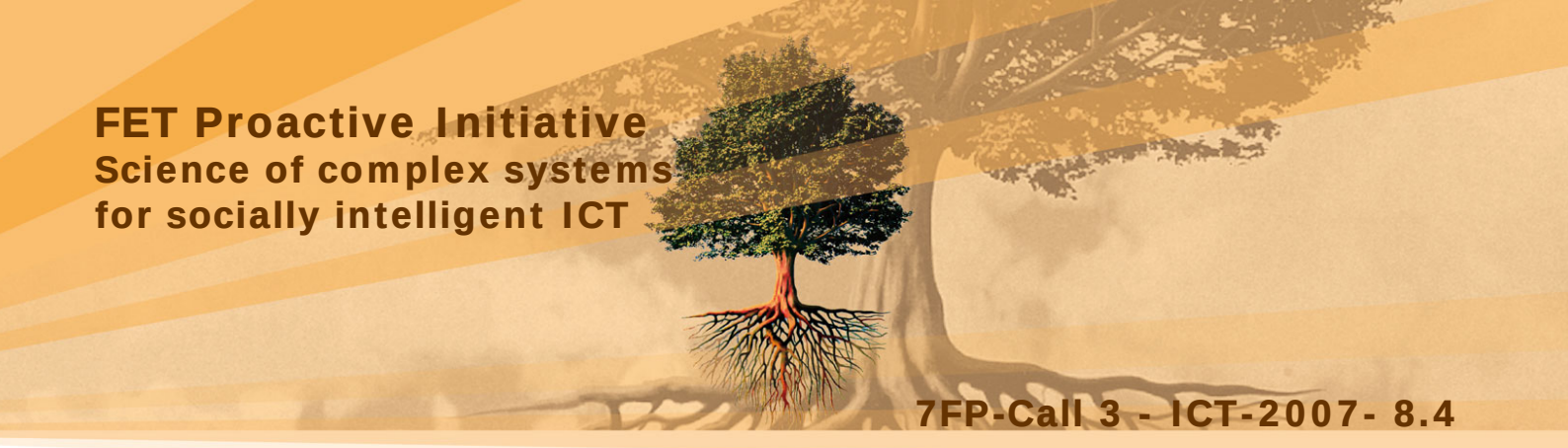

FET Proactive Initiative
Science of complex systems for socially intelligent ICT

7FP-Call 3 - ICT-2007- 8.4

Quality Collectives (QLECTIVES)

Project Number 231200

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Project Abstract

Using a complexity perspective, QLectives will understand, experiment with, design and build cooperative socially intelligent ICT systems composed of self-organizing peers, that will enable and support emergent 'quality collectives' to enhance, for instance, scientific innovation and decentralized media distribution. We shall bring together complex system scientists, social scientists and distributed systems engineers to produce new theories and algorithms. Our method will be that of empirical experimentation using "living labs" involving thousands of people connected over the internet into collectives. The project will generate better theoretical understanding of complex techno-social systems, and how trust and reputation may emerge among a community and used to enhance quality. The work is organized into 4 synergistic streams: 1. Theoretical and algorithmic foundations, 2. Algorithm design, simulation and evaluation, 3. Empirical data-sets collection, processing and validation, 4. Platform and living lab implementation. As a basis we shall extend an already deployed, mature P2P technology platform and make use of two existing user communities: the econophysics forum and tribler.org. Our results will be applied to create two examples of how ICT moulds and becomes part of the systems to which it is applied: QScience - a peer-to-peer application for facilitating scientific innovation by supporting scientific communities, rating activities for quality to identify potential collaborators, hot spots and breakthroughs, and disseminating the right information to the right peers promptly; and QMedia - a peer-to-peer application for transforming media distribution by dynamically identifying shared interest communities and recommending quality contents to them using streaming media technology. We anticipate an impact on all fields in which collective quality-ratings of contents and raters can counter an otherwise unsustainable growth in the digital information age.