

# Northwestern University Library

## Digital Image Library “Hydra Head”

Open Repositories 2011  
24 x 7 Lightning Talk

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# Digital Image Library

Something about DIL...

Currently: 70K professionally cataloged art historical images

Intended: Broad coverage (by genre and community)

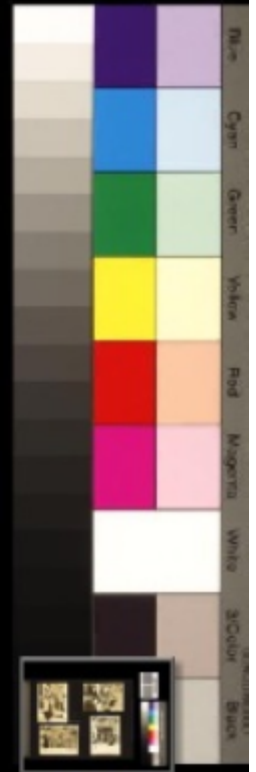
# Images, How? : Source Image



TEMPLE  
of  
POISIN O. O.

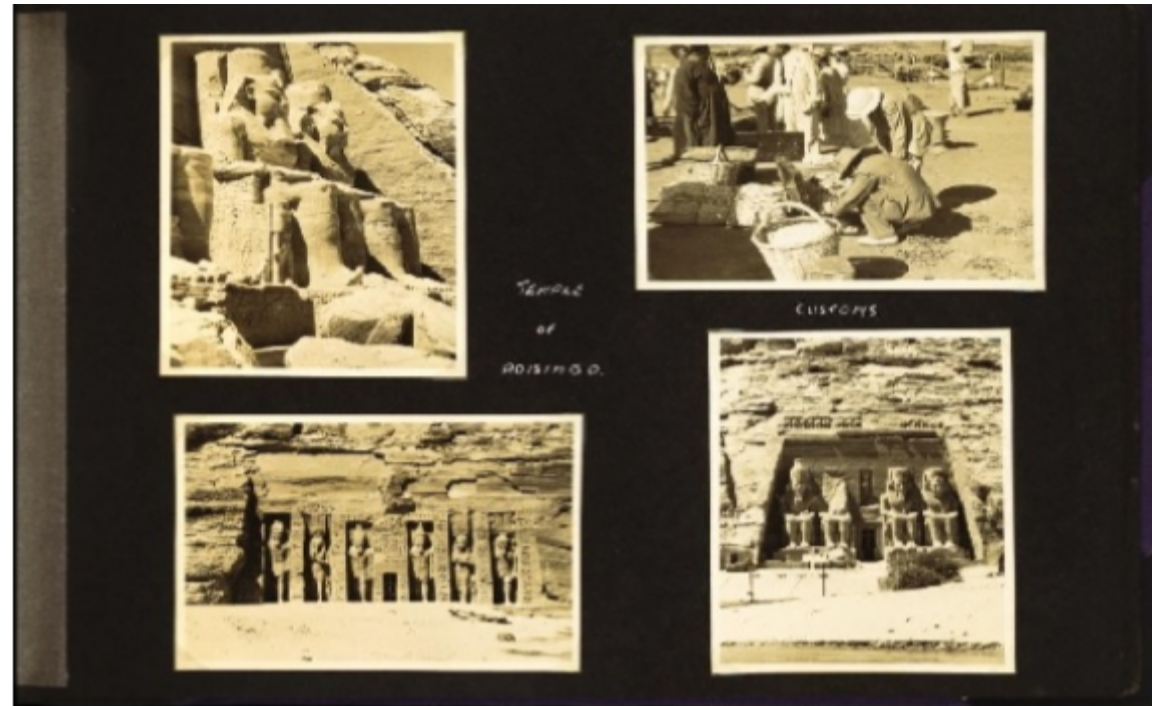


CUSTOMS



# Virtual Crop

Same Image  
Color bars  
removed



## Single Image File Referenced By Crop Information:

```
<svg>  
  <image x="0" y="0" width="10656" height="7992"  
    xlink:href="inu-wint/inu-wint-22.30.jp2">  
    <clipPath><rect x="0" y="1166" width="8034" height="6036"/></clipPath>  
  </image>  
</svg>
```

# Virtual Crop

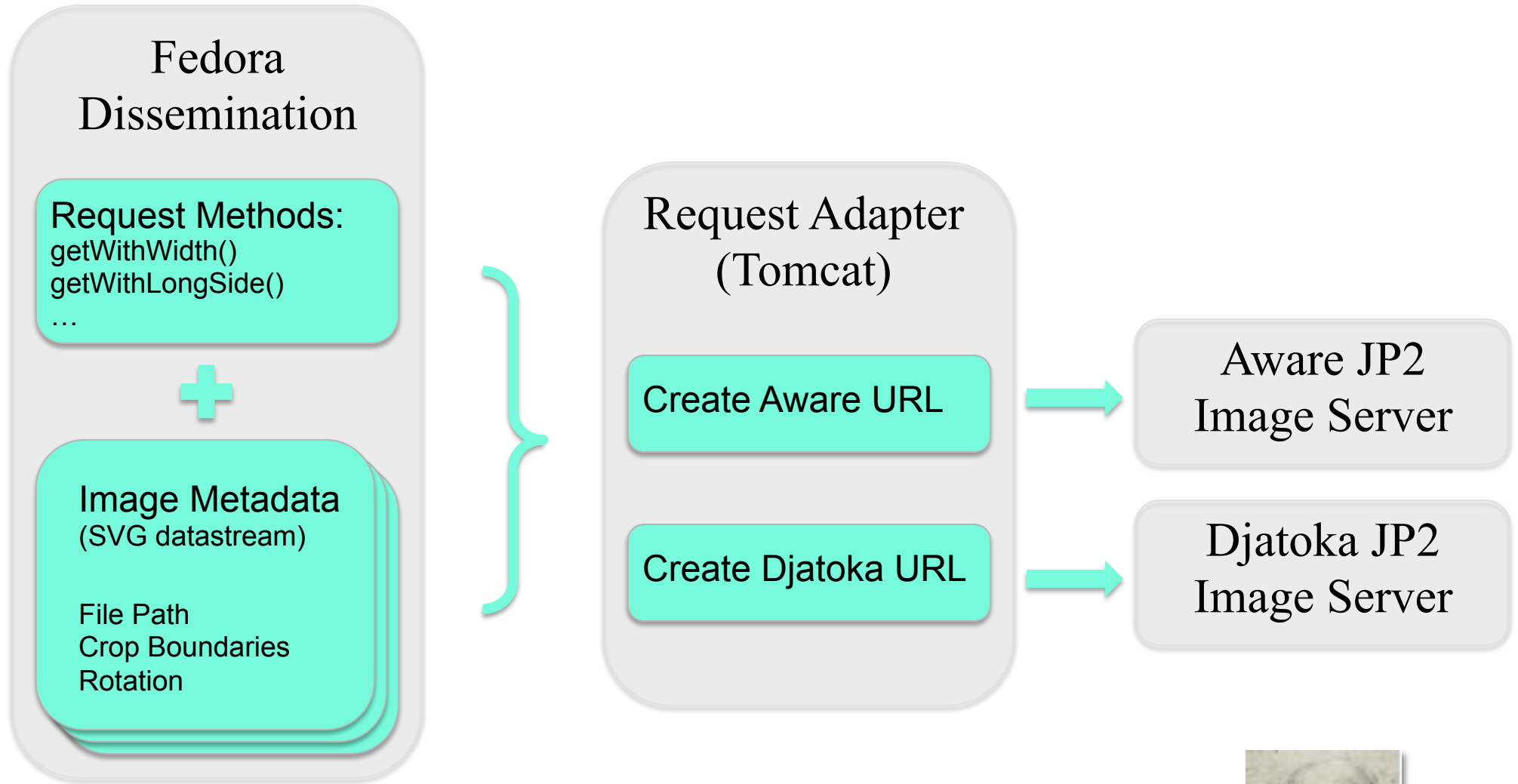
## Same Image Individual Photo



### Single Image File Referenced By Crop Information:

```
<svg>  
  <use  
    xlink:href="http://repository.library.northwestern.edu/fedora/get/inu:inu-wint-22-30/DELIV-OPS">  
      <clipPath><rect x="4246" y="1436" width="2997" height="2518"></rect></clipPath>  
    </use>  
</svg>
```

# Image Request Processing



*<http://.../fedora/objects/inu:image-pid/methods/inu:sdef-image/getWithLongSide?length=110>*



# Fedora Image CModel, Sdef, and SDep

## Content Model inu:imageCModel

...declares a single SVG datastream

## Service Definition inu:sdef-image

...declares several disseminator methods:

getWidth(width)

getWithLongSide(length)

getWithShortSide(length)

getWithHeight(height)

getCropWithWidth(x,y,width, height,destwidth)

getCropWithHeight(x,y,width, height,destheight)

getWithSize(destwidth , destheight)

## Service Deployment inu:sdef-image-aware

... binds to associated URLs in our Aware redirecting servlet,  
passing in the requested image's SVG datastream.

# Image Rendering Servlet takes...

*Image requests with input parameters:*

```
getWidth(width)
getWithLongSide(length)
getWithShortSide(length)
getHeight(height)
getCropWidth(x,y,width, height,destwidth)
getCropHeight(x,y,width, height,destheight)
getWithSize(destwidth , destheight)
```

combined with...

*The image's internal SVG datastream containing path, crop and rotation:*

```
<svg>
  <image x="0" y="0" width="10656" height="7992" xlink:href="inu-wint/inu-wint-22.30.jp2">
    <clipPath><rect x="0" y="1166" width="8034" height="6036"/></clipPath>
  </image>
</svg>
```

... *and then* forms a JP2 Server (Aware in our case, but Djabatoka works too) URL and a redirect to render the requested image or crop.

Example request URL:

<http://.../fedora/objects/inu:image-pid/methods/inu:sdef-image/getWithLongSide?length=110>




# Fedora Datastreams

<b>Datastream ID</b>	<b>Datastream Label</b>	<b>MIME Type</b>
<a href="#">DC</a>	Default Dublin Core Record	text/xml
<a href="#">MODS</a>	MODS Record	text/xml
<a href="#">VRA</a>	VRA Metadata	application/xml
<a href="#">HTML_XSL</a>	HTML_XSL	text/xml
<a href="#">EMBEDDED_HTML_XSL</a>	EMBEDDED_HTML_XSL	text/xml
<a href="#">RELS-EXT</a>	Fedora Object-to-Object Relationship Metadata	text/xml
<a href="#">DELIV-OPS</a>	SVG Datastream	text/xml
<a href="#">ARCHV-IMG</a>	Original Image File	image/tiff
<a href="#">ARCHV-EXIF</a>	EXIF Technical Metadata	text/xml
<a href="#">ARCHV-TECHMD</a>	EXIF Technical Metadata	text/xml
<a href="#">DELIV-IMG</a>	Delivery Image Datastream	image/jp2
<a href="#">DELIV-TECHMD</a>	Technical Metadata Datastream for JPEG2000 Image	text/xml
<a href="#">rightsMetadata</a>	rightsMetadata	application/xml

# Dissem. used in Hydra search results

Hydrangea (Hydra Demo App) Search Results

Hydrangea (Hydra Demo App) Sea... +

 hydrangea [Log Out \[ archivist1 \]](#)

[Add an article](#)

Limit your search

Type  [Search](#)

Type  Multiresimage [×](#)

Sort by  Display as  Show  per page

15 documents


Person


Organization


Workspace


[Old Man Samples,](#)





[New Collection,](#)

 [Head of an old man,](#)  
[Head of an old man.](#)

 [Head of an old man.](#)

 [Head of an old man.](#)

 [changeme:102](#)

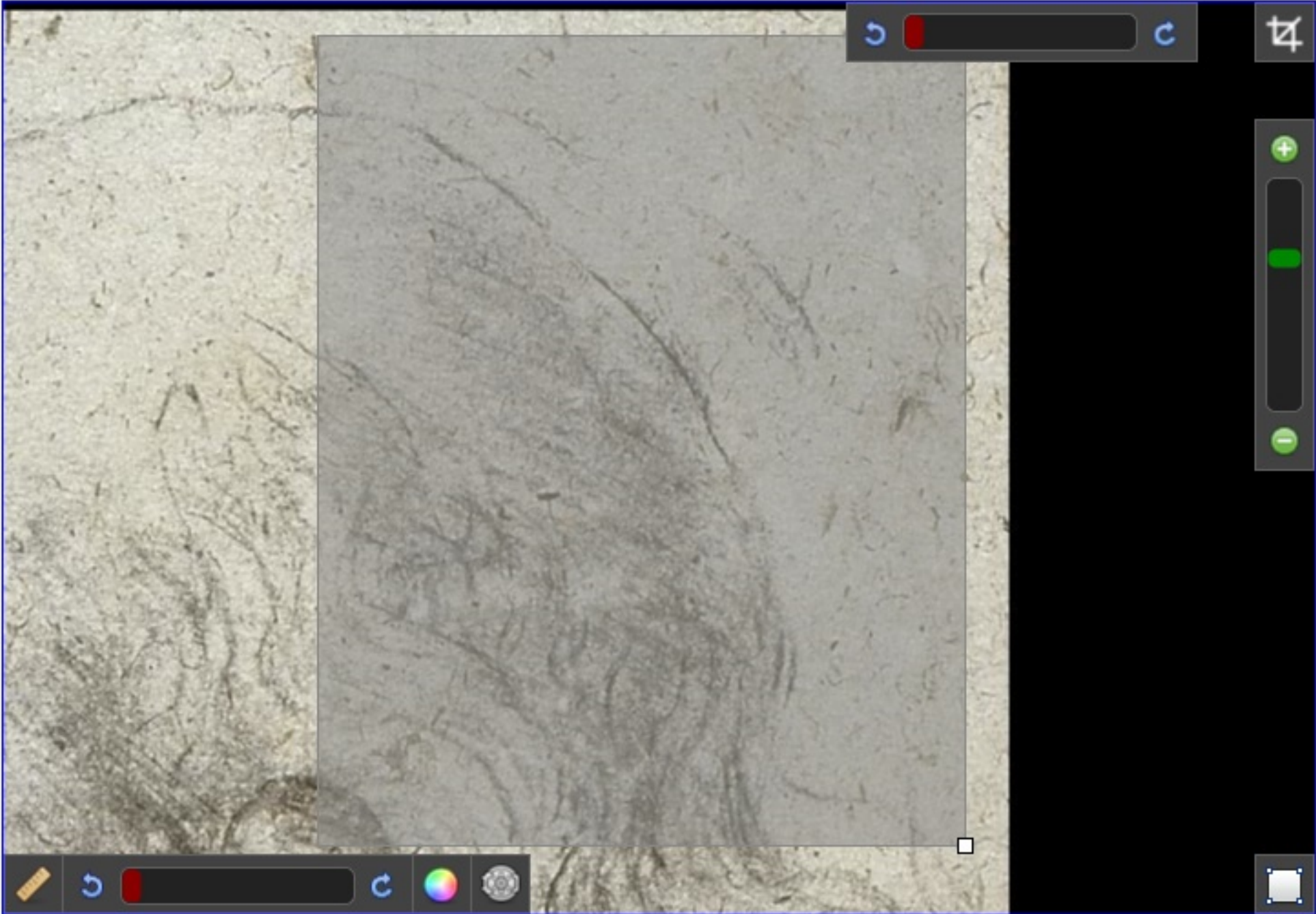
Done

# Image Tile Viewer

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# Crop Tool (tile viewer in edit mode)



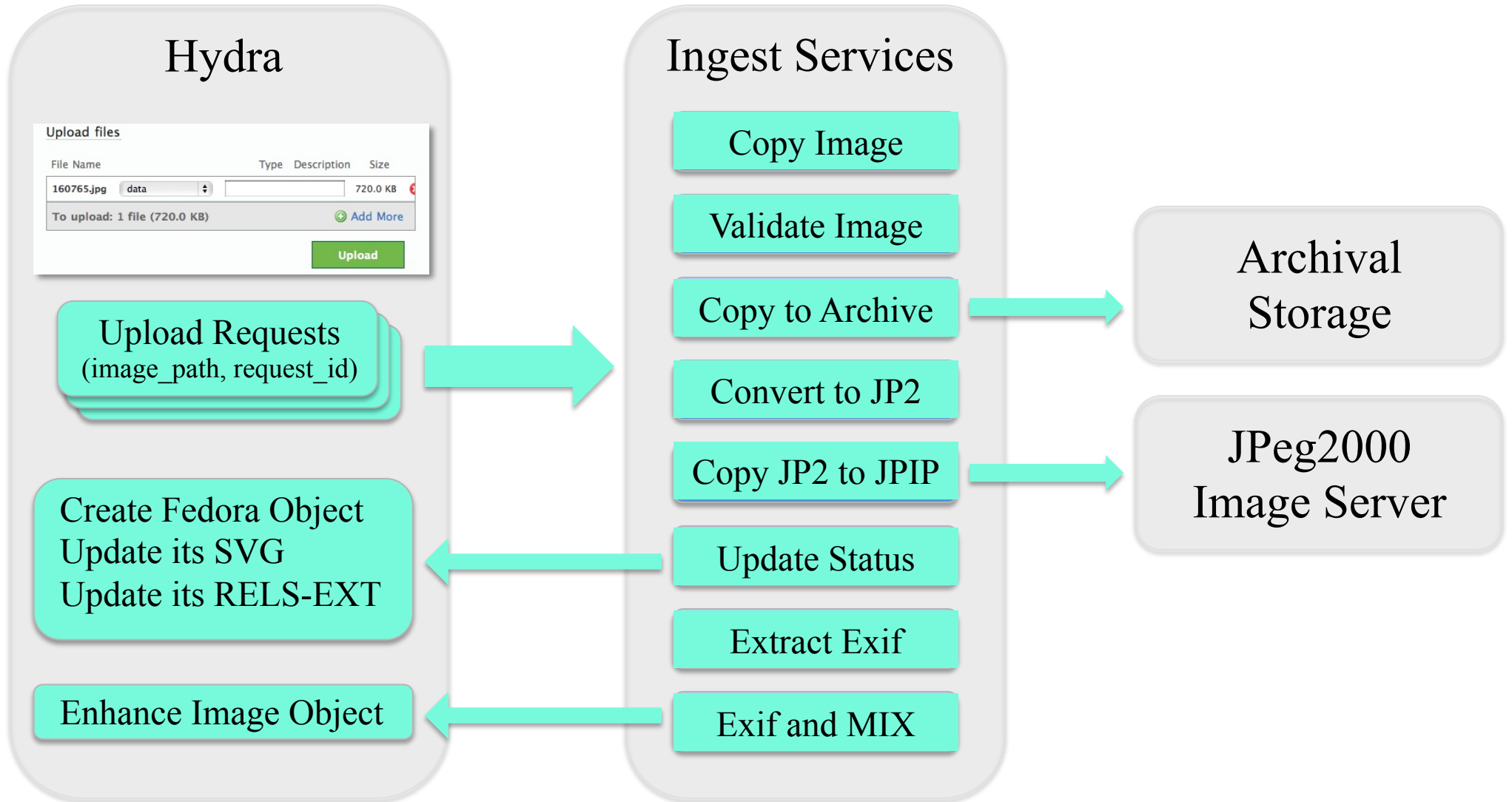
**Crop Tool** invokes a controller action to clone the source Fedora object, load the clone, and update its SVG for new crop.

The new “crop” then behaves like any other image.



```
<svg xmlns:xlink="http://www.w3.org/1999/xlink">  
  <image height="3154" width="2197"  
    xlink:href="RealVMC/vmc06-3/210362.jp2"></image>  
  <rect height="888" width="710" x="1431" y="28"></rect>  
</svg>
```

# Hydra Upload Dataflow



# VRA Core Work/Image in Hydra



VRA Work objects  
Contain full catalog  
Records with  
authorized  
Headings and Terms as  
well as a ‘preferred’  
associated image.



VRA Image objects  
Typically contain less cataloging but  
also reference their associated VRA  
Work for fuller description.

# VRA Display in Hydra



<b>TITLE:</b>	Head of an old man , Head of an old man.
<b>DATE:</b>	c.1514-1516
<b>SUBJECT:</b>	Elderly
<b>AGENT:</b>	Leonardo da Vinci, 1452-1519
<b>LOCATION:</b>	Royal Library. Windsor Castle
<b>MATERIAL:</b>	Black chalk
<b>MEASUREMENTS:</b>	25 x 18cm.
<b>STYLEPERIOD:</b>	Drawings--Renaissance--Italy ; Figure studies
<b>IDENTIFIER:</b>	changeme:87

VRA Core ‘display’ fields from the Related Work object and the Viewed Image object are combined in each display.



# VRA Display in Hydra

STYLEPERIOD: Drawings--Renaissance--Italy ; Figure studies

IDENTIFIER: changeme:87

Expand All

Collapse All

## - Related Images



## + Downloads

Related Images and downloads of various sizes are provided in each display.

# VRA Work/Image Indexing and Editing

VRA Work objects are not indexed in Solr separately but their Metadata is indexed with each of their associated VRA Image Objects for discovery.

A separate Full VRA metadata editor facilitates VRA Work creation, editing, and Work – Image relationship assertion.

# Brand X (Xforms) VRA Metadata Editor

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TITLE: PROGRESSION IN BLACK.

AGENT: KANDINSKY, VASILY,1866-1944

DATES: 1927

Agent Title/Description/Inscription Dates/Culture Materials/Technique/Measurements Location/Source Subject and Related Works  
Image Search

Add AgentSet

## Agent Set



Agent Display

Sort Name	Early Date	Late Date	Role	Culture	Type	Vocab	Refid	
<input type="text" value="Kandinsky, Vasily,"/>	1866	1944	-- Select One --	-- Select One --	personal	LCNACO	207325	-

Save Record Cataloged

# Ad-Hoc Collections in Hydra


## Features:

- Easy to create and name
- Drag and drop of search results into collections
- Drag and drop arrangement of items in a collection
- Collection members in ModsCollection datastream

# Ad-Hoc Collections – Entry Box

Hydrangea (Hydra Demo App) Search Results

Hydrangea (Hydra Demo App) Sea... +

 hydrangea Log Out [ [archivist1](#) ]

[Add an article](#) ▾

Limit your search

Type

[Article](#) (15)

[Multiresimage](#) (15) [remove]

Person

Organization

Workspace



**Old Man Samples,**

Type [Multiresimage](#) ✕

⏪ Previous Next »

Sort by [relevance](#) ▾ Display as [table](#) ▾ Show [10](#) ▾ per page

15 documents

Title	Creator	Deposited	Type	Files	Status
 • <a href="#">Head of an old man., Head of an old man.</a>		Fri Jul 23 09:46:51 UTC 2010			
		Thu Feb 24 23:21:27 UTC 2011			

Done P

# Ad-Hoc Collections – New Entry Added

Hydrangea (Hydra Demo App) Search Results

Hydrangea (Hydra Demo App) Sea... +

hydrangea

Log Out [ [archivist1](#) ]

Add an article ▾

Limit your search

Type

Article (15)

Multiresimage (15)[remove]

Person

Organization

Workspace

Search

Type Multiresimage ✕

Sort by relevance ▾ Display as grid ▾ Show 100 per page

15 documents

Old Man Samples,

New Collection,

Head of an old man., Head of an old man.

Head of an old man.

Head of an old man.

changeme:102

Done

# Hydra Code...

*hydrangea\_collections* plugin

VRA Core datastream support

ModsCollection datastream support

Models, controllers, helpers, views for

MultiresImage

UploadRequest

Javascript for HTML5 viewer

jQueryUI and Ajax for drag-and-drop

ActiveModel for tracking upload requests

# Thank You

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