Authenticate first.

Exercise: set up PloneCreativeCommons

1. Select PloneCC from Plone Control Panel
2. Configure PloneCreativeCommons with types that can be assigned a license
3. Assign a CC license to some content
4. Confirm that the CC icon appears

2. Configure the types



Choose which content types can have an associated Creative Commons license

3. Choose CC license

or choose:



[Public Domain](#)



[Developing Nations](#)



[Sampling](#)



[Share Music](#)



[CC-GNU GPL](#)



[CC-GNU LGPL](#)

[contents](#)

[view](#)

[edit](#)

[properties](#)

[stream](#)

[download](#)

cc license



[add audio file](#)

state: in-progress ▾



Choose License

With a Creative Commons license, **you keep your copyright** but allow people to [copy and distribute your work](#) provided they [give you credit](#) -- and only on the conditions you specify here. If you want to offer your work with no conditions, choose the [public domain](#).

License Options

Allow commercial uses of your work?

[\(more info\)](#)

- Yes
- No

Allow modifications of your work?

[\(more info\)](#)

- Yes
- Yes, as long as others share alike ([more info](#))
- No

Jurisdiction of your license

[\(more info\)](#)

Austria ▾

Tell us the format of your work:

4. Confirm the CC icon



Click on CC icon to see the license

Exercise: set up qRSS2Syndication

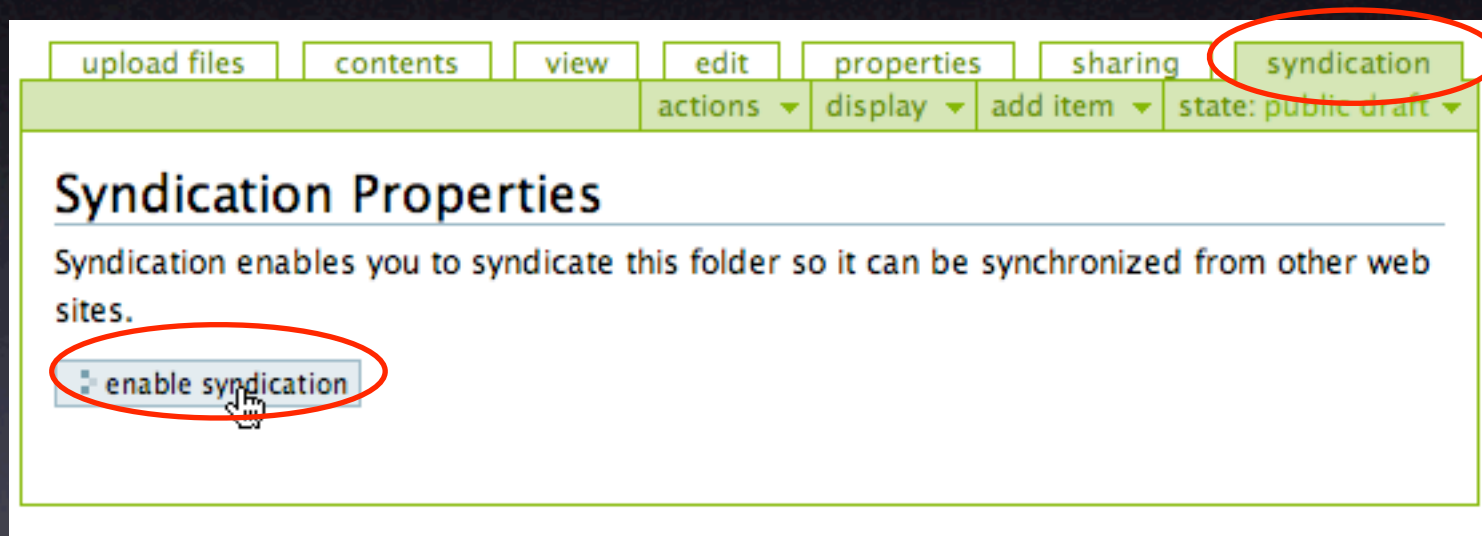
1. Enable syndication - ZMI portal_syndication tool
2. Navigate to the CD folder that you made earlier
3. Click the 'Syndication' tab, enable syndication
4. Click on the 'RSS2 Setup' tab and select which types to syndicate
5. Click on the RSS Podcast icon to see the feed

I. Enable sitewide syndication

RSS Plone Syndication Tool at /nola/portal_syndication

<input type="checkbox"/> Title	<input type="text" value="Syndication"/>
Id	<input type="text" value="syndication"/>
URL (Expression)	<input type="text" value="string:\${folder_url}/synPropertiesForm"/>
Condition (Expression)	<input type="text" value="python: folder is object and portal.portal_syndication.isSiteSyndicationAllowed()"/>
Permission	<input type="text" value="Manage properties"/>
Category	<input type="text" value="object"/>
Visible?	<input checked="" type="checkbox"/>

3. Enable folder syndication



upload files **rss2 setup** contents view edit properties sh

actions display add ite

RSS2 feeds setup

Setup Details

Select types

Select types to be included the RSS2 feed.

Current Author Criterion
Friendly Date Criteria
Favorite
Event
Reference Criterion
Simple Int Criterion
List Criterion
Folder
Link
News Item
File
Date Range Criterion
Sort Criterion
Portal Types Criterion
Audio file
CD
Recordings
Photo
Photo Album
Video

Only published content

Include subfolders content

Enable support for iTunes Music Store (good for Podcasts/Vodcasts)


4. Select types for syndication

5. Click on RSS icon

upload files | rss2 setup | contents | view | edit | syndication

actions | add audio file | state: public draft

Fat Kid Wednesdays



Title: Fat Kid Wednesdays
Artist: Fat Kid Wednesdays
Label: Clown Lounge Records
Year: 2000
Genre(s): Jazz

This trio rocks the Clown Lounge! Sax, bass and drums.

Play the tracks from this CD in a popup window.

	track title	size	length
	Jakes Treehouse	7.2 MB	7:52
	Jackeing	7.6 MB	8:17


March 2006

Su	Mo	Tu	We	Th	Fr
			1	2	3
5	6	7	8	9	10
			15	16	17
19	20	21	22	23	24
26	27	28	29	30	31

RSS2 Syndication

After you click on the icon, you will see the raw XML output

Exercise: subscribe to feed

- Click on RSS2 icon  and copy URL
- Using iTunes (or some other podcast client)
 - Advanced -> Subscribe to podcast...
 - paste in URL
- Verify that the MP3s appear in the feed

Exercise: create podcast from Smart Folder

1. Create Smart Folder called 'All audio files'
2. Click 'Criteria' tab and add criteria
'Item type' = Audio file
3. Click on RSS2 podcast icon to see the feed
4. Subscribe with iTunes (or podcast client)

2. Set Smart Folder criteria

The screenshot shows the Plone smart folder configuration interface. At the top, there is a navigation bar with tabs: view, edit, properties, **criteria** (highlighted with a red circle), subfolders, sharing, and syndication. Below the tabs are buttons for actions, display, add smart folder, and state: public draft. A yellow notification bar states: "Added criterion ATPortalTypeCriterion for field Type". The main heading is "Criteria for All audio files". Below this is a table with two columns: "field" and "criterion details".

field	criterion details
<input type="checkbox"/> Item Type An item's type (e.g. Event)	<p>A portal_types criterion A portal_types criterion</p> <p>Value ■ One of the registered portal types.</p> <p>Audio file (highlighted with a red circle)</p> <p>CD Event Favorite File</p> <p>operator name ■ Operator used to join the tests on each value.</p> <p><input type="radio"/> and <input checked="" type="radio"/> or</p>

3. Click on podcast icon



Extend

Extend the base content types
with custom fields and personalization

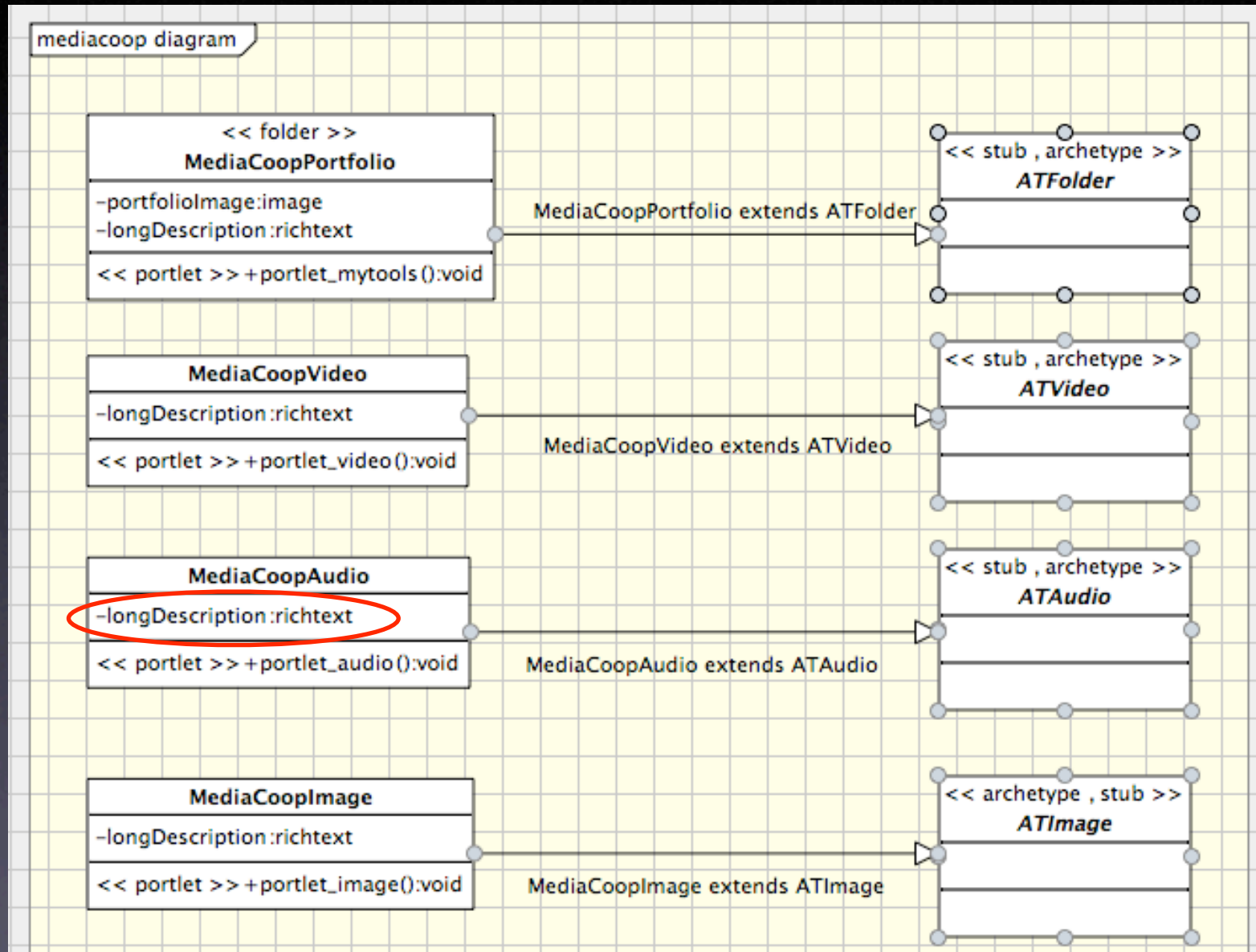
Case study: MediaCoop

- Collaborative project with University of Applied Sciences, Austria and other partners
- Goal was to build a portal for students to showcase their media portfolios
- Students login and publish audio, video, photos to their personal portfolio
- Distribution of media content via podcasts

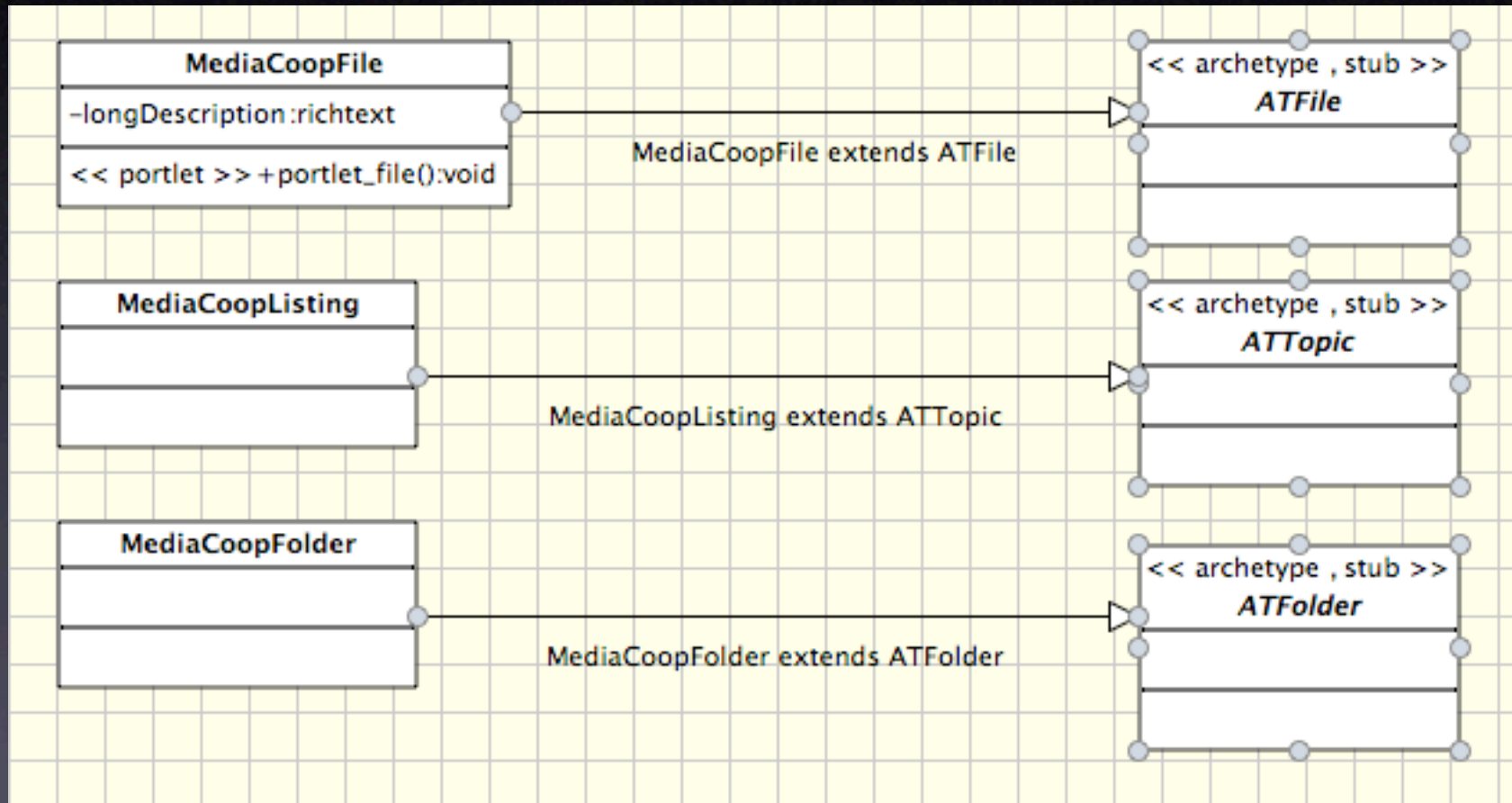
Technical goals

- Extend content types with long description
- Customized listing views for folders
- Auto-create portfolio when user registers
- Restrict types to 1 content type per folder
- Auto-set syndication on media folders
- Create portlet to quick-add new content

MediaCoop UML model



UML model - pg. 2



Ex: MediaCoopAudio schema

```
schema = Schema ((  
    TextField(name='longDescription',  
              widget=RichWidget(  
                label="Long description",  
            ),  
        ),  
    ),  
)
```

Ex: MediaCoopAudio.py

```
from Products.ATAudio.ATAudio import ATAudio
```

```
MediaCoopAudio_schema = getattr(ATAudio, 'schema', Schema  
(())) .copy() + schema.copy()
```

```
class MediaCoopAudio(ATAudio):
```

```
    __implements__ = (getattr(ATAudio, '__implements__',  
    ()),)
```

```
    schema = MediaCoopAudio_schema
```


Ex: MediaCoopFolder.py

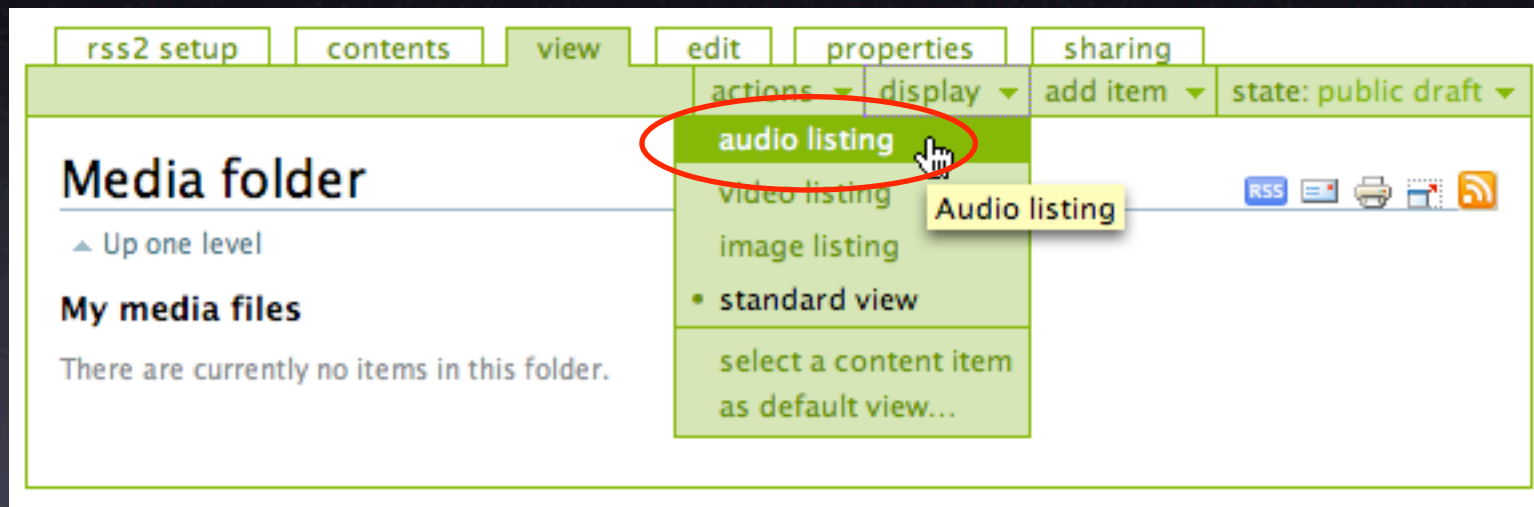
```
from Products.ATContentTypes.content.folder import Folder

class MediaCoopFolder(ATFolder):

    __implements__ = (getattr(ATFolder, '__implements__',
    ()),)

    immediate_view = 'folder_listing'
    default_view = 'folder_listing'
    suppl_views = ('mediacoop_audio_listing',
    'mediacoop_video_listing', 'mediacoop_image_listing',
    'mediacoop_file_listing', 'mediacoop_user_listing')
```


Supplementary listings





Audio listing

Audio RSS POD

Audio folder

    Shenandoah - Keith Jarrett

    Nostalgic Impressions - The Marsalis Family

Ex: MediaCoopPortfolio.py

```
def initializeArchetype(self, **kwargs):
    BaseFolder.initializeArchetype(self, **kwargs)

    # prepopulate portfolio with audio folder

    if 'audio' not in self.objectIds():
        self.invokeFactory('MediaCoopFolder', 'audio')
        audio_folder = self['audio']
        audio_folder.setTitle('Audio')
        audio_folder.setDescription('Audio folder')
```

Restrict types to audio only

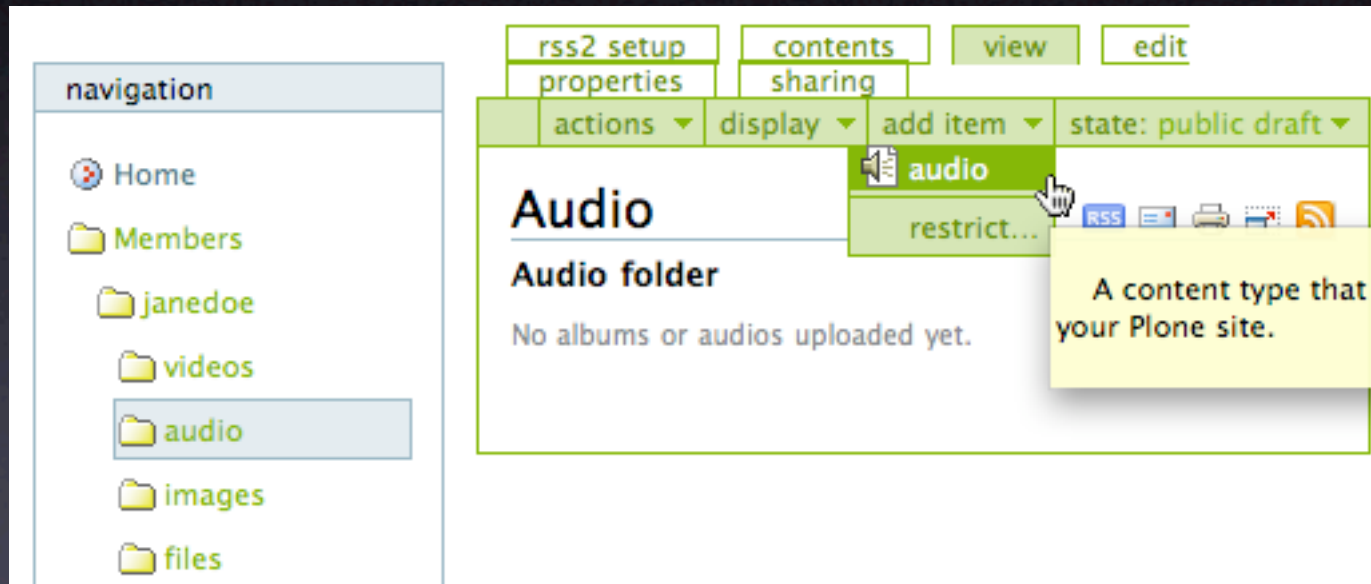
```
#only allow objects of type MediaCoopAudio to be added to this folder

audio_folder.setConstraintTypesMode (constrainttypes.ENABLED)
audio_folder.setLocallyAllowedTypes (['MediaCoopAudio'])
audio_folder.setImmediatelyAddableTypes (['MediaCoopAudio']))

# auto-set view template to audio listing

if audio_folder.canSetLayout():
    audio_folder.setLayout('mediacoop_audio_listing')
```

Restrict types



Can only add audio content to this folder

Auto-set syndication

```
# preset qRSS2Syndication properties

syInfo = getattr(audio_folder, 'syndication_information',
None)

if syInfo is None:
    setattr(audio_folder, 'syndication_information')

syInfo.rss2_types = ['MediaCoopAudio']
syInfo.only_published = False
syInfo.include_subfolders = True
syInfo.max_items = 20
```

navigation

- Home
- Members
 - hankdoe
 - videos
 - audio
 - images
 - files
- News
- Events
- Media folder

rss2 setup contents view edit

RSS2 feeds setup

Setup Details

Select types

Select types to be included the RSS2 feed.

- Simple Int Criterion
- List Criterion
- Folder
- Link
- News Item
- File
- Date Range Criterion
- Sort Criterion
- Portal Types Criterion
- Audio file
- CD
- Recordings
- Video
- File
- Image
- Audio
- Portfolio
- Portfolio
- Listing
- Media folder

Only published content

Include subfolders content

Articles number

Articles number to be included the RSS2 feed.

RSS2 Syndication pre-set

Membership role mappings

Use this screen if you are using a userfolder other than the built-in folder CMF.

Portal Role	User Folder-defined Role	
Member	<input type="text"/>	<input type="button" value="Set Mapping"/>
Reviewer	<input type="text"/>	<input type="button" value="Set Mapping"/>
Manager	<input type="text"/>	<input type="button" value="Set Mapping"/>
Owner	<input type="text"/>	<input type="button" value="Set Mapping"/>

Control creation of member areas

This feature controls whether users will have their own folder created upon login.

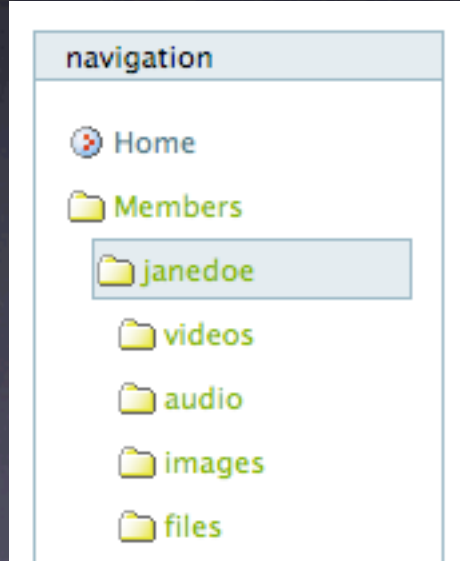
Member areas are created upon first login.

Set member area type

Select the (folderish) type to use when creating new member areas. You non-folderish types may cause problems.

Member area type

Auto-create portfolio



Ex: portlet_mytools.pt

```
<dd class="portletItem odd" >
```

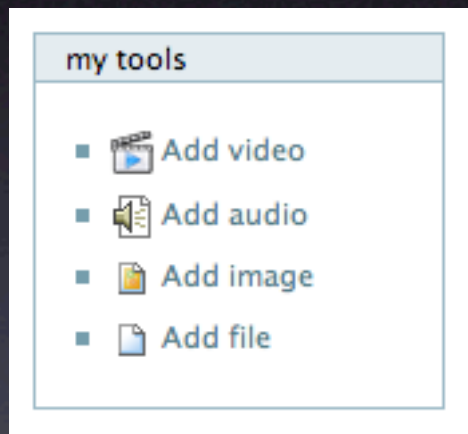
```
    <ul tal:define="homeUrl python:
here.portal_membership.getHomeUrl()" >
```

```
        <li><a href="" tal:attributes="href python: homeUrl
+ '/videos/createObject?type_name=ATVideo'"> Add video</a></li>
```

```
        <li><a href="" tal:attributes="href python: homeUrl
+ '/audio/createObject?type_name=MediaCoopAudio'"> Add audio</a></li>
```

```
        <li><a href="" tal:attributes="href python: homeUrl
+ '/images/createObject?type_name=MediaCoopImage'"><img
```

My tools portlet



- Quickly add new content to your portfolio
- Adds content to the correct location
- No matter where you are browsing on the site

search

PodcasterStudio

Podcasting Made [Simple](#)[Home](#)[Members](#)[Photos](#)[Videos](#)[MP3s](#)[Groups](#)

Home

Recent Audio

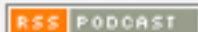
[My Wild Irish Rose](#)
2006-03-03

[Shenandoah](#)
2006-03-03

[Ridin' The Rails](#)
2006-03-03

[Just The Way It Is, Baby](#)
2006-03-03

[Nostalgic Impressions](#)
2006-03-04

[More audio files...](#)

Recent Images



[this is my image](#)
2006-03-03



[Another image](#)
2006-03-03



[Skyping in the mountains](#)
2006-03-04

Recent Videos



[test video](#)
2006-03-04



[Austrian carneval](#)
2006-03-04



[Crackin' up](#)
2006-03-04

Log In

Login Name

Password

[Forgot your password?](#)[New user?](#)

Recent Audio

[My Wild Irish Rose](#)
2006-03-03

[Shenandoah](#)
2006-03-03

Thank you!

Enfold Systems

Also thanks to:

Dorneles Tremea (deo)
Christian Scholz (MrTopf)
Kamal Gill (kamalgill)
Rocky Burt (rockyburt)
Volodymyr Cherepanyak
Justin Ryan (bitmonk)
Jodok Batlogg (batlogg)
Michael Breidenbrucker
Wolfgang Reutz (wreutz)
Tom Parish
Salim Fadhley
Sidnei da Silva (dreamcatcher)
Michael Piotrowski

Leo Rochael
Matt Hamilton (hammertoe)
Andy Nicholson (andycat)
Russ Ferriday (russf)
Jean-Francois Roche (jfroche)
Guenter Dressel (gue)
Chris Miles (chrismiles)
Christian Haemmerle (reco)
Rick Hurst (discipleofsketch)
Laurence Rowe
Jean Jordaan
Andi Zeidler
Godefroid Chapelle (__gotcha)
David Convent (davconvent)

Plone4Artists links

- Plone4Artists
 - <http://plone4artists.org>
- Subversion repository
 - <svn://svn.plone4artists.org>
- Mailing list - send an email with 'subscribe' as the subject to
 - plone4artists@plone4artists.org
- IRC - <irc://irc.freenode.net/plone4artists>

PloneMultimedia links

- PloneMultimedia
 - plone.org/products/plonemultimedia
- ATAudio - plone.org/products/ataudio
- ATVideo - plone.org/products/atvideo
- ATPhoto - plone.org/products/atphoto
- PloneJUpload - plone.org/products/plonejupload
- PloneTramline - plone.org/products/plonetramline

PloneMultimedia lists

- Mailing list - send an email with 'subscribe' as the subject to
- PloneMultimedia - multimedia@plone4artists.org
- ATAudio - ataudio@plone4artists.org
- ATVideo - atvideo@plone4artists.org
- ATPhoto - atphoto@plone4artists.org
- Tramline - tramline-dev@codespeak.net