

Towards a New Public Infrastructure

A DIY MultiSpace for Civic Intelligence, v. 0.1 [preprint]

Douglas Schuler
The Evergreen State College
The Public Sphere Project

*Why, sometimes I've believed as many as six impossible things before breakfast.
Spoken by the Red Queen in Through the Looking-Glass, and What Alice Found
There (1871) by Lewis Carroll*

A short prescript: I can't tell you how to read this of course but please, if possible, suspend your disbelief to the ideas here for as long as you can. At this point this essay should probably be best seen as a thought experiment — and an early one at that.

At the very least this essay is intended to raise some important issues and questions in relation to our current and future information and communication systems. The ultimate objective is orders of magnitude broader. In fact it's impossibly utopian. But here I use “impossible” to mean *possible*— but incredibly unlikely.

This paper is exploratory and I invite comments and suggestions including where to find some of the pieces of the puzzle that exist already. An informal query to a number of e-mail lists helped surface a fascinating and diverse collection of insights, issues, ideas, and resources. This collection is presumably just the tip of the tip of the tip of the iceberg. They were all interesting and relevant. Many seemed to me to be important parts of the whole, although some of them were suggested as the totality of what I was looking for. This paper is obviously not authoritative or comprehensive; at this point I'm just trying to help surface an idea and get feedback. If you have any points or suggestions or examples that I need to know about as I work forward I'd love to hear them. I will try to incorporate them into the next iteration of this project.

Keywords: civic intelligence, collective intelligence, civil society, social needs, public infrastructure, the commons, civic hacking, democracy, deliberation, decision-making

Categories: *Computers and Society*.

Collectively Envisioning an Improved Information and Communication Environment for Public Problem Solving

In keeping with the collective intelligence perspective and with a focus on the interaction of computers and society, I am raising the idea of an open-ended, non-profit, citizen-led public alternative communication and information infrastructure project. I'm not exactly

sure what that would ultimately mean but my vision of what it could be is unlikely to be as rich as it actually *could* be. Ideally the environment would directly support the empowerment of citizens and would evolve over time as the needs became better understood and our social imagination in relation to the needs improved.

I'm envisioning systems that support a variety of basic features that people currently use (search, chat, photo posting, map services, etc. etc.) as well as more advanced features such as deliberation, participatory budgeting, discussion, collaboration, ideation, issue mapping, decision-making, visualization, simulation, civic games, access to scholarly literature, etc. It would probably need to be built with federated, integrated, distributed open source modules and be governed by its users and developers in some sort of open public way. It would be operated to the highest degree possible without surveillance, data harvesting, and censorship and it would be available via multiple devices.

A citizen could engage with the system through a variety of devices. They could access it anonymously or by providing credentials that allow them to see and provide content that is private to them. What the space looks like is largely up to them: It could look like a familiar social networking site or it could look entirely different. A large number of templates that provided different formats would be available to them and all of these would be amenable to local customization. (In this fantasy / thought experiment, this could be all accomplished almost trivially by any citizen using the system.) Our example citizen / user of the system might see on their device one or more ongoing transcripts of text and other media reminiscent of current social networks. They could also be involved in ongoing discussions on a specific topic with other groups of people and have regular meeting using Roberts Rules of Order¹ or other deliberative protocol with the other board members of the nonprofit group that they volunteer for. Another portion of the interaction surface would provide access to more "global" issues such as collective awareness or early warning systems² and new system developments.

The argument in the most basic terms is in two parts: (1) At a time when the reasoned and effective participation in the affairs of the world's citizenry is much needed, the information and communication infrastructure that would provide this support is *not* available— nor is it likely to be made available in the future; (2) In addition to fighting for policies that help support this basic need, civil society should consider the long-term enterprise of actually developing this support *on their own*.

¹ Robert's rules of order newly revised. Henry Robert III, Daniel Honemann, and Thomas Balch, Da Capo Press, 2011.

² Empowering Limitations. Douglas Schuler. To be presented at Limits 2016. Second Workshop on Computing within Limits, Irvine, CA, USA.

Why Not Private, For-Profit Infrastructure?

As the complexity (and, in many cases, the severity) of the issues facing the world is increasing (climate change being one of the most obvious examples), there seems to be less attention paid to the informing the citizenry and involving them in crucial decision-making (and citizens are not altogether blameless in this regard). This results in a general "dumbing down" (see³ for original usage) of citizens in which there is an increasing belief in easy solutions and superficial generalizations while their opportunities for meaningful input are diminished. Worse, there are (still) tendencies to demonize groups of people and oppress others, while enabling media monopolies, vast economic inequality, and mass distraction.

The commercialization of the internet has been intensifying ever since commercial activity was first allowed on it in 1995. Within just a few years, several new monopolistic corporations have emerged with historically unprecedented access to vast portions of the world's citizens (and to their personal information). Because their priorities are elsewhere, large corporations, especially ones in monopolistic or near monopolistic positions, are unlikely to provide the services that citizens need. The shortcomings of corporate ownership in this regard include the following:

1. They prioritize profit-taking over other responsibilities;
2. They are not transparent;
3. They are focused on data harvesting and often support surveillance;
4. There is little to no control by the public;
5. The capabilities they supply which are intended for mass use are not appropriate for complex tasks⁴.

Historically, public libraries played an important and largely independent voice. They argued, for example, for freedom of expression and access to information. They represented the third leg of the stool (government and business being the other two) that society is said to rest upon. The reduced attention paid to the public service mission of the media may also account for diminished civic capacities. But having said all of that, private corporations are likely to continue their rise to dominance. Huge numbers of people in the world have Facebook accounts and Google controls the two most frequented web sites while its Android operating system is used in millions of mobile telephones and other mobile devices worldwide. What would be the proper response of a public project to the omnipresence of commercial systems? This would be an interesting, thorny, and unavoidable topic. In the context of alternatives to Twitter Gehl⁵ discusses

³ Harry Braverman. *Labor and monopoly capital: The degradation of work in the twentieth century*. NYU Press, 1998.

⁴ Design issues for building deliberative digital habitats. Fiorella De Cindio and Christian Peraboni. *Online Deliberation*, Leeds, UK, 2010

⁵ Building a Better Twitter: A Study of the Twitter Alternatives Gnu Social, Quitter, Rstat. Us, and Twister. Robert Gehl. Forthcoming in *Fibreculture*. 2015.

some of the complexities of developing and using alternative systems that would likely come up in this project.

Principles and Focus Areas

This project is different from other projects, academic and otherwise, across many dimensions. First, it is intentionally, purposeful and aspirational; it is intended to pursue public civil society objectives and is explicitly not profit-based or dedicated towards achieving political or other power. It would probably be not-for-profit, based on nonpartisan public ownership. The project and the system would be inclusive. They would provide a combination test-bed and big tent in which multiple projects and perspectives were playing out continuously in a permanent experiment. And although experimental and research projects would be hosted on the system, the aim would generally be to create long-lived functionality that was not to be abandoned or handed off to private corporations as soon as some viability was established.

Some of the likely social goals would include conflict resolution, disaster management, peace education, anti-corruption and transparency, equal access to information and communication, cross-boundary communication and cooperation, sustainability and environmental stewardship, early warning systems, access to communication tools, access to news, organizing, deliberating using a variety of approaches, making things, collective awareness, translations, education, and information and knowledge commons. The system should be easy to use. It should provide access to complex data in formats that do not add complexity. The system should feature integrated applications, hopefully through accessible, consistent, well-integrated interfaces; not through a multitude of standalone apps. There would be a focus on the whole—not on the parts, although ultimately we would build the whole largely through the integration of existing and new parts.

Civic Intelligence Orientation

There has been lots of discussion related to the current (2016) political season in the United States. People don't necessarily agree with each other on the points that have been raised by the candidates but most would agree that the presidential campaign has been *interesting* — which is to say that it hasn't been like the others. The large field of Republican candidates provided surprises and controversies. Anger at— and rejection of—the political establishment made a big impact. And as money was tossed about in record amounts (with mixed results) big money was put on the table as a political issue for the first real time in decades. Other issues that surfaced included a wholesale denial of the existence of climate change by one party while racism and antiracism were also important themes inside and outside of the official political environment. In other words, now is a particularly important time to talk about *civic intelligence*.

Civic intelligence is an attempt to explore the knowledge, attitudes, actions, and resources that humankind needs to govern itself and the planet⁶. We're attempting to assess its status worldwide. And to the degree that we can understand its nature we will explore how we might actually deploy and cultivate it. Although “good” is not always easily distinguishable from “bad”, most people would agree that engaging in random violent acts is (almost?) always bad, even without a litmus test for determining good and bad.

Civic intelligence offers a focused perspective that is sufficiently open-ended to orient a big-tent effort that promotes public problem-solving⁷. Civic intelligence is the ability of groups, large and small, to govern equitably and effectively. Civic intelligence takes different forms in different contexts depending on location, timing, the people involved and the issues in play. It is not a precise thing like weight that can be directly measured and it can not be reduced to a number without seriously trivializing the capacity. At the same time, it exists like other social phenomena for which we have names. Without civic intelligence society ceases to function in any viable way. Formal democratic systems are part of civic intelligence but are not the same thing. That is, issues within communities and societies are addressed in many ways—not only through formal democratic processes and sometimes in spite of them or in their absence. The Occupy Movement, for example, helped bring significant social issues to the public eye in ways that governments and corporate media had been unable (or unwilling) to accomplish.

If civic intelligence is what we need to imagine futures that are more equitable and sustainable, what would the communication and information environment look like that helped enable it? Put another way, how could talking and thinking about—and building (!) — a system for public problem-solving inform us about the issues involved in public problem-solving? How can an information and communication platform provide a widespread democratic experiment that we can learn from? Many of the issues that we are likely to encounter are unlikely to have been uncovered through other approaches.

Finally it should be noted that one does not have to be in sync with the civic intelligence perspective to find the following provocation intriguing: that a project that establishes a potentially vast public information and communication infrastructure to be developed by thousands (a wild guess) of people according to an agreed-upon set of principles and aspirations is a public good that should be initiated.

⁶ Cultivating society's civic intelligence: patterns for a new 'world brain'. Douglas Schuler. *Information, Communication & Society* 4(2), 157-181, 2001.

⁷ *Democracy as Problem Solving: Civic capacity in communities across the globe*. Xavier Da Souza Briggs. MIT Press. 2008.

Why Integration?

Integration of human efforts and integration of software projects are key to this project. Human minds, to use a relevant analogy, are composed of a diverse set of functions that have co-evolved with each other to provide a fluid, multi faceted cognitive and emotional infrastructure. Minds are integrated (to some degree) and the world and its problems are also deeply interconnected. The current fascination with apps to a large degree is motivated by the demands of the smart phone form factor and the gigantic size of the smart phone market. Apps, however, do allow individuals and small companies to make contributions to our collective toolkit without needing vast resources of financial and organizational capital. Whatever the basis for this focus, however, the fact remains that the world is already impossibly complex and although the role of citizens is absolute critical, their responsibilities are also impossibly complex. Hence, the system that we are hypothesizing must support the need to help present smallish pieces of the whole to the citizen user, but, at the same time, provide a variety of ways to remind them that there is a broader world out there and provide ways to actually explore this world in non-overwhelming ways. Moreover, given that the impressive diversity of relevant efforts that currently exists in this area is often marginalized both in the numbers of users and to the lack of connection to the "real world" of agenda-setting, policymaking etc., linking them functionally and in the minds of the citizen users of the system, should give them a better chance of being put to productive use.

One of the key ideas is that a citizen user can be aware of the actions that are available and could readily navigate to them without leaving (or appearing to leave) the broad MultiSpace. The MultiSpace would be in a permanent process of evolution. One example of a way in which this evolution could unfold can be seen in the content management system Drupal whose modules are often developed independently but are all integrated within the Drupal framework/process/engine. Similarly this project would be composed of user supplied modules but while Drupal manages the content and interactions on a single site, a single users space within the MultiSpace would likely span several sites / hosts / machines. There are various ways that end-users could define the space that they wanted to engage in. These could be defined via functional needs, geographical area, social networks, or, more likely, a combination of the three.

Dilemmas and Other Issues

There is no shortage of significant challenges to a project like this and there is neither the infinite space nor the infinite time available to discuss them here. They come in many shapes and sizes. They include technical concerns regarding creating a suitable meta-architecture and integrating the technological pieces (where redundancy would be necessary and privacy concerns particularly dicey due to the distributed nature of the system). Some social concerns include the inevitable intrusion of unruly people and oppressive organizations. What could or should be done to discourage trolls, warlords, mercenaries (paid agents, known and unknown), bigots, professional dissemblers, and

others from hostile takeovers, propagandizing, data thievery, harassment, etc. And this is not yet even acknowledging the challenges and complexity of problems and the interplay of various cultural groups with diverse languages, perspectives, histories, and values.

It may turn out that governing ourselves (assuming that it's even possible to create "ourselves" out the world's disparate citizens) might be the biggest challenge. Among other things this work would compel academics to ease away from their confining (if comfortable) disciplines as they would need to share their knowledge and at the same time to learn from others as this challenge unfolds. And determining and abiding by our own approaches to governance— who, what, when, where, and how—might also prove either our undoing or our failure to even begin.

Some of the challenges we face in a project like this are not actually challenges but inherent dilemmas. These dilemmas are not actually *solvable* as, say, logical or mathematical problems can be solved. They won't be solved *completely* or in a *mathematically* sound way through this effort, nor by government or the market (or by labor unions, religions, an algorithm, etc.). The hope is that by launching this effort civil society could improve its own competence and also ultimately—hopefully—it will be realized that absolute certainty is an illusion and no one ideology will suffice to rule everybody..

If Not Impossible Then Why Not Now?

There are many reasons why one might find this project unnecessary or ill-considered. One might have an unshakeable faith that things will all work out for the best. Or an unshakeable faith that the opposite is certain. One might feel that the corporate option could be made to work or that citizens have enough power already or that they don't have the intelligence, knowledge, or maturity to play any significant role. One might also think that this particular technological approach is not the right one for any number of reasons. One could also point out that a technological approach by itself cannot solve the problem of anemic democracy and to this point I would totally agree: technology can not substitute for human agency. It is for this reason that I don't propose this as a technological project. Technology is key because it offers potential for enriched information and communication approaches. If this project were successful, however, it would be because a spirit of democracy and discussion and hope for the future, was infused into the project in some way.

Hopefully, also, progress towards these ends might also result from the explicit exploration of self-governance, self-organizing approaches, and federations, and from the experiments in global (and local) democracy that this project could encourage. Many of the pieces of this puzzle are now under development, although there seems to be few compilations of these and fewer efforts to integrate them. I worked with 85 other people

to develop a pattern language for civic engagement⁸ and developing a pattern language for this type of communicative fabric might also make a fun project.

As for the pursuit of civic intelligence, nothing would please me more than learning that hundred or more researchers / activists from around the world had just determined that they would make civic intelligence their primary focus. That happy occurrence would expand the dialogue immeasurably. It would offer multicultural perspectives and the introduction of new frameworks and hypotheses. It could mean that we ended up understanding more of the behaviors and ideas that we need if we are to govern ourselves and the planet well.

I have written⁹ about a race that exists between various economic, political, and other social organizational sectors. In a nutshell, the argument rests on the fact that opportunities arise in particular contexts—and part of this includes the ability to identify opportunities within contexts. Opportunities come and go based on a variety of factors including the fact that opportunities that emerged in certain historical contexts may be seized by one sector before others have determined that the opportunity has already been seized—and exploited—and the ability to act effectively on the opportunity at the new moment in time has been degraded or, even, lost forever.

Acknowledgments

Thanks to the people who responded to my initial query on this topic. It was gratifying to receive so many useful and supportive ideas in such a brief time. Unfortunately I haven't had time to incorporate all of the ideas here— but hope to do so in the future.

Appendix

This appendix contains a short list of "parts" of the whole that I'm trying to supply. Michael Rogers supplied the initial list and I've added to it a little.

Platforms and Community networks:

<http://www.opendcn.org/index.php/en>

<http://mazizone.eu/>

Community-owned communication infrastructure:

<http://guifi.net/en>

<https://wlan-si.net/en/>

<http://www.wirelessleiden.nl/en/about-wireless-leiden>

⁸ Liberating voices: A pattern language for communication revolution. Douglas Schuler. MIT Press, 2008.

⁹ How we may think: the next chapter: civic intelligence and collective metacognition. Douglas Schuler. ACM SIGCAS Computers and Society, 45(4), 7-14, 2015.

<http://wndw.net/caseStudies.html>
<http://villagetelco.org/deployments/>

Activist groups providing communication and collaboration services:

<https://riseup.net/>
<http://www.inventati.org/en/>
<https://noflag.org.uk/>
<https://aktivix.org/>
<http://www.gn.apc.org/>

Free software to enable people to host their own services:

<https://owncloud.org/>
<https://sandstorm.io/>

Free software for deliberation and decision-making:

<https://www.loomio.org/>
<https://liqd.net/en/>
<http://www.discourse.org/>
<http://eliberate.publicsphereproject.org/>

Decentralised, free software search engine:

<http://yacy.net/en>

APIs, protocols, distributed databases, XMLHttpRequest frameworks, etc.

These would be needed but they aren't listed here.