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Digital Civil Society Lab

The Digital Civil Society Lab presents

Reclaiming Digital Infrastructure for the Public Interest: A Corporation for Public Software

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Discussion Synthesis: Prepared by Lucy Bernholz

Discussants: Derrick Cogburn, Todd Davies, Melanie du Long, John Gastil, Jasmine McNealy, Catherine Sandoval

This second session, in which we dug into a proposal for a funding body for public software, built off the prior conversation (October 20, 2020) on the possibilities of public digital infrastructure and its digital, social, and physical dimensions. The proposal, prepared by Todd Davies and John Gastil, is intended as an additive strategy to efforts already underway to reshape our digital infrastructures. Those other strategies include regulatory reform, antitrust actions, community alternatives, some signs of philanthropic collaboration, the development of new institutional forms, and sector-specific codes and communities of practice.

Drawing from a similar broadcast history as did Ethan Zuckerman, Gastil and Davies' proposal uses the U.S.-based Corporation for Public Broadcasting as an analogous model for funding non-commercial alternative software. The aspiration is to create a reliable funding source for public software, that which is open in nature but managed and maintained in the public interest. Toward this aspiration, the need became clear for definitions of "corporation," "public", and "software". Gastil and Davies proposed definitions can be found here.

The discussion then focused on a few particular challenges. First, such an idea, posited as one of many strategies for change, would need to account for the existing external environment in which it might find itself being created. Catherine Sandoval noted the regulatory elements that shaped previous eras of internet/software development, and challenged the participants to think about what the ideal regulatory environment would be to enable a flourishing set of accessible, interconnecting, alternatives. These regulations might be software-specific, but they are also likely to include areas such as telecommunications law. Jasmine McNealy took this idea further, noting the role that Public Forum Doctrine and free speech would likely play. Derrick Cogburn's work on disability rights and internet governance led the discussion to consider both the role of global standards and also community participation. Here, all of the panelists and many of the participants (via chat) engaged with Melanie Du Long's work on community networks and governance, and the principles of both design justice principles and universal design.

The nature of software development and the generative nature of it once it is widely used opened up the need to think about public governance throughout the lifecycle of the code itself, not just public governance of a funding body. The "public" in public software requires a commitment to broad participation "all the way through" the proposal. Organizational governance that should be modeled on community-owned and governed networks; software that is public in design, development, implementation, use, and iteration; and then the need to bound what public would mean in terms of software for what purposes? Just democratic and civic participation or all forms of community aspirations (cultural creation, assembly, etc). The idea of public software needs clarification from (at least) these three angles: organizational governance, software creation and use; and the scope of applications.

Drawing from both a robust set of participant inputs and the panelists' discussion, several additions or potential modifications were suggested.

- There are many existing efforts that build and maintain public software. There are roles for coordinating dispersed efforts as well as funding.
- Bridging to the first conversation, the need to support many alternatives on the way toward diversifying the ecosystem and diluting the power of centralized, commercial options makes it challenging to design a single funding source that won't also exert centralizing pressure.
- There was a robust discussion of the tensions between authenticating identity and protecting anonymity across the full range of situations in which public software might be used. The many communities working on digital identity are important constituencies in thinking through both types of software that would qualify and the governance of such a funding body, particularly in so far as it might rely on government resources.
- Government bodies aren't the only - or perhaps even the first - institutions that could play leadership roles in such a "corporation." Software built and maintained by coalitions of universities, libraries, and nonprofits (e.g. Sakai) are useful analogues. The suggestion was made that the license fees that these institutions currently pay for commercial services could be considered as potential funding sources, if redirected toward the production, maintenance and enhancement of public software.
- The "processes" of software development might also be something for public investment. For example, research into user experience design that could be applied broadly to "public software," which lags commercial alternatives in terms of ease of use, accessibility, and upgrading.
- Public digital software/infrastructure needs to incorporate proactive threat and risk analysis that draws from lessons learned about malicious manipulation of both digital systems and democracy.
- The potential role of universities, libraries, etc brought us back the institutional elements of infrastructure, a role that deserves particular attention in terms of public involvement, trust, and communities of creators and users.

One thing that's clear across the two conversations - defining the bounds of digital infrastructure is not easy. Understanding infrastructure in multiple dimensions (digital, physical, social) provides a framework for seeing some of the inherent intersectionality between these components, although it also doesn't make clear some elements, such as regulation or incentives. Individual projects or research (such as the CPS proposal, UMass focus on social media, and community networks) are examples of very different choices from within the Venn Diagram of digital, physical and social. The infrastructure discussions so far have also, to some degree, treated data as a byproduct of infrastructure, but that's also incomplete, as there are good arguments to be made that (at least some) data *become* infrastructural. Finally, heading in to the third session., the boundaries between digital and physical infrastructure will become even more opaque

In the third conversation of this series, we will have time for dedicated breakout conversations on topics raised so far. Drawing forward from session one and two, the topics below have emerged as possibilities. **Please feel free to suggest more - especially if you're interested in facilitating a breakout room on an additional topic - by contacting Lucy Bernholz at Bernholz@stanford.edu by November 6.**

- How might we define the regulatory environment that would allow a robust ecosystem of alternative public digital software to thrive?
- Can we separate digital from physical infrastructure anymore? What do we gain by recognizing them as inextricably linked? What do we lose?
- Universities, libraries, nonprofits, and foundations have already built massive digital resources in the form of datasets, research products, and software code. Many of these public institutions are now failing, amidst historic global economic turmoil. What can we do NOW to capture and protect the investments in, vulnerable populations' rights, and potential value in these resources from being commodified or abandoned, instead of used for the intended public purposes? How can we mobilize our current infrastructure to protect these public resources? This topic is being explored in partnership with Sean McDonald and Angie Raymond, of the Ostrom Workshop.
- Where does digital identity fit into the thinking about public digital infrastructure?

- What would global or transnational coordination of existing community alternatives look like? What might be an improvement on the current state, and what needs to be avoided?

The Digital Civil Society Lab is available to host focused discussions that emerge from this series; either in small working group formats or in larger panel/plenary formats as in session one and two. We encourage you to participate in session three in a mindset of "we need to learn from…., what's next…. let's do this… we also need…"

Participant Questions:

Definitions

Is there a distinction between open software and public software?

My point of reference is "open" programming languages like Python. But is Python also considered public too?

What are domains of software in the public interest - civic and political engagement, or broader?

[also Alternative System / infrastructure design] Is there a place for research software here? Strong public good alignment, possible resonance with NIH, NSF, NEH

[also Alternative System / infrastructure design] How do you think about scope / priorities / mission given the nature of software to be built in stacks. Would a CPS draw boundaries around (or emphasize) more infrastructural software (with many inbound dependencies) as compared with more user-facing software?

Advocacy / Community Building / Organizing Around DPI

What is the role of user communities around this concept of public software? How do you see them forming? How do they sustain themselves?

Governance / Ownership

[also Funding / Markets] Curious about safeguards — esp when talking about federal funding and recent cases such as the Open Technology Fund. What does decision making look like - or should look like when blending public and federal rules, oversight, and funding? (It's something we're grappling with at Invest in Open!)

That's precisely one of the things that needs to be talked through. What safeguards are needed? What internal governance would work best? Etc. Even NIH and NSF have these problems, but it's interesting that the RAND Corporation (Congressionally funded) doesn't have this problem as often.

[also Funding / Markets] Will you speak to Open Collective as a means for transparent funding and decision-making to maintain technology for community benefit? https://opencollective.com/

Alternative System / Infrastructure Design

What public software did manage to survive, and why are they an exception to the rule? What can we learn from those?

[Also Definitions] Is there a place for research software here? Strong public good alignment, possible resonance with NIH, NSF, NEH

[Also Definitions] How do you think about scope / priorities / mission given the nature of software to be built in stacks. Would a CPS draw boundaries around (or emphasize) more infrastructural software (with many inbound dependencies) as compared with more user-facing software?

If you are going to do democracy online and have citizen input - you are going to have to deal with digital identity and the representation of the self in this realm in a way that is in alignment with the public vision of this (like can you really ask people to login with google or facebook). So are you looking at open standards like those being developed by the community around Decentralized Identity/Self-sovereign identity like the Verifiable Credential Standard at the W3C?

Given adoption divides, how might a model like this cope with separate/equal interface design needs (considering device, connectivity, + institutional access gaps) in picking projects and focusing on scale?

Self-sovereign identity - which is the online equivalent to taking out your wallet, showing the appropriate ID card and signing your name - is arguably the base layer of much of the services being discussed here. What American organizations are leading in this space, and are there live examples people can use (I only know Canadian examples)?

[also Funding / Markets] Today there are some things available on the Internet that seem to serve imperfectly in some of the public roles you have identified: disroot, riseup, sdf.org/super-dimension fortress, for a few random examples. Should the model be finding and investing in existing approaches like these, or having the government build and maintain their own? How does what you've said relate to the Open Technology Fund?

If this is for civic engagement to drive better outcomes for people interacting with government, what about also enabling more meaningful social engagement to drive better outcomes for people interacting with social enterprises (non-profit and for-profit) for social good and social impact? There's tremendous fragmentation and silos in the social enterprise world.

Funding / Markets / Funding Models

Where do you see private companies that "exit to community" fitting in this ecosystem? (https://www.colorado.edu/lab/medlab/exit-to-community)

The goal is to allow startups to access more typical funding paths with the end goal of maturing and turning ownership over to a community of stakeholders (instead of only shareholders). Do you think this can be a reasonable business model for public infrastructure as well, provided stakeholders are part of the governance and design throughout the life of the company, even though financial funding may be initially coming from private sources?

Sales drives adoption of software within government. Some people claim organizations like Oracle are sales organizations first, software organizations second. Would such an organization engage in sales/marketing?

Might the land grant university system be a model?