Introduction

This document describes the logic governing application access to derivatives of objects in the HathiTrust digital repository. Currently, the HathiTrust PageTurner, image server, and viewer for print disabled users implement this logic. The HathiTrust Data API implements a different decision matrix described in http://www.hathitrust.org/data_api.

The HathiTrust PageTurner is a publicly accessible application. Users are not required to authenticate to gain access to the application itself. Access to the derivatives of HathiTrust digital objects (page images, OCR and PDF) is controlled solely by application logic. The logic is based on a combination of several data sources.

- COSIGN and Shibboleth authentication systems
- Originating IP address
- HathiTrust Rights Database
- HathiTrust Print Holdings Database
- GeoIP Database
- HathiTrust Institution Orphan Access Agreement Database (Inactive)

These data constitute the domain of a mapping into a **Final Access Status** value of "allow" or "deny."

Access to a single page PDF and to a full volume PDF download, when the final access status is "allow", is a further function of the *source* of the digital object as recorded in the Rights Database.

Access to the elements of the user interface that give the user access to the derivatives is a function of the the final access status and source of the digital object.

Mapping to Final Access Status

The mapping to final access status starts by reading the rights attribute and source values from the Rights Database. The Rights Attribute values appear in the first column of the Rights Matrix below. These values are mapped as a function of User Type into either allow or deny.

Full PDF download access is yet a further mapping based on the source of the object.

User Types

This table lists the categories and properties on which the User Type is based.

Ordinary User (**ORD**)	An unauthenticated user not in a library building, or, a user authenticated with a University of Michigan COSIGN "friend" account.
Print-disabled User (**SSD**)	An authenticated user certified as print-disabled, as indicated by Shibboleth attribute or UM patron record[1]
User within a library building (**LIB**)	A user at a computer with an IP address within a library building regardless of authentication. UM only, currently.
University of Michigan Affiliate (**UM**)	A University of Michigan COSIGN authenticated user and current student, staff, or faculty. Grants a superset of HT access privileges (e.g., Section 108).
HathiTrust Affiliate (**HT**)	A Shibboleth authenticated user from a HathiTrust partner institution

Rights Matrix

This table shows the determination of Final Access Status (allow or deny) as a function of the Rights Attribute and User Type from the Rights Database. Please refer to notes [2], [3], [4], [5] for further refinements to this mapping.

Rights Attribute	Final Access Status

1

Public domain

ORD	**allow**
SSD	**allow**
LIB	**allow**
UM	**allow**
HT	**allow**

2

In-copyright

ORD	**deny**
SSD	**allow**

LIB	deny
UM	deny
HT	deny

3 [2]

Out-of-print and brittle (implies in-copyright).

ORD	deny
SSD	allow
LIB	allow
UM	allow[3]

HT	deny

4

In-copyright works whose rights holder cannot be identified. Inactive.

ORD	--
SSD	--
LIB	-
UM	--
HT	--

5	
Undetermined copyright status	

ORD	deny
SSD	allow
LIB	deny
UM	deny
HT	deny

6	
Available only to UM affiliates and UM walk-in patrons. Inactive.	

ORD	--
SSD	--

LIB	--
UM	--
HT	--

7

Available to everyone in the world

ORD	allow
SSD	allow
LIB	allow
UM	allow
HT	allow

8

Available to nobody; blocked for all users

ORD	**deny**
SSD	**deny**
LIB	**deny**
UM	**deny**
HT	**deny**

9 [4]

Public domain only when viewed in the United States, United States Minor Outlying Islands or Virgin Islands.

ORD	**allow**
SSD	**allow**

LIB	allow
UM	allow
HT	allow

10-15,17, 20-25

These works carry a creative commons license. As such, they have access identical to 7, above and are available to anyone in the world.

Refer to http://creativecommons.org/licenses/ for details.

ORD	allow
SSD	allow
LIB	allow
UM	allow
HT	allow

16 In-copyright works that are identified as orphan candidates through an extensive review process; while posted on a publicly available website for review. Inactive.		
		ORD	--
		SSD	--
		LIB	--
		UM	--
		HT	--
18 This work may be protected by copyright law. It is made available in HathiTrust with explicit permission of the copyright holder, assignee, or transferee. Permission must be requested from the appropriate party (indicated in the HathiTrust catalog record) for any subsequent use.		
		ORD	allow
		SSD	allow

LIB	allow
UM	allow
HT	allow

19[6]

Public domain only when viewed outside the United States, United States Minor Outlying Islands or Virgin Islands.

ORD	allow
SSD	allow
LIB	allow
UM	allow
HT	allow

[1] Access for User Type: Print Disabled (SSD)

Access to objects by users who have print disabilities or their proxies is granted as follows, with the exception of objects with rights attribute value 8, if a given user:

- Is authenticated and holds a Shibboleth credential with an eduPersonEntitlement attribute value of "http://www.hathitrust.org/access/enhancedText" or "http://www.hathitrust.org/access/enhancedTextProxy" or is authenticated with COSIGN and in a registry list provided to HathiTrust by the University of Michigan Office of Services for Students with Disabilities. The volume must also be held by the institution to which the user belongs. The number of simultaneous viewers for Section 108 uses of in-copyright materials, including SSD, is limited on a per institution basis to the number of print copies held. The user's lock on an item expires after 24 hours. See also http://www.hathitrust.org/shibboleth.

These users are designated **SSD, SSDPROXY** in the rights matrix.

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[2] Access to Section 108 Materials

A rights attribute of 3 is described as "*out-of-print*" and implies a status of in-copyright. It is applied to materials that meet the requirements of Section 108 of U.S. Copyright Law. Access to digitized copies of these materials is granted, or may be in the future, to the following User Types (in addition to the SSD User Type who is granted access by virtue of print disability).

User Type: In Library Building

Access is granted by virtue of

- originating at an IP address that is physically within a library building. Currently, University of Michigan, Getty Research Institute and Library of Congress library buildings are identified by IP address in the access software.
- having a Shibboleth "library-walk-in" eduPersonScopedAffiliation.

The number of simultaneous viewers for Section 108 uses of in-copyright materials is limited on a per institution basis to the number of print copies held. The user's lock on an item expires after 24 hours.

[3] User Type: HathiTrust Affiliate

Affiliates of HathiTrust member institutions have access to *"out-of-print"* (rights attribute "3") in Rights Table) items when the Print Holdings Database indicates that the item is in brittle condition or meets other conditions specified in Section 108 of U.S. copyright law and the item is held by the Affiliates institution as determined by the Affiliates login credentials. The number of simultaneous viewers is limited to the number of print copies held by the Affiliates institution.

User Type: University of Michigan Affiliate

Access is granted to "out-of-print" (rights attribute "3" in Rights Table) items to COSIGN authenticated University of Michigan Affiliates when the Print Holdings Database indicates that the item is in brittle condition or meets other conditions specified in Section 108 of U.S. copyright law and the item is held by the University of Michigan. The number of simultaneous viewers is limited to the number of print copies held by the University of Michigan.

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Access to 1-Page PDF and Full PDF Download

Access to a 1-page PDF of a page image is granted to all users for which the final access status in the Rights Matrix is "allow."

The following table collapses the rights attribute values into two categories that are convenient for determining access to full volume PDF downloads. As is evident, only the **OPEN** allows full volume PDF downloads.

Rights category	Rights attributes
Public domain (**OPEN**)	1
Open access (**OPEN**)	7, 10-15,17,18, 20-25
Public domain in geographical U.S. (**OPEN**)	9
Public domain outside geographical U.S. (**OPEN)**	19
In copyright, blocked, UM only (**CLOSED**)	2, 3, 4, 5, 6, 8,16

The following table uses the rights categories from the previous table together with the source attribute from the Rights Database to define the cases where full volume PDF download is allowed and where it devolves to only 1-page PDF support.

Source (code)	Rights category	Authenticated	Not	SSD

			Authenticated	
Google (1)	OPEN	N pages	1 page	N pages
Google (1)	CLOSED	0 pages	0 pages	1 page
DLPS (2)	OPEN (only case)	N pages	N pages	N pages
UM Press (3)	OPEN (only case)	1 page	1 page	1 page
Internet Archive (4)	OPEN (only case)	N pages	N pages	N pages
Yale (5)	OPEN (only case)	N pages	N pages	N pages
Minnesota Digital Library (6)	x	x	x	x
Minnesota Historical Society (7)	x	x	x	x
Utah State University (8)	OPEN	N pages	N pages	N pages
Universidad Complutense de Madrid (9)	OPEN	N pages	N pages	N pages
Purdue University (10)	OPEN	N pages	N pages	N pages
Getty Research Institute	OPEN	N pages	N pages	N pages

University of Michigan, Duderstadt Center, Millenium Project	OPEN	N pages	N pages	N pages
University of Illinois at Urbana-Champaign	OPEN	N pages	N pages	N pages
Brooklyn Museum	OPEN	N pages	N pages	N pages
University of Florida	OPEN	N pages	N pages	N pages
Texas A&M	OPEN	N pages	N pages	N pages
University of Delaware	OPEN	N pages	N pages	N pages
Private Donor	OPEN	N pages	N pages	N pages
University of Michigan (Other)	OPEN	N pages	N pages	N pages
Knowledge Unlatched	OPEN	N pages	N pages	N pages
McGill University	OPEN	N pages	N pages	N pages

Source to Access Profile Mapping

With the the proliferation of source values, the concept of an access profile has been introduced which will supercede the use of source to determine access. Access profiles collapse similarly behaving sources to a single value. There are four access profiles denoted as open, google, page, page+lowres.

They are interpreted as follows.

1. open
    a. No restrictions - full view for everyone, PDF download for everyone (e.g. Internet Archive)
2. google

a. Restricted public download - PDF download only if logged in (e.g. Google)
3. page
a. Page viewing only: no full-volume PDF download for anyone (e.g. UM Press)
4. page+lowres
a. Low resolution page viewing only: no full-volume PDF download for anyone (e.g. MDL)

The following table describes the mapping from source to access profile.

Source (code)	Access Profile
Google (1)	google
DLPS (2)	open
UM Press (3)	page
Internet Archive (4)	open
Yale (5)	open
Minnesota Digital Library (6)	page+lowres
Minnesota Historical Society (7)	page+lowres
Utah State University (8)	open
Universidad Complutense de Madrid (9)	open
Purdue University (10)	open
Getty Research Institute (11)	open

University of Michigan, Duderstadt Center, Millennium Project (12)	open
University of Illinois at Urbana-Champaign (13)	open
Brooklyn Museum (14)	open
University of Florida (15)	open
Texas A&M (16)	open
University of Delaware (17)	open
Private Donor (18)	open
University of Michigan (Other) (19)	open
Knowledge Unlatched (21)	open
McGill University (22)	open

[4] Interpretation of Public Domain in U.S.

A rights attribute of 9 maps to a final access status of allow if the IP address of the user agent is within the United States, United States Minor Outlying Islands or Virgin Islands, U.S. as determined by a query to the GeoIP Database. The access is deny if the IP address originates elsewhere.

[5] Interpretation of Orphan Works Status

Inactive.

[6] Interpretation of Public Domain outside U.S.

A rights attribute of 19 maps to a final access status of allow if the IP address of the user agent is outside the United States, United States Minor Outlying Islands or Virgin Islands, U.S. as determined by a query to the GeoIP Database. The access is deny if the IP address originates within the U.S.

Interpretation of the Final Access Status in the User Interface

The following table details the elements of the user interface to which the user has access as a function of the final access status.

	Final Access status	
GUI element / function	**allow**	**deny**
View page image/OCR/1-page PDF	✪	
Download PDF of full volume (HathiTrust Affiliates only) [*]	✪	
Rotate/scale page image	✪	
Navigate by pages or jump to a page	✪	
Bookmark an item	✪	✪
Provide feedback on item rights and page image quality	✪	✪

Search the full text of the item, viewing search results as KWIC and hit counts per page	✪	
Search the full text of the item, viewing search results ONLY as hit counts per page		✪
View metadata for the item	✪	✪

[*] Note that full PDF download is **not** granted to the SSD User Type for the CLOSED Rights Category nor permitted for Rights Database source value 3 (UM Press).