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Ubiquitous Mobile Information and Collaboration Systems

Second CAiSE Workshop, UMICS 2004
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Revised Selected Papers

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Preface

Over recent years most business processes have changed in various dimensions (e.g., flexibility, interconnectivity, coordination style, autonomy) due to market conditions, organizational models, and usage scenarios of information systems. Frequently, information is relocated within a geographically distributed system according to rules that are only seldom defined as a well-codified business process. This creates the need for a software infrastructure that enables ubiquitous mobile and collaboration systems (UMICS).

The anywhere/anytime/any means paradigm is becoming the major challenge in conceiving, designing, and releasing next-generation information systems. New technologies, like wi-fi networks and 3rd-generation mobile phones, are offering the infrastructure to conceive of information systems as ubiquitous information systems, that is, systems that are accessible from anywhere, at any time, and with any device. Ubiquity is not yet another buzzword pushed by emerging technologies, but is mainly a means to support new business models and encourage new ways of working. This new wave of UMICS will exploit the knowledge developed and deployed for conventional information systems, but will also need new concepts, models, methodologies, and supporting technologies to fully exploit the potentials of the enabling infrastructure and to be ready for the challenge.

Moreover, people need to move across organizational boundaries and collaborate with others within an organization as well as between organizations. The ability to query the company's distributed knowledge base and to cooperate with co-workers is still a requirement, but mobility brings new access scenarios and higher complexity. Therefore, some issues also arise about how to enable users to retain their ability to cooperate while displaced in different points of the enterprise, the role of context and location in determining cooperation, and the support for ad hoc cooperation in situations where the fixed network infrastructure is absent or cannot be used.

The approaches and technologies for supporting these new ways of working are still the subject of research. Nevertheless, they are likely to "borrow" concepts and technologies from a variety of fields, such as workflow systems, groupware and CSCW, event-based systems, software architectures, distributed database systems, mobile computing, ubiquitous information systems, and so on. A particularly interesting line of research is exploring a peer-to-peer paradigm enriched with sharing of abstractions, in which each network node is both a potential user and an information provider for the other members of the community.

June 2004

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