

# Bringing IIF to the DSpace Community



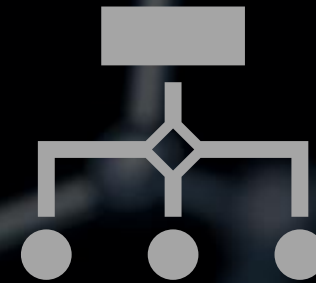
A NEW FRONTIER FOR IMAGE  
VIEWING

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**OPEN REPOSITORIES 2022**

The 17th International Conference on Open Repositories  
6th - 9th June 2022, Denver, Colorado, USA

# What are we talking about?

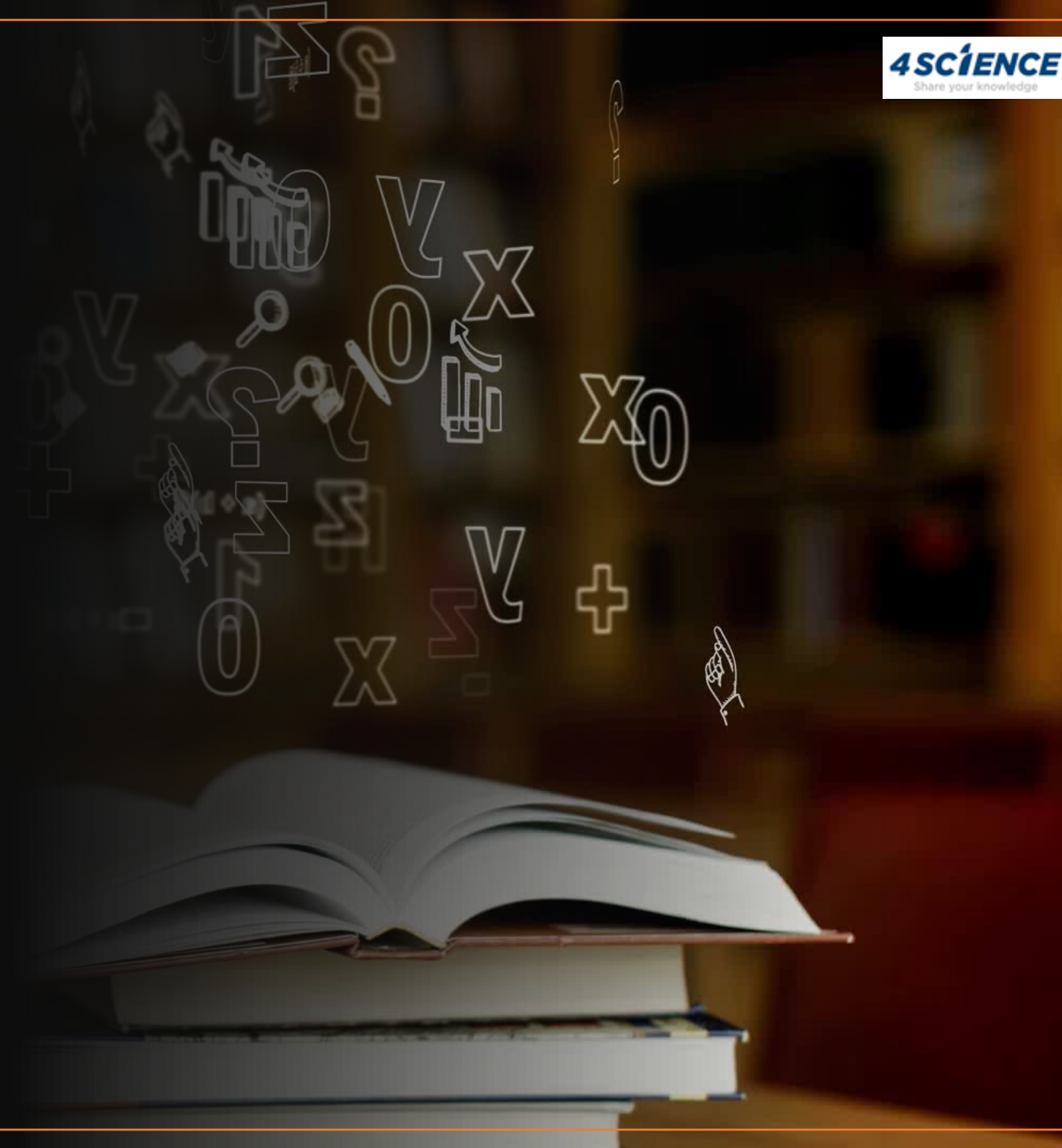


IIIF is an open standard for delivering high-quality images online, developed by a community of experts from libraries and other institutions. In the last years IIIF became the “de facto” standard for presenting, navigating and sharing digital images on the web all over the world.

It defines several APIs for providing a standard method for describing and delivering images over the web, as well as "presentation based metadata" about structured sequences of images.

# We finally achieved it, together

Thanks to the support of the  
**Willamette University**, the  
DSpace 7 IIF support now  
allows institutions to upload  
images in DSpace!



# The actors of this improvement



**Willamette University** had begun working on DSpace version 7 and IIF for enhancing access to digital content that was being hosted on two local systems.



A key objective was to **replace this existing infrastructure with a single, community-supported solution.**



4Science, since 2017, have been developing an addon for DSpace (starting from version 5) to support IIF, **easily integrated with a set of external Image Servers**, such as Cantaloupe or Digilib.

# Speaking of UX: The story so far

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Until DSpace 7.1, users couldn't pre-view a detailed image.

Until now

DSpace has been considered very effective to build institutional repositories for managing research outputs, yes.

But it was considered a slightly less viable solution to meet the needs of Digital Libraries that manage digitized documents with hundreds of images.

# The problem

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Basically, a poor user experience. Institutions could be reluctant to use DSpace Digital Asset Management System, not least because of the lack of tools for digital images management, navigation and real sharing.

# In the Digital Libraries context

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It is crucial to quickly visualize images, getting a resized image adapted to the screen size and the current zoom level, without the need of downloading either the full resolution images when previewing the content, or unnecessary image regions at high zoom level.



Now the DSpace 7 IIF support allows institutions to upload images in DSpace getting automatically a IIF manifest for the item, based on item and bitstream (images) level metadata.

# the solution

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A shared  
belief

We thought that implementing IIF is a fundamental achievement in DSpace history, since it is going to **promote its use in contexts such as those related to scientific field and digital cultural heritage management!**

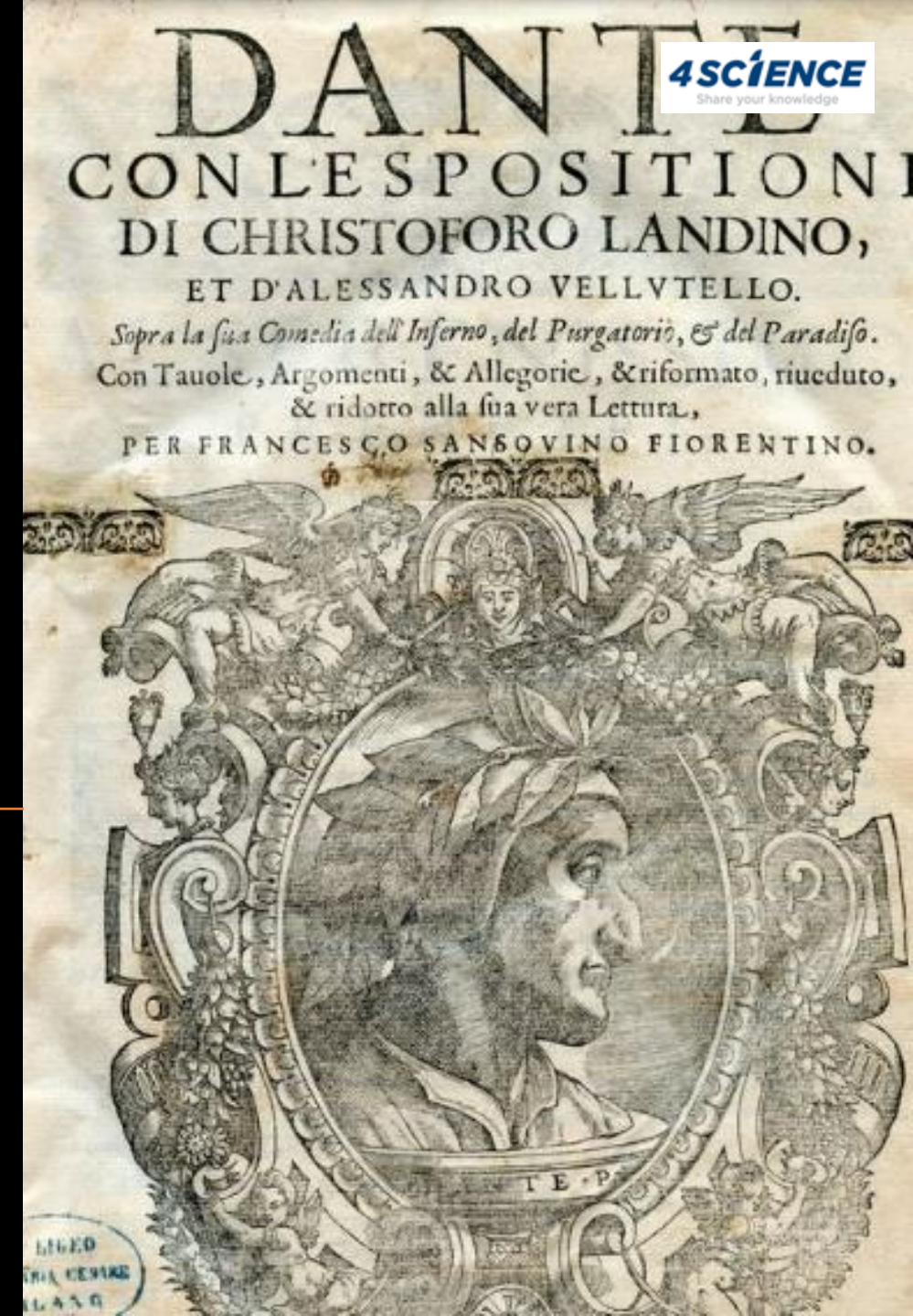
Pre-view any detail,  
with no burdening

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For scientific dissemination

Pre-view any detail, with  
no burdening of the system

For Cultural Heritage dissemination



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# The technology behind

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Now the DSpace REST API implements the IIF Presentation API version 2.1.1, the IIF Search API version 1.0 (*experimental*) and collaborate with a IIF Image API compliant Image Server (such as Cantaloupe)

The Angular UI has an embedded Mirador viewer

# Embedded Mirador Viewer

Search option added dynamically based on Item metadata.

Home | Willamette University Arc... | Archives and Records | Alumni Publications | Willamette University Bul...

Use full screen for better viewing.

Willamette University Bulletin (Salem, OR), 1919-04-01

About this item

CURRENT ITEM

Chapter 1

File name  
0009.jp2

Format  
JPEG 2000

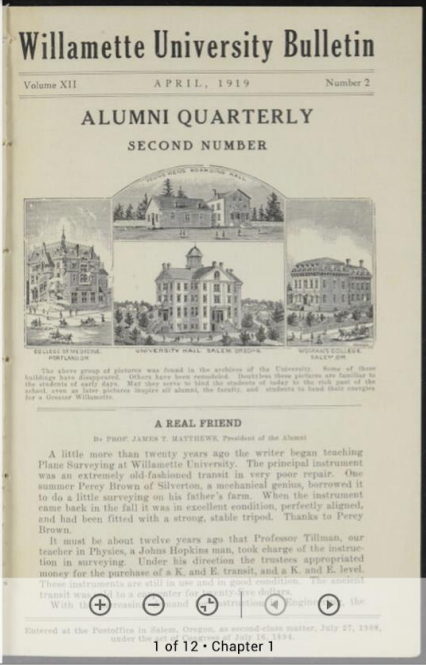
Mime Type  
image/jp2

Image Width (px)  
1962

Image Height (px)  
3079

File size  
4 MB

Checksum  
816637f5127f07c95c78fafc24f13853 (MD5)



Chapter 1

Page 2

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Viewer most layout is defined in the default Mirador configuration. This panel is dynamically hidden for single images.

Image and Item metadata fields are defined in global DSpace backend configuration.

## Willamette University Bulletin (Salem, OR), 1919-04-01



### Citation

volume 12 issue 2 edition 1

### URI

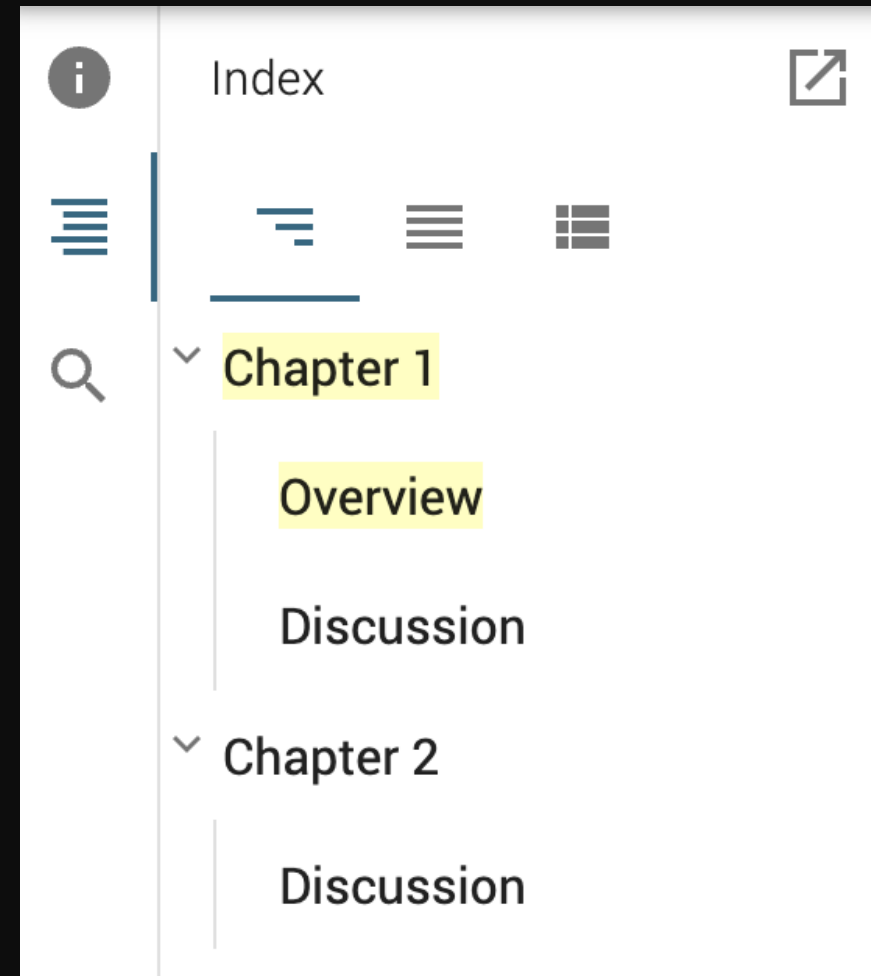
<https://digitalcollections.willamette.edu/handle/10177/7126>

### Collections

Alumni Publications

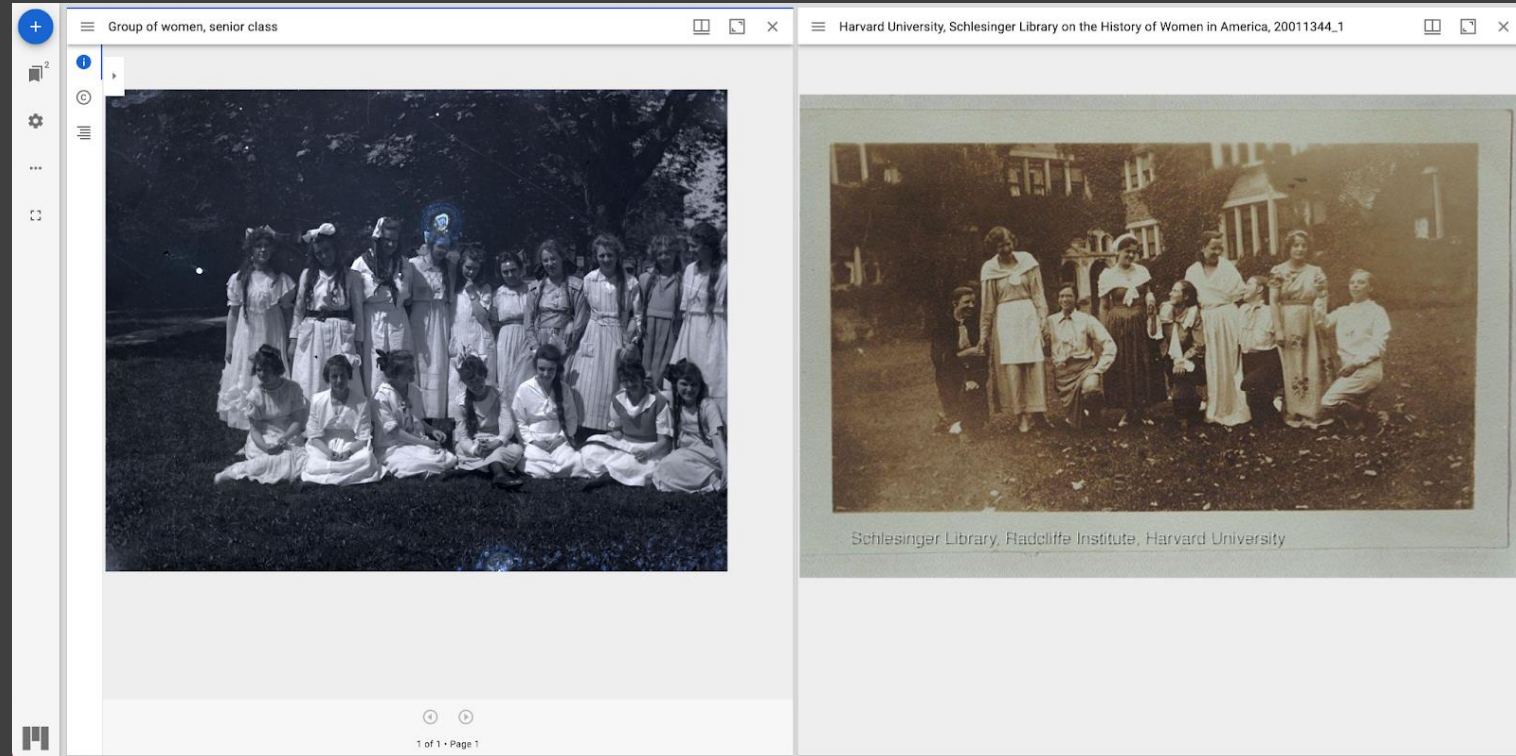
using the IIF manifest:  
a JSON file describing the  
structure of IIF object

Is possible to express the complex structure of a  
digital object



Is very easy  
to compare  
documents and  
objects on the  
virtual desktop

In this way the user can  
experience an immersive  
journey also outside  
repositories boundaries.





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No download:  
perform a first  
level image  
analysis within  
the repository

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Mirador provides plugins that allow to extend the functionality. A PR to easily enable the image processing tools is underway

Download of alternative/additional resources and share on socials plugins are already enabled by default

Providing a  
real support  
for IIRF  
means

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a terrific change on how DSpace  
is conceived all over the world.

The future  
we're  
moving to

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Experimental support for the IIF Search API is also available and it is expected to be refined in DSpace future releases.

# Search API Result

Use full screen for better viewing.

Willamette University Bulletin (Salem, OR), 1919-04-01

Search

search terms

"science hall"

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Science

2 Page 4

Hall

New Courses of Study will be outlined in the annual catalog soon to appear. These are: Pre-Law, Pre-Engineering, Pre-Journalism, Pre-Chemical Engineering, Pre-Medicine, and Pre-Domestic Science. These courses will cover four years of work.

The Freshman Glee this year aroused the usual interest in the University and city. The Armory was packed. Beautiful decorations had been arranged and the classes made a very fine appearance. The singing was excellent and the audience only wished that everybody could win. The sophomores carried off the honors with their song entitled, "Willamette, Here's to You."

At the Mid-Year Meeting of the Board of Trustees, held in Portland February 7, plans were discussed for celebrating the seventy-fifth anniversary of the opening of Willamette University and a program for a greater Willamette was proposed. These plans embody among other things a banquet in Portland in the late spring. The committee in charge of this banquet are President Doney, Dr. W. W. Youngson of the Portland District, and Dr. Joshua Stansfield of First Church, Portland.

A New Building was erected upon the campus about the middle of the year. The occupation of ~~Science Hall~~ by the S. A. T. C. made this necessary to accommodate the Y. M. and Y. W. and two literary societies. The building is bungalow style and is 32 by 46 feet, one story. The Chrestophilian and Chrestomathean literary societies gave \$400 to this building with the understanding that they should occupy it after the S. A. T. C. should be disbanded. The balance of the money was raised among the Salem friends of the school and a few other towns. The total cost was about \$1200.

The University Library grows steadily. It now contains about 1900 volumes, and over 100 magazines and papers are received regularly. Certain amounts of money already have been set aside for an alcove in honor of Dr. John H. Coleman, who was president of the University during the period 1902-8. Last year the Hon. Henry Clews, a New York banker and friend of Dr. Coleman, added \$500 to this fund. We hope other friends of Dr. Coleman will contribute. Besides numerous works added by purchase, many books have been presented to the library during the year by the following: Senator Robert A. Booth, Rev. Robert E. Smith, Rev. C. D. Day, Pres. Carl G. Doney, Chas. M. Stewart, and Frank A. Francis, '15.

The Washingtonians, composed of members of the faculty and students from the state of Washington, gave the usual banquet this year on Washington's birthday, having invited the trustees, faculty, and other students. The Ladies' Aid Society of the First Methodist Church served the dinner. Miss Fay Peringer, for the Washingtonians, introduced President Doney as toastmaster. Mr. A. A. Lee spoke for the trustees and Professors Matthews and Ven Eschen for the faculty. Other speakers were: the seniors, Miss Lela Johnson; the juniors, Francis Cramer; the sophomores, Lawrence Davies; and the freshmen, Ralph Barnes.

SOME FRIENDS WHO HAVE DIED

Since the last issue of the Quarterly Bulletin, Mr. Severson has passed away. Mr. Severson was a distinguished scholar, an alumnus of eighty-five years, and a devoted friend of the University. For many years Mr. Severson was a friend and loyal supporter of Willamette University and all who knew him and those who knew only how the University feel keenly the loss. His

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Page 5

# How it works

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The IIF behavior (Collection, Item, Bundle and Bitstream levels) is mainly defined using metadata at the different level.

dc.description.statementofresponsibility	Willamette University	  
dc.identifier	19190401	  
dc.identifier.citation	volume 12 issue 2 edition 1	  
dc.identifier.other	<a href="https://doi.org/10.31096/WUA066-Scene-19190401">https://doi.org/10.31096/WUA066-Scene-19190401</a>	  
dc.identifier.uri	<a href="https://digitalcollections.willamette.edu/handle/10177/7126">https://digitalcollections.willamette.edu/handle/10177/7126</a>	  
dc.language	English	  
dc.rights	All rights reserved by Willamette University	  
dc.title	Willamette University Bulletin (Salem, OR), 1919-04-01	  
dc.type	text	  
dspace.iiif.enabled	true	  
iiif.search.enabled	true	  

← Back
Save
× Discard

### Selected Format

JPEG 2000

If the format is not in the above list, select "format not in list" above and describe it under "Describe new format".

### IIIF Label

Chapter 1

Canvas label for this image. If not provided default label will be used.

### IIIF Table of Contents

Chapter 1|||Overview

Adding text here makes this the start of a new table of contents range.

### IIIF Canvas Width

1962

The canvas width should usually match the image width.

### IIIF Canvas Height

3079

The canvas height should usually match the image height.

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# What for large collections?

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Support for adding IIF metadata using the Simple Archive Format (SAF) import. PR exists to run the import via UI.

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# In absence of technical metadata?

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Mandatory information is automatically retrieved/guessed by the platform via direct interaction with the Image Server.



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# The challenges

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The DSpace IIF implementation currently is suitable only for public items with public images.

4Science addon provides support also for restricted content.

Together we want to bring support for the IIF Authentication API in a future version

Thanks to  
all of this,  
now

It's easy to perform massive imports of digitized documents together with their descriptive, technical and structural metadata.

# In conclusion

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The integration of DSpace with IIF could move **the role of the system to the next level.**

It will be no longer just an application for storing and preserving files, but a **working tool for accessing, sharing and re-using information in general.**

# Community Resources

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- Join DSpace IIF Slack Channel: <https://dspace-org.slack.com/archives/C4LVB5069>
- IIF Configuration Documentation: <https://wiki.lyrasis.org/display/DSDOC7x/IIF+Configuration>
- Thanks to the digital library team at the Bavarian State Library for [Presentation API 2.1.1 bindings](#) and the [Solr OCR Highlighting plugin](#).

# Thanks for your attention!

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