

KSACI: A Handheld Device Infrastructure for Agents Communication

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"AGENTS FOR HAND-HELD, MOBILE OR EMBEDDED DEVICES"

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Abstract. The recent development of software platforms for cell phones and handheld computers, such as Java 2 Micro Edition (J2ME), has broadened application perspectives in this area. In fact, the developers can now write their own software to run in handheld devices, what was impossible a short time ago since the software and the platforms were proprietary. Among the myriad of applications for these devices, some of them are very complex and need the intelligent behavior typically provided by agents yet available. However, since J2ME is a very recent platform, there are no appropriate J2ME-based environments or tools for agent development. This paper describes KSACI, a pioneer tool providing communication infrastructure among agents running in handheld devices. KSACI supports KQML, as the outer language, and XML, as the inner one. A preliminary version of KSACI was implemented, extending SACI (Simple Agent Communication Infrastructure), a Java open-source communication infrastructure for desktop agents.

1 Introduction

This new century is witnessing a new trend in computer research: the pervasive computing. According to this trend, computation will be increasingly embedded in small mobile and connected devices, providing to users relevant information and services anytime and anywhere [1]. One of the recent efforts for the actual implementation of computer pervasiveness is the specification and implementation of