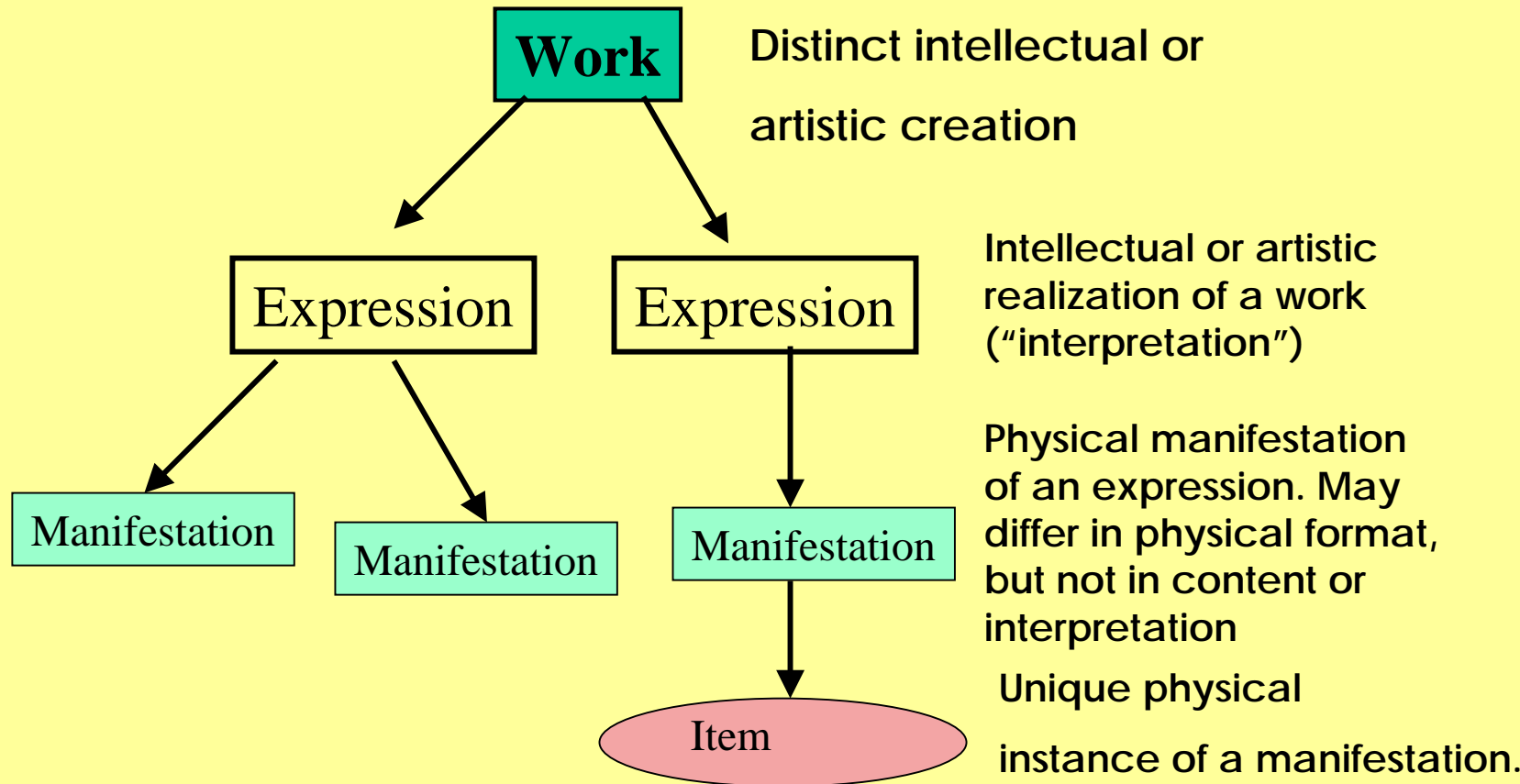


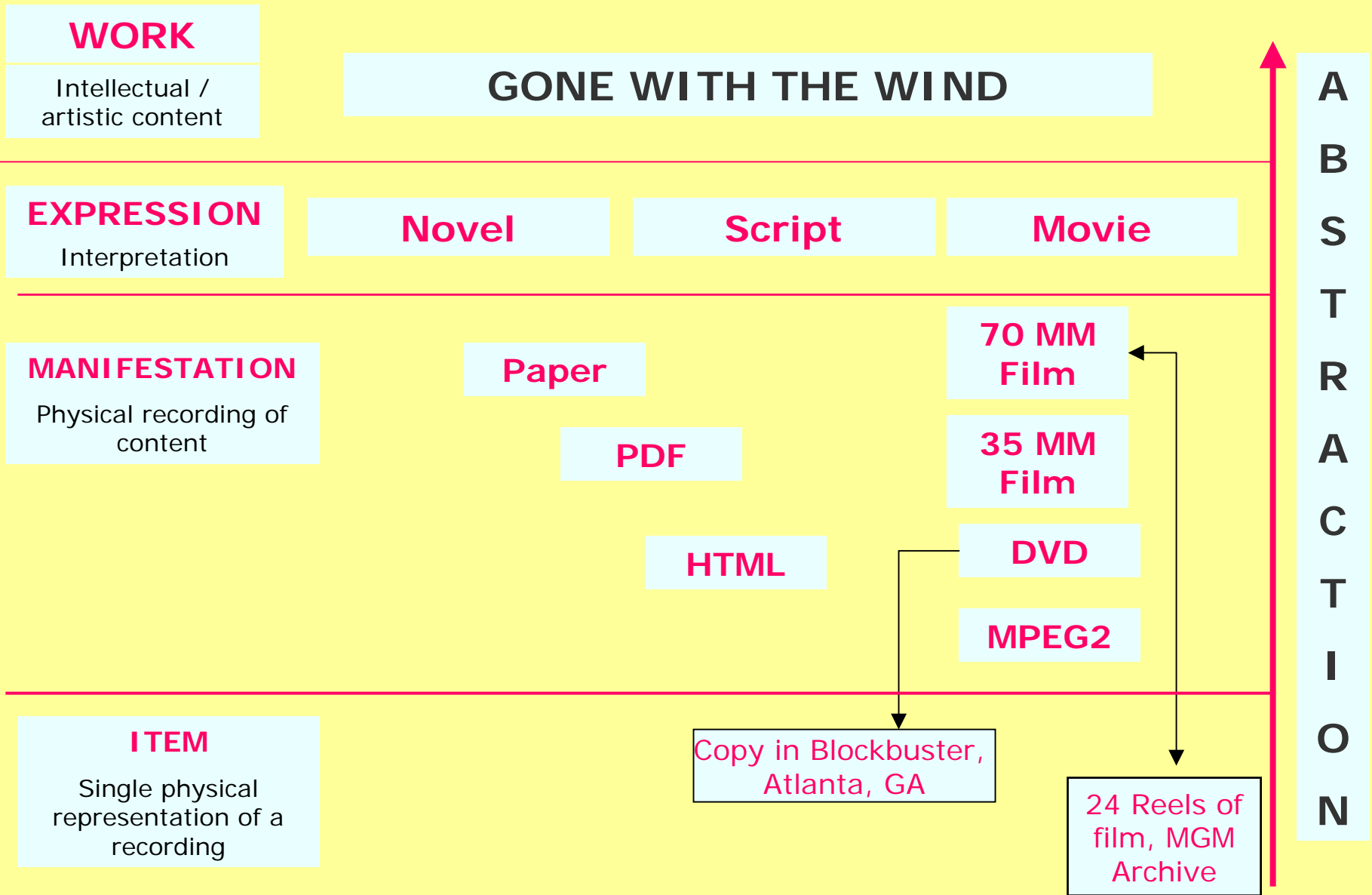
Creating our Digital Cultural Heritage

- ✓ Nature of information
- ✓ Characteristics of Digital Information
- ✓ Two Key Issues for Preservation and Access of Digital Cultural Heritage Materials

The Structure of Information (IFLA)



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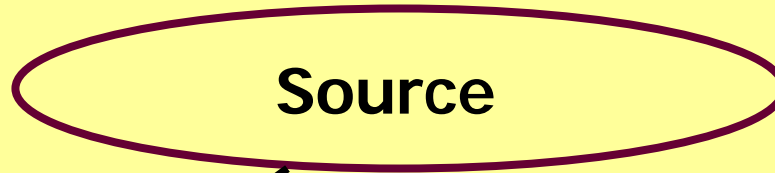


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Information within a Repository

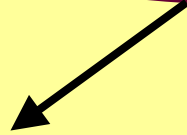
“Work” – ownership resides with creator

Origin of Information

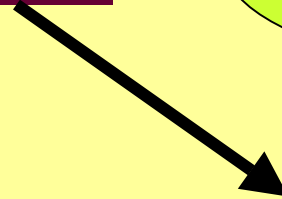
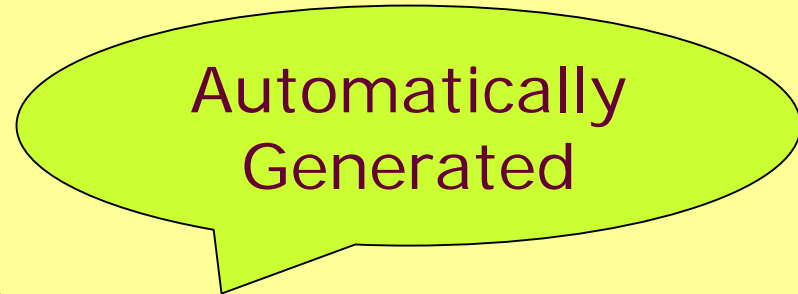


“hurricane” test

First generation of information under control of organization



Preservation Master



Creating our Digital Cultural Heritage

- ✓ Characteristics of Digital Information
 - ✓ Multi-sensory
 - ✓ Multi-dimensional
 - ✓ Modular
 - ✓ Dynamic

Creating our Digital Cultural Heritage



VS



Multi-sensory

Engages multiple senses, including the sense of time passage

Multidimensional

multifaceted approach to information.

Incorporates increased use of dimensions of space and time

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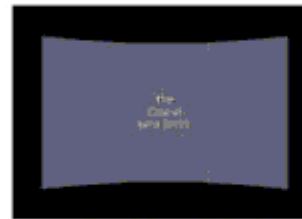
Modular

Can be broken into intelligible components that can be experienced, understood and re-used separately or in combination



Dynamic: Experience can be altered by user interaction. Information that is experiential and customizable

Welcome to the NITC Remembrance Wall!



[Presumed Lost Films](#)



[Found Films](#)



[Television Lost & Found](#)

[help save our moving image heritage.](#)

Creating our Digital Cultural Heritage

Key Issue for Preservation

- **Authenticity**

- integrity “digital document must be whole and undisturbed”

- provenance – must be tightly associated with its creator and act of creation

In the analog space

Object in hand is compared with a conceptual (“canonical”) historical version



Authenticity

o In the digital space

- Fidelity to the source artifact
- Identical (true/false) to the digital canonical master
- accompanied by a "true" provenance statement

--Proof: digital signature verifying that canonical object is unchanged. Digital audit trail documenting provenance and any changes to artifact or chain of provenance

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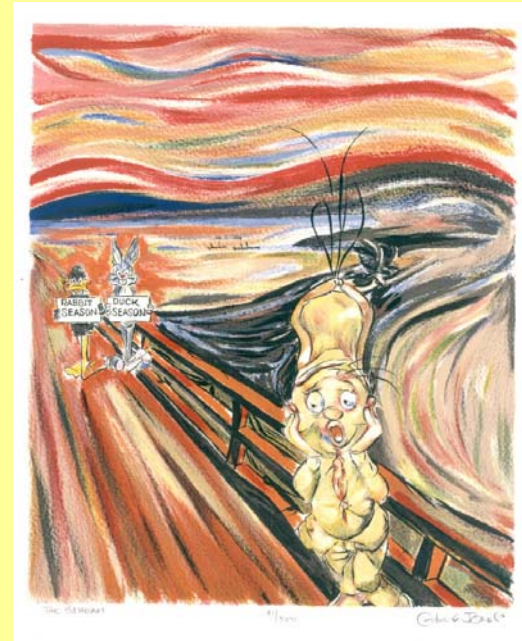
Object Reuse in the digital space

- **Copy** – identical in the abstract and the concrete. Occupies a different physical or logical space but otherwise identical
- **Version** – Intellectual content unchanged—concrete presentation differs (physical format, language)
- **Revision** – Content not identical but revisions should not substantially impact understanding or reuse, according to community
- **Edition** – substantially the same but revisions impact understanding and reuse according to community policy. Attributes –expanded, reduced policy.

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o**Adaptation** – Object substantially reuses content of original object Community decision how granular the attribution should be.

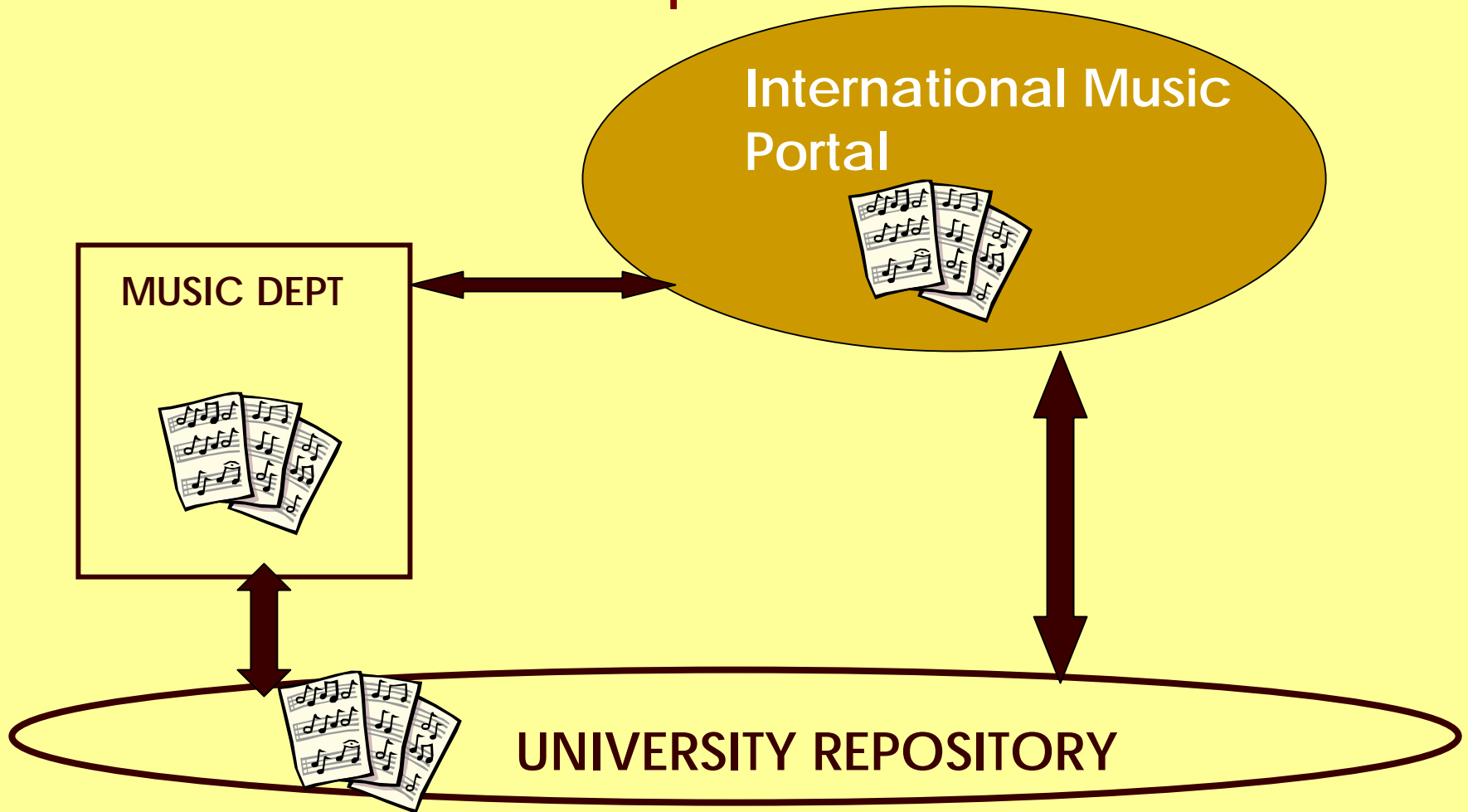
o**Derivation** – Content of original object is starting point or basis for new object



Copyright in the digital space based on duplication of discernable pattern(s)

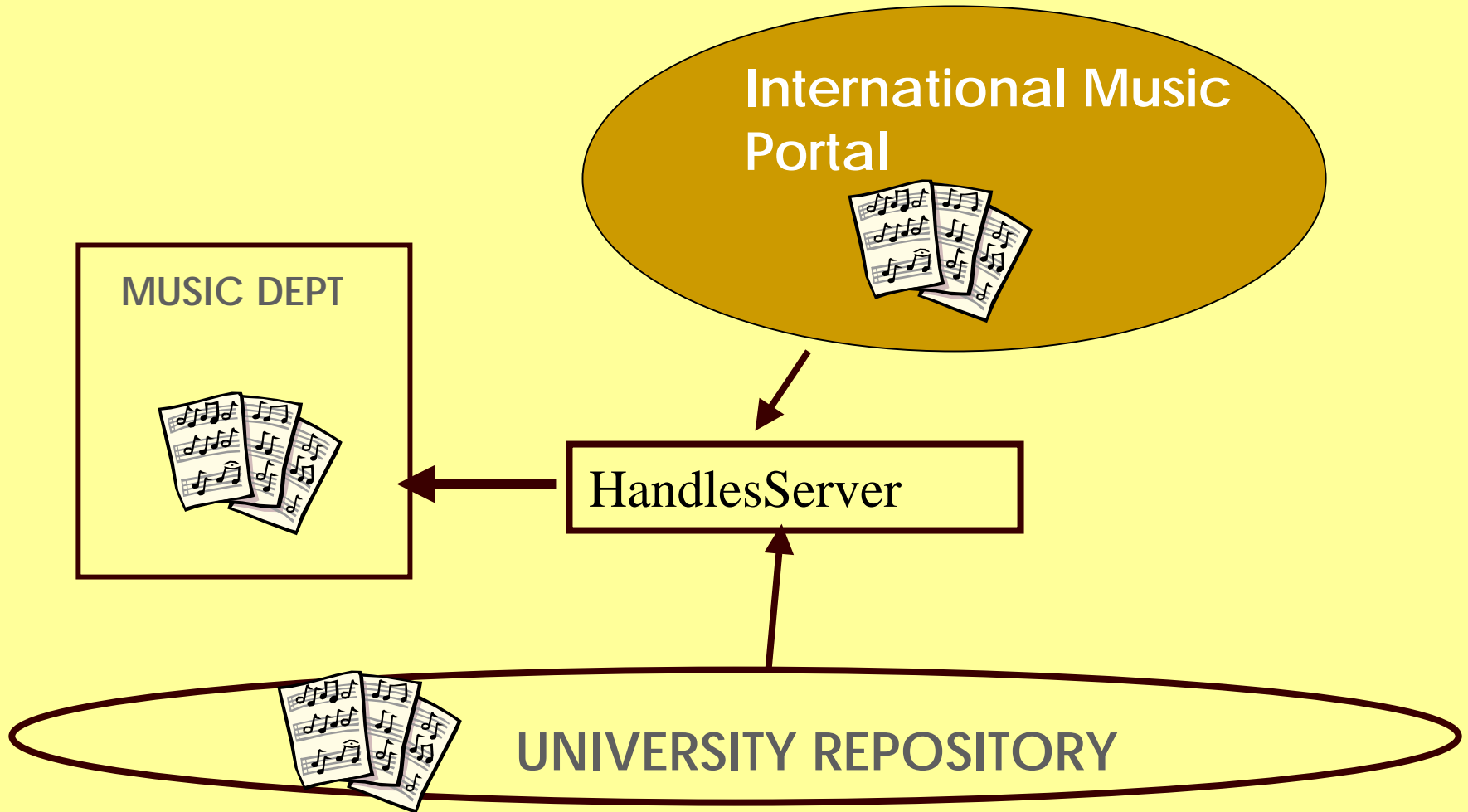
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Digital Information Object May Appear in Many Repositories



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Permanent, globally-unique identifier ("handle") provides durable access to single copy rather than multiple copies



Key Issue for Preservation

Durability – Preserving the Digital Cultural Heritage for Future Generations

Methodologies for addressing “digital permanence”

- o **Preserve** the “digital mediation space”— hardware and software needed to access, manipulate and display the resource
- o **Emulate** the “digital mediation space”. Recreate obsolete technology platforms, perhaps encapsulated in newer technologies
- o **Re-encode** the information in new formats before the old format becomes obsolete

Enabling Strategy

Technical metadata that documents the object's creation, technical characteristics and required mediation space. Enables digital archive managers to manage large numbers of objects:

- o checking for changes in the object ("digital provenance")
- o monitoring the digital format and mediation requirements to adapt to changing technologies ("technical metadata")
- o and maintaining connection to the source object (provenance and characteristics), so that as technology advances to offer greater fidelity to the source, objects can be re-encoded

Creating our Digital Cultural Heritage

New Jersey Digital Highway

- o Portal to the state's cultural heritage materials
- o Large and small libraries, museums, archives, etc. with common needs
 - o Access to resources for New Jersey citizens
 - o Permanent availability of resources

<http://www.njdigitalhighway.org>



Creating our Digital Cultural Heritage

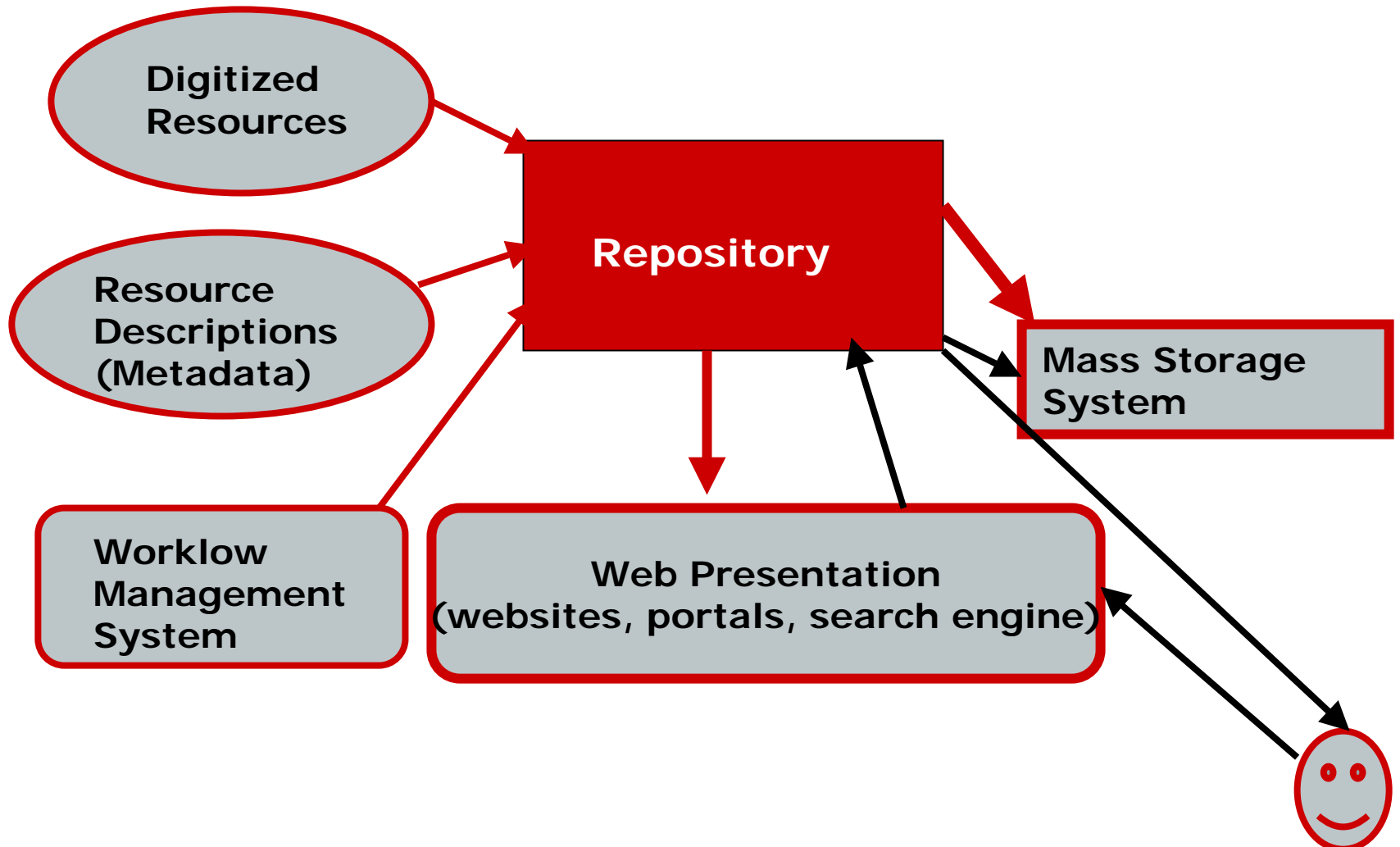
Challenge:

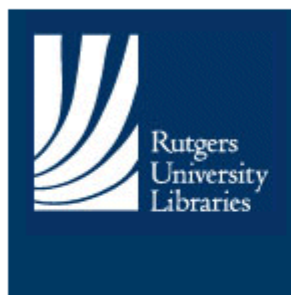
Creating a “Trusted Repository” for the New Jersey Digital Highway:

- o **Persistence:** Resources Persist over Space and Time. Readily available whenever needed
- o **Global uniqueness:** Every entity is established uniquely—within and beyond the repository

Rutgers Repository

How it Works





Rutgers Fedora Management Page

A Rutgers University Libraries Prototype



Searching and Viewing | Indexing and Ingest
Handle Creation | Collection Management

Searching and Viewing Functions

Full Record | All Collections | All Types | All Formats

Search Fedora DLR

Browse All Fedora Objects

All Collections | All Types

View Fedora Object

Edit Fedora Object

- All Types
- Collection
- GIS
- Learning Resource
- Moving Image
- Numeric Data
- Software
- Sound
- Still Image
- Text

1 Search Result from All Collections for 'farmhouse in fullrec'

Fedora 1

Collection: [SWFARM](#)

Fedora Management Functions: [Purge Object](#) : [Export Object](#) : [Edit Metadata](#)

[Add a New Datastream](#) : [Change a Datastream](#) : [Object Info](#)

[View Metadata](#) : [View Item Index](#) : [View Method Index](#)

Descriptive Metadata: [DUBLIN CORE](#) : [MARC](#) : [MODS](#)

Administrative Metadata: [DIGIPROV](#) : [RIGHTS](#) : [TECHNICAL](#) : [SOURCE](#)

[Digital Certificate](#) : [Structure Map](#)

Archival Files:

1. [Batsto Village House TAR](#)

Data Streams:

1. [Batsto Village House DJVU](#)

2. [Batsto Village House PDF](#)

3. [Batsto Village House JPEG](#)

Title: [Batsto Village House](#)

Creator: [WILLIAM F. AUGUSTINE](#)

Identifier: <http://hdl.rutgers.edu/1782.3/njdh.photograph.385>

Full Record Includes Search

All Collections All Types All Formats



Digital Library Object

Item Index View

Object Identifier (PID): [rutgers-lib:1858](#)

Item ID	Item Description	MIME Type
DS3	Batsto Village House JPEG	image/jpeg
RIGHTS	Access Rights/Policy Metadata for NJDH Collection	text/xml
DS1	Batsto Village House DJVU	image/x-djvu
DIGIPROV	Digiprov Metadata for NJDH Collection	text/xml
SOURCE	Source Metadata for NJDH Collection	text/xml
SMAP1	Structure Map	text/xml
DS2	Batsto Village House PDF	application/pdf
DC	SWFarm	text/xml

Creating our Digital Cultural Heritage



Moving Image Collections (MIC) project

- Enables anyone—educators, researchers, students, and the public—to find moving images in collections.
- Includes two databases:
 - **Union Catalog** – catalog records for moving image titles. Currently 8 archives, 340,000+ records
 - **Archive Directory** – information about collections, services, and obtaining resources from moving image organizations. Currently 120 records.
- Dual mission—identify moving images for preservation and integrate moving images into the education mainstream

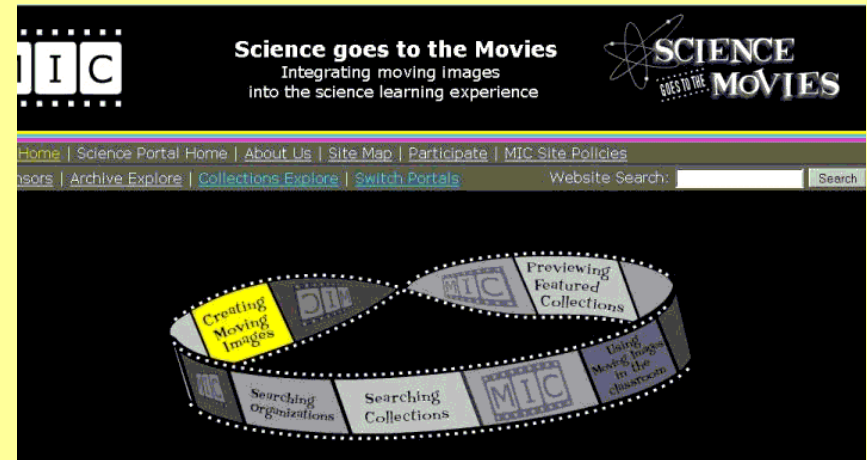
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Provides portals for different users

Portals include:

- Contextual searching and displays
 - Archivists' portal shows cataloging and preservation practices in organization directory record displays
 - Science educators' portal limited to science moving images





Challenges

Providing standardized information for very different collections with different cataloging

Supporting two different user groups with different needs: archivists preserving fragile resources and the public (educators, students, the general user) who want to obtain and use them