

Brief Research Proposal

Semantic Enterprise Collaboration Support (SECS) with instant Awareness Stimulation for Knowledge Sharing

Brayan Zimmerli, *Master of Science Student in Business Information Systems,
University of Applied Science of Northwestern Switzerland, February 2010*

Abstract— Knowledge-intensive work consists of the reception, interpretation, and structuring of information; the explicit articulation of mostly unstructured data in suitable representations. Further it comprises the sharing, exchange, and discussion of such resources with other people. The way people proceed is significantly influenced by the tools used – the personal workspace support and reflect the individual ways of information processing and knowledge sharing across organizational networks. This research paper illustrates an approach to foster collaboration and knowledge transfer by applying semantic technology. The main focus is about raising awareness for existing knowledge, or information that could lead to knowledge when addressing the right context and information worker. Prototyped clients and service hosts shall offer joint capability to improve his/her work performance by raising relevant information and – if applicable – at the right time.

I. INTRODUCTION & MOTIVATION

Throughout the history of man-kind, information was always crucial to the positive development of organizations – and so to every individual worker claiming the processing of information his/her main tasks. Whilst in the last century systems focused on the dispersion of information per se, as for example with Content Management Systems and File Sharing, these days systems are required to return filtered results. This for two obvious reasons: the **mass of available information** and the number of contributors turns to an astronomic size. Secondly, there is an **amplified challenge to act efficient and responsive**, which is driven by global competition.

Against the background of these two very simple aspects, server-side implemented role concepts and personalization became an inevitable obligation for every ingenious system architect to plan and implement. Despite this improvement, role concepts are mostly applied for process-oriented tasks and less for individual unstructured activities. The former - in particular workflow-constrained processes - is tightly and often coupled in parallel to the information flow. This disburdens workers from separate tedious information gathering. In contrast, workers in loosely defined processes have different approaches on how to gather information to

About the author: Brayan Zimmerli is a Master Student in the postgraduate programme Business Information Systems at the School of Business, University of Applied Science of Northwestern Switzerland. His expertise evolves in the appliance of semantic technologies in favour of efficient and computer supported service delivery. brayan.zimmerli@students.fhnw.ch, brayan@brayan.com; Kasinostrasse 29, 5000 Aarau, Switzerland.

accomplish their tasks. Their behaviour is strongly dependent on very individual scenarios. Elements of this scenario are: the tools one works with; personal methodological expertise; the availability, dispersion and access of information sources; etcetera.

All **elements elicited** from the scenario of information workers (IW) **require a representation** to make it processable by computers. Otherwise computer systems and computer networks may not apply their filters in an effective way in order to return more precise results. Furthermore, IWs collaborate intensely with other IWs. Some are more pertinent, some less. In this Master Thesis, semantic computer supported collaboration is explained to actively push and pull valuable information to the surface and – also – at the right time. A short latency guarantees awareness support within dyads and larger groups.

In collaboration research one finds little about instant awareness support for information which is relevant to a specific WIs or groups.

II. AWARENESS SUPPORT FOR SEMANTIC COLLABORATION

The activities of communication, coordination and cooperation are types of interactions. Interactions are triggered by events e.g. when a service station, either a worker or a system, completes a task. It informs a subsequent service station, either explicit, or implicit by following a predefined workflow. This **uni-directional way** from the event invoker to the recipient **bears the risk** of neglecting information workers, who depend or excel their individual performance on/with new information elements. Combining a resilient information structure, adroit client architecture and the ability of actively multicasting information without harming various interests, is the objective of this research paper.

III. RESEARCH DESIGN

The maturity of semantic technologies can hardly be proven by questionnaires or traditional case studies. It is inevitable to create a **prototype** to observe behaviours and evaluate the construct. The evaluation preconditions a defined set of criteria. A focus-group interview is conducted to derive the criteria from experts' response. The prototype shall stimulate the system-autonomous information exchange of WIs.

The research outcome is comprised of a description of an exemplary semantic information structure and the system architecture. It is part of the research to comment criteria met, and the shortcomings that remain.