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11-14 July
2011

Human Sciences and Technologies Advanced Research Institute   STANFORD UNIVERSITY

TRIPLE HELIX IX
INTERNATIONAL CONFERENCE

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Silicon Valley Insights: Openness, the Quadruple Helix & Knowledge Federation

Summary

"*Wisdom enough to leech us of our ill*
Is daily spun; but there exists no loom
To weave it into fabric" (Edna St. Vincent Millay).

Doug Engelbart, one of Silicon Valley's greatest innovators, saw the need for this loom and a way to create it in the early 1950s. The technology developed in his laboratory—personal and networked computing, graphical user interface with windows, on-screen conferencing and a number of others—set the development of computing for a half-century. Yet what has been accomplished is only part of his project. What remains is to combine those components into socio-technical systems capable of weaving our personal wisdom and ideas into the fabric of shared insights and answers to the increasingly complex questions that humanity will be facing.

What we are calling "knowledge federation" is a variant of Engelbart's loom, creating shared meaning even in a world of disputed issues. It is an ecosystem of people, tools and practices to describe knowledge, weigh its authority, search it, mark it iconically, share it legally, tend it and garden it—an ecosystem where differing views are allowed to coexist in a dynamic relationship, cross-fertilizing each other. Through openness and sharing it democratizes knowledge by allowing a broader constituency to contribute. Knowledge federation is in effect a quadruple helix of universities, companies and states plus individuals.

The Knowledge Federation is an international community to promote innovation at a new level through the integration of tools and best practices into a system for knowledge work. The Knowledge Federation is itself organized as a knowledge federation, and practices Engelbart's innovation strategy called 'bootstrapping,' where a community develops socio-technical solutions by using itself as a sandbox. The Knowledge Federation consists of IT researchers, system developers, journalists, entrepreneurs and collective intelligence mavens—a diverse mix of backgrounds and talents as necessary for system design on this large scale.

Issues this workshop will discuss:
- how to support democracy by weaving together new ways of understanding issues, and new paths to solutions.
- how to federate education, so that learning resources are co-created by international researchers and learners, and offered to students worldwide.
- how to federate science, so that key ideas from academic articles are combined with related ideas and then turned into insights and made available to other disciplines, to journalists and to the general public.
- how knowledge federation cross-fertilizes with the Triple Helix approach.

Chair

John Wilbanks, VP of Science, Creative Commons. Previously founded Incellico, a bioinformatics company that built semantic graph networks for use in pharmaceutical research & development. Also previously Assistant Director, Berkman Center for Internet and Society at Harvard Law School and legislative aide to U.S. Representative Pete Stark.

Contributors

1. Dino Karabeg, Associate Professor at Dept. of Informatics, University of Oslo. He modeled his career on the question: what could academics do, if they allowed themselves to re-create the very way in which they practice their profession? His interests extend to general methodology, education, healthcare, corporate business organization and communication. Dino is one of the lead architects of Knowledge Federation and, together with Jack Park, a co-organizer of Knowledge Federation workshops.
2. Jack Park, a Silicon Valley researcher and innovator, presently developing knowledge gardens and deploying them in South Korea, Kuwait, and Malaysia under the auspices of the Millennium Project. As a Ph.D. student with The Open University, UK, Park works on federation of hypermedia discourse about topics that matter. He is co-author of *XML Topic Maps: Creating and Using Topic Maps for the Web*. Formerly Research Scientist, SRI Inc. where he worked with the team that created the IRIS Semantic Desktop application for the Cognitive Assistant That Learns and Organizes (CALO) DARPA-funded project.
3. Ramon Sangüesa, Professor, Knowledge Engineering and Machine Learning Group, Dept. of Software, Technical University of Catalonia. Co-founder, CoCreating Cultures a platform for collaborative social innovation. Founder and Director of Innovation at Citilab, an open citizen lab in Barcelona Spain. He is partner of Abiquo and JustInMind, two startups on cloud computing and automated web development recently located in Silicon Valley.
4. Robert Stephenson, Director of the Tech Virtual at The Tech Museum in San Jose, California. An MIT-trained neuroscientist and former Professor of Biology at Wayne State University, e-learning designer and architect of virtual open source and open content collaborations, he founded the Harvey Project, an international collaboration to build free learning objects for physiology and OpenCourse.Org, a foundry for open courseware.
5. Stian Danenbarger is an information architect and technical concept developer at the Norwegian IT consultancy Bouvet ASA. He initiated the development of (ISO13250) Topic Maps driven web sites and content management systems in Norway in 2001, and his focus during over the past ten years or so has been on the application of semantic technology and web oriented architecture in the public sector, particularly in the educational area (e.g. the normative representation of the national curriculum for lower education in Norway is now a Topic Map). (Stian's participation is preliminary, awaiting his employer's approval)