Introduction from the Session Chair

Advances in Web computing

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We are facing a new era of workgroup computing. As local and wide-area networking technologies become more sophisticated, distributed group working is a well-suited scenario for computer use and presents theoretical and practical problems that have not been thoroughly addressed in computer science research.

Communication facilities on the World Wide Web play a key role in the design and implementation of distributed systems for cooperation purposes. Internet communication facilities allow processes to be spread over the Web to communicate and to access remote resources. Performance of the whole distributed system, in particular a distributed workflow and communication system, depends on this facility. In the field of Computer Supported Cooperative Work (CSCW) several concepts and prototypes for the flexible support of cooperation including functionality for the exchange of information, sharing of information, coordination and collaboration among distributed workgroups have been developed. CSCW research has yielded a number of Web based systems for the support of community work. Systems like shared document spaces, shared applications, and workflow systems are on the market now. These applications support primarily work processes, that are pre-planned, or that involve well-defined, closed, and small groups of people. These don’t support communities, i.e. often loosely coupled groups of people sharing a common interest or task. It seems to be crucial to recognize immediately what has happened in the community in order to determine the participants’ further actions. Communities gather and process knowledge collaboratively over the computer network.

This session aims to bring together experts from academia and industry who share an interest in the study and design of effective Web computing solutions as well as approaches and methodologies. It focusses on understanding the impact of Web computing environments in order to facilitate the design of complex cooperation systems. This session is an opportunity for designers and researchers to discuss their experiences with implementing cooperative systems on the Web in large organizations such as industry, government and academia. It is open for sharing information about new Web technologies and practices.

In this session we have three papers dealing with various advances of Web computing. The first paper “Formally designing Web Services for Mobile Team Collaboration” is by Pascal Fenkam and Schahram Dustdar. It illustrates the symbolic relationship between existing model oriented specification techniques and web services. This paper attempts to introduce web services into an existing system platform.

“GEMLCA: Grid Execution Management for Legacy Code Architecture Design” by Thierry Delaitre et al. is the title of the second paper. The computational Grid aims to facilitate flexible, secure and coordinated resource sharing between participating systems and its components have to work together seamlessly. In the paper’s Grid Execution Management system the authors describe the communication between a front-end OGSI Grid service layer and the target host environment.

The third paper “Situation-based Message Rating in Information Logistics and its Applicability in Collaboration Scenarios” is by Ulrich Meissen, Stefan Pfenngschmidt, Kurt Sandkuhl und Tjark Wahnfried. The paper focusses on asynchronous message-based communication processes in collaborative environments. The authors use a scenario from the automotive industry to demonstrate its general applicability.

Advances in Web computing promise a better support of human communication across wider distances than it was previously possible. Yet, if this vision is to be realized, many difficult problems remain to be solved and are the future challenges. Nevertheless the three papers presented give a good idea of the progress in Web computing applications design today.