

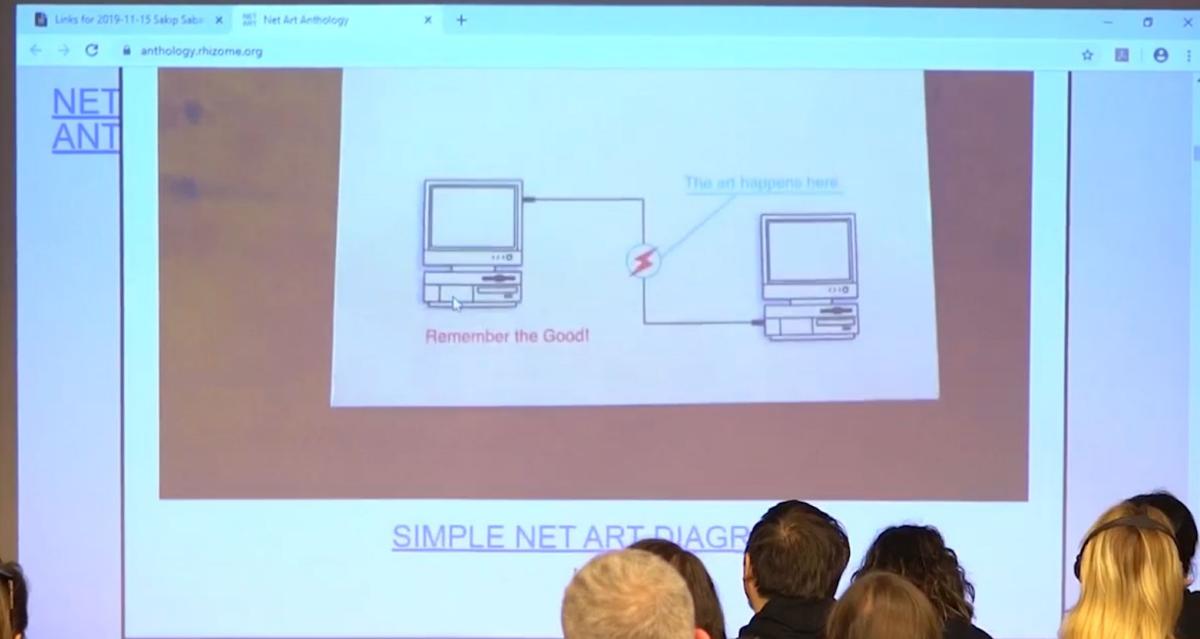
# MODELING NET ART PROVENANCE: A NEW APPROACH TO THE INTERFACE AND INFRASTRUCTURE OF THE ARTBASE ARCHIVE

DIGITAL S|S|M, 23 October 2020

LOZANA ROSENNOVA ( CSNI / RHIZOME )

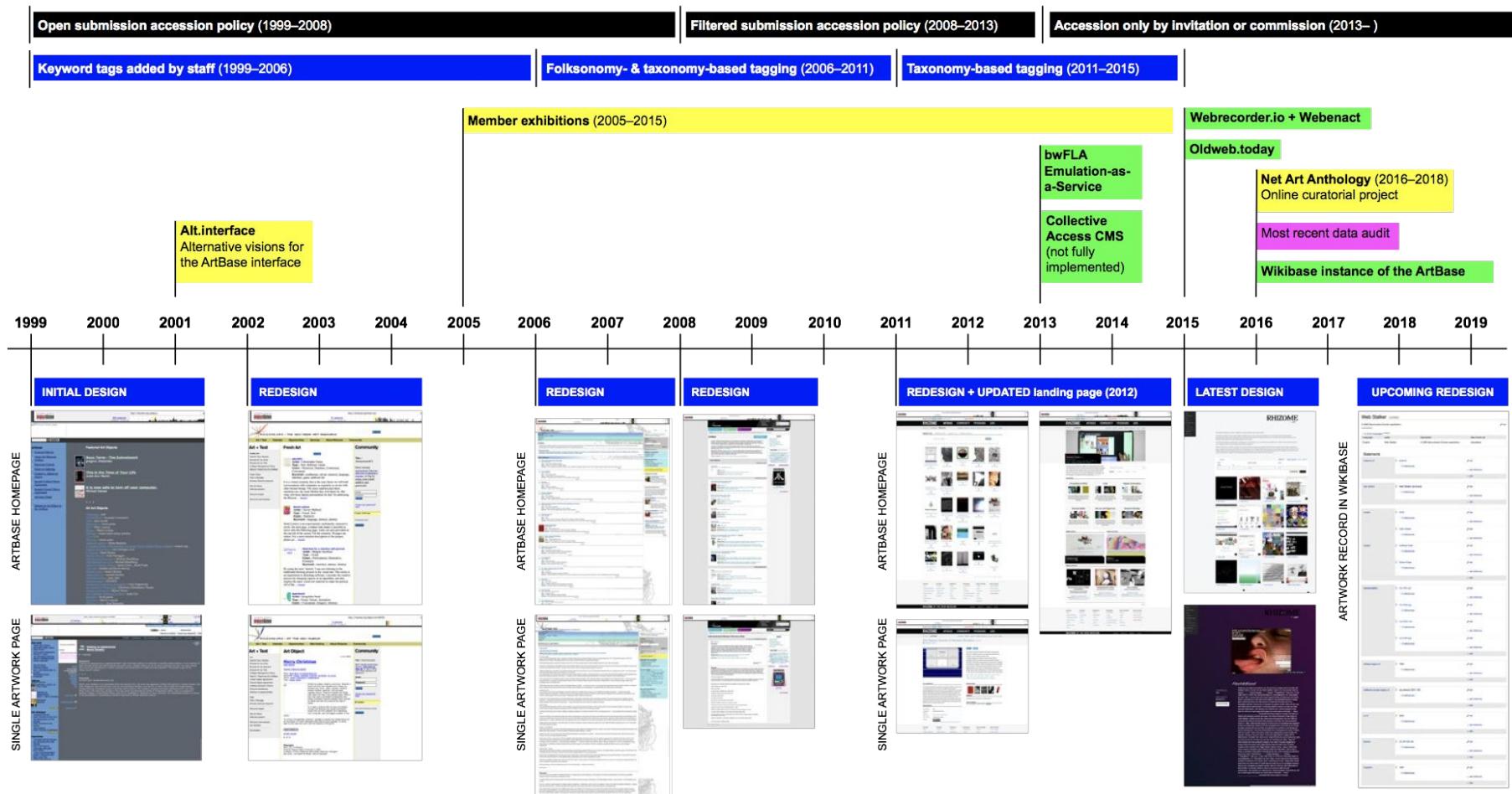
## About Rhizome

- **Community-based mailing list and online platform** founded in 1996 in New York by artist Mark Tribe
- Since 2002 based on premises in the New Museum, New York
- Maintains an active **artistic programme**, promoting born-digital art projects, organising exhibitions, special events with artists, curators, academics and engaging with the wider online community via social media channels
- Since 1999 maintains one of the largest **online archives of born-digital art – the ArtBase**



digitalSSM

# ArtBase Timeline



<http://rhizome.org/art/>

<http://rhizome.org/art/artbase>

SEARCH LOGIN

EXHIBITIONS

**THROW THRU**

FIRST LOOK:  
EITHER WE  
INSPIRE OR WE  
EXPIRE

RAIDERS OF THE  
LOST ARTBASE

FIRST LOOK: THE  
THERESA DUNCAN  
CD-ROMS

SPLASHBACK:  
RHIZOME'S  
SPLASH PAGES,  
1998-2002

COLLECTION:  
ARCHIVE AS  
ARTWORK

FIRST LOOK:  
EXCELLENCES &  
PERFECTIONS

System as  
difference

I link therefore I am

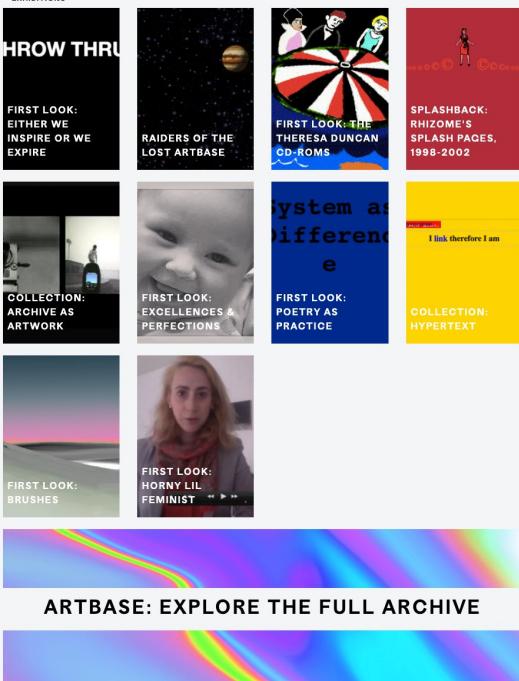
FIRST LOOK:  
POETRY AS  
PRACTICE

COLLECTION:  
HYPertext

FIRST LOOK:  
BRUSHES

FIRST LOOK:  
HORNY LIL  
FEMINIST

ARTBASE: EXPLORE THE FULL ARCHIVE



A pink arrow points from the bottom right of the left sidebar towards the right sidebar.

HOME  
. ANTHOLOGY  
. BLOG  
. EVENTS  
. PRESERVATION  
. ARTBASE  
. OLDER TODAY  
. WERECORDER.IO  
. COMMUNITY  
. ABOUT US

The ArtBase is Rhizome's archive of digital art, freely accessible to the public online.

The Rhizome ArtBase was founded in 1999 to preserve works of net art that were deemed to be "of potential historical significance." Encompassing a vast range of projects from artists all over the world, the ArtBase provides a home for works that employ materials such as software, code, websites, moving images, games, and browsers.

Until 2008, the ArtBase accepted open submissions for consideration, but currently works are added to the collection by curatorial invitation and through Rhizome's commissioning and exhibition programs.

Modern computers are unable to perform many of the artworks as they were originally experienced. This inability demonstrates a significant crisis in digital social memory that Rhizome is responding to with its Digital Preservation program, led by Dragan Espenschied. The works in the ArtBase, vibrant and technically diverse, provide a laboratory for the development of forward-thinking tools and strategies so that these works may be reperformed in legacy environments, giving contemporary users a sense of their initial form.

FILTER -

SORT BY **MOST RECENT** TITLE ARTIST

DATE FROM TO ARTIST NAME

Artist Name Title

CLEAR FIELDS FILTER

LOW END CERTIFIED

NATE SILVER

KILL THAT CAT

MOUCHETTE

JON RUSSELL

GUADALUPE ROSALES

Beautiful Frog

by Porpentine

NEW FROG

FROG SETTINGS

Frog fest: Frogs are creatures to be treasured.

PORPENTINE

LINCOLN 3D SCANS

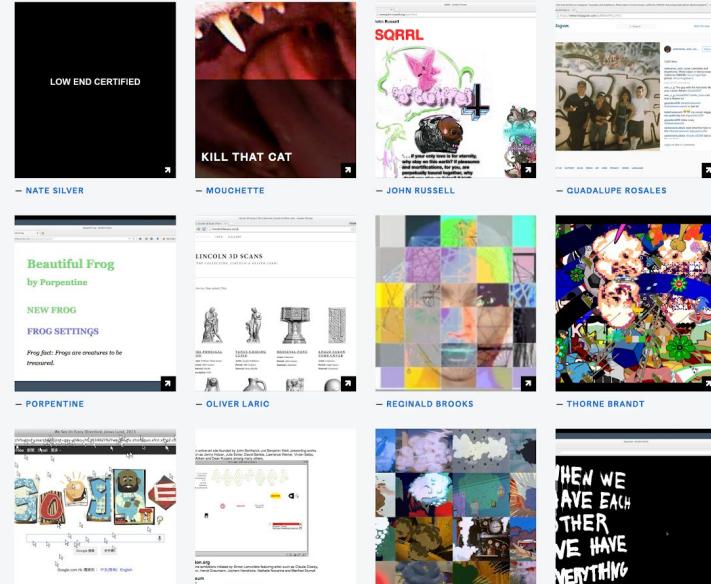
OLIVER LARIC

REGINALD BROOKS

THORNE BRANDT

He Who Would Be King (1993)

When We Have Each Other We Have Everything



# ArtBase artwork record ca.2016

R Cloud Formations | Rhizome

rhizome.org/art/artbase/artwork/cloud-formations/

· HOME · ANTHOLOGY · BLOG · EVENTS · PRESERVATION · COMMUNITY · ABOUT US

SEARCH · LOGIN

# RHIZOME

ART



CLICK TO VIEW ARTWORK ▶

## *Cloud Formations*

YEAR CREATED:  
**2012**

WORK CREDITS:  
**DINA KELBERMAN**

VIEW ARTWORK

Cloud Formations is a project that came out of the Blue Clouds project. In Cloud Formations, I am experimenting with found footage from various movie credits, blurring them in Photoshop and making animated gifs out of the results. The series is in progress.

404 page result

A screenshot of a web browser window showing a 404 error page. The title bar reads "Page not found – errorg.info". The address bar shows "Not Secure | errorg.info/akke/Animatrix/index.html". The main content area features a large "errorg.info" logo at the top. Below it is a navigation menu with links: About, Privacy (which is red), Terms, Copyright, Contact, and Cookie. A search bar with a placeholder "Search ..." and a magnifying glass icon is positioned on the right. The central part of the page displays the error message "404: Page not found" in large bold letters. Below this, a message says "It looks like nothing was found at this location. Maybe try a search or one of the links below?". There is another search bar with a placeholder "Search ..." and a magnifying glass icon. A "Recent Posts" section follows, containing links to "French Doors Exterior", "How To Build A Kitchen Island With Stove", "Paint Ideas For Hallways And Stairs", "Moen Single Handle Bathroom Faucet", and "Beautiful Kitchen Countertops". At the bottom left, there are links to "French Doors Exterior" and "How To Build A Kitchen Island With Stove". The footer contains the URL "errorg.info/privacy/".

Page not found – errorg.info

Not Secure | errorg.info/akke/Animatrix/index.html

errorg.info

About    **Privacy**    Terms    Copyright    Contact    Cookie

404: Page not found

It looks like nothing was found at this location. Maybe try a search or one of the links below?

Search ...

Recent Posts

[French Doors Exterior](#)

[How To Build A Kitchen Island With Stove](#)

[Paint Ideas For Hallways And Stairs](#)

[Moen Single Handle Bathroom Faucet](#)

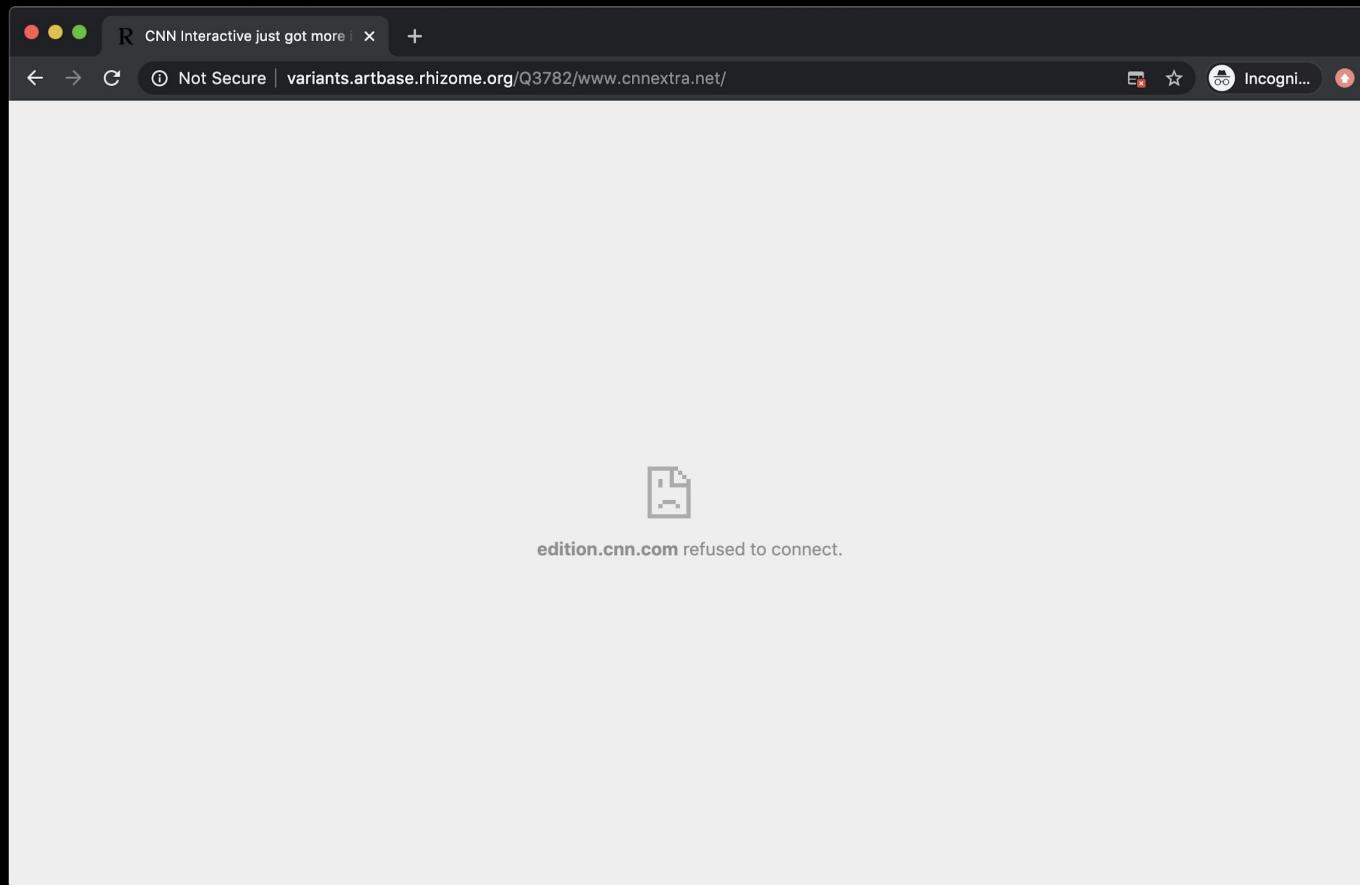
[Beautiful Kitchen Countertops](#)

[French Doors Exterior](#)

[How To Build A Kitchen Island With Stove](#)

errorg.info/privacy/

## Missing external resources



# Artwork record missing preservation information

Veteranas and Rucas | Rhizome

rhizome.org/art/artbase/artwork/veteranas-and-rucas/

Incognito

RHIZOME

Blog Program Software Community About Store

Login Search

Instagram

Search Get the app Log in

veteranas\_and\_rucas FOLLOW

1,203 likes 3w

veteranas\_and\_rucas Lavendale and Hawthorne. Photo taken in Venice beach, California 1989/90. #LuezingHigh (photo: @morningdawn) view all 57 comments

nan\_x\_2\_ The guy with the hat looks like your cousin! sweet0007 nan\_x\_2\_ @luezing007 @ella\_fresca lol that's Robert lol

pryedera370 @katalinaleannet @santamaria.alexis u did lol

katalinaleannet 😊 my cousin tagged me yesterday too @pryedera370

pryedera370 Haha crazy

santamaria.alexis wait what the heck is this @katalinaleannet @pryedera370

santamaria.alexis (@sotyco0206 dad is

Log in to like or comment.

ABOUT US SUPPORT BLOG PRESS API JOBS PRIVACY TERMS LANGUAGE

© 2016 INSTAGRAM

CLICK TO VIEW ARTWORK ➔

## Veteranas and Rucas

YEAR CREATED: 2015

WORK CREDITS:  
GUADALUPE ROSALES

VIEW ARTWORK

@veteranas\_and\_rucas is an Instagram account created by artist Guadalupe Rosales that documents the Southern California Chicano party crew scene in the 1990s, largely through photographs and videos submitted by followers.

The fact that this community was so tight-knit has made the Instagram project a growing archive of family histories and a site that for the activation of memory and culture. In fact, many users have renewed ties with family and friends in the comments surrounding each post. It is significant that an archive of this community's rich cultural life was not created by any formal memory institution. By highlighting this lack, *Veteranas and Rucas* raises broader questions about how memory is created and valued, and how the internet might help reshape these processes.

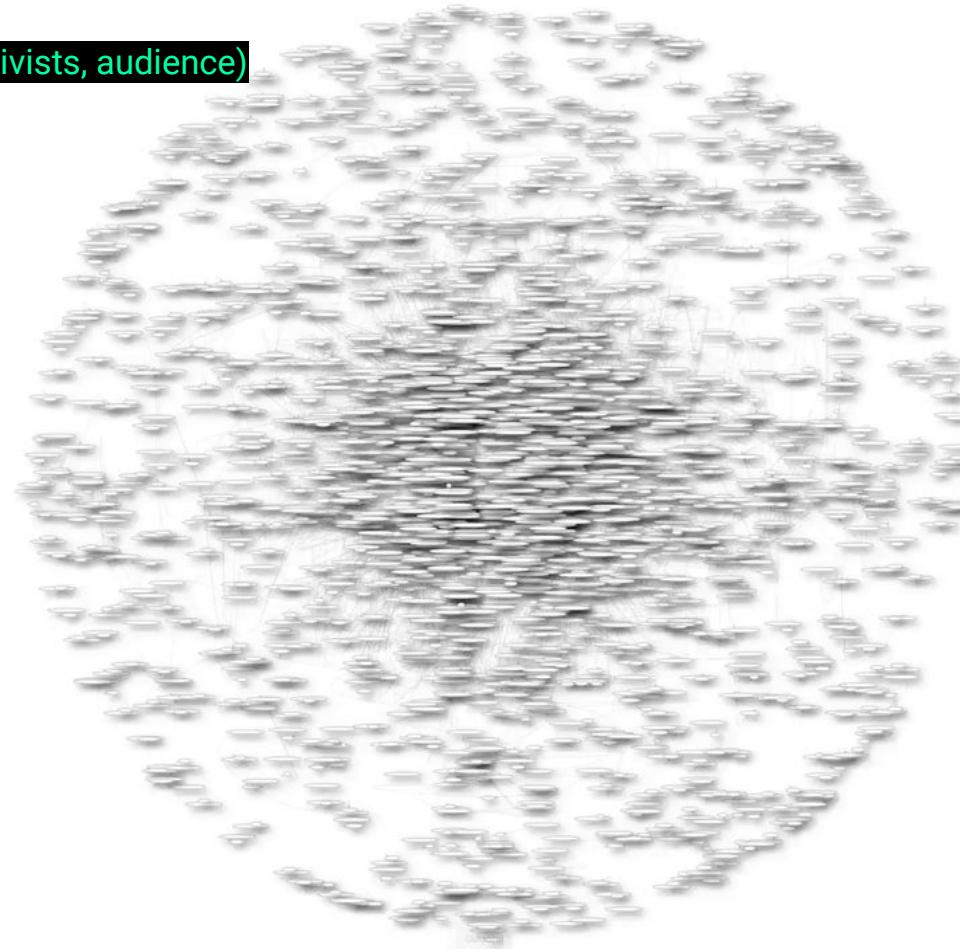
As an ongoing socially engaged artwork, *Veteranas and Rucas* pushes us to preserve cultural history and question narratives around value and historical documents, exemplifying the important role that archives can serve in forging community.

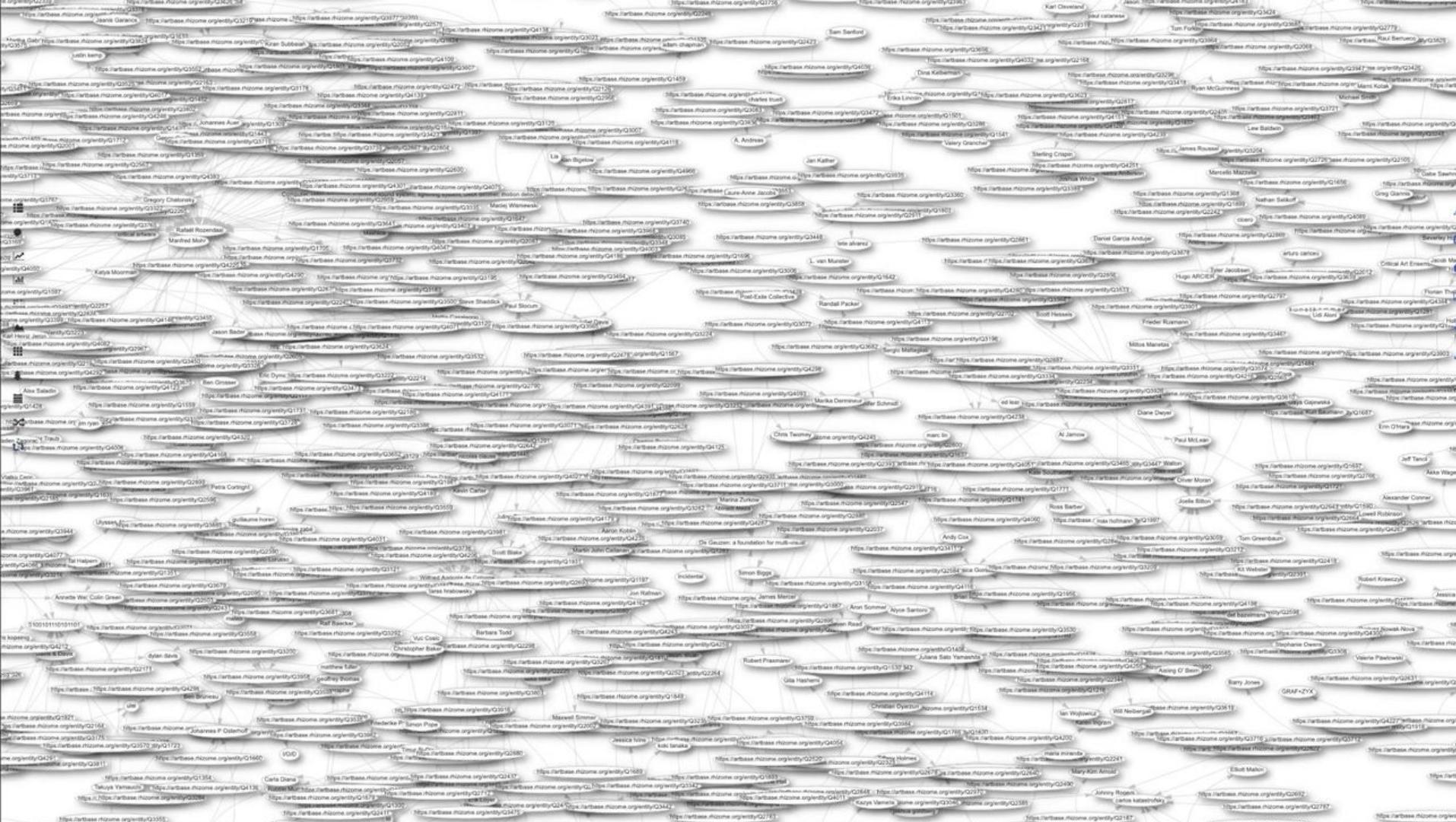
**ArtBase** = network of relations,

enacted between users

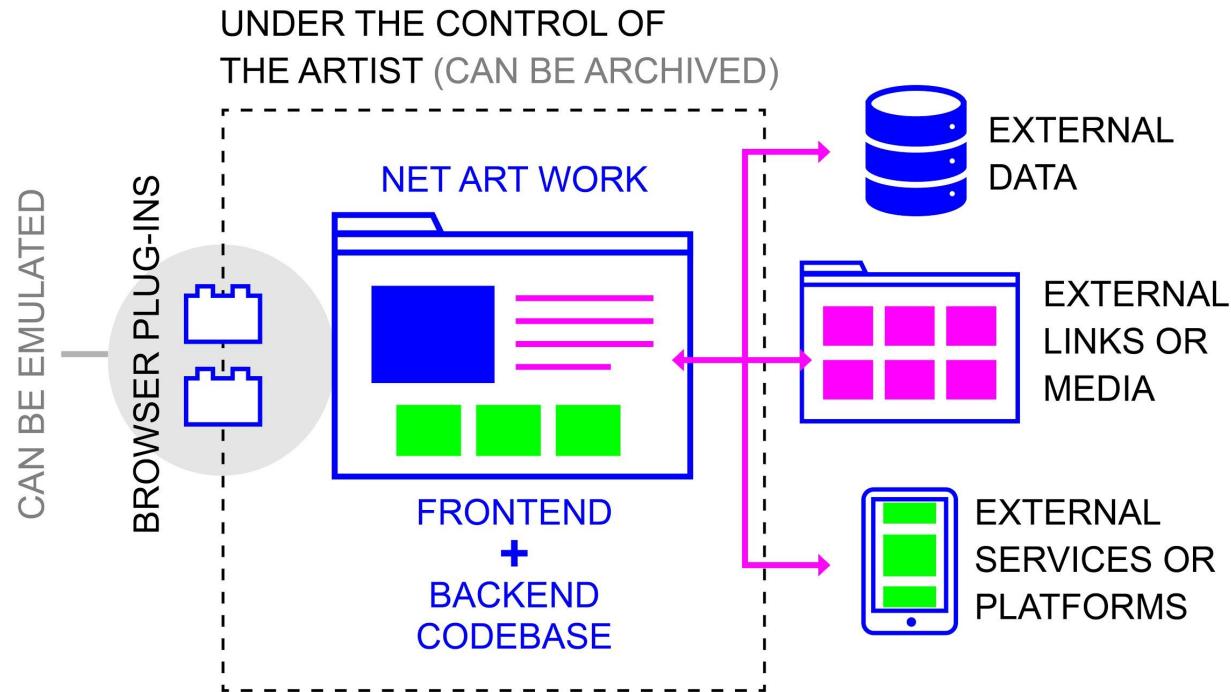
(artists, programmers, archivists, audience)

& digital infrastructure

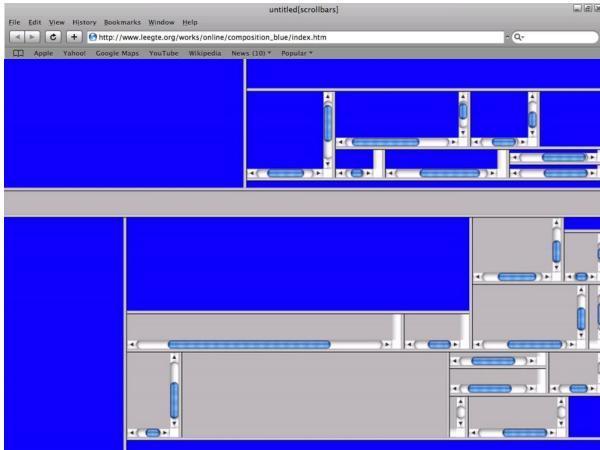




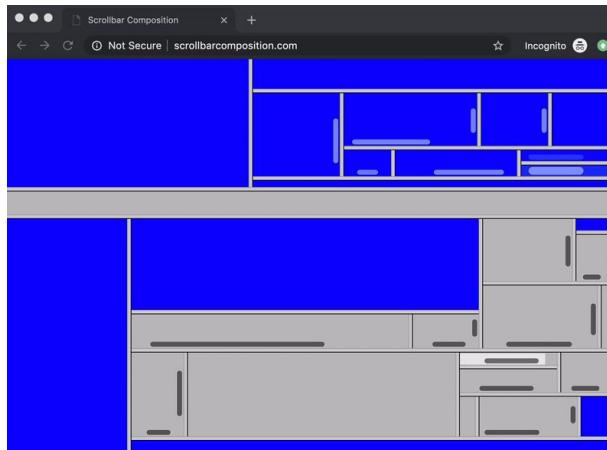
## What constitutes a net art work?



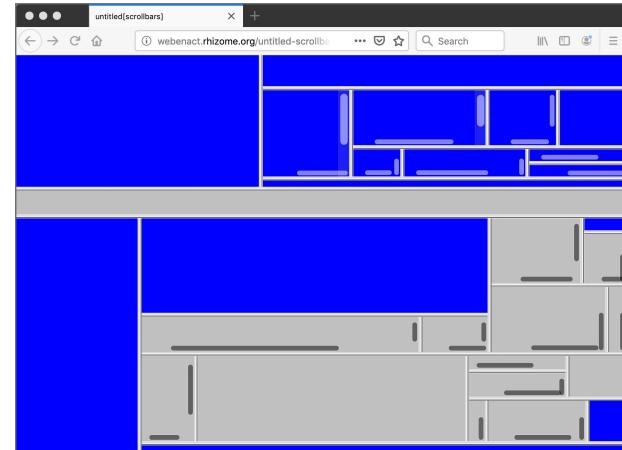
# Net art variability and temporality



[http://www.leegte.org/works/online/composition\\_blue/index.htm](http://www.leegte.org/works/online/composition_blue/index.htm)

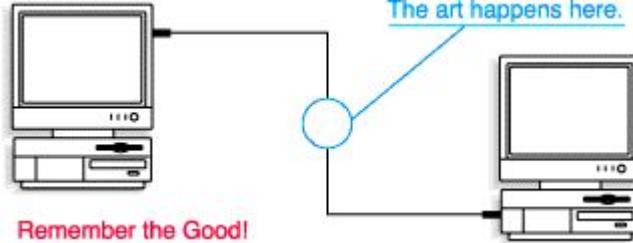


<http://scrollbarcomposition.com/>



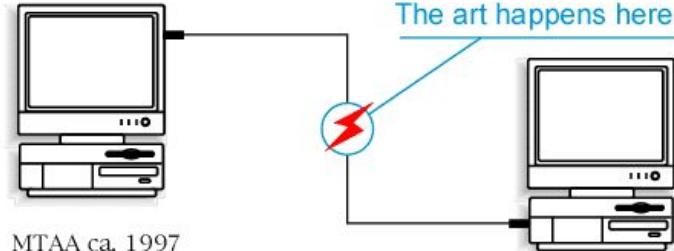
[http://webenact.rhizome.org/untitled-scrollbars/20150713163150/http://www.leegte.org/works/online/composition\\_blue/index.htm](http://webenact.rhizome.org/untitled-scrollbars/20150713163150/http://www.leegte.org/works/online/composition_blue/index.htm)

## Net art variability and temporality



MTAA, *Simple Net Art Diagramme*. First variant released in 1998 as part of *TIME!®*

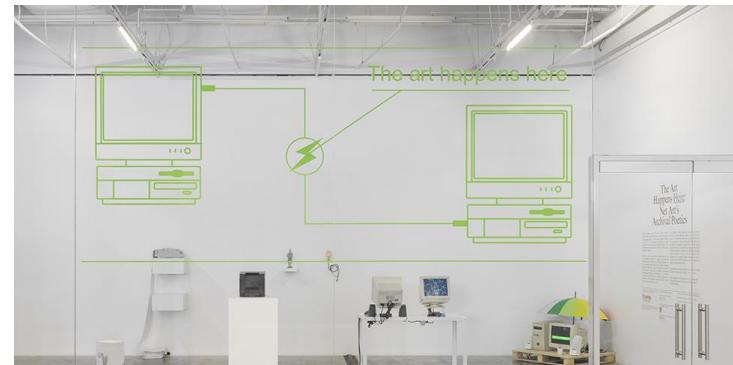
## Simple Net Art Diagram



MTAA, *Simple Net Art Diagramme*. Second variant released around 2000, but back-dated to 1997 by the artists.



Kevin Bewersdorf, *Maximum Sorrow*, 2008. Variant based on the SNAD



SNAD re-interpreted as a vinyl wall graphic for Rhizome's "The Art Happens Here: Net Art's Archival Poetics" exhibition at the New Museum. Photo: Maris Hutchinson / EPW Studio

## Net art variability and temporality

...the future net art historians may begin to become discouraged by all the conflicting data, so you need to sow the “truth” through the data stream in a way that will be challenging to the historian, but not impossible for her to create a final story. to insure a place in the net art pantheon, sow 2-4 different “truths” through your data stream, this will promote healthy, attention getting debate amongst the future most ambitious net art historians. —MTAA, 1999\*

\*Source: <http://www.mtaa.net/mtaaRR/news/twhid/theyearntobeappreciated.html>  
[originally posted to the rhizome raw list on 10/8/99]

# Provenance-driven data framework

## Provenance data

| VARIANT RECORD       |               |                                     |                               |      |                                                          |  |
|----------------------|---------------|-------------------------------------|-------------------------------|------|----------------------------------------------------------|--|
| DESCRIPTIVE METADATA |               |                                     | PRESERVATION HISTORY METADATA |      |                                                          |  |
| property             | type          | target item                         | property                      | type | target item                                              |  |
| instance of          | item          | variant<br>variant type             | archival access URL           | URL  | ***                                                      |  |
| variant of           | item          | artwork                             | access state                  | item | controlled vocab<br>unknown<br>poor<br>medium<br>good    |  |
| inception            | point in time | ***                                 | archival plan                 | item | archival plan [general]<br>archival plan [specific]      |  |
| start time           | point in time | ***                                 | reperformance platform        | item | EAAS<br>Webenact<br>other platform                       |  |
| end time             | point in time | ***                                 | environment                   | item | environment                                              |  |
| associated with      | item          | person<br>collective<br>institution | browser plug-in               | item | browser plug-in                                          |  |
| generated by         | media file    | generation activity                 | external media                | item | controlled vocab<br>broken<br>damaged<br>complete        |  |
| image                | media file    | ***                                 | external data services        | item | controlled vocab<br>broken<br>damaged<br>complete        |  |
| exhibition history   | item          | exhibition                          | external links risk           | item | controlled vocab<br>high risk<br>medium risk<br>low risk |  |

## Provenance-related data

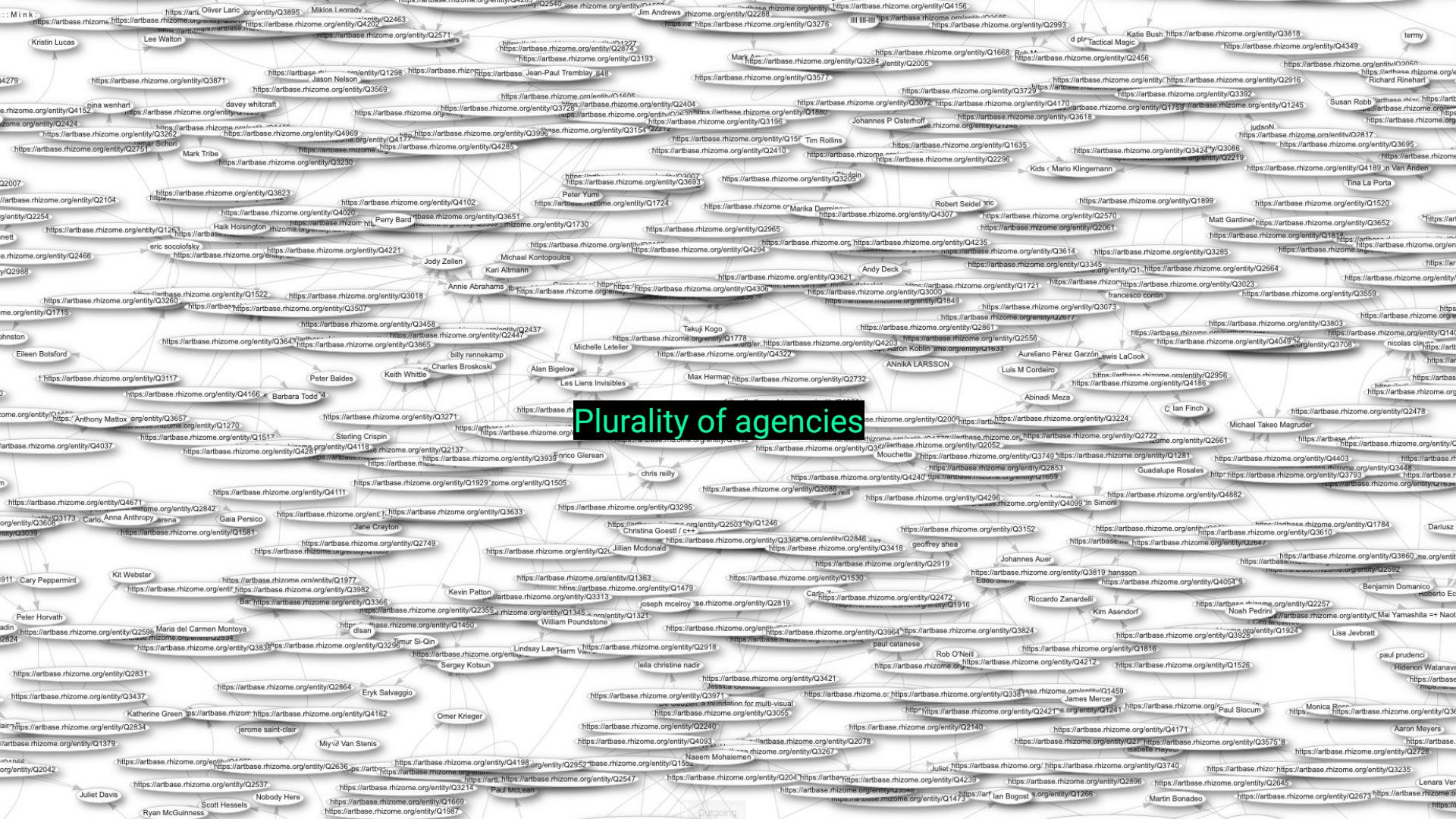
## Expanded notion of provenance

Archival theoretical discourse is shifting from product to process, from structure to function, from archives to archiving, from the record to the recording context ...

Provenance, in short, is linked to function and activity rather than structure and place. —Cook, 2001\*

\*Source: Cook, T. 2001. Archival Science and Postmodernism. *Archival Science*, Volume 1

# Plurality of agencies



## Standards landscape



Describing creative works

Categories for the Description of Works of Art (CDWA / CDWA Lite)

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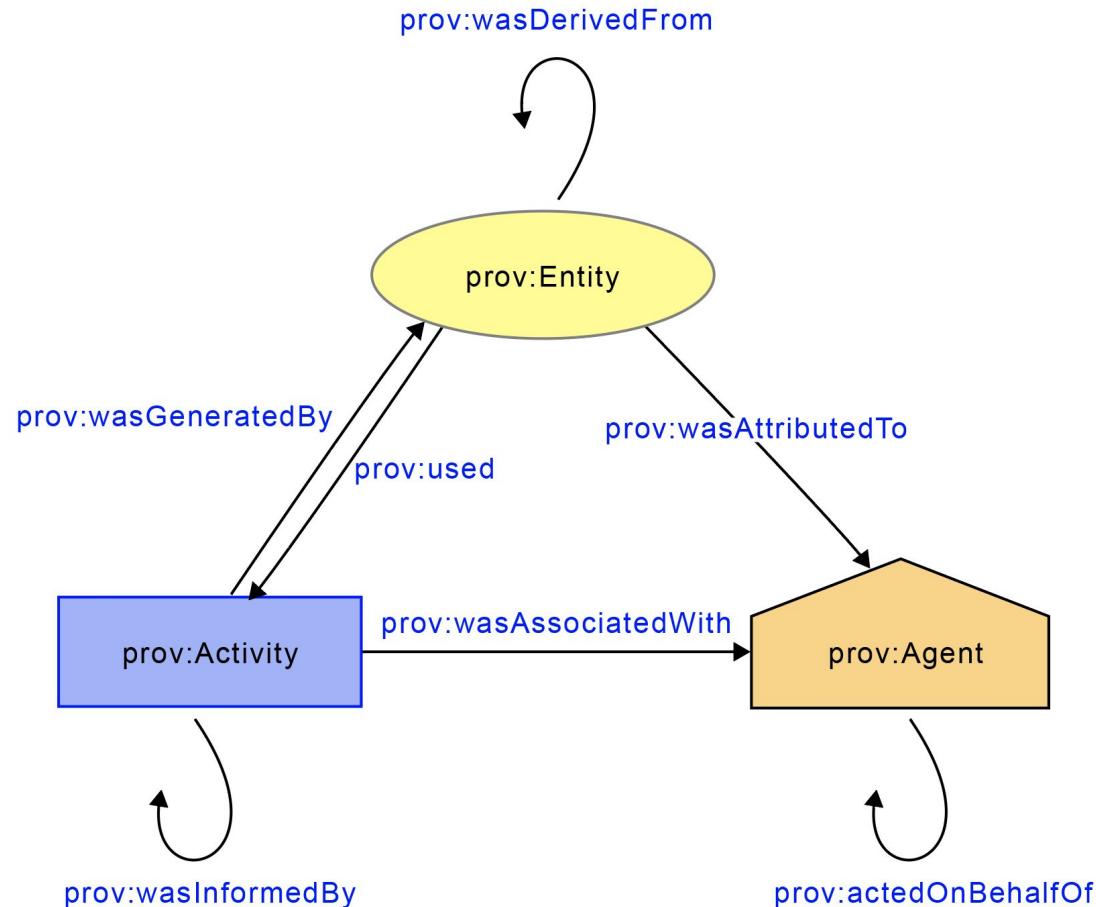
Describing creative works  
(event-based model)

---



Describing preservation data  
(event-based model)

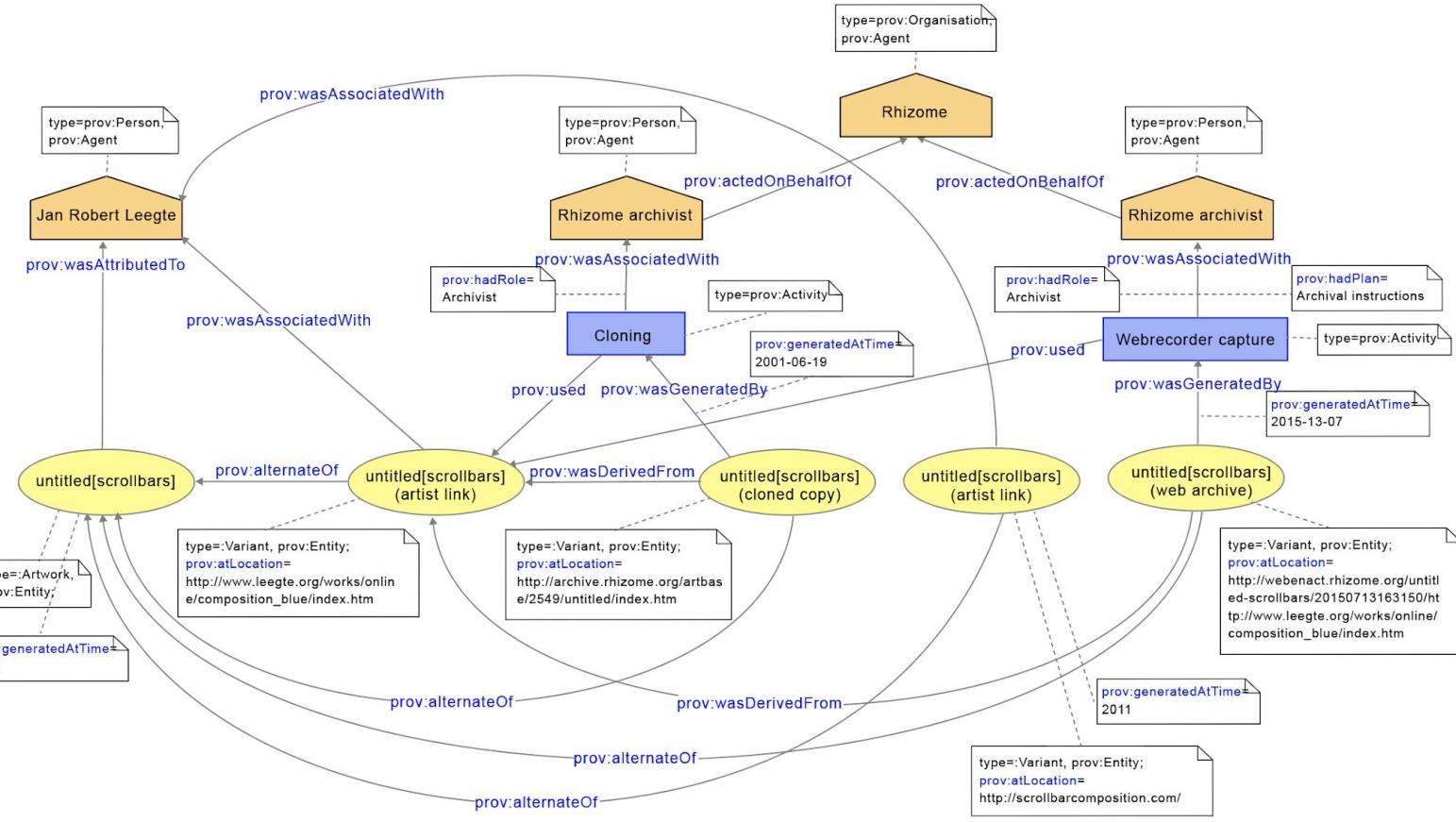
## W3C PROV standard



The PROV model not only captures the creation of the artwork, but also how various actors contribute to or influence the work over time. For instance, these may include individuals or institutions, who commission, acquire, transfer or modify the work. Furthermore, PROV-DM can capture the different variants of a single artwork, even when these are preserved across various institutions. A single Internet artwork can be included in multiple (museum) collections, (Web) archives, whilst being part of the live Web.\*

\*Source: Rossenova, L, K de Wild & D Espenschied. 2019. Provenance for Internet Art: Using the W3C PROV data model, in *Proceedings of the 16th International Conference on Digital Preservation iPRES 2019, Amsterdam, The Netherlands*, pp. 297-305.

# W3C PROV application



RESPONSIBILITY  
VIEW

PROCESS FLOW  
VIEW

DATA FLOW  
VIEW

## W3C PROV implementation via Wikibase



PUBLIC



PRIVATE

Open Source Linked Data Management System

## *untitled[scrollbars]* case study implementation

### Statements

<https://artbase.rhizome.org/wiki/Item:Q2508>

|             |                           |
|-------------|---------------------------|
| instance of | artwork<br>▼ 0 references |
|-------------|---------------------------|

|             |                                                                       |                                                                                                      |
|-------------|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| has variant | <a href="#">untitled[scrollbars] (artist link)</a><br>▼ 0 references  | <a href="#">Rhizome</a><br>▼ 0 references                                                            |
|             | <a href="#">untitled[scrollbars] (cloned copy)</a><br>▼ 0 references  | <a href="#">Cloning</a><br>▼ 0 references                                                            |
|             | <a href="#">Scrollbar composition (artist link)</a><br>▼ 0 references | <a href="#">derived from</a><br><a href="#">untitled[scrollbars] (artist link)</a><br>▼ 0 references |
|             | <a href="#">untitled[scrollbars] (web archive)</a><br>▼ 0 references  |                                                                                                      |

|        |                                     |
|--------|-------------------------------------|
| artist | Jan Robert Leegte<br>▼ 0 references |
|--------|-------------------------------------|



# ArtBase data model

| VARIANT RECORD       |               |                                     |                               |      |                                                          |  |
|----------------------|---------------|-------------------------------------|-------------------------------|------|----------------------------------------------------------|--|
| DESCRIPTIVE METADATA |               |                                     | PRESERVATION HISTORY METADATA |      |                                                          |  |
| property             | type          | target item                         | property                      | type | target item                                              |  |
| instance of          | item          | variant<br>variant type             | archival access URL           | URL  | ***                                                      |  |
| variant of           | item          | artwork                             | access state                  | item | controlled vocab<br>unknown<br>poor<br>medium<br>good    |  |
| inception            | point in time | ***                                 | archival plan                 | item | archival plan [general]<br>archival plan [specific]      |  |
| start time           | point in time | ***                                 | reperformance platform        | item | EAAS<br>Webenact<br>other platform                       |  |
| end time             | point in time | ***                                 | environment                   | item | environment                                              |  |
| associated with      | item          | person<br>collective<br>institution | browser plug-in               | item | browser plug-in                                          |  |
| generated by         | media file    | generation activity                 | external media                | item | controlled vocab<br>broken<br>damaged<br>complete        |  |
| image                | media file    | ***                                 | external data services        | item | controlled vocab<br>broken<br>damaged<br>complete        |  |
| exhibition history   | item          | exhibition                          | external links risk           | item | controlled vocab<br>high risk<br>medium risk<br>low risk |  |

Provenance-related data

## PROVENANCE-RELATED RECORDS

| GENERATION ACTIVITY       |          |                     | ARCHIVAL PLAN |      |                                                                                                                                        |
|---------------------------|----------|---------------------|---------------|------|----------------------------------------------------------------------------------------------------------------------------------------|
| property                  | type     | target item         | property      | type | target item                                                                                                                            |
| instance of               | item     | generation activity | instance of   | item | archival plan                                                                                                                          |
| subclass of               | item     | generation activity | subclass of   | item | archival plan                                                                                                                          |
| tools used                | item     | tool item           | procedures    | item | reconstruction intervention<br>repair intervention<br>mis-en-scene presentation<br>re-enactment presentation<br>temporal normalization |
| resources                 | item     | resource item       |               |      |                                                                                                                                        |
| dependencies              | item     | dependency item     |               |      |                                                                                                                                        |
| associated properties     | property | generated by        |               |      |                                                                                                                                        |
| associated archival plans | item     | archival plan       |               |      |                                                                                                                                        |

## EVENT RECORDS

| PUBLICATION      |               |                                                                                                                                                                  | EXHIBITION       |               |                                                                                                                                                                  | EVENT           |               |                                                                                                                                                                  |
|------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| property         | type          | target item                                                                                                                                                      | property         | type          | target item                                                                                                                                                      | property        | type          | target item                                                                                                                                                      |
| inception        | point in time | ***                                                                                                                                                              | inception        | point in time | ***                                                                                                                                                              | inception       | point in time | ***                                                                                                                                                              |
| attributed to    | item          | <div style="border: 1px solid black; padding: 2px; display: inline-block;">           person<br/>           collective<br/>           institution         </div> | associated with  | item          | <div style="border: 1px solid black; padding: 2px; display: inline-block;">           person<br/>           collective<br/>           institution         </div> | associated with | item          | <div style="border: 1px solid black; padding: 2px; display: inline-block;">           person<br/>           collective<br/>           institution         </div> |
| source           | item          | <div style="border: 1px solid black; padding: 2px; display: inline-block;">           source item         </div>                                                 | location         | item          | <div style="border: 1px solid black; padding: 2px; display: inline-block;">           location item         </div>                                               | location        | item          | <div style="border: 1px solid black; padding: 2px; display: inline-block;">           location item         </div>                                               |
| official website | URL           | ***                                                                                                                                                              | image            | media file    | ***                                                                                                                                                              | image           | media file    | ***                                                                                                                                                              |
|                  |               |                                                                                                                                                                  | official website | URL           | ***                                                                                                                                                              |                 |               |                                                                                                                                                                  |

RHIZOME ARTBASE      History of the ArtBase      Browse the archive      Curated selections      Keyword search

## Artwork Title

Artist Name      Timeline 2001~



←      →

Caption: Image generation. Image attribution.

Description      ▾

Metadata      ▾

- Access via artist link 
- Access via ArtBase variant 
- Access via ArtBase variant 
- Access via ArtBase variant 

## Variant access points

- Access via artist link 
- Access via ArtBase variant 
- Access via ArtBase variant 
- Access via ArtBase variant 

### Access via artist link

Access URL: [example.com](http://example.com)

Access state: *Unknown*

#### Dependencies:

*Based on the most recent audit of Rhizome's archival variant, possible dependencies include:*

 Browser plug-in: [Java](#)

 External media: [Damaged](#)

 External links risk: [Medium](#)

[Report issue?](#)

[View artwork](#)

## Temporal context

RHIZOME ARTBASE History of the ArtBase Browse the archive Curated selections Keyword search  X

### Artwork Title

#### Artwork Title: Timeline 2001~

2001 2003 2005 2007 2009 2011 2013 2015 2017 2019

The visualization shows a timeline from 2001 to 2019. At each year mark, there is a circular icon representing an 'Exhibition title'. Below the timeline, there are three rows of icons representing different variants or states of the artwork. The first row shows an 'Artist link' (www.example.com) and an 'ArtBase variant' (archive.rhizome.org/example.com). The second row shows an 'Access to ArtBase variant' (eas.rhizome.org/example.com). The third row shows a 'Link no longer active'.

Exhibition title

Exhibition title

Exhibition title

Artist link:  
www.example.com

▲ ArtBase variant:  
archive.rhizome.org/  
example.com

Link no longer  
active

Access to ArtBase variant

● ArtBase variant:  
webenact.rhizome.org/  
example.com

● ArtBase variant:  
eas.rhizome.org/  
example.com

Description ▾ Metadata ▾

## Temporal context

RHIZOME ARTBASE

History of the ArtBase    Browse the archive    Curated selections

Keyword search 

Artwork Title

Artist Name    Timeline 2001-

←  →

Access via artist link 

 Access via ArtBase variant 

 Access via ArtBase variant 

 Access via ArtBase variant 

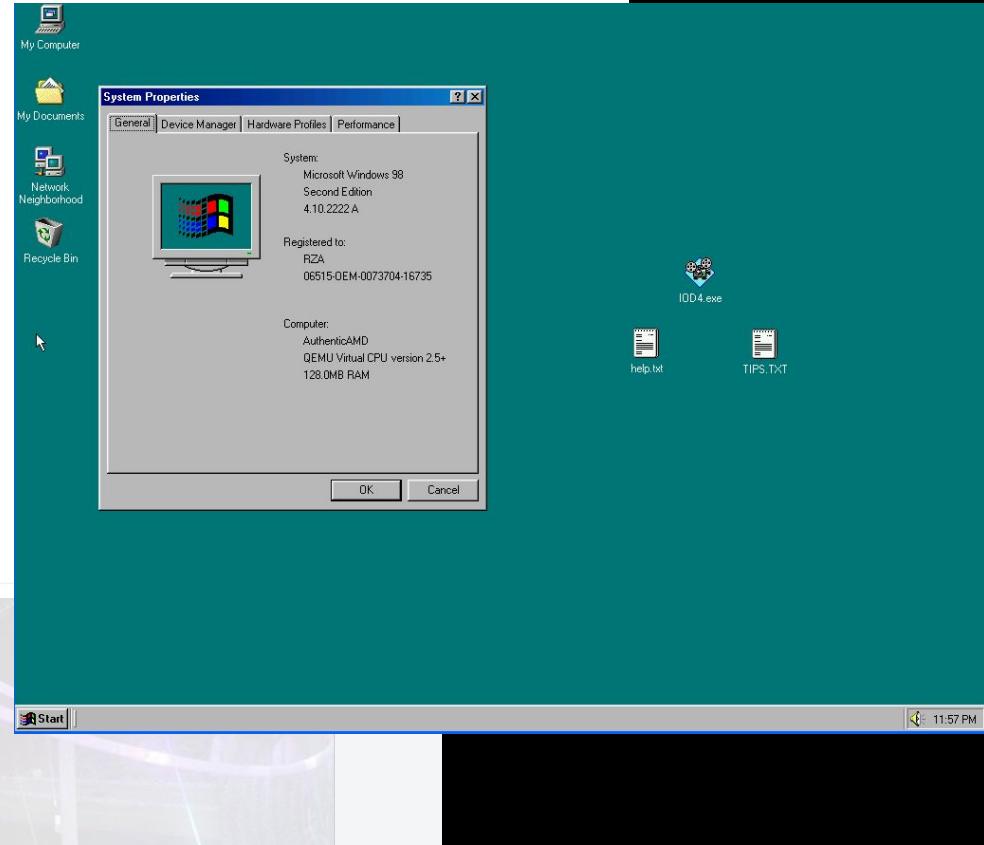
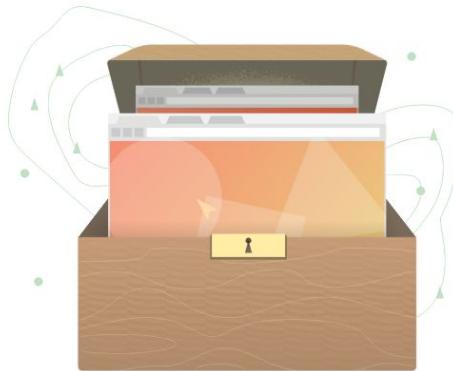
Caption: Image generation. Image attribution.

## Plural user interfaces



About Report Bug Help Support Us Sign Up Login

# RHIZOME



## Artbase



# Re-performance interfaces

RHIZOME WEBENACT

Source URL: <http://example.com>

Webrecorder capture 

Artwork reperformance area



Access state:

Good - few known dependencies

Archived between:

2016-06-02 14:40:30

2016-06-04 18:56:24

Archived by:

Rhizome archivist [Webrecorder ID]

Archival plan:

External links restored via public web archive captures

Dependencies:

Browser plug-in: Java

External media: Damaged

External links risk: Low

Interaction notes:

A space for notes by the archivist about this capture – anything that was missed or changed, etc. Tools or other archives that were used in the creation of the archive (other than Webrecorder & the live web).

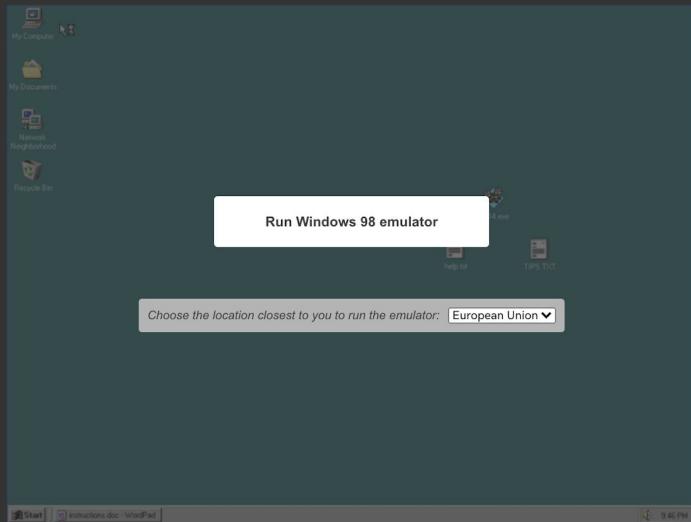
↔ Full archival metadata

# Re-performance interfaces

RHIZOME EAAS

Source URL: <http://archive.rhizome.org/example.com>

Emulated archived variant [\[x\]](#)



## Access state:

Good – few known dependencies

## Archived in:

2001

## Archived by:

Rhizome

## Dependencies:

Environment: Windows 98

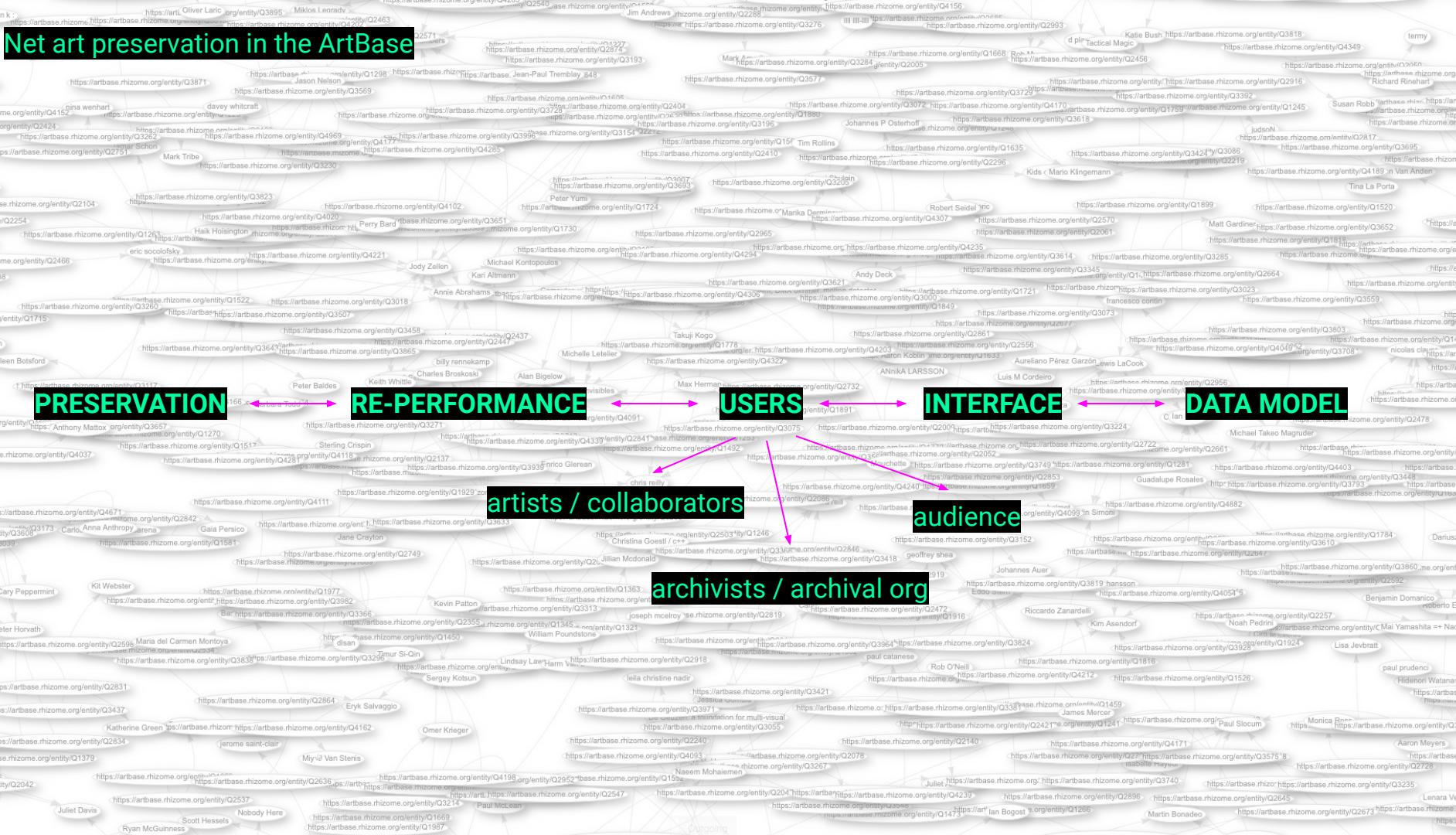
External media: Damaged

External links risk: Medium

## Interaction notes:

A space for notes by the archivist about this variant.

↔ Full archival metadata



Thank you! Questions?

RHIZOME

