New Media for Climate Change Communication and Collaboration

Arno Scharl

Abstract

The Climate Change Collaboratory[1] aims to strengthen the relations between Austrian scientists, policy makers, educators, environmental NGOs, news media and corporations - stakeholders who recognize the need for adaptation and mitigation, but differ in worldviews, goals and agendas. The collaboratory will manage expert knowledge and provide a platform for effective communication and collaboration. It aims to assist networking with leading international organizations, bridge the science-policy gap and promote rich, self-sustaining community interaction to translate knowledge into coordinated action. Innovative survey instruments in the tradition of "*games with a purpose*" (Rafelsberger & Scharl, 2009) will create shared meaning and leverage networking platforms to capture indicators of environmental attitudes, lifestyles and behaviors.

Motivation. Despite credible forecasts and warnings from the scientific community about anthropogenic climate change, greenhouse gas emissions have continued to grow. Scientists studying the issue predict more adverse consequences unless stronger actions are taken. From the policy-making level down to personal voting and purchasing decisions, however, the observable actions have not been commensurate with the threat of climate change. We remain far short of undertaking the emission reductions that scientists say are required to forestall dangerous interference in the climate system on which our civilization depends (Abbasi, 2006). Although public concern about climate change has risen in the past few years, a much smaller percentage is actually taking action. Reasons for this discrepancy include:

- On the micro level, the widespread perception of climate change as a risk that will predominantly impact geographically and temporally distant people and places; and the lack of personal efficacy (belief that the own actions will make a difference and one's voice will be heard), a critical motivating factor in behavioral change that can be supported by Web-based applications to share knowledge and coordinate action.

- On the meso and macro levels, a gap between "policies and research needed to promote and support adaptation, and also mitigation (and their interrelation), and what is currently available". The overarching goal of the Climate Change Collaboratory is to build capacity among policy makers, scientists, educators, environmental NGOs, news media and corporations to close this gap and translate increased awareness into behavioral change on the local, regional, national and international levels.

Triple-C is an interdisciplinary initiative to encourage and study discourse**{** XE "discourse" **}** and critical debate that lead to a shared understanding of climate change issues on all political levels, ranging from inter-individual communication and local communities to global campaigns and treaties. By investigating communicative strategies and processes that function between disciplines**{** XE "discipline" **}** and stakeholders, the Triple-C project aims to unearth hidden assumptions and misconceptions about climate change, contribute to a mutual understanding of existing problems, and suggest priorities for research and policy development**{** XE "policy:development" **}**. Participants of the collaboratory will benefit from a synergy of skills and resources, the constitution and dynamic maintenance of shared knowledge, flexible and nonhierarchical modes of cooperation, and mechanisms for distributed decision-making**{** XE "decision-making" **}**.

Environmental Web resources such as documents and best-practice examples are often being created through processes of cooperation**{** XE "cooperation" **}** and social exchange. They depend on and benefit from a synergy of skills, the dynamic maintenance of shared knowledge, flexible and non-hierarchical portfolios of services, and distributed decision-making**{** XE "decision-making" **}**. Triple-C recognizes and supports the social construction**{** XE "construction" **}** of meaning via distributed information services that aim to improve the quality of decisions, build trust**{** XE "trust" **}** and help resolve conflicts among competing interest. It will provide matchmaking services for ad-hoc team composition and a range of Web-enabled communication and collaboration tools. Facilitating the collaboration between stakeholders will require a tight integration of heterogeneous services. System connectivity, contextualization and semantic interoperability to achieve this integration are at the core of Triple-C. Collaborative ontology building, for example, ensures that recent findings are understood by all members of a virtual community.

The envisioned collaboration platform will draw upon the lessons learnt from building the *Media Watch on Climate Change* (Hubmann-Haidvogel et al. 2009), which is available online at www.ecoresearch.net/climate (see Figure 1). This award-winning news aggregator provides geographic and semantic visualizations based on multiple coordinated view technology. It will be extended by communication and collaboration tools such as messaging services, Wikis, Web-

based discussion forums, multi-language support, and a layered security model to distinguish between public and private information. Geographic mapping will play a central role, using the virtual globe technology of NASA World Wind to integrate different types of data objects (documents, best-practice examples, expert profiles, etc.), and put them into a regional context.
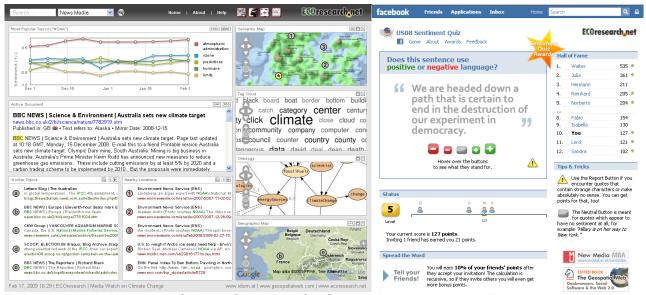

Figure 1. Media Watch on Climate Change (left); Game with a purpose on Facebook (right)

References

Abbasi, D.R. (2006). *Americans and Climate Change: Closing the Gap Between Science and Action*. New Haven: Yale School of Forestry and Environmental Studies.

Hubmann-Haidvogel, A., Scharl, A. and Weichselbraun, A. (2009). "Multiple Coordinated Views for Searching and Navigating Web Content Repositories", *Information Sciences,* 179(12): 1813-1821.

Rafelsberger, W. and Scharl, A. (2009). Games with a Purpose for Social Networking Platforms. *21st ACM Conference on Hypertext and Hypermedia*. Torino, Italy: Association for Computing Machinery: 193-197.