# Designing Mediating Spaces Between Citizens and Government

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## INTRODUCTION

The regional, national, and global policy issues we are confronting are growing increasingly daunting, while institutional capacities for taking effective action are lagging. We need to better support citizens and governments in producing innovative, timely, and legitimate decisions. The emergence of online communities oriented toward the creation of useful products suggests that it may be possible to design socially mediating technology that support public-government collaborations. This is an opportunity for HCI and CSCW researchers to start to consider involvement of a wider range of stakeholders in the administration of government, and design technologies that help retool the public sphere.

Consider Seattle, a city notorious for decision paralysis when it comes to taking action on critical urban planning decisions. Time and time again regional transportation projects to address what to do with an aging waterfront viaduct susceptible to collapse in the next earthquake come to a political impasse. Some want to replace it. Others want to remove it and increase surface transit options. Or build an expensive tunnel. Government officials, local businesses, metropolitan planning organizations, advocacy groups, and concerned citizens all vie to influence the outcome. Yet it is difficult for people to actually gain an honest evaluation of the tradeoffs– every group has a narrative that may or may not be rooted in truth. And yet the public comment sessions, which are one of the main ways that governments gain input from the general public, have structural flaws that prevent citizens and decision-makers from working together to come to mutual understandings and take effective action.

A major problem with public comment sessions is that they are structured to be acrimonious, only giving each citizen a couple minutes to speak, without any question answering. Proliferating commentary is broken. Communities like Wikipedia suggest that people are capable of working toward high-quality, collaboratively authored documents, grounded in active and vibrant discussions where contributors negotiate through their different understandings of truth [30, 22, 5]. In this same way, a wiki might be established for debating transportation projects in the Seattle-region. Participants would be able to find and band together with like-minded citizens and organizations to jointly author position statements and debate with competing groups. Our civic institutions need to move to a collaborative model of public input in order to address these wicked planning problems.

In this paper, we present a theoretical framework for conceptualizing the design of spaces that mediate between public agencies and the public sphere. We call these spaces *sockets*, and draw on research in public administration and political science to frame the problem. We then identify a number of factors pertinent to the design of sockets, based on our empirical research on social practices in Wikipedia [22, 5, 21] and design work on UrbanSim [6, 13]. Our core observation is that methods for collaborative summarization of input, beyond simple voting and comment submission, are critical for the realization of vibrant civic institutions.

## PUBLIC DELIBERATION THROUGH SOCKETS

### Restyling Public Administration

Many practitioners and scholars of public administration recognize that current approaches to public input are broken. A case in point is their indictments of public comments sessions: Because public comments are only elicited after a plan is well-formulated, citizens are put in a reactive position, led to employ polarizing discourse during their 2-3 minute blocks of time [32, 20, 7, 17]. There is no dialog, no question answering. Busy and thoughtful people become discouraged and do not return [20]. On the other hand, government officials are subject to many short statements of variable quality without an obvious way to synthesize the comments, gauge support for statements, or any real motivation to consider it [17]. Often, citizens and officials see the whole process as a spectacle, a gesture to satisfy legal mandates [20, 17]. Other methods of public input, such as citizen advisory councils, suffer from different structural flaws [20].

Public administration experts advocate for a shift to collaborative joint planning that emphasizes two-way dialog amongst private citizens, local businesses, advocacy groups, and elected and appointed government officials [20, 17, 33]. Likewise, many political scientists call for a shift to institutions that support a more deliberative democracy (*e.g.* [14, 9, 15]), where decision-makers are seen as mediators of and participants in a dialog amongst competing stakeholders who commit to information sharing and consensus-seeking [8, 9]. It is hoped that deliberative processes will increase public confidence in the decisions reached [17, 9, 31], help decision makers identify public sentiment [17, 31], improve available choices and final decisions by leveraging local knowledge [17, 9], and educate the public [9, 31].[1]

[1]Initial attempts to reshape public agencies along these lines have

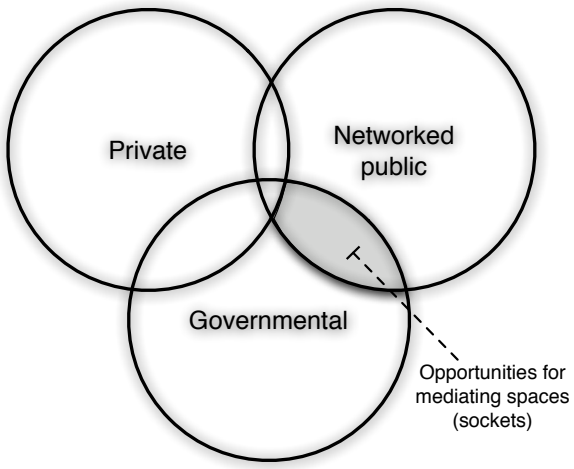


**Figure 1. A socket sits in between the governmental and networked public spheres. There can be many different sockets, some of them collaborative in nature. But they all serve to translate between the two different realms of activity.**

### The Networked Public Sphere

Much of the enthusiasm for deliberative administrative procedures stems from the fragile potential of the Internet to organize and realize such visions [9]. Yochai Benkler in particular describes a shift to a "networked information economy", catalyzed by the ability to (1) easily and inexpensively publish media, (2) alter the published content on other websites, and (3) create a web of hyperlinks [4]. This heralds a shift from a broadcast-based society of one-way information communication and consumption, to one characterized by networks of distributed communities, multi-way communications, and a blurring of consumption with production. Within this networked information economy is the "networked public sphere", the spaces where "people... speak to each other in their relationship as constituents about what their condition is and what they ought or ought not to do as a political unit" [4, 177-8]. An example was the LA Time's Wikitorial for collaboratively authoring editorials, though it did not tie into a decision-making process.

### Deliberative Sockets

Excitement should be tempered by the recognition that the networked public sphere and government agencies are vastly different worlds. Agencies are inherently more stable and conservative, whereas activity in the networked public sphere is quickly changing and fleeting. This asymmetry is reflected by the notable lack of connection between activities in the networked public sphere and decision-making activities. Scholars like Benkler are left to emphasize how it has become easier to organize mass collective action, ignoring the possibilities hinted at by the consensus-based approaches of collaborative projects that succeed because of the communities' establishment and adherence to deliberative norms.

tended to be either multi-stage workshops (e.g. Futures Workshops [19], Deliberative Polling [11], Danish Consensus Conferences [1], and Community Dialogs [33]) or negotiation-based (e.g. environmental planning and conservation [28, 32, 17], water planning [18], and collaborative budgeting [33, 17, 2]).

We take the stance that we need to explicitly build spaces where input from the networked public sphere can be iteratively molded into something actionable during decision-making, as well as fostering communication between contributors and decision makers. Public administrative processes will never operate with the same temporal characteristics and instability as the vibrant networked public sphere – and it is likely far better that way. They are different worlds. We call for the design of socially-mediated spaces–*sockets*– that serve to translate between the activities of public agencies and those of the networked public sphere (see Figure 1).

## SOCKET DESIGN

The dominant strategy for obtaining public input is to proliferate comments, complaints, and suggestions. This is a major structural cause behind broken public comments processes. It is apparently assumed that public comments must be pushed directly to government agencies and that the burden of synthesis should be performed by decision-makers or their staff. We should seek to avoid replicating the same problems when we design mediating technologies for deliberative sockets. Unfortunately, existing points of contact, like government agency blogs, appear to operate much like asynchronous public comments processes.

We see a tension that mediating technologies might exploit: on one hand, those who take the time to express their concerns expect that their input will be accounted for by decision makers. On the other hand, officials must actually make sense of the input and respond in a meaningful way. We hypothesize that a collaborative approach to formulating public input is essential to help alleviate this tension, or at least throw into relief the underlying structural reasons why public input is not being valued.[2]. People iterate on a document to improve it, rather than simply adding their own opinions at the bottom. In the rest of this paper, we outline design considerations for a collaborative approach to sockets.

### Collaboration in Deliberation

Mediating technologies that foster a synthetic approach to collaborative public participation must support individuals and groups that come together to advocate for particular actions. *Transient coalitions* of individuals and organizations might come together to co-author position statements that are, compared to those gathered using current public input procedures, (1) more consistent and well presented, (2) fewer and (3) demonstrative of the range of support for a position. Consensus around a single alternative is not likely, but in establishing positions, we hypothesize it will become easier for competing groups to identify possible points of compromise and, in turn, increase the weight of their collec-

[2]When technical approaches to the problem of large-scale discussions in a deliberative space are put forward, they do not directly deal with the problem of proliferation. Research on "computer-supported argumentation" focuses on structuring a discursive space based on argumentation theory [10, 25, 23] Research on discourse visualizations are used to navigate and make sense of an unfolding large scale discussion (*e.g.* [27]). While promising, these techniques do not leverage the productive capacities of people who might work together to produce something comprehensive.

tive voice.[3] When the amount of text that needs to be addressed decreases, while the number of individuals that represented per word increases, policy makers will be doubly indebted and better equipped to take influencial perspectives into account and acknowledge them.

#### Non-Deliberative Work

Sustaining a socket requires non-deliberative work. For example, work is needed to describe issues, source statements, and generate questions of experts. One salient issue is that participants need to collate relevant discussions and perspectives from a wide range of disparate sources, bring them into the socket, and discuss their relevance.[4] Once again, consider the urban planning scenario about what to do with an aging viaduct. There are many bloggers, and cross-cutting communities of commenters, that write about this issue. Linking to them and harvesting the discussions for salient arguments will help build a richer socket. Interfaces that support identification of ongoing conversations about similar topics across the networked public sphere will be integral to building tools that foster joint-information finding.[5] Sockets should not be a world apart, but should keep one foot in the networked public sphere and one in government agencies.

Beyond getting useful work done, we hypothesize that these non-deliberative tasks perform other critical functions. A rich heterogeneous set of tasks helps to create interdependencies through cross-cutting work, an important aspect of communities like Wikipedia [3, 21]. This can lead to weak ties that cut across political rifts and possibly allow contributors to respect the perspectives of others with whom they may otherwise vehemently disagree [24]. More research on existing online communities is necessary to investigate the effect of interdependent work activities on participants' willingness to listen to one another.

#### Orienting Collaboration: Advocacy and Neutrality

It is also important to orient the writing of collaborative authors. For authoring encyclopedia articles, Wikipedia's policies call upon authors to try to adopt a "neutral point of view" [29, 22, 12]. Of course a completely neutral viewpoint is practically and philosophically impossible, but the orientation is different than writing an opinion piece. Friedman et al. similarly proposed a design pattern for a separating technical documentation from value advocacy [13], a pattern useful for the documents being authored in a socket.

Every class of editable document in a socket would be categorized as requiring either a neutral presentation or as suitable for advocating a position. If an author is editing a document, it should be made clear which writing orientation they should adopt. Some classes of documents are inherently advocacy pieces. For example, position statements on viaduct alternatives are opinions. But a neutral writing orientation is appropriate for other types of documents. For example, documents that give a technical description of alternative plans for replacing the viaduct should be described neutrally. An important empirical question, however, is whether striving to write from a neutral perspective actually produces a higher-quality and more even-handed document. The effect of collaboration on this process is also unknown.

#### Support for Transient Coalitions

The transient coalitions of individuals who band together to pressure decision-makers are integral to collaboration in this framework. Unfortunately, CSCW researchers have tended to treat short-lived collaborations as failures. We believe that a shift toward designing for transient coalitions will be an important future direction. A few considerations include:

1. *The purpose of the coalition*. A coalition might advocate for a policy alternative, as is the case with a position statement. But coalitions might also advocate for actions that are oriented toward further informing deliberation in the socket itself. Consider the urban planning example where the socket is based on a simulation system. Coalitions might advocate for the creation of new indicators (for example, a gentrification indicator) and disband when system developers provide them.
2. *Rationale vs. action*. The impact of a coalition does not necessarily depend on members agreeing on reasons. Yet providing coherent rationale for a decision is important for explaining a group's position on an issue. Bands of individuals might form a coalition advocating for an action, yet different subsets of that coalition might collaborate on multiple statements of rationale.
3. *Control in coalitions*. A coalition creating position statements and other advocacy documents will likely want the capability to decide what constitutes their "official" stance, how that stance may be authored, and who is part of their coalition. Attention will consequently need to be paid to the division of a coalition if a group comes to realize that they have irreconcilable opinions. If authorial control is introduced into an advocacy space, the ability to fork documents will also be important.

#### Fostering Deliberative Norms

The success of a deliberative socket will hinge upon the establishment of deliberative norms that emphasize coming to mutual understandings of differences in perspective through discussion, and, if possible, efforts to work through these differences to find common ground [26, 14]. Conflict is endemic to deliberation, not an anomaly, and it is not desirable to neuter and avoid conflict [16]. Unfortunately, civics curricula in America has, for years, been treating conflict and the need for compromise as an aberration rather than a rule [16]. "Citizens" are not being educated about how to have civil disagreements. This raises two challenges for sockets: (1) how can consensus-seeking and dispute resolution be supported in an online forum and (2) how can people gain experience engaging in deliberative discourse?

To start to address these challenges, we urge the research community to examine Wikipedia. Wikipedia is the only

[3] Authoring would not necessarily be the only way to contribute. The simplest contribution might be an endorsement of a position.

[4] Recruitment of contributors based on their other communications at large is another dimension of non-deliberative work.

[5] Promising starts include Issue Crawler (http://www.govcom.org/) and Political Streams (http://livelabs.com/social-streams/).

example of a large-scale online civic public that is oriented toward the production of content using a consensus-based decision-making model founded upon the resolution of differences through discussion [30, 22]. Interestingly, over its brief history, the Wikipedia community has independently evolved communicative practices that speak directly to core deliberative norms. These are captured in policies such as "assume good faith", which state that unless it is manifestly clear otherwise, assume that another contributor is trying to help the project, no matter how much their view differs or their actions are unintelligible. These policies are drawn upon in drawn out discussions as editors negotiate article content (read:deliberate) [22]. In other words, through enforcement of deliberative norms, Wikipedia has established a sort of school for civics education. There are also rich dispute resolution practices that are employed if consensus is unable to be obtained by discussants. Empirical research into these practices may lead to generalizable dispute resolution interaction strategies for online communities.

### Intersection with Government

Those who provide input typically expect that their concerns will be accounted for in the decision-making process, and become disillusioned when they are not [9]. For a socket to be sustainable, government officials will need to find the time to address the input in some fashion, as well as communicate the value and impact of participation to the participants.[6] Much more needs to be said on this subject. For example, sockets might be subverted by decision-makers when if they try to co-opt deliberations to obtain decision-making legitimacy while not ceding power, by cherry-picking deliberations for politically expedient input ("forum shopping" [9]). Unfortunately, a socket's institutional embedding is beyond the scope of this article.

## CONCLUSION

Emergent communicative practices engendered by social media have generated excitement about a "networked public sphere" charged with discursive potential. In public administration experts have focused on reforming governmental institutions to make them more collaborative to improve the quality of decisions, establish the legitimacy of those decisions and improve civil society. As designers of technologies, we should be studying how to build technologies that mediate between the networked public and decision-makers engaged collaboratively. In this paper, we set forward the beginning of theoretical framework for the design of these "sockets". We have also identified five design dimensions that this framework makes more salient.

## REFERENCES


1. ANDERSEN, I.-E., AND JAEGER, B. Scenario Workshops and Consensus Conferences: Towards More Democratic Decision-making. *Science and Public Policy 26*, 5 (1999).
2. BAIOCCHI, G. *Deepening Democracy: Institutional Innovations in Empowered Participatory Governance*. Verso, New York, New York, 2003, ch. Participation, Activism, and Politics: The Porto Alegre Experiment.
3. BENKLER, Y. Coase's penguin, or, linux and the nature of the firm. *Yale Law Journal 112*, 3 (2003).
4. BENKLER, Y. *The Wealth of Networks: How Social Production Transforms Markets and Freedom*. Yale University Press, New Haven, CT, USA, 2006.
5. BESCHASTNIKH, I., KRIPLEAN, T., AND MCDONALD, D. W. Wikipedian Self-Governance in Action: Motivating the Policy Lens. In *ICWSM '08: Proceedings of the 2008 International Conference on Weblogs and Social Media* (2008).
6. BORNING, A., FRIEDMAN, B., DAVIS, J., AND LIN, P. Informing Public Deliberation: Value Sensitive Design of Indicators for a Large-Scale Urban Simulation. In *ECSCW '05: European Conference on Computer-Supported Cooperative Work* (2005).
7. CAMPBELL, H., AND MARSHALL, R. Public Involvement and Planning: Looking Beyond the One to the Many. *International Planning Studies 5*, 3 (2000).
8. COHEN, J., AND ROGERS, J. *Deepening Democracy: Institutional Innovations in Empowered Participatory Governance*. Verso, New York, New York, 2003, ch. Power and Reason.
9. COLEMAN, S., AND BLUMLER, J. *The Internet and Democratic Citizenship: Theory, Practice and Policy*. Cambridge University Press, 2008.
10. CONKLIN, J., AND BEGEMAN, M. L. gIBIS: A Hypertext Tool for Exploratory Policy Discussion. In *CSCW '88: Proceedings of the 1988 ACM conference on Computer-supported cooperative work* (1988).
11. FISHKIN, J. *The Voice of the People*. Yale University Press, 1997.
12. FORTE, A., AND BRUCKMAN, A. Scaling Consensus: Increasing Decentralization in Wikipedia Governance. *Proceedings of HICCS* (2008), 157–166.
13. FRIEDMAN, B., BORNING, A., DAVIS, J., GILL, B., KAHN, P., KRIPLEAN, T., AND LIN, P. Laying the Foundations for Public Participation and Value Advocacy: Interaction Design for a Large Scale Urban Simulation. In *DGO '08: Proceedings of The 9th Annual International Conference on Digital Government Research* (2008).
14. FUNG, A., AND WRIGHT, E. O. *Deepening Democracy: Institutional Innovations in Empowered Participatory Governance*. Verso, New York, New York, 2003, ch. Thinking About Empowered Participatory Governance.
15. GASTIL, J. *Political Communication and Deliberation*. Sage publications, 2008.
16. HIBBING, J., AND THEISS-MORSE, E. Civics Is Not Enough: Teaching Barbarics in K-12. *Political Science and Politics 29*, 4 (1996), 57–62.
17. INNES, J., AND BOOHER, D. Reframing Public Participation: Strategies for the 21st Century. *Planning theory and practice 5*, 4 (2004).
18. JACKSON, S. Water Models and Water Politics: Design, Deliberation, and Virtual Accountability. In *dg.o '06: Proceedings of the 2006 international conference on Digital government research* (2006).
19. JUNGK, R., AND MULLERT, N. *Future Workshops: How to Create Desirable Futures*. Institute for Social Inventions, 1987.
20. KING, C., FELTEY, K., AND SUSEL, B. The Question of Participation: Toward Authentic Public Participation in Public Administration. *Public Administration Review 58*, 4 (1998).
21. KRIPLEAN, T., BESCHASTNIKH, I., AND MCDONALD, D. W. Articulations of WikiWork: Uncovering Valued Work in Wikipedia Through Barnstars. In *CSCW '08: Proceedings of the 2008 ACM Conference on Computer Supported Cooperative Work* (2008).
22. KRIPLEAN, T., BESCHASTNIKH, I., MCDONALD, D. W., AND GOLDER, S. Community, Consensus, Coercion, Control: CS*W or How Policy Mediates Mass Participation. In *Group '07: Proceedings of the 2007 ACM conference on Supporting group work* (2007).
23. MALONE, T. W., AND KLEIN, M. Harnessing Collective Intelligence to Address Global Climate Change. *Innovations: Technology, Governance, Globalization 2*, 3 (2007).


[6] A great example of acknowledgement of impact can be seen on peertopatent.org.

24. MUTZ, D. *Hearing the Other Side: Deliberative vs. Participatory Democracy*. Cambridge University Press, 2004.

25. RENTON, A., AND MACINTOSH, A. Computer supported argument maps as a policy memory. *The Information Society 23* (2007).

26. ROBERTS, N. Public Deliberation: An Alternative Approach to Crafting Policy and Setting Direction. *Public Administration Review 57*, 2 (1997).

27. SACK, W. Conversation Map: An Interface for Very Large-Scale Conversations. *J. Manage. Inf. Syst. 17*, 3 (2001).

28. THOMAS, C. *Deepening Democracy: Institutional Innovations in Empowered Participatory Governance*. Verso, New York, New York, 2003, ch. Habitat Conservation Planning.

29. VIÉGAS, F. B., WATTENBERG, M., AND DAVE, K. Studying Cooperation and Conflict Between Authors with History Flow Visualizations. In *CHI '04: Proceedings of CHI* (2004).

30. VIÉGAS, F. B., WATTENBERG, M., KRISS, J., AND VAN HAM, F. Talk Before You Type: Coordination in Wikipedia. In *HICSS '07: In Proceedings of HICSS* (2007).

31. WALTERS, L., AYDELOTTE, J., AND MILLER, J. Putting More Public in Policy Analysis. *Public Administration Review 60*, 4 (2000).

32. WEBER, E., AND KHADEMIAN, A. From Agitation to Collaboration: Clearing the Air through Negotiation. *Public Administration Review 57*, 5 (1997).

33. WEEKS, E. The Practice of Deliberative Democracy: Results from Four Large-scale Trials. *Public Administration Review 60*, 4 (2000).