

The Virtual Learning Commons

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The Problem

- Rapidly evolving technologies for science
- Hard to know what even exists, much less what is relevant
- Yet MORE data, tools, papers, things to try to keep up with
- Hard to find entry level resources unless you already know where to look
- Proposition: Need cross-disciplinary scientific “innovation networks”





Proposed solution: The Virtual Learning Commons (VLC)

Support user in:

- ▶ *finding* relevant content about a given technology (VLC Discover)
- ▶ Incorporating *learning resources* about that technology into classes (VLC Educate)
- ▶ *Appropriating* that technology into their work (VLC Innovate)
- ▶ *Collective learning, rating, and discussion* around content (VLC Collaborate)

Theory-based:

- Learning theories
- Innovation theories
- Spatial interaction theories
(virtual space)

The screenshot shows a web browser window with the URL manaus.cs.utep.edu/vlc/content/home. The page has a blue header with the VLC logo and the text 'Virtual Learning Commons'. A dark navigation bar contains the following menu items: HOME, ADD RESOURCES, DISCOVER, EDUCATE, INNOVATE, GROUPS, and MY VLC. The main content area is titled 'Home' and contains the following elements:

- A search bar with a green 'SEARCH' button.
- A 'Collection' section with a list of items: 'Barrow Animation' and 'Remove from collection'.
- A 'Preview Collected Resources' button.
- A 'Welcome to the Virtual Learning Commons, a place to create, discover, and share.' message.
- A prompt: 'What would you like to do?'
- Four icons representing the core functions: Discover (magnifying glass), Educate (checkmark), Innovate (gears), and Collaborate (people).
- Below the icons are labels: Discover, Educate, Innovate, and Collaborate.



What is different about the VLC?

Many online learning systems for classroom education
Many online systems for sharing documents

- ▶ VLC connects distributed content: **Semantic Web** solution
- ▶ VLC connects people: **Social Web** solution
- ▶ VLC connects solution seekers with solution providers: **Innovation-Centered** solution





VLC Research

- ▶ What are the patterns that researchers use to discover and evaluate resources in virtual space?
- ▶ How does networked learning and social media impact those patterns?
- ▶ What is the impact on innovation?



Distributed Resources

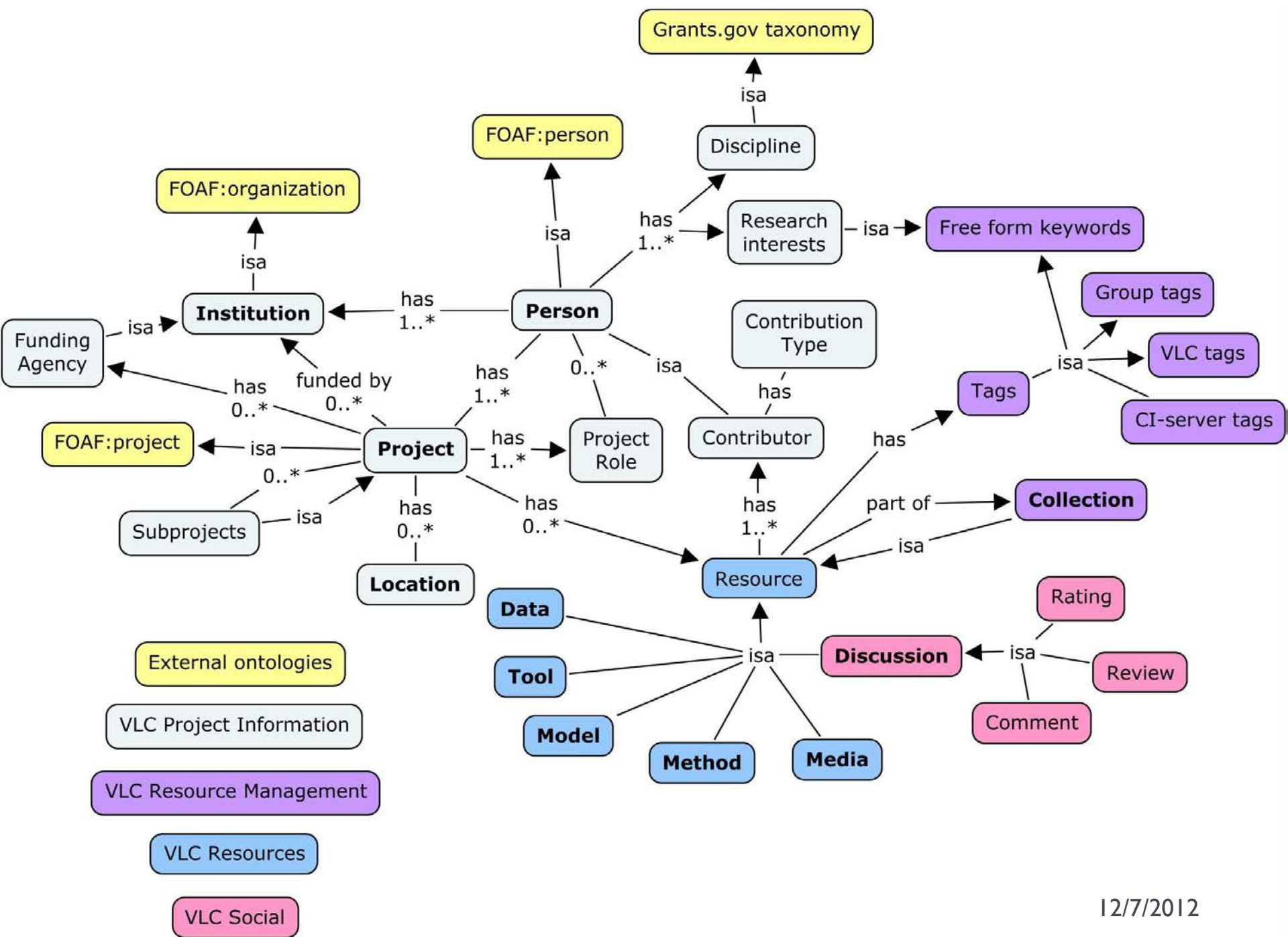
Sensor project
Resources: Data, models, websites, tutorials, presentations
Craig Tweedie (UTEP)

Cyber-ShARE
Animations
RDF – Linked Open Data
Candice Fierro (UTEP)

AGU sessions
RDF – Linked Open Data
Eric Rozell (RPI)

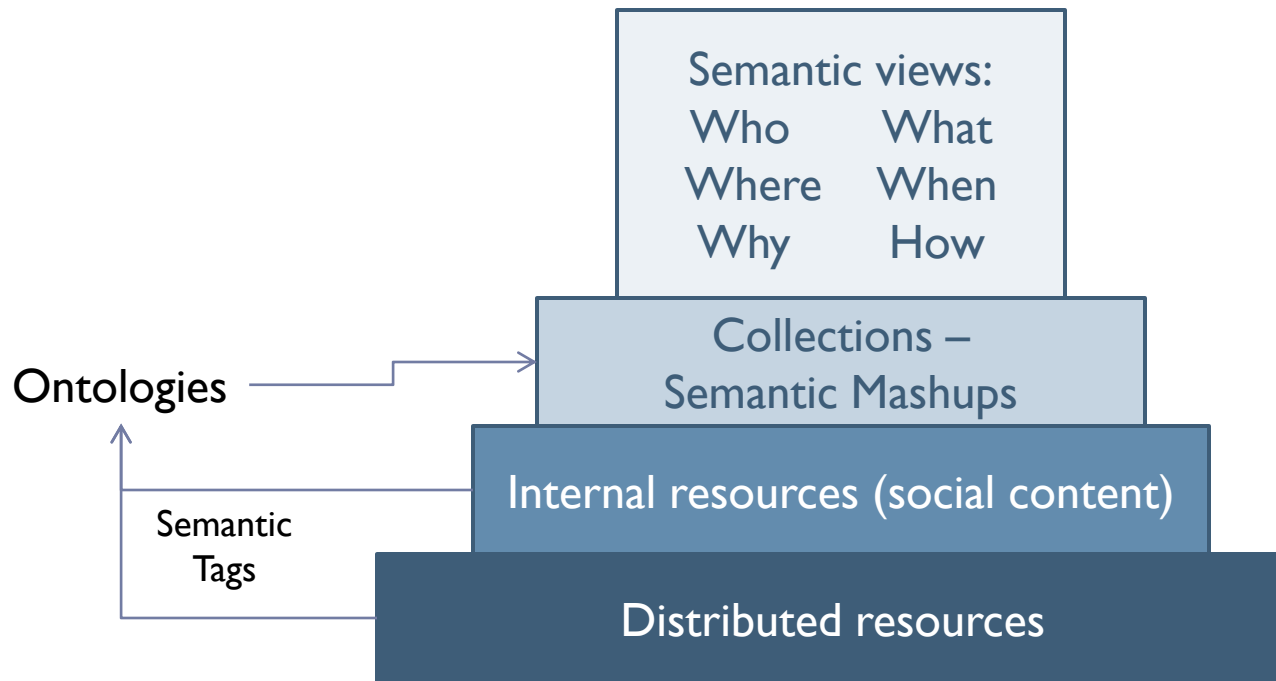
1. RDF tags embedded VLC registered website
2. RDF tags manually captured and managed in the VLC

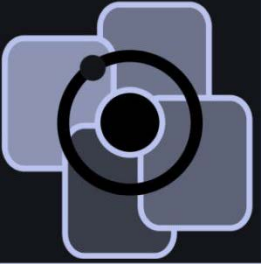
The screenshot shows the Virtual Learning Commons website. The header is blue with the logo on the left and the text "Virtual Learning Commons" on the right. Below the header is a navigation bar with links: HOME, ADD RESOURCES (with a dropdown arrow), DISCOVER (with a dropdown arrow), EDUCATE (with a dropdown arrow), and INNO. The main content area is white and features a "Home" link, a "Add Resources" heading, and a paragraph: "You can add a resource manually, or you can register a website and we will automatically retrieve the most relevant information." Below this text are two large icons: a green plus sign labeled "Add Manually" and a blue and green circular arrow icon labeled "Register your Site".





VLC Approach

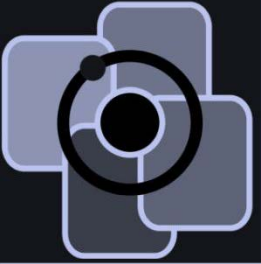




VLC Discover

[Home](#) [Add resources](#) [Discover](#) [Educate](#) [Innovate](#) [Help](#) [My Account](#) [Log out](#)

Search: sensors, El Paso



VLC Discover

Home Add resources Discover Educate Innovate Help Collect My Account Log out

Discover!

Who
List (What)
Where
When

<input type="checkbox"/> Resource 1	NEWEST
<input type="checkbox"/> Resource 2	
<input type="checkbox"/> Resource 3	
More	

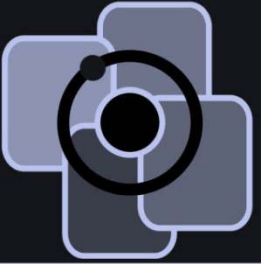
<input type="checkbox"/> Resource 1 (Collection)
<input type="checkbox"/> Resource 2
<input type="checkbox"/> Resource 3
<input type="checkbox"/> Resource 4 (Collection)
<input type="checkbox"/> Resource 5
More

TAG CLOUD
(Newest entries with these tags/terms)

TAG CLOUD
(Entire site with these tags/terms)

Feedback box

[Collect](#)



VLC Discover

Home Add resources Discover Educate Innovate Help Collect My Account Log out

Discover!

Who
List (What)
Where
When

Project A

Data

Metadata from registry

[More](#)

Website

Project website

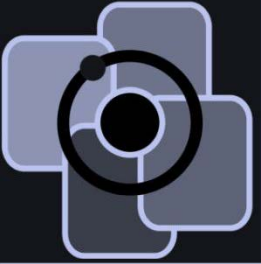
[More](#)

AGU Presentation

AGU abstract

[More](#)

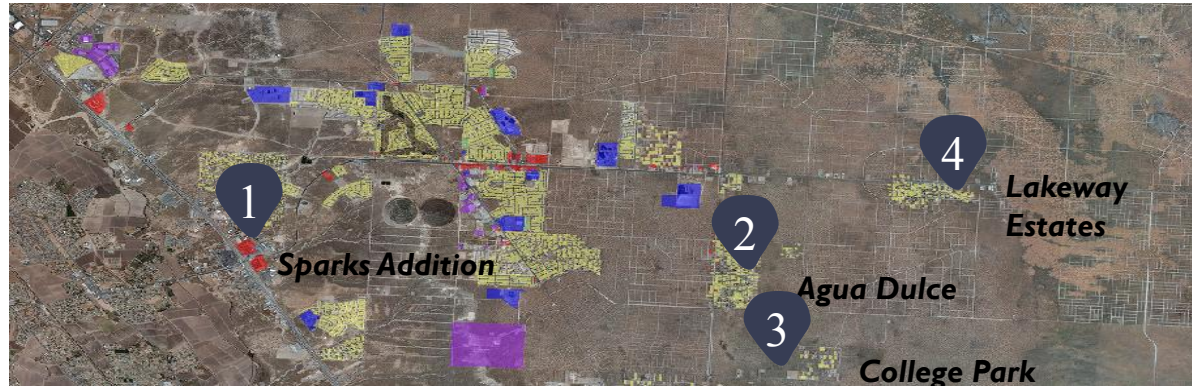
More...



VLC Discover

Discover!

Who
What
Where
When



1

VLC Collection
Metadata registry (RDF)
Sensor network
Workflow registry
Website
AGU (RDF)
Project educational site
YouTube
More...

Collection A
Data
Sample methods
Analysis
Website
AGU Presentation
Tutorial
Video
More...

2

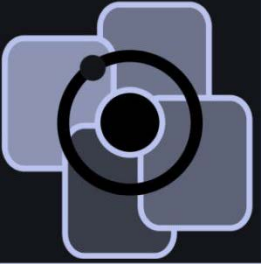
Collection B
Resource 1
Resource 2
Resource 3
Resource 4
More...

3

Collection C
Resource 1
Resource 2
Resource 3
Resource 4
More...

4

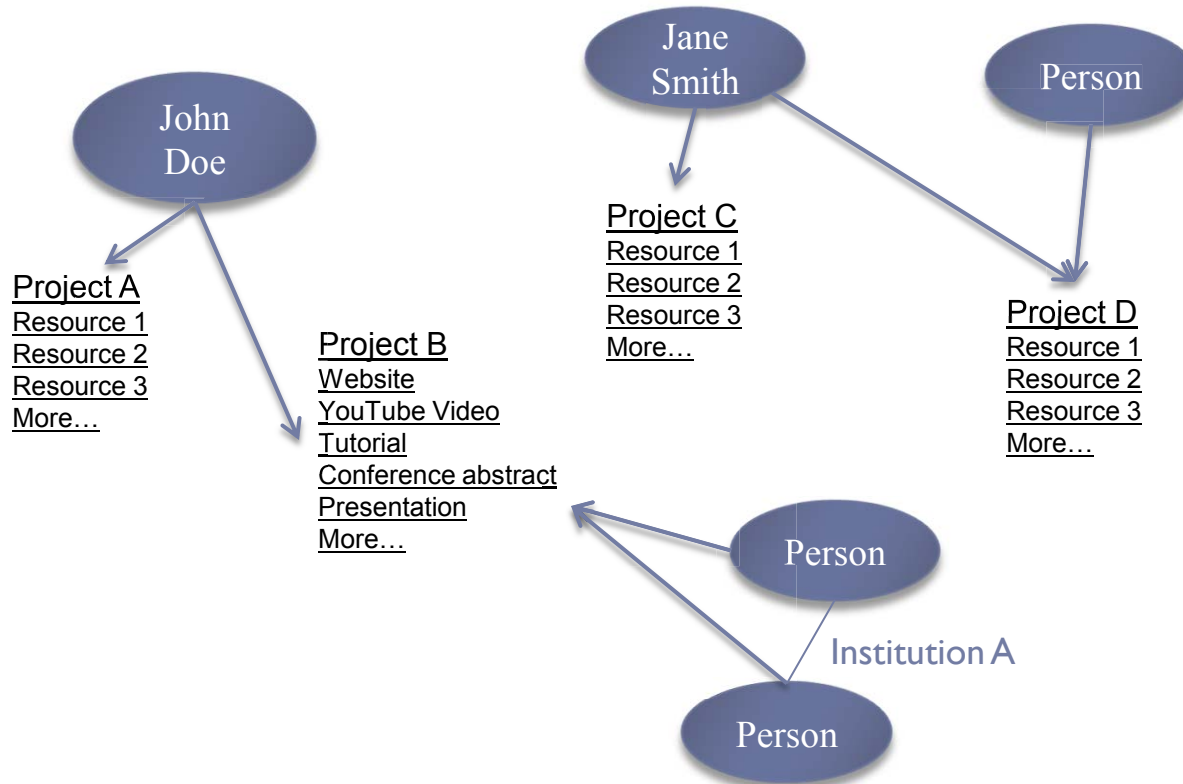
Collection D
Resource 1
Resource 2
Resource 3
Resource 4
More...



VLC Discover

Discover!

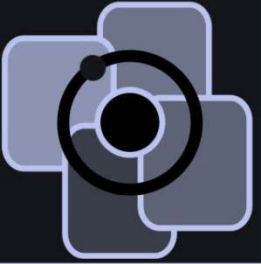
Who
What
Where
When



LIST: People

LIST: Institutions

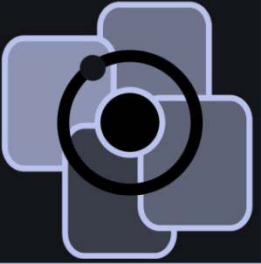
Feedback box



VLC Innovate

[Home](#) [Add resources](#) [Discover](#) [Educate](#) [Innovate](#) [Help](#) [My Account](#) [Log out](#)

Marketplace
Tool Match

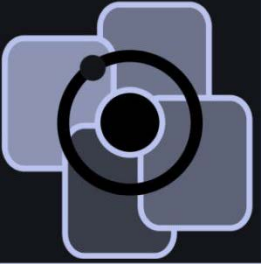


Marketplace

Search term(s)

Searches:

- *Elevator speeches*
- *One page flyers*
- *Lightning presentations*
- *Conceptual models*
- *Examples*



Tool Match

Search data type

Returns:

- *Tools that take that type directly as input*
- *Tools that can be automatically launched through the VLC*

NASA ACCESS
ELSeWeb Project
(see poster Friday)

SADI Semantic Services – orchestration of transformation Services
VisKo Services – Visualization Services

(Chris Lynnes, Goddard)



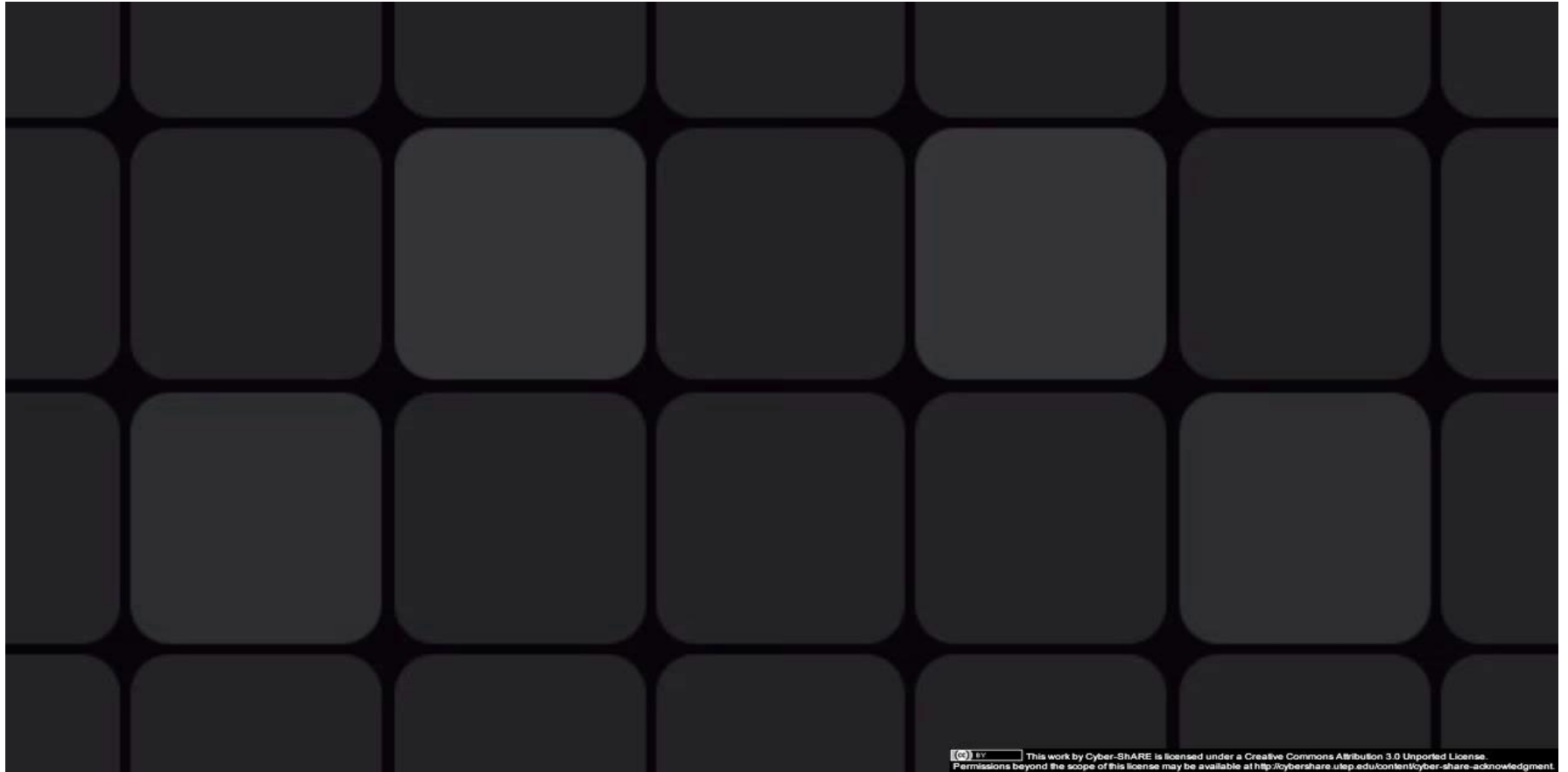
J. Grudin's (1994) Principles

1. Disparity between work and benefit
2. Critical mass - currently recruiting!

Grudin (1994) Groupware and Social Dynamics: Eight Challenges for Developers



Video demo



YouTube Video: [VLC Discover](#)



Acknowledgements

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