

# **Sustaining Community: Incentive Mechanisms in Online Systems**

Position paper for MSR Social Computing Symposium 2005

Online communities, large and small, are pervasive yet we know little about what sustains them. Examples range from well-established environments such as chat rooms and help desks to more recent examples such as community-managed discussion spaces like Slashdot, social network-based communities such as Orkut, open content communities like Wikipedia, and group blogs.

An example of one such community, open source software, has grown from a tiny experiment to a worldwide phenomenon that produces products that have broad ranging impact. How did this happen and how is it continuing happen? How do open source projects manage broad distributed teams and produce quality products in the absence of monetary incentive?

The sense of community developed in open source has been cited numerous times as an explanation for the success of open source, but what does that mean? My research aims to explore this question through interviews with key players in open source (Mozilla, Eclipse, and others) as well as analysis of community-enabling tools like bugzilla, forums, blogs, wikis.

I believe that novel incentive structures drive a great deal of work in online communities in general and open source in particular. Interviews at the Mozilla Foundation uncovered a number of different incentives that are employed to get key aspects of their software done. For example, when a contributor has a favorite feature she wants incorporated but the drivers are trying to get some high priority bugs fixed for a milestone release, the drivers may tell the contributor that they will consider her feature once she puts in some work on getting the milestone out the door. This generally motivates the contributor but (significantly) without demeaning her pet project.

Sites like Mozilla's CivicSpace-powered SpreadFirefox have many explicit and implicit incentive structures. An example of an explicit incentive is the earning of "points" for driving traffic to the site. These points cannot currently be traded for anything, but serve as a badge of honor and show participants that they have made a difference. Another incentive is the chance entries in your SpreadFirefox blog may be promoted to the front page if they garner enough notice. Finally, an implicit incentive is provided in the photo feature, where simply contributing a photo of a Firefox adds to a larger whole and makes contributors feel like they are part of something larger.

The questions remaining, however, are what makes these incentives work and, further, what are the mechanisms that connect them to the health of the community overall? As this research goes forward, I aim to answer these questions. Attending the Social Computing Symposium would help enrich this work. In addition, I am running a workshop at Communities & Technologies 2005 along with Christine Halverson and Tom Erickson to explore these ideas.

## **Contact**

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### **Biography**

Jason B. Ellis is researcher at the IBM T.J. Watson Research Center in New York. He earned his Ph.D. in Computer Science at the Georgia Institute of Technology in 2003 under the supervision of Dr. Amy Bruckman. He is a former Intel Graduate Fellowship holder, IBM Research Fellowship holder and NSF Trainee. As a graduate student, he completed research at the IBM T.J. Watson Research Center and Xerox Palo Alto Research Center. Prior to his tenure at Georgia Tech, Ellis was a faculty researcher at the Human-Computer Interaction Lab at University of Maryland, College Park, where he also received an undergraduate degree with honors in Computer Science. His research focuses on the intersection of computer-supported collaboration, human-computer interaction, and online communities. In particular, Ellis is interested in the design and analysis of online environments that facilitate collaboration among diverse, distributed user populations. Examples include inter-generational communication, the grassroots teams in open source, and online gaming communities.

### **Participation Category**

I would like to attend the symposium.