

An Open, Scalable and Distributed Platform for Public Discourse

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Abstract: A proposal for overcoming scalability, motivational and other limitations of using a single server as a participation platform is presented. The proposed solution is a distributed platform that makes use of existing publication channels and aggregates and indexes content using the XML-based RSS protocol.

1. Problem Statement

One of the main issues in the field of e-democracy is how to best use information and communications technology to facilitate public consultation, deliberation, participation or “engagement” in policy-making processes such as urban planning. A variety of discourse systems for the World Wide Web have been developed for this purpose, such as GeoMed [Sch98], Zeno [GR02], and DEMOS [Lü01]. Typically, these are client-server systems with a three-tier architecture. On the server side there is a web application that stores articles and other information in a database. On the client side, participants in the process access the system using a web browser.

There are a number of problems with this approach:

Scalability. It is difficult to scale up to thousands of participants using replication and caching mechanisms, since many web pages need to be generated dynamically to provide personalized views and support the transactions needed for interaction and participation.

Motivation. For several reasons, a centralized architecture inhibits large-scale participation. Participants need to access, learn and use a special purpose application, rather than being able to make contributions using some general purpose, familiar medium, comparable to a daily newspaper. Articles in a general-purpose publication are likely to reach a wider audience and typically have the advantage of being archived in public libraries for a long time. Finally, the marketing potential of publishers is not mobilized for the participation process when the articles are published only on a centralized participation server, rather as part of their own publications.

Moderation Overhead. Since the articles are stored and published on the participation server, the providers of the server must take full responsibility for the published content.

In addition to the tasks of managing the participation process, moderators must take responsibility for checking and possibly editing every submission. The costs of moderation are by far the largest problem to overcome when trying to scale up to thousands of participants.

Notification and Aggregation. The centralized web server approach typically requires participants to manually browse the web site regularly in search of new articles of interest. Some systems make an effort to reduce this problem by enabling users to personalize the Web interface, in the manner of Web “portals”. Other systems allow articles or reports to be “pushed” to the user’s email address. Neither approach allows the user to fully aggregate and select or filter articles from many different channels.

Accessibility (“Digital Divide”). Many citizens still do not use computers, do not yet have access to the Internet or, even if they are regular computer and Internet users, do not have the patience to learn yet another participation platform each time there is an opportunity to take part in some public discussion or deliberation process. These problems would be reduced if citizens could also participate via print media (e.g. newspapers) or web publications they already regularly read and use.

2. Solution Overview

The basic idea of the proposed solution to all of the problems identified above is to distribute the public discussion among existing print and web publications, making full use of letters to the editor, professionally written commentaries and other articles already being published via these media “channels”. This approach raises the challenge of finding a way to tie all of these channels together into a coordinated and moderated, deliberation process. Three existing technologies provide the key to meeting this challenge: 1) Rich Site Summary (RSS), an XML document type for news headlines [Be01; Wi02]; 2) Autonomous citation indexing of the kind realized in the CiteSeer system [La99]; and 3) Issue and Argumentation Mapping, using general purpose outlining, “idea processing” and diagramming software, such as Inspiration¹ or Tinderbox². These three technologies are put together into a complete architecture for distributed deliberations as follows. The moderation team uses a Web site (the “participation server”) to announce the process, calling for participation, and to subsequently post information about the state of the process, including summaries and maps of the discussion thus far. This participation server should also publish news about the process in RSS format. Participants do not register with the participation server or post articles there. Rather, the editors of online newspapers or other publications are encouraged to register their RSS news feeds with the participation server. This could be done using an online form. Participants submit their contributions to one of the registered channels (i.e. web publications), presumably one they already read regularly, in the usual way. For printed newspapers, this could be

¹ <http://www.inspiration.com>

² <http://www.eastgate.com/Tinderbox>

done with a traditional (paper) letter to the editor, helping to bridge the digital divide (albeit via a media break). The editors of the participating publications are encouraged to promote the participation process in their publications, in particular the print version of the publication, if there is one. Authors of personal “weblogs” [La02] could also register their RSS channels with the participation server. This provides a way to submit articles directly, bypassing edited publications. The publication server uses an “aggregator” to combine the channels and select articles dealing with topics relevant to the process. These articles are combined into a channel, which is then published on the publication server, also in RSS format. Participants or anyone else can subscribe to this channel. They would use their preferred aggregation applications to combine this channel with the other channels they read regularly, in order to be notified about and follow the parts of the discussion of interest to them. The RSS channel for the discussion would also be feed into an autonomous citation index, to create an online index. The index, which replaces the threads of traditional discussion forums, could be published on the participation server, or be “outsourced” to some other server.

Finally, the task of creating summaries and visualizations of the discussion would be delegated to professional “analysts”, relieving moderators of this responsibility. The analysts need not have moderation or mediation skills. Their task is analyzed, categorize and organize (references to) the articles, to “reconstruct” and visualize the arguments and issues of the debate. The analysts can use the diagramming and mapping tools of their choice, so long as it can export the map to HTML. The HTML maps could be published on the participation server by the moderation team. One advantage of this approach is that it allows for alternative discourse analyses. For example, each participating edited publication could create and publish its own discourse analysis. This is important, since discourse analysis is a highly interpretative task; multiple analyses are not only possible but to be expected.

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