ActivityPub: Past, Present, Future

Christopher Lemmer Webber

https://dustycloud.org/

Fediverse: https://octodon.social/@cwebber

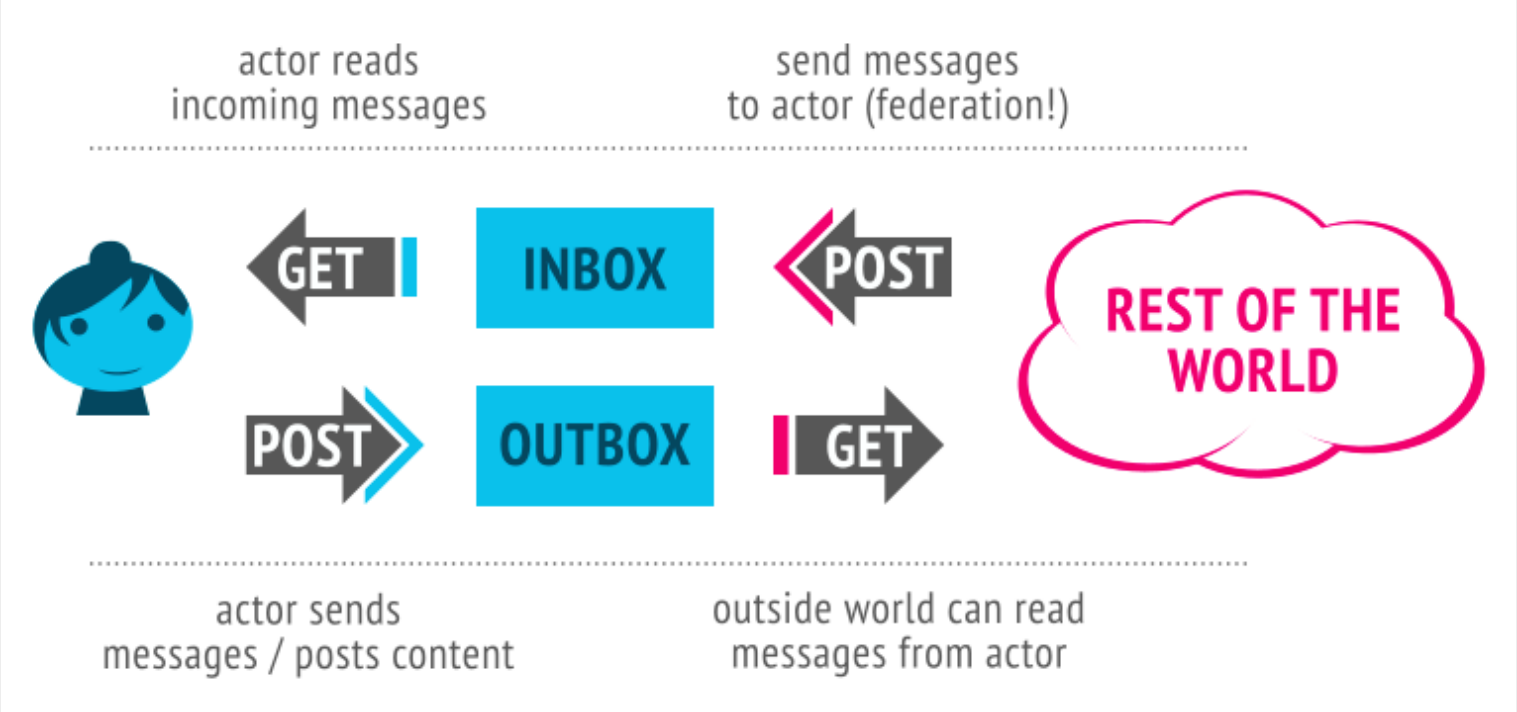
Birdsite: https://twitter.com/dustyweb

Original fediverses (email/xmpp): cwebber@dustycloud.org

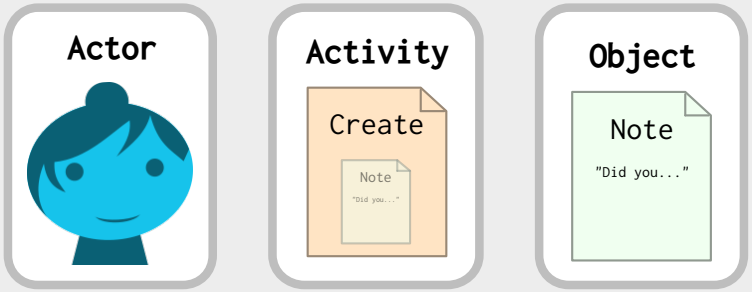
Welcome to ActivityPub Conf 2019!

- Let’s thank the venue
- Let’s thank the volunteers
- Let’s thank the organizers
- Treat each other with respect

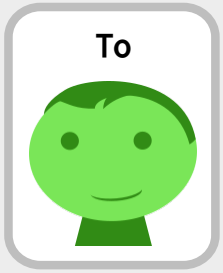
An overview of ActivityPub



An actor always performs an activity on an object...



... with email-like addressing.

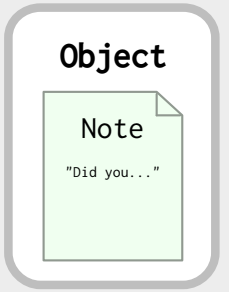



Alyssa's
SERVER
POST
Ben's
INBOX
Ben

ActivityStreams is AP's social vocabulary

Application
Group
Organization
Person
Service

Accept
Add
Announce
Arrive
Block
Create
Delete
Dislike
Flag
Follow
Ignore
Invite
Join
Leave
Like
Listen
Move
Offer
Question
Reject
Read
Remove
TentativeReject
TentativeAccept
Travel
Undo
Update
View



Article
Audio
Document
Event
Image
Note
Page
Place
Profile
Relationship
Tombstone
Video

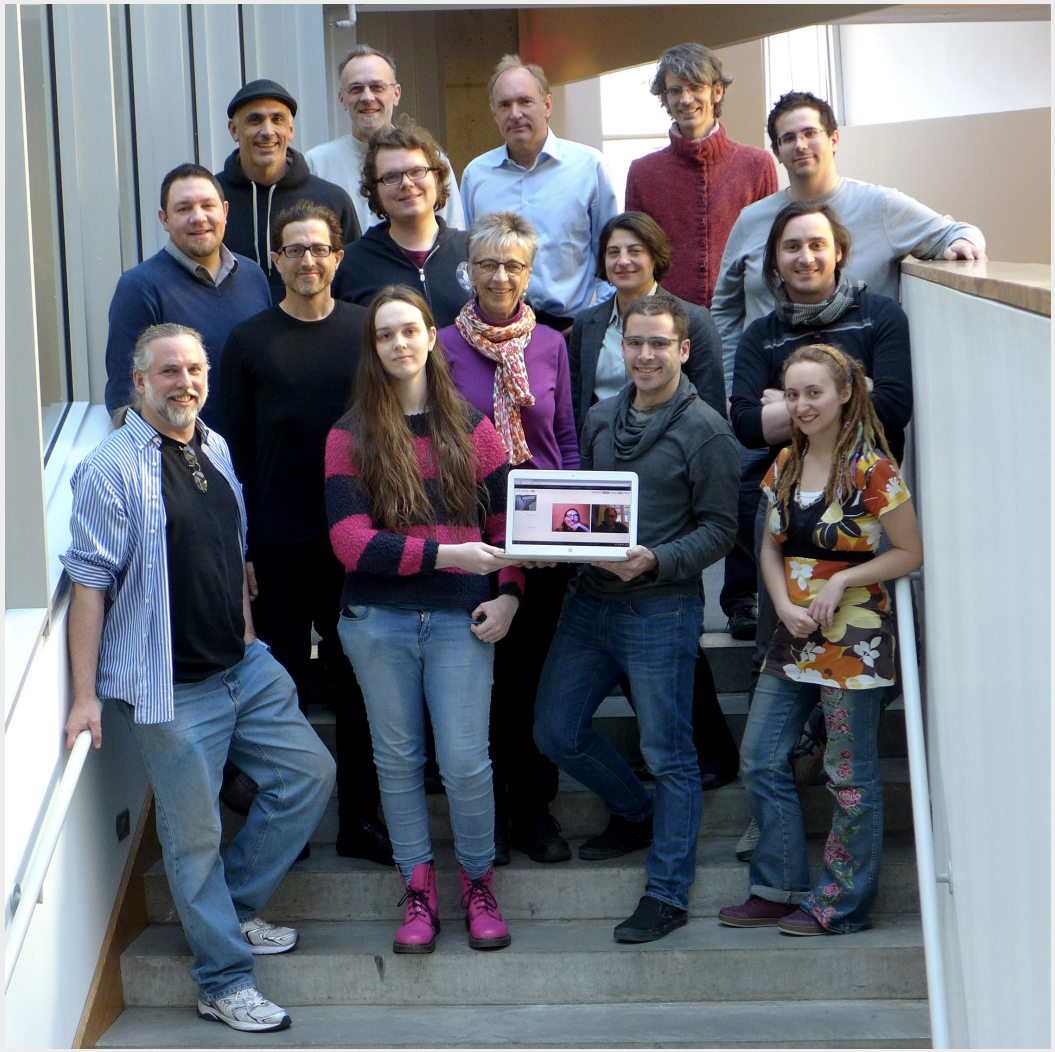
Extensible with JSON-LD, too!

Pre-ActivityPub: A fractured federation

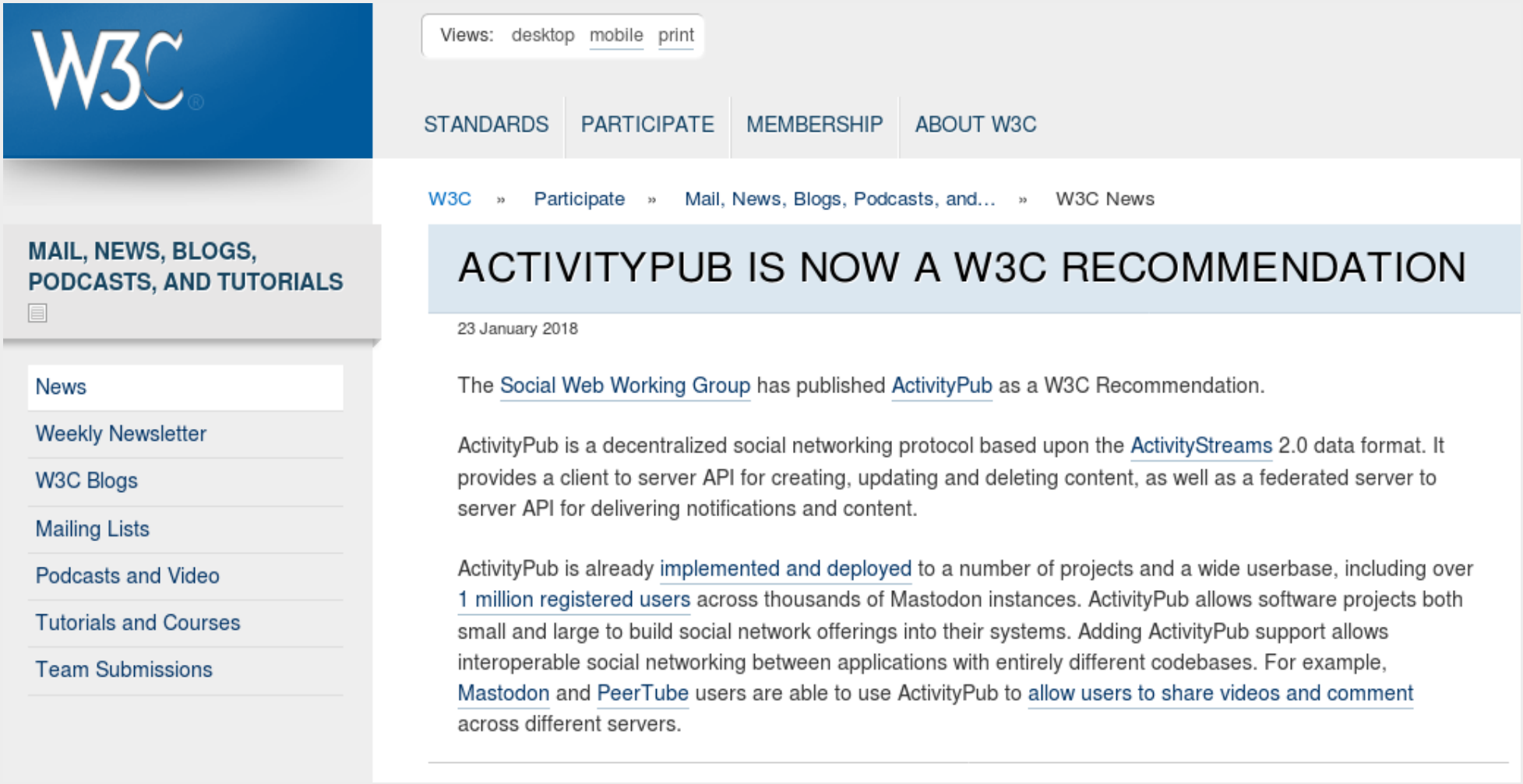
A smattering of incompatible protocols:

- OStatus
- Zot
- XMPP
- Pump
- Tent

W3C Social Working Group!



** OVER THREE YEARS OF EXHAUSTING WORK LATER **



ActivityPub: a labor of love from many

ActivityPub

W3C Recommendation 23 January 2018

This version:
https://www.w3.org/TR/2018/REC-activitypub-20180123/

Latest published version:
https://www.w3.org/TR/activitypub/

Latest editor's draft:
https://w3c.github.io/activitypub/

Test suite:
https://test.activitypub.rocks/

Implementation report:
https://activitypub.rocks/implementation-report

Previous version:
https://www.w3.org/TR/2017/PR-activitypub-20171205/

Editors:
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Jessica Tallon

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Evan Prodromou

ActivityPub: a labor of love from many

C. Acknowledgements

This section is non-normative.

This specification comes from years of hard work and experience by a number of communities exploring the space of federation on the web. In particular, much of this specification is informed by OStatus and the Pump API, as pioneered by StatusNet (now GNU Social) and Pump.io. Both of those initiatives were the product of many developers' hard work, but more than anyone, Evan Prodromou has been a constant leader in this space, and it is unlikely that ActivityPub would exist in something resembling its current state without his hard work.

Erin Shepherd built the initial version of this specification, borrowed from the ideas in the Pump API document, mostly as a complete rewrite of text, but sharing most of the primary ideas while switching from ActivityStreams 1 to ActivityStreams 2.

Jessica Tallon and Christopher Lemmer Webber took over as editors when the standard moved to the W3C Social Working Group and did the majority of transition from Erin Shepherd's document to its current state as ActivityPub. Much of the document was rewritten and reorganized under the long feedback process of the Social Working Group.

ActivityPub has been shaped by the careful input of many members in the W3C Social Working Group. ActivityPub especially owes a great debt to Amy Guy, who has done more than anyone to map the ideas across the different Social Working Group documents through her work on [Social-Web-Protocols]. Amy also laid out the foundations for a significant refactoring of the ActivityPub spec while sprinting for four days with Christopher Allan Webber. These revisions lead to cleaner separation between the client to server and server components, along with clarity about ActivityPub's relationship to [LDN], among many other improvements. Special thanks also goes to Benjamin Goering for putting together the implementation report template. We also thank mray for producing the spectacular tutorial illustrations (which are licensed under the same license as the rest of this document).

Many people also helped ActivityPub along through careful review. In particular, thanks to: Aaron Parecki, AJ Jordan, Benjamin Goering, Caleb Langeslag, Elsa Balderrama, elf Pavlik, Eugen Rochko, Erik Wilde, Jason Robinson, Manu Sporny, Michael Vogel, Mike Macgirvin, nightpool, Puck Meerburg, Sandro Hawke, Sarven Capadisli, Tantek Çelik, and Yuri Volkov.

This document is dedicated to all citizens of planet Earth. You deserve freedom of communication; we hope we have contributed in some part, however small, towards that goal and right.

We’re no longer so small...

- Over 2 million (registered) users?
- Over 50 implementations?

I used to have slides trying to keep track but I can’t anymore

Are we done yet?

The Future

(... is a place where we solve today's problems)

Users suffer when nodes go down

DATASHARDS

Secure, distributed storage primitives for the web

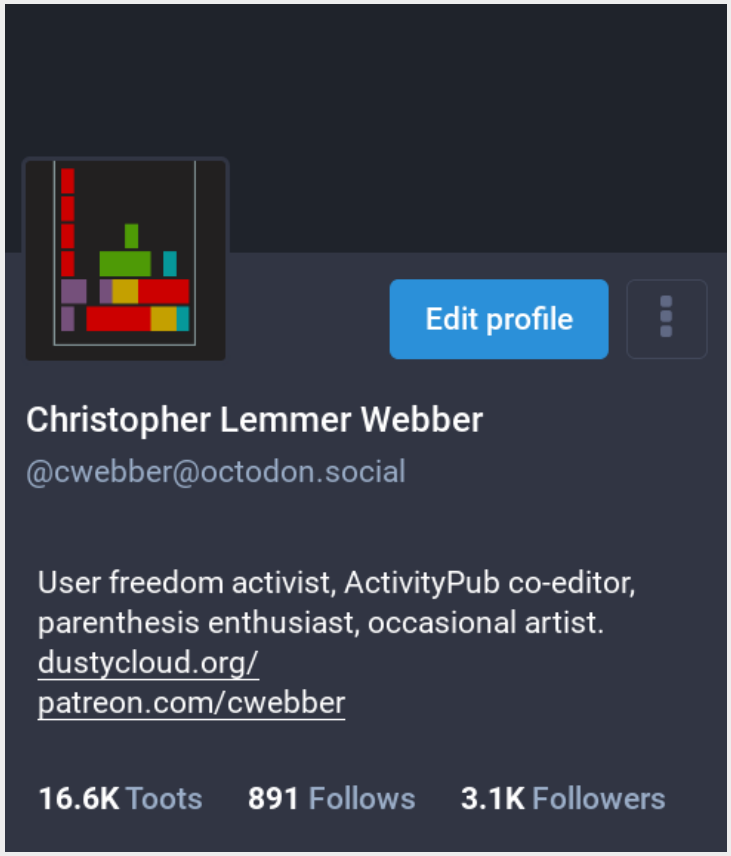
https://datashards.net

Breadth vs Depth?

Did we borrow the wrong assumptions?

Breadth vs Depth?

Breadth vs Depth?



The complement of freedom of speech is the freedom to filter

Communities have the right to moderate and protect themselves

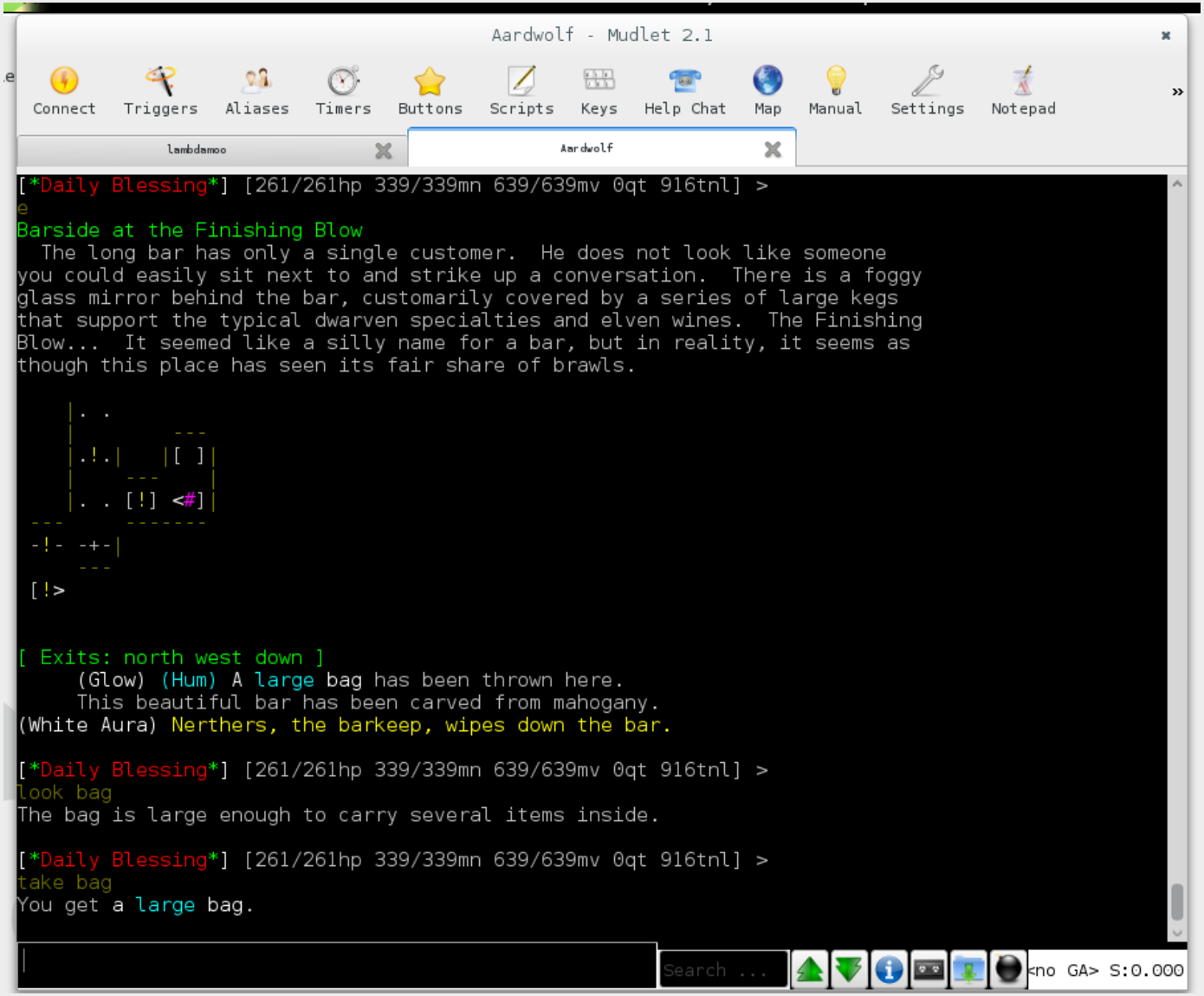
The Nation-State'ification of the fediverse

Where do communities live?

P2P > C2S?

The lost cyberpunk world of social games

MUDs, MOOs, MUSHes: social spaces with a sense of place



The lost cyberpunk world of social games

Habitat: massively multiplayer graphical game... in 1985!

https://web.stanford.edu/class/history34q/readings/Virtual_Worlds/LucasfilmHabitat.html

The lost cyberpunk world of social games

Menu

mailto:vijay@saraswat.o

Converted to HTML: Sun Oct 5 1997
Last modified: Wed Apr 23 1997
Started work: Mon Apr 21 1997

Design requirements for network spaces

Vijay Saraswat
AT&T Research , 180 Park Avenue, Florham Park NJ 07932

April 1997

Introduction

A wide variety of network communities exist today, supported by many different computational platforms. As the need for new architectures for these platforms arises, so does the need to articulate what exactly should these platforms provide, abstracted from the many (and somewhat diverse and divergent) concrete realizations of these ideas (e.g. in MOO, MUSH, MUD etc).

This note presents my analysis of the desiderata for *network spaces* , my generic term for the computational platforms underlying network communities. My analysis is not driven by any attempt to understand a "least common denominator" for these different approaches. Rather it is driven by my experience starting, administering and participating in several such communities since 1994 and from my desire to find a coherent and consistent conceptual framework (e.g. one that resolves issues of objects, persistence, identity, change etc) within which system development may proceed interlinked with, and yet somewhat decoupled from, the diversity of network communities that may arise atop such spaces.

I believe this task (of articulating the desiderata of network communities) is of some urgency. Conditions are now ripe for an appropriately designed architecture and implementation to provide the basis for the development of tens of thousands of interlinked network communities all over the globe. On the side of social sciences research the extraordinary interest of these spaces as both a synthetic and analytic tool for the study of communities is now rapidly becoming evident. On the computational side the development of MOO as a basis for such spaces has come to a halt with the disintegration of groups working on this technology at PARC. On the other hand, the rapid maturation of Java and CORBA technology, and widespread deployment of networked personal computers is finally(!) providing the ubiquitous basis on which large-scale end-user populated distributed systems may be realized. Therefore this task is both timely and important.

1. In a nutshell, a network space provides an object-oriented, networked, multi-person, persistent, programmable, multi-interface, distributed infrastructure for the construction of administered, shared, extensible virtual worlds. (The LambdaMOO server, running, say, with JHCore, is an example of such a system, and should be kept in mind in the following discussion.) In this, network

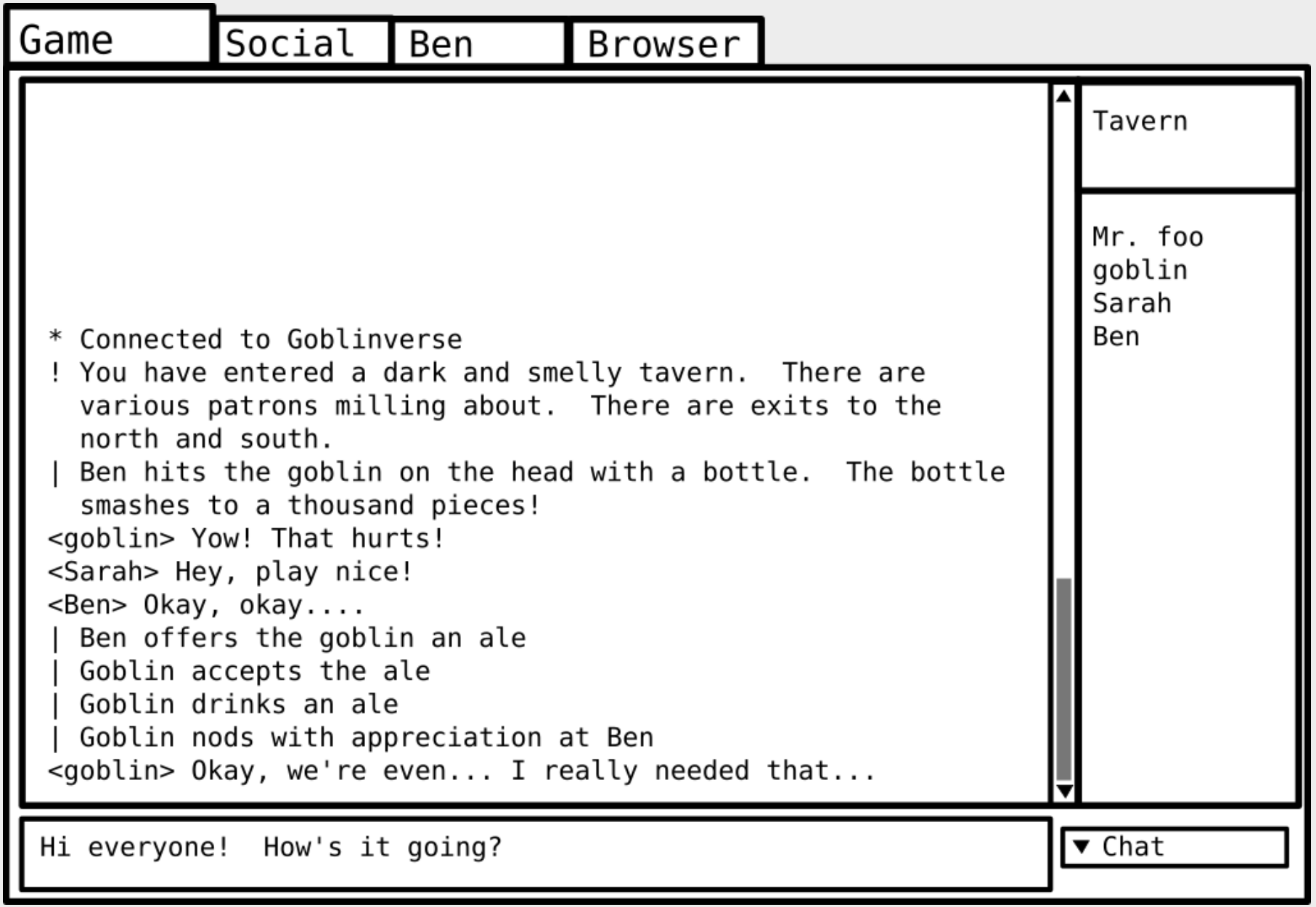
People want to create

CC BY-SA 3.0, Minetest Team

```
> inv
You are carrying:
  • a glowing disc
j1mc wanders west.
> read sign
Sorry, I didn't understand that? (type "help" for common commands)
Aeva pulls on the shield of the statue, and a glowing copy of it materializes
into their hands!
You hear a voice whisper: "Share the software... and you'll be free..."
> read map
                          |  :       :  |
  .----------.----------.  :   &   :  .----------.----------.
  | computer |          |& :YOU ARE: &|  smoking | *UNDER*  |
  | room     + playroom +  : HERE  :  +  parlor  | *CONS-   |
  |    >     |          |& :       : &|          | TRUCTION*|
  '----------'----------'-++-------++-'-------+--'----------'
                       |    '-----'    |     |   |
                       :     LOBBY     :     '---'
                        '.           .'
                          '---------'
j1mc enters the room.
```

go east

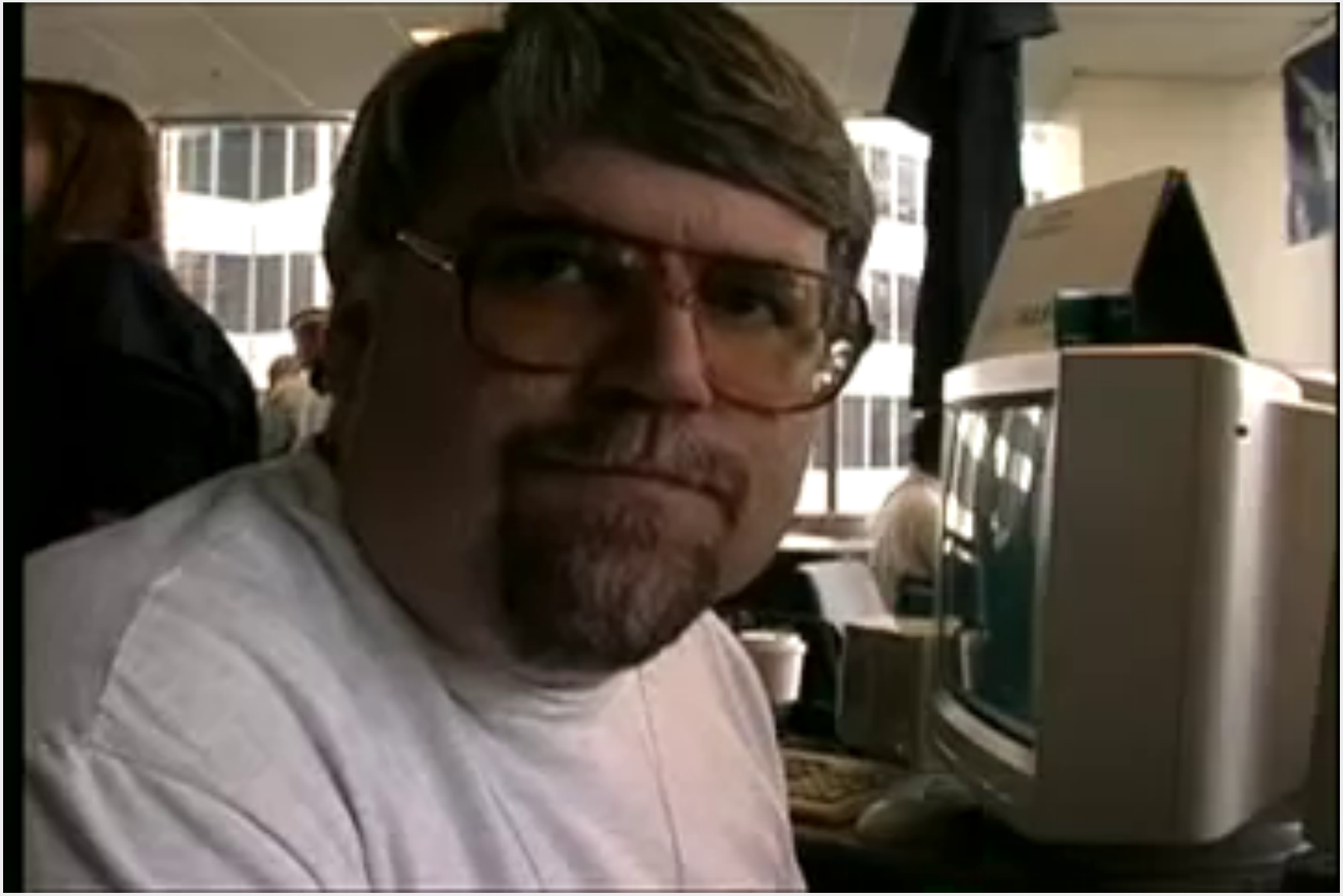
[connected]


Game
Social
Ben
Browser
Tavern
Mr. foo
goblin
Sarah
Ben
* Connected to Goblinverse
! You have entered a dark and smelly tavern. There are various patrons milling about. There are exits to the north and south.
| Ben hits the goblin on the head with a bottle. The bottle smashes to a thousand pieces!
<goblin> Yow! That hurts!
<Sarah> Hey, play nice!
<Ben> Okay, okay....
| Ben offers the goblin an ale
| Goblin accepts the ale
| Goblin drinks an ale
| Goblin nods with appreciation at Ben
<goblin> Okay, we're even... I really needed that...
Hi everyone! How's it going?
Chat

Electric Communities Habitat

P2P, distributed social game... in 1997!

Where can I see more???



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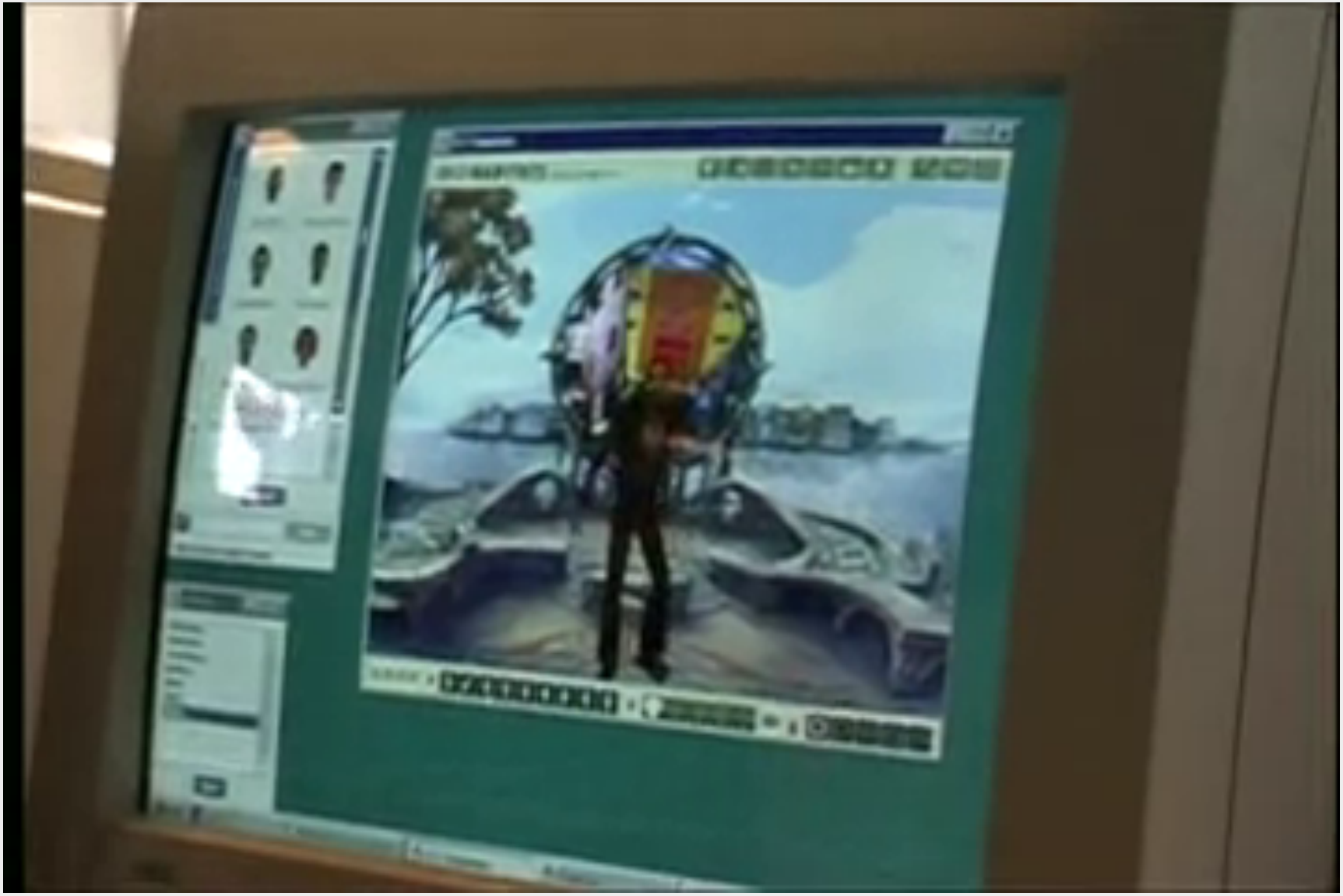


[_]

[_]

Everyone connected to the network
is both a client and server!

[_]

[_]

[_]

[_]

[_]

[_]

[_]

[_]

[_]


Virtual Worlds

[_]

Rich interactions!

[_]

[_]

[_]

[_]

[_]

[_]

[_]

[_]

[_]

[_]

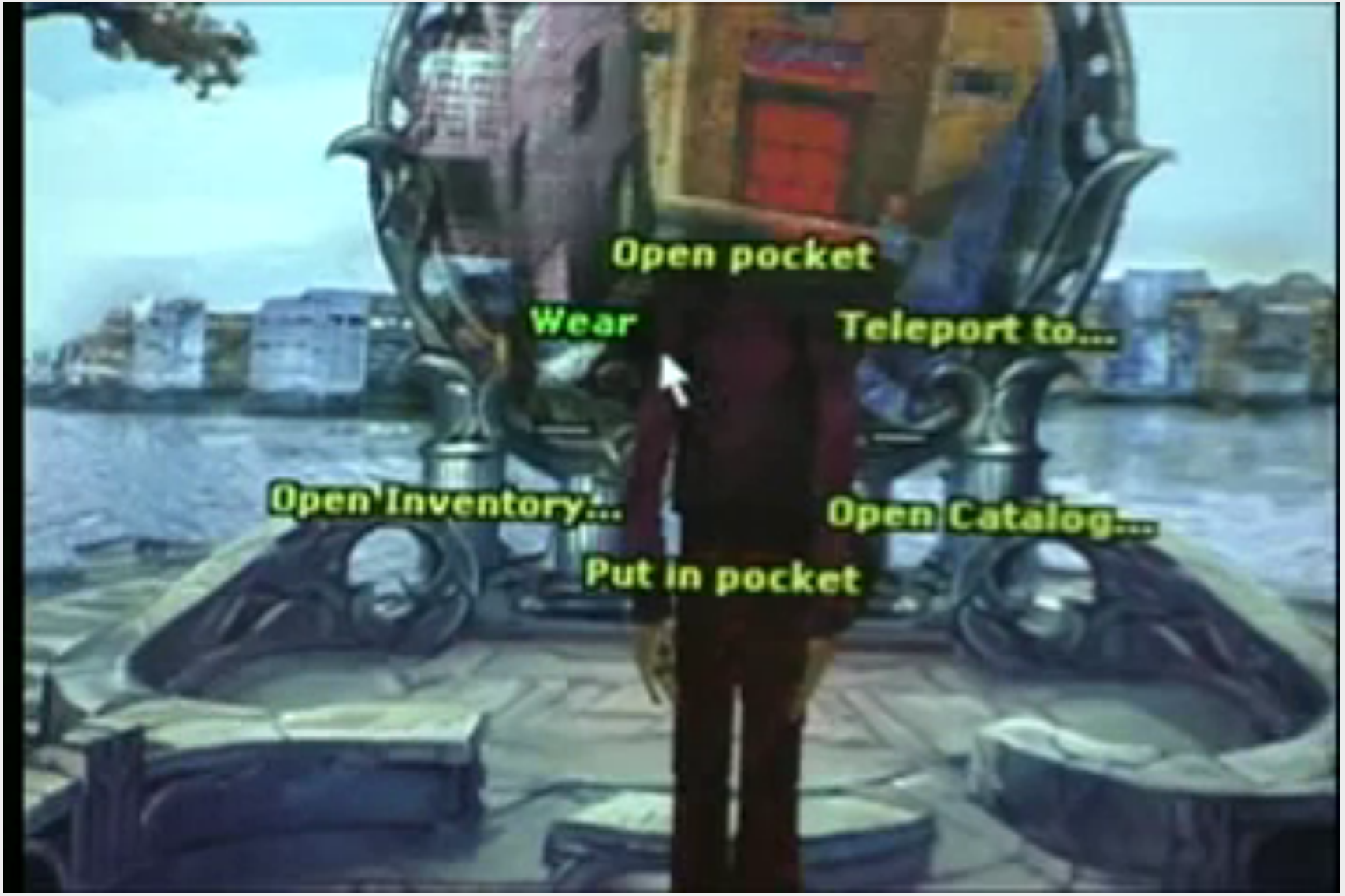
[_]


Virtual Worlds

[_]

~Safely run code or use assets from untrusted other users!

[_]


Open pocket
Wear
Teleport to...
Open Inventory...
Open Catalog...
Put in pocket

[_]

[_]

[_]

[_]

[_]

[_]

[_]

[_]

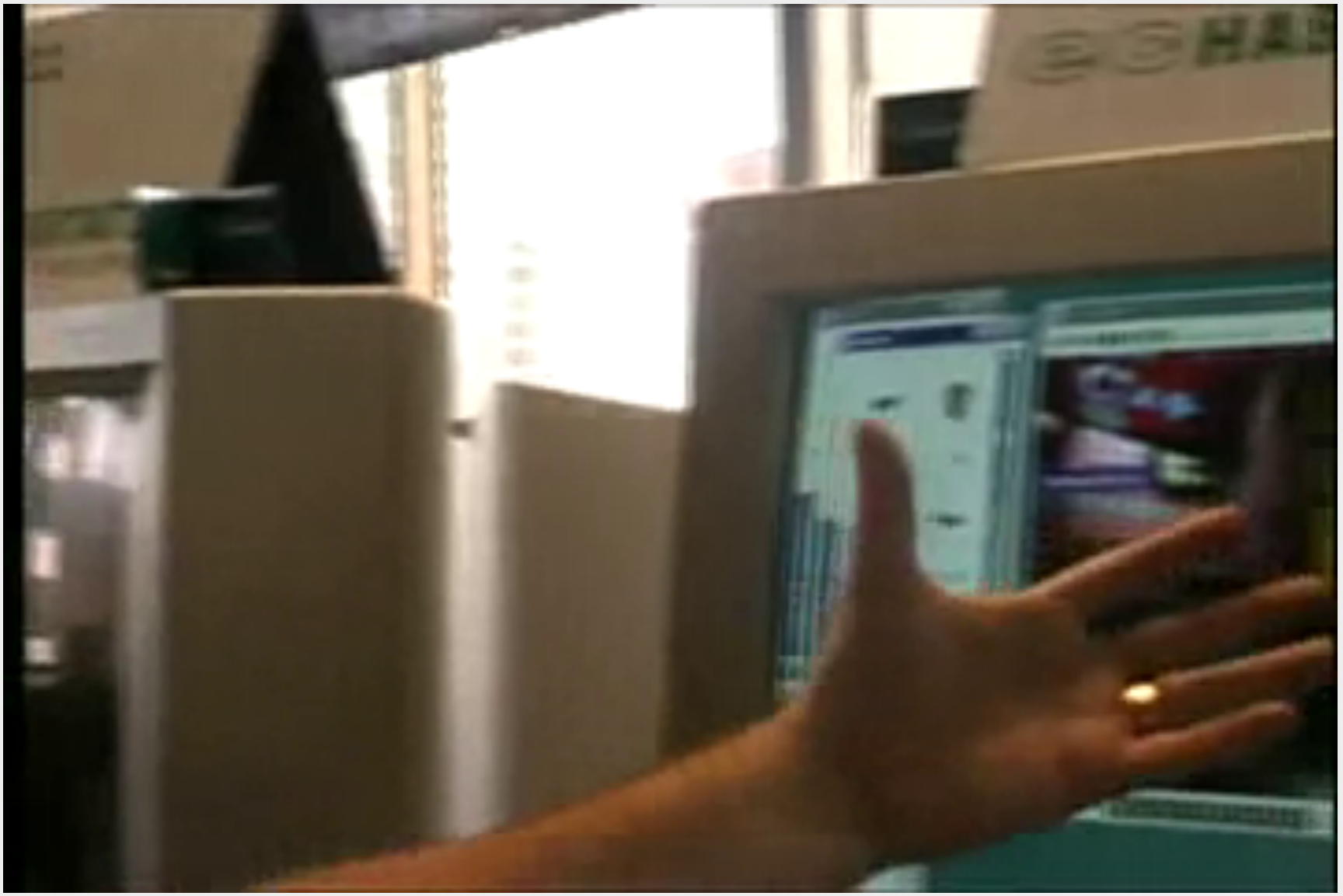
[_]

[_]


Virtual Worlds

[_]

Anyone can make their own world!



[_]

[_]


Ben spits on the ground.
ring Red Room

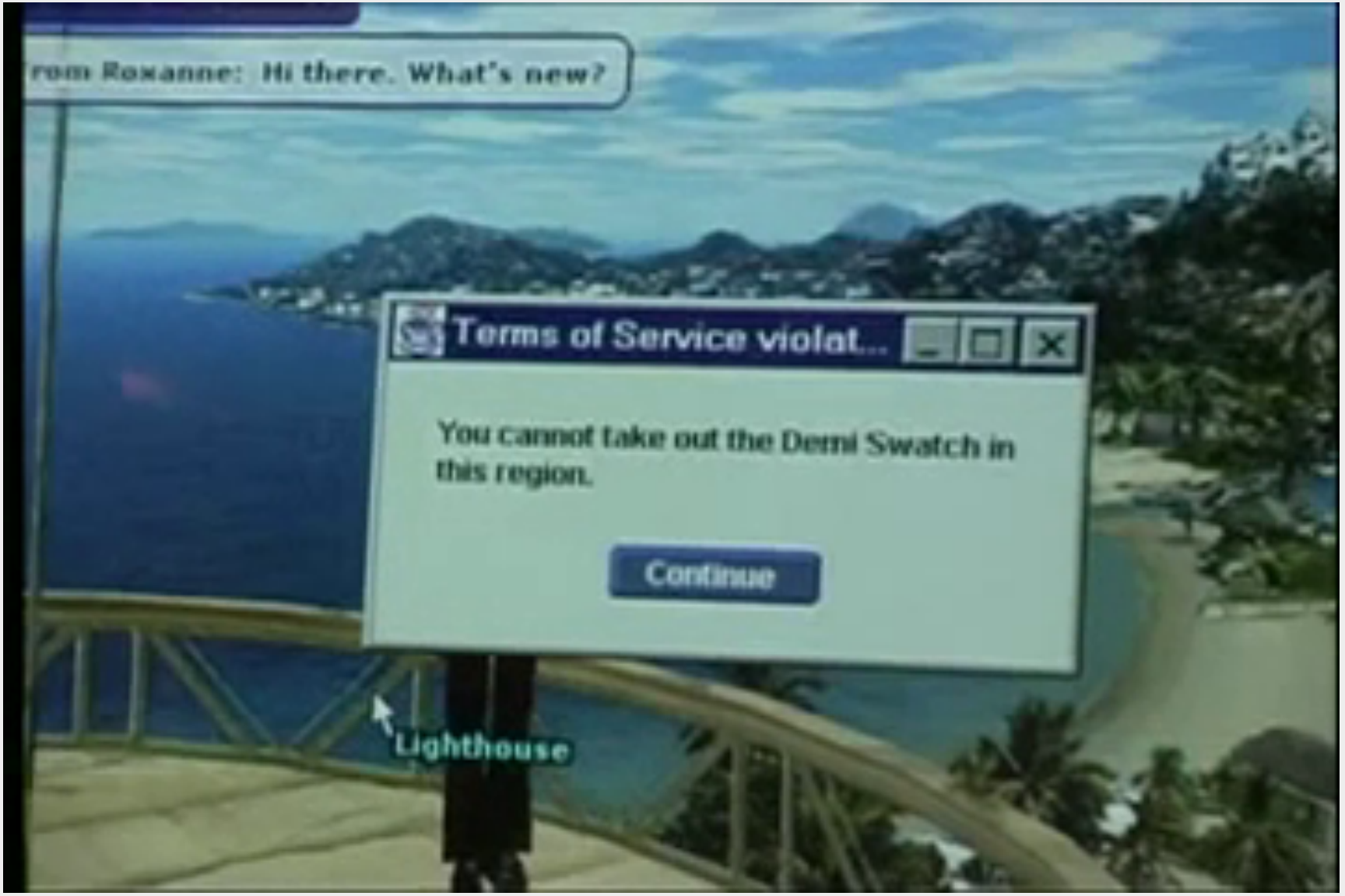
[_]

[_]

Different "Terms of Entry" for different realms!


Entering Lighthouse
Roxanne has arrived

[_]


rom Roxanne: Hi there. What's new?
Terms of Service violat...
You cannot take out the Demi Swatch in this region.
Continue
Lighthouse

[_]


Virtual

[_]

How did they make this in 1997???
Where can I learn more????


Worlds

[_]

And yet... its ideas survive!

E / erights.org: the most interesting language / website you've never heard of

Capability-based Financial Instruments

Also known as
An Ode to the Granovetter Diagram

To appear in *"Proceedings of Financial Cryptography 2000"*

This is the PDF submitted to the conference. It's better for printing, but a bit out of date. An abridged form of this PDF will appear in the proceedings.

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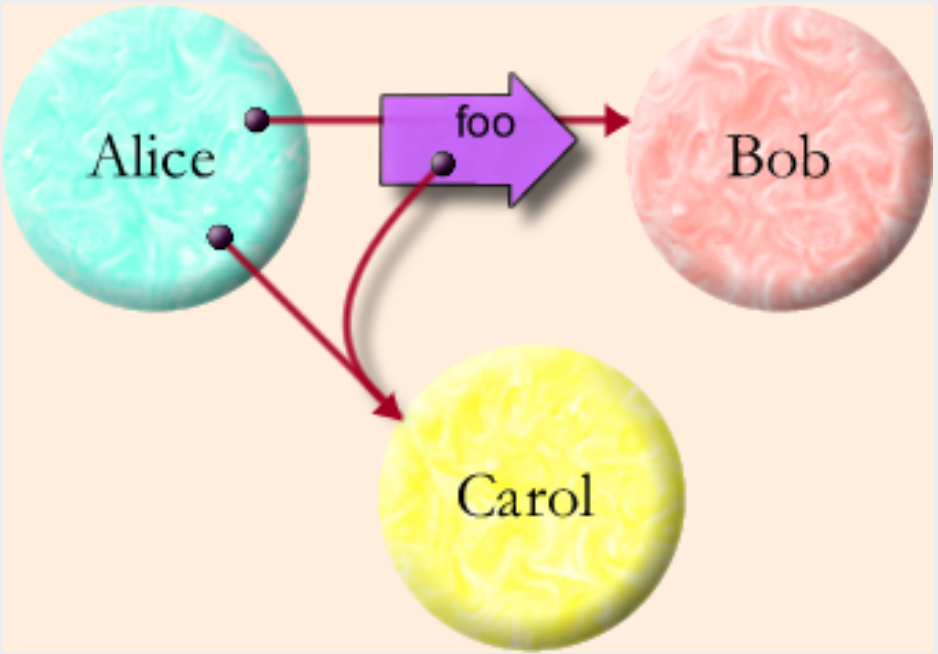
Oh hey look a... Granovetter Diagram???



The Strength of Weak Ties

this in some detail, suggesting probabilities for various types. This analysis becomes rather involved, however, and it is sufficient for my purpose in this paper to say that the triad which is most *unlikely* to occur, under the hypothesis stated above, is that in which *A* and *B* are strongly linked, *A* has a strong tie to some friend *C*, but the tie between *C* and *B* is absent. This triad is shown in figure 1. To see the consequences of this assertion,

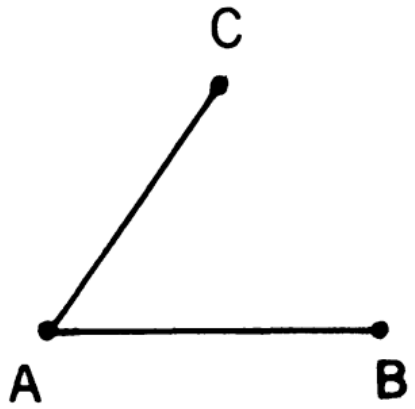
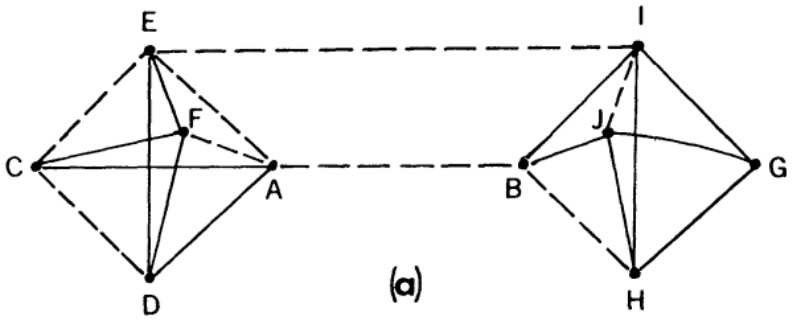


FIG. 1.—Forbidden triad

I will exaggerate it in what follows by supposing that the triad shown *never* occurs—that is, that the *B*-*C* tie is always present (whether weak or strong), given the other two strong ties. Whatever results are inferred from this supposition should tend to occur in the degree that the triad in question tends to be absent.

Mark S. Granovetter, 1973

The Strength of Weak Ties



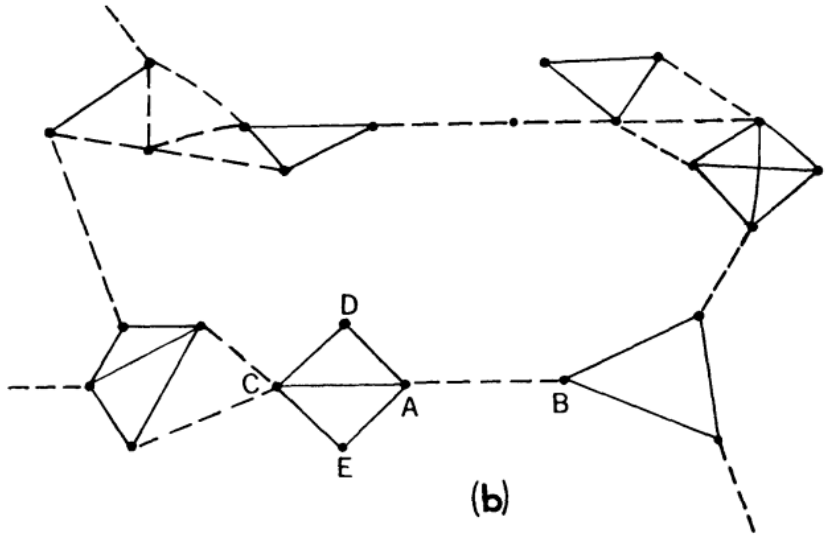


FIG. 2.—Local bridges. *a*, Degree 3; *b*, Degree 13. ——— = strong tie; — — — = weak tie.

Mark S. Granovetter, 1973

Object-Capability Security in Virtual Environments

Martin Scheffler Jan P. Springer Bernd Froehlich

Bauhaus-Universität Weimar

Abstract

Access control is an important aspect of shared virtual environments. Resource access may not only depend on prior authorization, but also on context of usage such as distance or position in the scene graph hierarchy. In virtual worlds that allow user-created content, participants must be able to define and exchange access rights to control the usage of their creations. Using object capabilities, fine-grained access control can be exerted on the object level. We describe our experiences in the application of the object-capability model for access control to object-manipulation tasks common to collaborative virtual environments. We also report on a prototype implementation of an object-capability safe virtual environment that allows anonymous, dynamic exchange of access rights between users, scene elements, and autonomous actors.

Keywords: Object Capabilities, Security, Virtual Environments

Index Terms: D.1.5 [Programming Techniques]: Object-Oriented Programming; I.3.7 [Computer Graphics]: Three-Dimensional Graphics and Realism—Virtual Reality; K.6.5 [Computing Milieux]: Management of Computing and Information Systems—Security and Protection

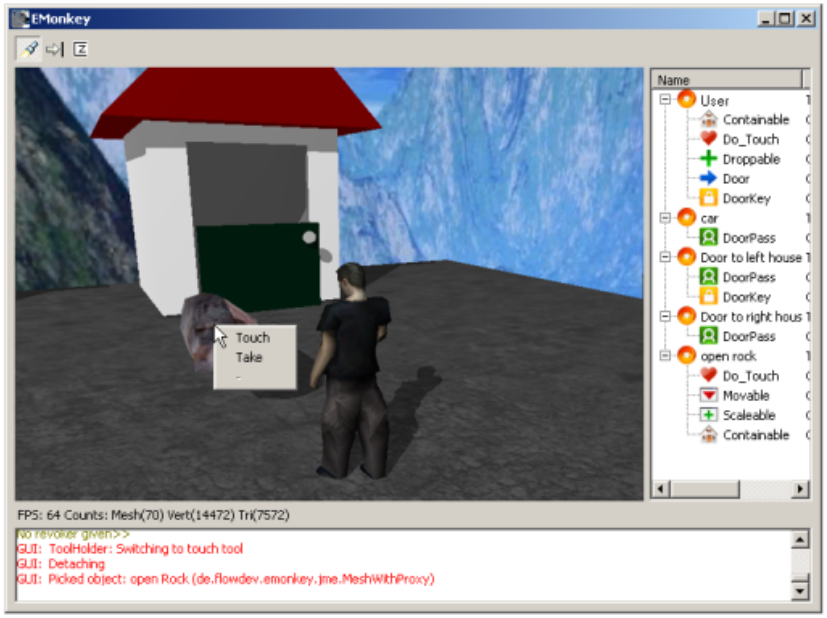


Figure 1: Screenshot of a prototype virtual environment using object-capability security.

1 Introduction

The rise of a new category of virtual environments could be observed in recent years: virtual worlds that allow thousands of users to interact and shape their surroundings. The premier example of this kind of virtual world is Second Life (http://www.secondlife.com). In Second Life, a number of tools can be used to add virtual objects to the world. Using a scripting language, users can program their objects to let them interact with other users or objects. It is possible that allow for dynamic assignment and revokation of fine-grained access rights in an anonymous way.

We created a prototype virtual environment using the capability-secure programming language E (cf. figure 1). In our system, capabilities define how actors can be accessed and manipulated (e. g. how they can be moved or how to change their appearance). Capabilities can be attached to the visual representation of their actors to make them publicly available and they can be exchanged

OcapPub: Towards networks of consent

This paper released under the Apache License version 2.0; see LICENSE.txt for details.

For a broader overview of various anti-spam techniques, see AP Unwanted Messages, which is in many ways informed this document but currently differs in some implementation rollout differs. (These two documents may converge.)

Conceptual overview

The federated social web is living in its second golden age, after the original success of StatusNet and OStatus in the late 2000s. A lot of this success has been around unification of adoption of a single protocol, ActivityPub, to connect together the many different instances and applications into a unified network.

Unfortunately from a security and social threat perspective, the way ActivityPub is currently rolled out is under-prepared to protect its users. In this paper we introduce OcapPub, which is compatible with the original ActivityPub specification. With only mild to mildly-moderate adjustments to the existing network, we can deliver what we call "networks of consent": explicit and intentional connections between different users and entities on the network. The idea of "networks of consent" is then implemented on top of a security paradigm called "object capabilities", which as we will see can be neatly mapped on top of the actor model, on which ActivityPub is based. While we do not claim that all considerations of consent can be modeled in this or any protocol, we believe that the maximum of consent that is *possible* to encode in such a system can be encoded.

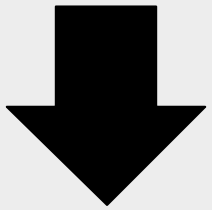
"Only prohibit what you can prevent"

"Only prohibit what you can prevent"

Almost, but not quite right...

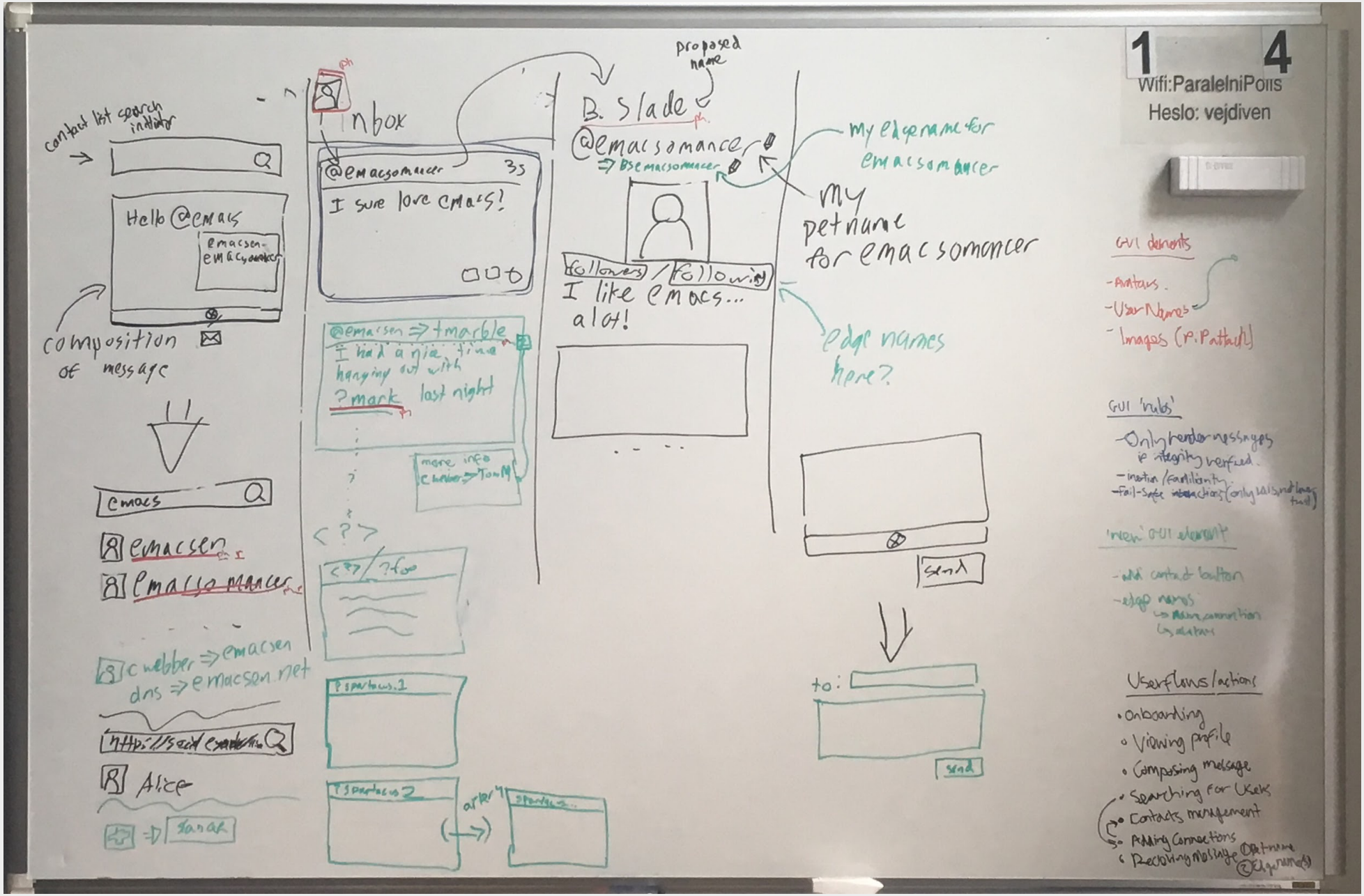
- Things we can't prevent in-protocol but prohibit
- Might enforce out-of-protocol
  - Social requests
  - Social shame
  - Legally
  - Expulsion from a community/club

"Only prohibit what you can prevent"



"We must not claim we can prevent what we cannot"

To do otherwise would put our users at risk!


contact list search initiator
Hello @emacs
composition of message
emacs
emacsen
emacsomancer
inbox
@emacsomancer 3s
I sure love emacs!
@emacsen ⇒ tmarble
I had a nice time hanging out with ?mark last night
more info
proposed name
B. Slade
@emacsomancer
⇒ Bemacsomancer
followers / following
I like emacs... a lot!
my petname for emacsomancer
my edgename for emacsomancer
edge names here?
send
to:
send
cwebber ⇒ emacsen
dns ⇒ emacsen.net
Alice
Wifi:ParalelniPolis
Heslo: vejdiven
GUI elements
-Avatars
-User Names
-Images (r. Pattadi)
GUI 'rules'
-Only render messages if integrity verified.
-motion / familiarity
-Fail-safe interactions (only fails, not lose trust)
'new' GUI elements
-add contact button
-edge names
Userflows/actions
• Onboarding
• Viewing profile
• Composing message
• Searching for Users
• Contacts management
• Adding Connections
• Receiving Message @petname @edgename

Audience & Accuracy Grid	[1] Direct. Delivery aligns with harm, with content delivered to the person harmed (the target). Blocking helps.	[2] Content delivered to target and others. Requires audience.	[3] Indirect. Content delivered to others and effective without target receiving it. Blocking does not help.
	Attack depends on delivery to target		
		Attack depends on delivery to others	
[A] High Accuracy. Can be effective while being essentially true.	• Stalking • Threatening • Harassing • Unwanted attention • Unwanted intimacy • Triggering (revulsion, phobias, epilepsy, PTSD response, depression, eating disorders, self-harm, suicide, bad habits, addictions, …) • Gaslighting • Demoralizing • Spoiling fun • Kink-shaming/slut-shaming • Narrative Spoilers • Wasting time (sealioning) • Cliffhangers • Provocation to platform-prohibited behavior • Provocation to careless speech • Blackmail • Bypassing decisions by guardians for age-appropriate content (for children)	• Speaking truth to power (may harm powerful, or people perceived as powerful in context) • Excessive volume of public comments • Mocking to their face • Expression of hope that harm comes to the person • Demanding action before removing publicly shaming content • Shifting tone of a space to be hostile to target • Dangerous challenge memes • Spreading divisive (consensus-resistant) content.	• Doxing (publication of home address, phone number, email, identities of family members/friends, medical history…) • Copyright Infringement • Stealing jokes / attribution failure • Outing • Leaks from an organization • Leaks of personal communication • Sexual images/recordings without subject's consent • Revealing details of intimate relationship • Reporting prohibited or dubious behavior • Advance rebuttal • Asking that someone be ignored/excluded • Mocking behind their back (including with photos/memes) • SEO of harmful content • Publication of statements in a different context (eg years later) • Signal flaring (drawing unwanted attention)
[B] Accuracy varies. Some misleading often necessary to be effective	• Advertising • Spam (advertising in a non-ad space) • Insults • Raising anxiety • Raising outrage • Clickbait • Dark patterns (in UI design)	• Dunking (being mean mostly for the audience) • Dogpiling • Playing the victim • Publicly threatening one person to intimidate or silence a group.	• Incitement to genocide • Recruitment to causes and organizations opposed to target • Badmouthing/gossip • Stochastic terrorism • Threatening target's medical provider • Harassing target's spouse, friends, and family, linked to from target's social media profiles
[C] Low Accuracy. Attack depends on receiver being convinced to believe something false	• Phishing • Catfishing • Financial fraud	• Demonstrating someone's gullibility • Credibility hijacking (getting someone to share false content) • Visibly ignoring • Intentional misreading • Faked stunt challenges • Unrecognized Satire	• Hoaxes (often unclear who is the target) • Click farms • Brigading (secretly coordinated crowd) • Impersonation / identity theft • Slander • SWATing • False complaints to target's employer or professional organization. • False complaints to Child Protective Services aimed at target's children

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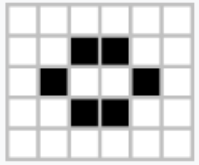
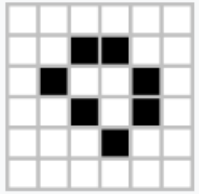
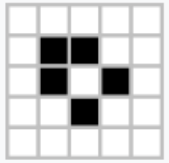
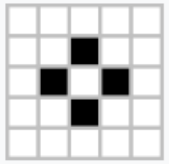
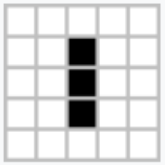
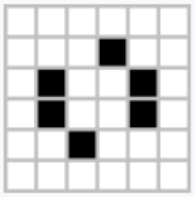
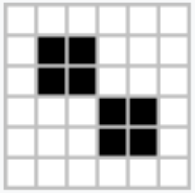
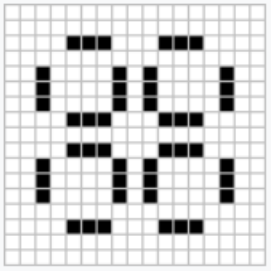
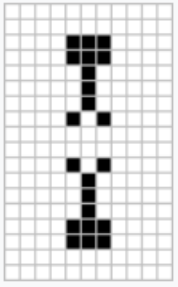
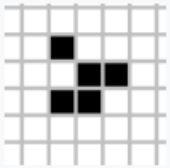
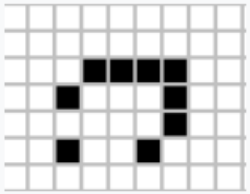
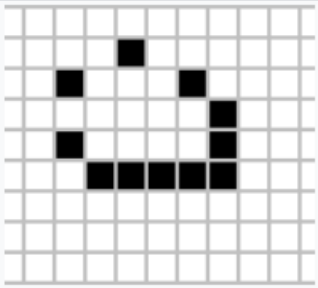
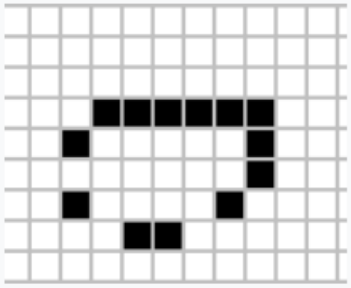
Emergent behavior

Still lifes	
Block	
Bee-hive	
Loaf	
Boat	
Tub	

Oscillators	
Blinker (period 2)	
Toad (period 2)	
Beacon (period 2)	
Pulsar (period 3)	
Penta-decathlon (period 15)	

Spaceships	
Glider	
Light-weight spaceship (LWSS)	
Middle-weight spaceship (MWSS)	
Heavy-weight spaceship (HWSS)	


RISK
Opdrachten
RISK
Territoria

INFECTION RA
DELHI
SHANGHAI
CHENNAI
BANGKOK
HONG KONG
JAKARTA
HO CHI MINH CITY
TAIPEI

MANDATORY HUGS


Blokus
DESCENT
DESCENT
DESCENT
Boggle
modern art
FORSALE
Settlers
COSMIC ENCOUNTER
CLEOPATRA
ARKHAM HORROR
7 WONDERS
COLOSSEUM
KINGSBURG
DUEL OF AGES
MEMOIR '44
TICKET TO RIDE EUROPE
CASTLE RAVENLOFT
PIRATE'S COVE
RUNEBOUND
LOYANG
LABYRINTH
BATTLESTAR GALACTICA
TOBAGO
INGENIOUS
LONDON
SHADOWS OVER CAMELOT
DIXIT
PANDEMIC
TALISMAN
SMALLWORLD
THROUGH THE AGES
MYSTERY of the ABBEY
CIVILIZATION
GHOST STORIES
HANSA TEUTONICA
Through the Desert
Carcassonne
ACQUIRE
MUNCHKIN QUEST
El Grande
ATTIKA
TICKET TO RIDE
TORRES
POWER GRID
Puerto Rico
TICKET TO RIDE
Diplomacy
Axis & Allies
Settlers
SPACE ALERT
STEAM
THUNDERSTONE
Dominant Species
Trivial Pursuit
Genus 5
RA
COMBAT COMMANDER
TIGRIS & EUPHRATES
PICTIONARY
HERO QUEST

LUDOLOGY

with Gil Hova & Geoff Engelstein

Welcome to **Ludology**, an analytical discussion of the how's and why's of the world of board games. Rather than news and reviews, Ludology explores a variety of topics about games from a wider lens, as well as discuss game history, game design and game players.

Ludology is made possible by the support and donations of listeners like you.

Have your own thoughts about our topics? We encourage you to visit us at our guild on Boardgamegeek to get involved in a continuing discussion.

You can also email us at gil@ludology.net or geoff@ludology.net.

Ludology is part of The Dice Tower Network, the premier board game media network.

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September 2019

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Sun, 1 September 2019

POD GameTek Classic 207.5 - Information

Geoff reviews the concept of "information" from a mathematical perspective, which might be different from the definition you're used to. What real-world implications did this concept lay the groundwork for?

Direct download: Ludology_207.5_Mixdown.mp3
Category:general -- posted at: 12:00pm EDT

Audience & Accuracy Grid	[1] Direct. Delivery aligns with harm, with content delivered to the person harmed (the target). Blocking helps.	[2] Content delivered to target and others. Requires audience.	[3] Indirect. Content delivered to others and effective without target receiving it. Blocking does not help.
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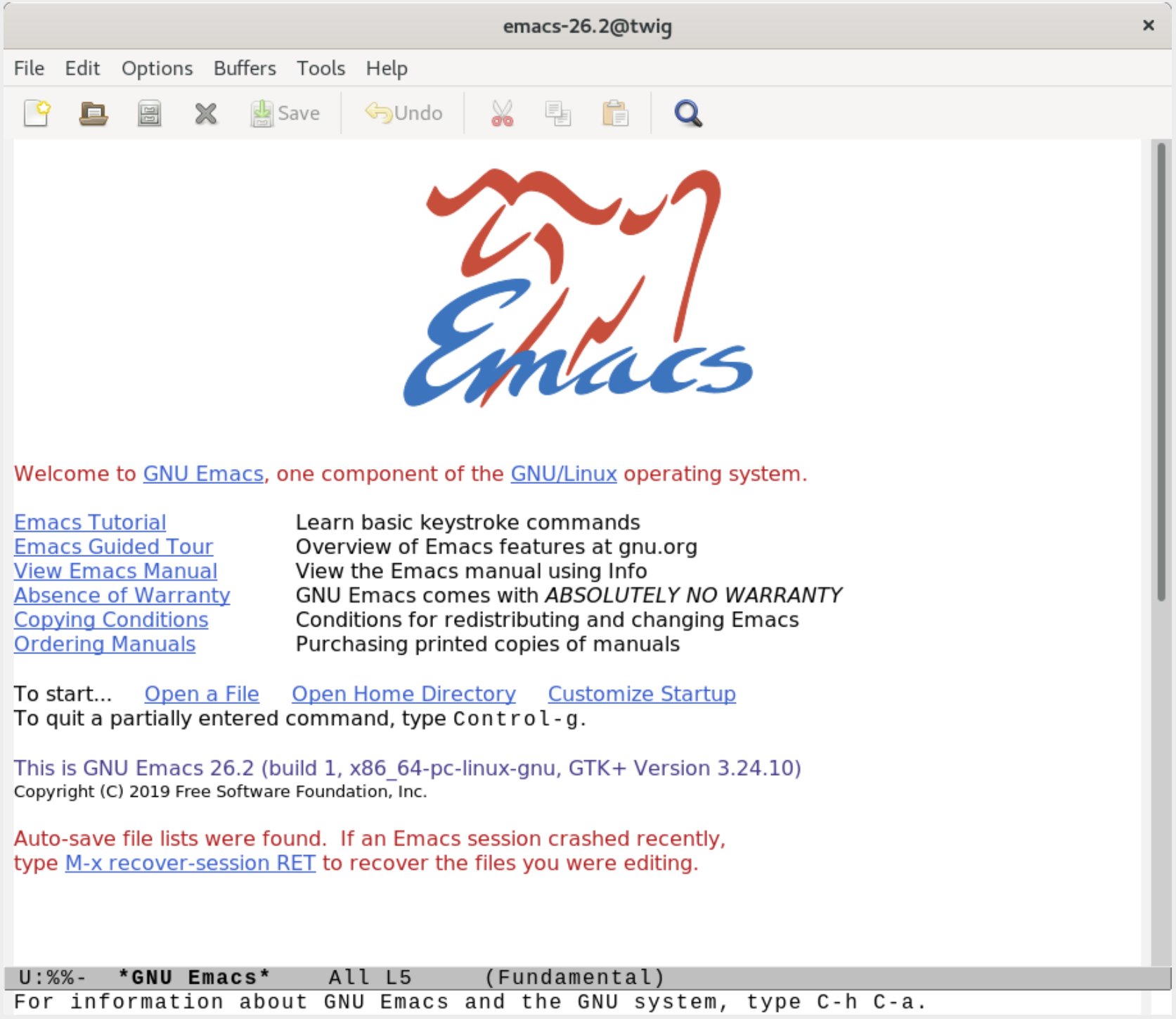
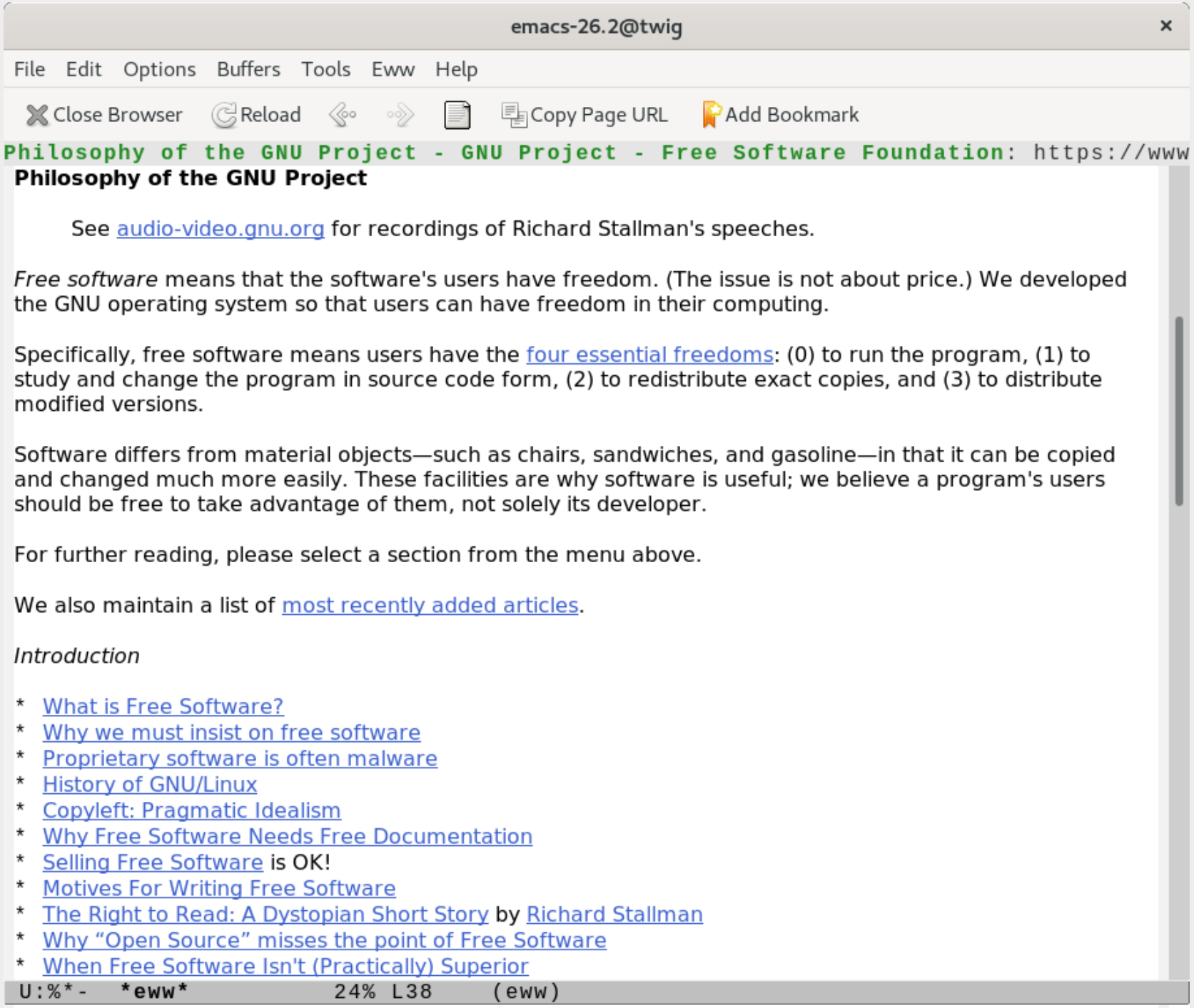

emacs-26.2@twig
File Edit Options Buffers Tools Help
Save
Undo
Welcome to GNU Emacs, one component of the GNU/Linux operating system.
Emacs Tutorial Learn basic keystroke commands
Emacs Guided Tour Overview of Emacs features at gnu.org
View Emacs Manual View the Emacs manual using Info
Absence of Warranty GNU Emacs comes with ABSOLUTELY NO WARRANTY
Copying Conditions Conditions for redistributing and changing Emacs
Ordering Manuals Purchasing printed copies of manuals
To start... Open a File Open Home Directory Customize Startup
To quit a partially entered command, type Control-g.
This is GNU Emacs 26.2 (build 1, x86_64-pc-linux-gnu, GTK+ Version 3.24.10)
Copyright (C) 2019 Free Software Foundation, Inc.
Auto-save file lists were found. If an Emacs session crashed recently,
type M-x recover-session RET to recover the files you were editing.
U:%%- *GNU Emacs* All L5 (Fundamental)
For information about GNU Emacs and the GNU system, type C-h C-a.


emacs-26.2@twig
File Edit Options Buffers Tools Eww Help
Close Browser
Reload
Copy Page URL
Add Bookmark
Philosophy of the GNU Project - GNU Project - Free Software Foundation: https://www
Philosophy of the GNU Project
See audio-video.gnu.org for recordings of Richard Stallman's speeches.
Free software means that the software's users have freedom. (The issue is not about price.) We developed the GNU operating system so that users can have freedom in their computing.
Specifically, free software means users have the four essential freedoms: (0) to run the program, (1) to study and change the program in source code form, (2) to redistribute exact copies, and (3) to distribute modified versions.
Software differs from material objects—such as chairs, sandwiches, and gasoline—in that it can be copied and changed much more easily. These facilities are why software is useful; we believe a program's users should be free to take advantage of them, not solely its developer.
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* Why we must insist on free software
* Proprietary software is often malware
* History of GNU/Linux
* Copyleft: Pragmatic Idealism
* Why Free Software Needs Free Documentation
* Selling Free Software is OK!
* Motives For Writing Free Software
* The Right to Read: A Dystopian Short Story by Richard Stallman
* Why “Open Source” misses the point of Free Software
* When Free Software Isn't (Practically) Superior
U:%*- *eww* 24% L38 (eww)

Can we provide guiding philosophy to our users?

Agentarianism:

maximizing agency

For you, for me, for everyone.

Keep it fun!

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https://librelounge.org

https://dustycloud.org

https://www.patreon.com/cwebber

"Revolutions are run by the people who show up."

-- Author unknown (but I heard it from bkuhn)

Have fun at ActivityPub Conf!

And welcome to the revolution.

EXTRA SLIDES

We aren’t really decentralized

DNS and SSL CAs

Issue: Revisiting client-to-server

- "I'm making the ActivityPub server for $X experience!"
  - Is this actually good for users though?
  - Why have 20 accounts when you could have one?
  - Where are the general-purpose servers?
- ActivityPub ships a client-to-server API. Why is nobody using it?

Maybe P2P > C2S

- What if client-to-server is an antipattern?
  - Makes E2E difficult
  - Unhealthy power dynamics
  - Makes self-hosting difficult
- P2P: combine both client and server into one!

https -> tor onion services


```
{"@context": "https://www.w3.org/ns/activitystreams",
 "type": "Person",
 "id": "https://social.example/alyssa/",
 "name": "Alyssa P. Hacker",
 "preferredUsername": "alyssa",
 "summary": "Lisp enthusiast hailing from MIT",
 "inbox": "https://social.example/alyssa/inbox/",
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```

https -> tor onion services


```
{"@context": "https://www.w3.org/ns/activitystreams",
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```

https -> tor onion services

- Easy to self-host at home (NAT punching)
- Secure connection: the name is the encryption key
- No DNS + SSL CAs!

But what about webfinger

cwebber@octodon.social

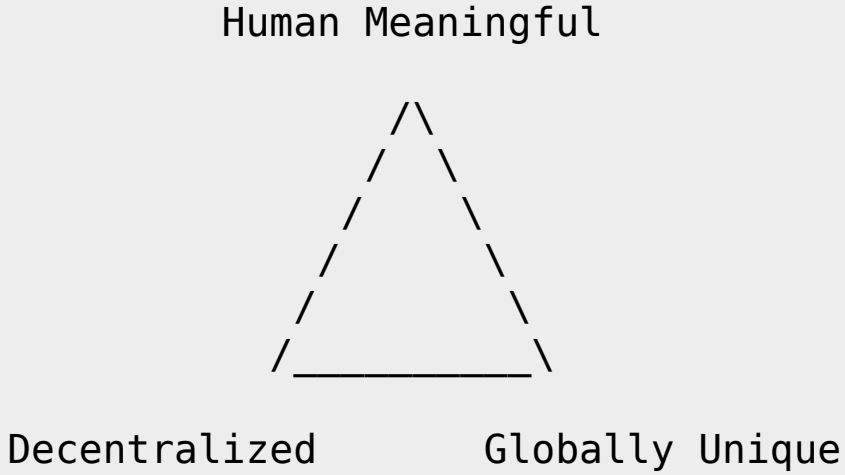
vs

cwebber@4acth47i6kxnvkewtm6q7ib2s3ufpo5sqbsnzjpbi7utijcltosqemad.onion

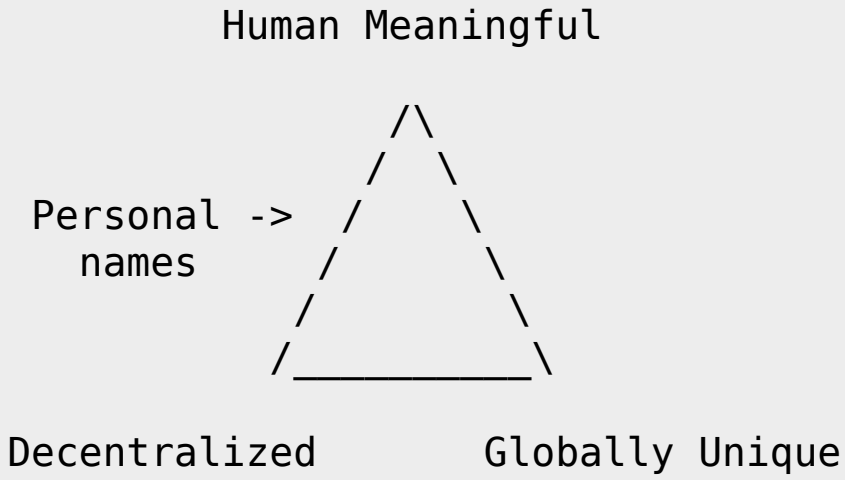
Help, I can't remember this (and neither can you!)

We need a better solution than webfinger...

Zooko’s Triangle

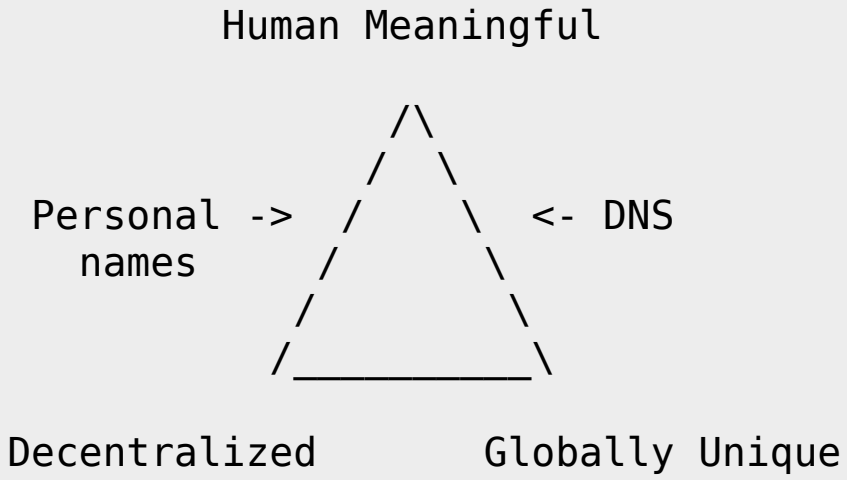


Zooko's Triangle



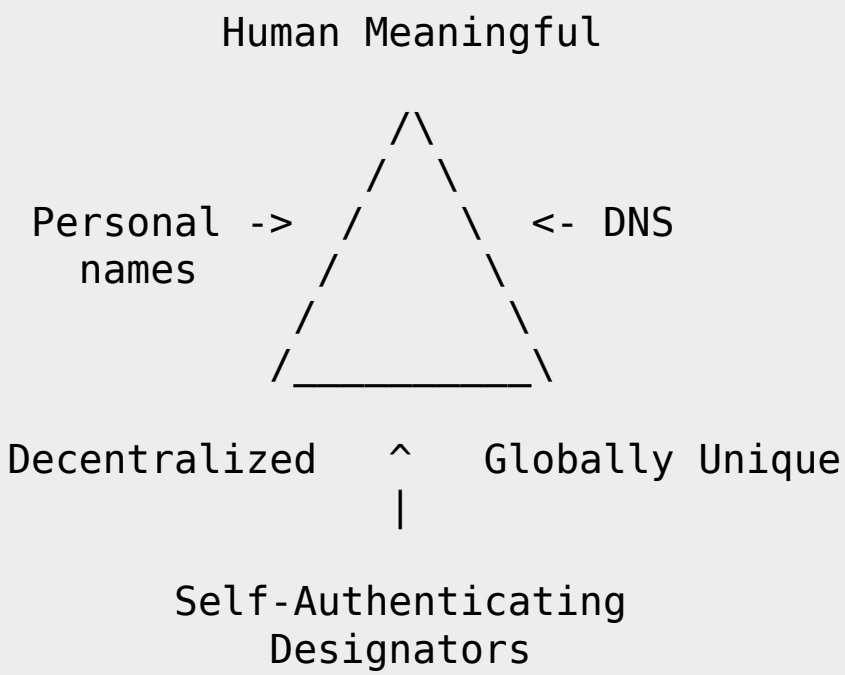
Eg: "Chris Webber"

Zooko's Triangle



Eg: dustycloud.org

Zooko's Triangle



Eg: 4acth47i6kxnvkewtm6q7ib2s3ufpo5sqbsnzjpbi7utijcltosqemad.onion

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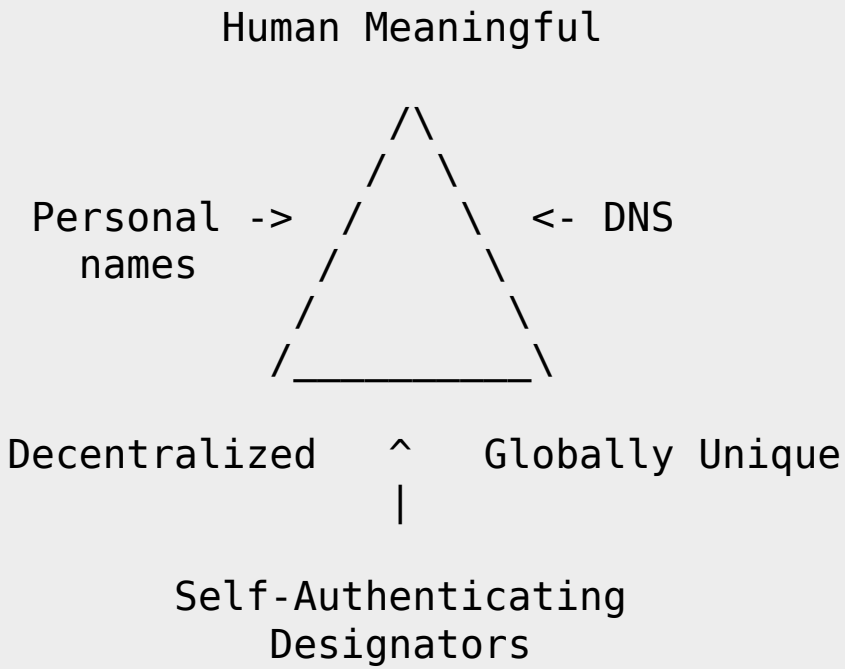
Zooko's Triangle



Self-Authenticating Designators:

"My name is how you'll know it's me."

-- Mark S. Miller

The solution: Petname systems