COMMUNICATION TECHNOLOGY

A New Way to Collaborate

Researchers hope a new Web-based platform will enable better deliberation on complex problems.

The Internet does a great job of facilitating knowledge sharing through tools such as wikis and forums. But these tools have their limitations. For example, on controversial topics, wikis can be subject to "edit wars" between people of opposing views, and it can be hard to efficiently sift through the volume of information posted on forums — especially because that information may vary greatly in quality. Could there be better Internet tools for fostering group deliberation on complex issues?

That's a question researchers at the Massachusetts Institute of Technology and the University of Naples (Italy) have been exploring — with the aim of promoting collaboration about addressing climate change. In December 2007, Mark Klein of the Center for Collective Intelligence at MIT, Luca landoli of the Department of Business and Managerial Engineering at the University of Naples Federico II and Giuseppe Zollo of the Faculty of Engineering at the University of Naples Federico II conducted the first field test of a new Internet-based collaboration platform that Klein calls a "Collaboratorium." The researchers discuss their findings in a December 2007 working paper, "Can We Exploit Collective Intelligence for Collaborative Deliberation? The Case of the Climate Change Collaboratorium"; Klein also authored a related working paper in December 2007, "The MIT Collaboratorium: Enabling Effective Large-Scale Deliberation for Complex Problems."

In the "Collaboratorium" structure, postings are organized into a logical "argument map" that can be displayed like an outline, so that visitors to the online community can more easily identify the main issues related to a topic. Users also can rate ideas and arguments. The theory is that, for a complex topic like climate change, an argument-based structure may help collective intelligence emerge more effectively than a more free-form posting structure such as a wiki or forum.

The first field test of the Collaboratorium — involving 220 engineering graduate students at the University of Naples — yielded some interesting results. The researchers reported that, given the task of collective deliberation about the future of biofuels in Italy, the students were, over a three-week period, able to create a map of the debate on biofuels that was "remarkably comprehensive." The researchers also found that moderators in the Collaboratorium, whose tasks included rejecting potential postings that were not on the topic and helping determine where each new posting should be placed in the argument map, played a critical role in maintaining an argument map that was logical. landoli, Klein and Zollo estimate that between 5% and 10% of active users of a Collaboratorium need to be moderators. One unknown is how the results from graduate students — who may have thought their participation in the "Climate Change Collaboratorium" would affect their course grade — may differ from those of a larger population using the Collaboratorium platform.

At press time, the researchers were still analyzing the data from the December 2007 experiment, but Klein was also planning another test of the Climate Change

Collaboratorium in Zurich, Switzerland, in March 2008. That test, he said, will involve a side-by-side comparison of the Collaboratorium model with a wiki and an online forum. Klein hopes that the Climate Change Collaboratorium will later be available to the general public on the Web.

One advantage to the Collaboratorium model, Klein explained, is that "each unique point can only appear once. And it has to appear in the place that it logically belongs" within the argument structure. As a result, he said, it will be relatively easy to find information. One problem that existing online discussions have, he noted, is Balkanization — people tending to congregate with others of similar viewpoints. But, Klein explained, in the Collaboratorium model, "all the points on a given issue are going to be right next to each other."

While Klein is focused on using the Collaboratorium technology to create a vehicle for sound Internet-based collaboration about addressing climate change, he observed that the technology itself might also have other applications. Generally, he said, the Collaboratorium model could be useful when the problem an organization faces is complex, there are many players to include and those players are geographically distributed, so that it would be hard to get them all in one room. For example, a Collaboratorium model might conceivably be used in product design processes involving globally dispersed designers of a complicated product.

"Can We Exploit Collective Intelligence for Collaborative Deliberation? The Case of the Climate Change Collaboratorium" is available at http://ssrn.com/abstract=1084069 and "The MIT Collaboratorium: Enabling Effective Large-Scale Deliberation for Complex Problems" can be viewed at http://ssrn.com/abstract= 1085295. Contact the authors at m_klein@mit.edu, iandoli@unina.it and giuzollo@unina.it.

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