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# Mis(sed)information in Public Space

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## Abstract

This paper looks at the question of freedom and control in relation to the design of interactive media architecture projects for public spaces. It speculates on how designers of responsive systems must negotiate the relationship between their designs, the users' desires and the protocols of existing public spaces. Using Stafford Beer's formulation for a "liberty machine" it reflects on strategies for *underspecifying* such systems, to make them more adaptable to change. Questions that it poses include: How open should a system be? What role should public participation play in its instantiation? Who should maintain it? Who or what should control its objectives?

## Keywords

Interactive media architecture, payphones, infrared LED screen, public space

## ACM Classification Keywords

H.5.2 User Interfaces: Theory and Methods, H.5.2 User Interfaces: User-centered Design

## Introduction

Stewart Brand's ambiguous aphorism, "information wants to be free", has become a battle cry of resistance against information controls. A variety of interpretations provide useful insights into what constitutes "freedom" in the information age. For

designers of responsive systems regulating control and freedom in their designs remains a critical problem. How open should a system be? What role should public participation play in its instantiation? How does the design engage public space? Who operationally maintains it? Who or what controls its objectives? Designer? Public? Using Stafford Beer's formulations for a "liberty machine" [3] this paper looks at designing systems that can handle changing objectives without becoming *overspecified*. Two media architecture projects, one speculative- RRing (2005) - and another realized- SEEN-Fruits of our Labor (2006) - examine the possibility of creating alternative modes of information exchange in public space. However, the information that both projects peddle is marginal. In the case of RRing the information consists of local rumors (misinformation) while in SEEN it is the individual aspirations of people from 3 communities (missed information). In both cases the need to create unique channels of exchange speaks to the role such systems can play in public space as vehicles for self-reflection and citizen engagement.

### **Information, Freedom and Public Space**

Brand's statement at the Hacker Conference in 1984 reflected on the changing economics of producing and distributing information:

*On the one hand information wants to be expensive, because it's so valuable. The right information in the right place just changes your life. On the other hand, information wants to be free, because the cost of getting it out is getting lower and lower all the time. So you have these two fighting against each other.*

The aphorism, *information wants to be free*, as other commentators [4, 6] have noted has taken on a life of its own. The three most prevalent interpretations include information as *commodity*, information as shared *resource* and information as willful *subject*. In the case of the first, free is understood to mean "costing" nothing; both in the way the commodity is produced as well as distributed. In the second, free is tied to open and uninhibited access. Like water, information is understood to be a shared resource whose availability to the general public should be unhindered by political protections. The final interpretation suggests that information as a willful subject strives through its own devices to be free. This reading is the most projective of what may come. The idea of an *internet of things* [10] where animate devices become producers and exchangers of information would suggest that information may function outside of direct human supervision and control. As the makeup of our contemporary environment is increasingly reliant on information, personal and societal freedoms are likewise implicitly tied to information freedoms. This would suggest that by extension our freedom to *produce, distribute, access* and most significantly to *act* are mirrored in the way we control and exchange information.

Public space is the forum wherein we perform these freedoms. As others have observed [2, 11] there is a steady increase of controls by both governmental and commercial interests in such spaces. The problem that we face is how to negotiate these controls against our ideals of freedom. The proliferation of surveillance devices in traditional public spaces (city plazas, streets and transportation hubs) can encroach on the public's privacy. This has the adverse effect of people self-

censoring their behavior. However, we have seen how these devices are effective in monitoring and identifying criminal behavior as well as recording abuses of authority. The camera may not lie but depending on who controls the image it can be used for self-serving ends. This is evident in pseudo public spaces like malls and stadiums where seemingly innocuous activities can result in your expulsion. For instance handing out leaflets or making speeches is strictly forbidden. If you are homeless or wearing gang colors you will be quietly escorted out [11]. This censoring is exercised through a variety of means the most common being costs for admission, prescribed dress codes and rules of behavior. The general public accepts them because they guarantee the necessary ambience they expect of such entertainment environments. We are willing to accommodate private property rights even as they chip away at some of our or our fellow citizens' freedoms. By extension, we see this happening in the Internet copyright debates. The promise of cyberspace was that it would be a "virtual agora" [8] where locationally remote citizens could engage in the free exchange of information and ideas. However, now that search engines record our every hit and private interests assert ownership of all forms of information we are seeing that free access and sharing in this space is also being curtailed.

People's freedom to *produce, distribute, access* and *act* in public space is contingent on their ability to access and exchange information. Controls on the latter have profound repercussions on the former. As designers of control systems we need to understand how to modulate the control our designs impose with the desires of the public that wants to use them. Beyond the technological issues for implementing these, we

need to understand the role that existing protocols of public space- how people use it, what they expect from it, how freedoms can be performed in it- contribute to the conception and evolution of our designs.

### Designing Freedom

The question facing designers of public space, physical and virtual, is how to negotiate the evolving relationship between control and freedom. We have come to terms with the fact that design regulates but it can also be the means for us to exercise freedom. In this respect, cyberneticist Stafford Beer's observation that "the freedom we embrace must yet be *in control*" [3] is quite apt. His framing circumvents the freedom/control opposition and shows that control is a necessary characteristic of any goal achieving system. He continues "When I say that a system is "in control", I mean that it is *ultrastable*: capable of adapting smoothly to unpredicted change." [3, p.88] To this end Beer adds, "*people* [my emphasis] must endorse the regulatory model at the heart of the viable system in which they partake, at every level of recursion." The necessity of public participation in the design and its continued use is imperative. This in itself is a second order of control for the system, not by the designer but by the people that use it. But what are the actual mechanisms for such a system? How does it negotiate change? To do so it must have the requisite variety<sup>1</sup> to handle all the perturbations that the environment

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<sup>1</sup> This refers to WR Ashby's Law of Requisite Variety: *The larger the variety of actions available to a control system, the larger the variety of perturbations it is able to compensate.* see <http://pespmc1.vub.ac.be/REQVAR.html>

throws its way. This is impossible for any system as it can not know all the possibilities it must respond to. Hence, Beer formulates a strategy for *underspecifying* the system in order to build the necessary requisite variety for adapting. To do so the system must *attenuate* the environmental variety it is given while it *amplifies* its own internal responses to it. *Attenuation* is a filtering mechanism that reduces possibilities in a system while *amplification* is a generative process that increases it. By reducing environmental variety the system acts only on those inputs for which it has requisite responses. On the other side it generates further variations on these responses based upon its experience with the type of inputs it has received. In other words, the system works as a recursive loop that through use increases its internal variety by *learning* from its past interactions with its environment. This opens the system up to change making it adaptable to its actual situation.

Beer's is an idealized model that provides a useful way to think about responsive situated technologies in public space. The key point being that for a system to be *underspecified* it must be organizationally closed but informationally open. The designer designs organizational closure which implies control but also predictability in the system. He/she delivers these through the protocols of interaction and responsiveness of the system. Informational openness is left to the control of the people that use the system. It is in the negotiation between organization and information, the designer and the user that the system begins to be malleable. To further expound on this idea I will use two projects, *RRing* (2005) and *SEEN- Fruits of our Labor* (2006), produced by media artist Osman Khan and myself to talk further about implementing such

systems in public space. These media architectures create alternative communication channels within existing networks of information exchange. They do so to allow emergent participants to engage in marginal but necessary discursive activity. They are inherently hybrid and parasitic, composed from material and virtual technologies built upon the existing architecture and infrastructure of public spaces.



Figure 1: RRing

### Rumor Ring (RRing)

Rumor Ring (RRing) was a proposal for a social sculpture for lower Manhattan, which remains unrealized. Although speculative it provides a useful example of a system that engages existing protocols of public space. It is a calling service that collects and disseminates rumors. It does this by making cold calls to 20 randomly selected public payphones in lower Manhattan (Figure 1) every hour on the hour. It announces itself to the receiver as a communal archive project called RRing and asks them to share a rumor about their neighborhood. The system records the message and catalogues it into a database. In addition it also records the date, time and telephone from which the message was received. This information is then

processed in two ways. An application organizes the database so that it is accessible through a phone answering service. A toll free number (1800-myRumor) posted on all payphones in lower Manhattan allows people to call into the service to listen to the daily rumors. The service also allows people to verify, refute and add additional rumors to the database. Concurrently, another application automatically reads the database and prepares a day's worth of recordings to be played back in a continuously looped audio performance estimated at about an hour. 24hrs are compressed into 1hr and presented back to the public through an installation of 20 payphones with their handsets facing outwards. Ideally this installation would take over a bank of existing public payphones in a central location that on the hour would playback the previous day's rumors...no longer legible for their content but instead a cacophony of sound that reflects the ebbs and surges of the day's collection.

As RRing remains unrealized it may suffice to reflect on some of the issues it raises as far as information exchange through public channels. The appropriation of existing payphones as the reception and delivery device allows us to engage their protocols of use. In the first the ringing of phones on the hour whether answered or not provides an aural representation of this system in the public space. This subversion of the everyday, who's calling every hour, will draw notice and is predicted to encourage interaction. Secondly, since all interactions can be maintained through the payphones there is no need to train the participants. This speaks to the issue of free access that more often than not is hindered by complicated or proprietary technology. Finally, the feedback of the rumor collection as an ambient *babble* into the public space provides yet

another representation of the system and its product to the public. Both the *ring* and the *babble* suggest the need to engage "noise" in order to make the information perceptible to the public. Once perceived the public has the possibility to add and change the conversation already in place. The protocols of the system remain but its use and objectives can be subverted by the public.

### **SEEN-Fruits of our Labor**

SEEN (Screen Enabling Employed Narratives)- Fruits of our Labor (2006) was a commissioned work for the ZeroOne San Jose Festival that looked at the heated issue of immigration and the globalization of labor through 3 communities sharing San Jose's labor needs. The communities included the technology workers of Silicon Valley many of whom are recent immigrants, undocumented workers (migrant workers from Mexico, Vietnam, etc) engaged in San Jose's service industry and the remote call center workers in India to whom customer service and tech help has been outsourced. The project sought to clarify how these economically and geographically disparate groups in fact form a community. A survey was conducted that asked everybody a single question: *what is the fruit of your labor?* The project collected responses to this question from individual's belonging to the three communities and during the week long festival displayed them back to the general public on a large *infrared LED screen* located on a prominent plaza (Figure 2). The screen's display technology is quite significant in communicating its intent. It uses infrared LEDs as opposed to visible spectrum LEDs. The unique technological possibility offered by infrared (IR) is that although they are invisible to the naked human eye, they can be seen through all digital imaging devices, including still, video



**Figure 2:** SEEN-Fruits of our Labor as captured through a Nikon digital camera and as it appears viewed through a Pocket PC.

and cellphone cameras. This is because all CCD sensors in addition to being responsive to the visible spectrum are also sensitive to infrared wavelengths. So when the screen, which measures 4'x8', is viewed without the aid of a mediating device its black acrylic surface simply reflects the viewer. But when viewed through an imaging device the projection's content is revealed.

SEEN-Fruits of our Labor was well attended and viewed (Figure 3) during the ZeroOne San Jose Festival 2006. The crowds were infectious and people pulled out their cellphone cameras to see the content. In our original formulation we imagined that because the access to the information required a mediating device it would create a technological haves and have-nots in front of the screen. This would result in impromptu sharing and potentially meaningful encounters. What actually occurred was more subtle. The technological divide did not break down along the economic lines we anticipated. Our service workers all had cellphones with cameras as did most people. It was the occasional elderly person that was caught needing but other conscientious viewers quickly engaged them.



**Figure 3:** Crowds developing around SEEN

The impromptu encounters moved to discussing the content- do you see what I see? What did it say? These encounters lasted a while until the patience to look at one's cellphone screen wore off. People also returned to see if new content was being projected. SEEN-Fruits of our Labor provides a curious sight- a crowd of people looking at a blank screen. Like RRING it engages the public through a protocol that requires little training and more importantly can be accessed through their own personal devices. This personalizes the information and the consequent capture and sharing moves the work from the public realm into more private communication channels. SEEN also forces the public to work for the information. Freedom of access isn't to be taken lightly and since the information is precious it can't simply be displayed to become yet another visual noise. It is purposely hidden and slow paced with intervals of videos showing the preparation and consumption of a fruit salad. The public is welcome to add information to the database through a website, which opens the system to becoming a publicly accessible archive of shared aspirations.

### Mis(sed)information

Both projects are materialized forums for communicating information between the public. RRing deals with what would be called *misinformation* while SEEN-Fruits of our Labor disseminates *missed* information. They attenuate their inputs through what they solicit; local rumors or answers to a question, and amplify their responses by opening them up to manipulation by the public. Their ultimate objective is decided by and through their use and hence they have a built in obsolescence. Adrian Forty in his analysis of private experience in post war British public architecture suggests that the success of a public space may be measured by the way in which it fosters *reflexive perception*. He borrows this idea from Jean Paul Sartre's notion of a third dimension of being, where being occurs as "I am for others, the Other is revealed to me as a subject for whom I am an object." [9] Forty contends that only a truly public architecture can facilitate in bringing this about. For this to occur a space must be perceived by the subject as theirs. Increasingly we are seeing how technologies of surveillance and control can erode this perception. Words like *mine*, *yours* and *ours* must continually be negotiated as people confront one another in the public sphere. Both RRing and SEEN suggest ways in which interactive technologies can be used to facilitate this while providing individuals the opportunity to exercise their freedoms in public space.

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