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Deliberative Democracy, Online Discussion, and Project PICOLA (Public Informed Citizen Online Assembly)

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1 Introduction

Basic to deliberative democracy is an *inclusive conversation* that is *informed and well structured*. All the better if there are ways to capture the *results* of the dialogue and present these to stakeholders in such a way as to *influence* policy and other sorts of practical outcomes. To implement this kind of environment online is the goal of what could be called 'deliberative e-democracy' (Flew 2005).

In 2001, Robert Cavalier, Peter Muhlberger, and Peter Shane used a National Science Foundation (NSF) grant to develop software tools to support this kind of online deliberation and to do basic social science research on the phenomenon of political deliberation. The project, completed in the summer of 2005, and entitled 'Developing and Testing A High Telepresence Virtual Agora for Broad Citizen Participation: A Multi-Trait, Multi-Method Investigation', had three aims: (1) develop software that will support an online environment conducive to effective citizen deliberation on public policy issues, (2) use that software to explore the dynamics and outcomes of online deliberation, as well as the comparison between online

and face-to-face deliberation, and (3) offer a framework for analyzing the legal policy making processes of government agencies. Cavalier's participation focused mainly on discussions of interface design, Peter Muhlberger was the chief social science researcher, and Peter Shane's interests focused on issues relating to the policy making processes of government agencies.

The software developed for this project made it possible for us to stage a two-phase experiment in online citizen deliberation. Phase One, in July, 2004, involved a highly controlled comparison of real-time online and face-to-face deliberation. Phase Two, from September, 2004 through March, 2005, involved citizens in a combination of real-time online meetings and asynchronous deliberations to identify (1) critical issues facing the Pittsburgh school system, (2) a promising policy approach to addressing those issues, and (3) a strategy for implementing the citizens' preferred policy approach. We were able to perform this experiment with a genuinely representative sample of Pittsburghers, including many with little or no computer or online experience prior to our study. Although data analysis remains preliminary, it appears that there was no difference between the Phase I computer-mediated and face-to-face discussions in terms of the attitudes of the participants changing as a result of their engaging in discussion. Both groups tended to end with participants forming a strong consensus on the issues, always in the direction of the expert opinion. Discussants in both conditions reported higher levels of critical thinking, confidence, and empowerment than did our control group, which read about the issue under discussion, but did not participate in deliberations. Further, participants ascribed a very high degree of legitimacy to the collective outcome of their deliberations.[1]

This was one of the largest university-based social science studies of a random sample of citizens (N = 571). The research showed that *audio-based conversations with video-based moderators* (using deliberative practices such as turn-taking, etc.) showed no significant difference from face-to-face deliberations following the same practices. The significance of this outcome is far reaching: well designed and carefully implemented online tools for deliberation can be used alone or in conjunction with face-to-face deliberations to deliver useful results to decision makers.

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[1] A website, The Virtual Agora Project, contains all the studies and research relating to this NSF Grant (http://www.virtualagora.org/, last accessed November 1, 2008).

2 Augmenting Deliberative Democracy with Online Tools: Project PICOLA

Project PICOLA[2] (Public Informed Citizen Online Assembly) evolved as a parallel development project designed specifically to model the protocols of Fishkin's Deliberative Poll® (Fishkin 1995). A front-end interface tied together software for both synchronous and asynchronous discussions as well as tools for registration and survey taking.[3] Because PICOLA, like the Virtual Agora, was based on a complex programming environment that combined both commercial and open software tools, we were not able to sustain it past its initial five-year cycle.[4] However, the successful use of the prototype has led us to conclude that the design of PICOLA constitutes a paradigm for these kinds of online tools. It stands as a 'regulatory ideal' for high telepresence, integrated deliberative e-democracy.[5]

PICOLA delivered a multimedia environment designed for enabling online structured dialogue. At the highest level, it embeds in its design the notion of 'computers as theatre', first described by Laurel (1993). By redescribing the relation of user to screen along the lines of Aristotle's *Poetics*, Laurel argues that the user must be brought *into* the drama of the program and not seen merely as someone outside the screen in need of guidance. This approach is now apparent in the design of video games, where users can be transformed into a 'skier' or 'medieval knight'. In a similar manner, a user enters PICOLA in such a way as to be transformed into a 'citizen' engaged in a community conversation. If we are successful in this, we can make the computer disappear and replace it with a virtual public sphere (Laurel 1993; see also Murray 1997; Cavalier 2005c).

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[2] The term and acronym 'PICOLA' was coined by Peter Shane. Development of PICOLA occurred at Carnegie Mellon's Center for the Advancement of Applied Ethics and Political Philosophy. See also Cavalier (2005a, 2005b).

[3] See http://caae.phil.cmu.edu/picola/ (last accessed September 26, 2008).

[4] This is a cautionary note: While customized software based on open source and commercial tools is an enticing concept, the truth is that such programs often require a $60,000/year programmer to maintain them. And it is all too common to find such environments orphaned once the programmer moves on.

[5] Commercial products such as Polimetrix's *Vox Populi* (http://www.polimetrix.com/services/products.html, last accessed November 1, 2008) and Adobe's Connect are tools useful for the kinds of discussion environments envisioned by PICOLA. But a full-bodied implementation of the PICOLA design remains to be developed.

Figure 1.

In line with many virtual environments, PICOLA has a standard login or registration area, as well as the capability for administrators to add announcements and other information to help orient the participants' understanding of a particular event. Its login area also has a place for picture taking. This allows the program to capture an image of the participant, reduce it to a 'picon' and place it next to the person's name in the synchronous roundtable discussion area. It is remarkable how a simplified image of a person lends itself to a sense of presence so important to the 'virtual experience' of another human being.

But to create a virtual public sphere where the participant truly feels immersed as a citizen in PICOLA's virtual environment, it was also necessary to gain an in-depth understanding of the environment that exists for the typical face-to-face experience. This task was an important part of a year-long study in human computer interaction.[6]

PICOLA includes an *education phase* where participants can learn about the issue through readings in an online reading room with customizable content, a *discussion phase* where participants join together as citizens

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[6] The study employed four analysis methods: contextual inquiry and design, heuristic evaluation, cognitive walkthrough, and think aloud interviews. The investigators were Alex Darrow, Peter Jones, Jessica Smith, Greg Vassallo, and Sam Zaiss. Elements of this study have been incorporated into the design of PICOLA.

to discuss the issue at hand and develop questions to ask an expert panel, and a *reflection phase* where participants can think about the issues further, continue discussions in the asynchronous forum, and take a survey to express their opinions on the topic. The resulting program, 'deliberative by design,' delivers and supports an online conversation that is *informed, structured*, and *documented*.

Unlike a face-to-face deliberative experience, which follows a linear process, PICOLA needs to be accessible at any time and anywhere.[7] Thus the interface first brings participants to the 'My PICOLA' page after logging in, where they can view announcements for their discussion group, review readings that they previously marked as meaningful or important, and check for new postings in the asynchronous forum.

Participants can jump to a particular document or forum topic within the 'My PICOLA' page, or they can navigate to those pages using the tabbed browsing available at the top of the page. In this way, participants are able to freely browse the PICOLA environment, restricted only by scheduled events (such as a synchronous discussion), which would naturally be available at their scheduled times.

We chose readings and recent forum postings to be called out on the 'My PICOLA' page in order to encourage participants to peruse those pages early and often. In so doing, we hope to ground participants in the topic via the 'Reading Room' and, if appropriate, to encourage early discussions and camaraderie in the 'Asynchronous Forum'.

While these aspects of PICOLA do much to draw participants in as citizens, it is in the 'Synchronous Discussion' area that participants become fully immersed in the virtual public sphere. We arrived at this immersive environment by studying how these types of discussions happen in real life. Naturally, some positive aspects need to be maintained, such as: (1) enabling people to carry on brief, side conversations with one another (supported by the 'Text Chat'), (2) allowing for immediate, nonverbal responses to various points (supported by the inclusion of emoticons for each participant), and (3) having one focal point where important issues and questions for the expert panel can be displayed (supported by the moderator's 'Whiteboard'). On the other hand, we included a speaking queue to add a level of order to the conversation (and to prevent one person from monopolizing the discussion or interrupting other participants continuously). We also have a

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[7] For optimal use, certain bandwidths are recommended (T1 or DSL). These requirements are driven by certain design features. While we remain concerned with the digital divide, we decided to aim for the future. This is also one reason we chose Libraries as recommended host sites for PICOLA. Furthermore, the penetration of WiFi in both urban and rural areas will ameliorate some of these concerns.

clock feature to indicate a certain upper limit to each participant's 'turn at the microphone' (while this is variable, two or three minutes seem to work well).

Figure 2.

After observing the 'Expert Panel' (or an archive of one), participants are able to continue the discussion synchronously in a second 'Discussion' or asynchronously in the 'Forum'. Expert opinions, if delivered in the form of education and not rhetorical debate, have an important role to fulfill, as certain discussions can generate inaccurate information that requires a 'reality check' from time to time. In the asynchronous area of the 'Expert Panel', further discussion and clarification by the experts themselves can assist in the overall quality of the discussion. Last, but not least, the 'Survey' feature contains standard social science formats for measuring opinions and is designed to elicit the reasons behind the opinions as well as the intensity of those opinions.

An 'Administration Console' should allow for customization of the materials as well as management of registration, forums, and survey. Influenced by an interest in the social science aspect of deliberation, information on users would be tracked, and the live synchronous conversations could be retrieved and displayed.

3   Mobile PICOLA

With mobile technologies, yet another 'public sphere' is emerging. It is our hope that this democratic mobile movement can also be made deliberative and hence stronger in its use and impact. To see how this might come into being, we explored the integration of PICOLA functionality into cell phone/PDA devices (Mobile PICOLA). How people will eventually use the tools that we prototyped for Mobile PICOLA can only be guessed at, but the advantages of these features could already be seen in our beta-tests.[8]

Figure 3.

   The audio-based synchronous roundtable in PICOLA has been the best example of high telepresence in this project. Once people enter the roundta-

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[8] Miso Kim was lead designer. Her work was inspired by Howard Rheingold (2002).

ble, making all the necessary adjustments to their sound and headset components, an effortless conversation ensues. But people are not always at their computers when we are ready to start. They need to check the current set up (e.g., 'has the audio control panel been left on mute by the previous user?'), and they often need us to reschedule. Cell phone or personal digital assistant (PDA) devices may be able to close the gap between user and machine. The advantages of cell phone-PDA devices include *mobility* (anytime, any place), *identity* (cell phones are customized by each individual user and are part of their apparel, so to speak), and *accessibility* (I can join a PICOLA roundtable even as I walk across campus). These advantages can break down the barriers to the use of PICOLA-like environments, and they can do so in a way that will enhance its impact *qualitatively*.

4   PICOLA-lite

After the backend for PICOLA could no longer be maintained, we developed an html-based 'lite' version that used a single, customizable interface. This tied together different programs like Adobe Connect for synchronous conversations, Microsoft SharePoint for an asynchronous discussion board, and SurveyMonkey for polling.

A version of PICOLA-lite was used as a way to augment the face-to-face forum. We found that it is important to give participants an extra five days to 'continue the conversation'. This allows people to add new points that they may have considered after the event, and its very availability prevents people from feeling frustrated that they did not get a chance to follow up (even if they do not use that opportunity). We also experimented with what we called 'Alumni Assemblies'.[9] In this case, PICOLA-lite was the only way to bring such a dispersed group together.

5   Concluding Remarks: The Importance of Institutional Infrastructure

The various uses and settings for PICOLA highlight the importance of context in the use of online tools as well as the need for varying degrees of institutional support. Indeed, just as a child may need a whole village to grow successfully, software needs an organizational infrastructure to be used successfully.

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[9] Jim Fishkin first mentioned this idea as a good way to build 'social capital' amongst college alumni. See http://caae.phil.cmu.edu/picola/public_art/ (last accessed September 26, 2008) for a sample PICOLA-lite Campus Conversation.

Throughout all these applications of deliberative democracy—face-to-face and online—the tasks of representing issues, getting good samples, creating the conditions for well-structured conversations, and conducting useful surveys are enormous. The required time and personnel are daunting. In short, the task of *doing democracy*, of making democracy stronger, is incredibly hard. But in today's world, we have no other choice. And it is our hope that well-designed forums, augmented by well-designed online tools, will help in some way to bring about these needed changes.

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