



Computación y Sistemas

ISSN: 1405-5546

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México

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Resumen de Tesis Doctoral: Autonomous Agents in Collaborative Ubiquitous Computing
Environments

Computación y Sistemas, vol. 10, núm. 2, octubre-diciembre, 2006, pp. 189-204

Instituto Politécnico Nacional

Distrito Federal, México

Available in: <http://www.redalyc.org/articulo.oa?id=61500207>

Abstract

The idea of ubiquitous computing (ubicomp) is an environment dominated by computing and communication devices of different scales which are seamlessly integrated to the users activities. The features of ubiquitous computing environments require developers to face important challenges in dealing with the complexities associated to the development of ubiquitous computing systems. This thesis describes a middleware to facilitate developers to manage some of the complexities associated with the development of ubiquitous computing systems by means of the use of autonomous agents, which enable ubiquitous computing technology to respond to users particular conditions and demands. Autonomous agents were used to implement the desirable features of ubiquitous computing systems and for enhancing the interactions of the users with the environment. The contributions of this thesis focus on presenting the functional requirements of autonomous agents for implementing ubiquitous computing systems and the agent SALSA middleware, which was created with the aim of facilitating the implementation and evolution of ubicomp systems. Finally, this thesis provides evidence of the SALSA flexibility for enabling the progressive development of ubicomp systems.

Keywords

ubiquitous computing, autonomous agents, middleware

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