

wOrlds: Collaborative Work Settings

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Geraldine Fitzpatrick

Dept. of Computer Science, The University of Queensland,
and CRC for Distributed Systems Technology

Email: g.fitzpatrick@cs.uq.oz.au

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During a recent visit to the University of Illinois at Urbana-Champaign (UIUC) with Simon Kaplan's group, I became involved with the development of a system called **wOrlds** (standing for work, locales and distributed social wOrlds). The ongoing development of **wOrlds** has now moved to the University of Queensland, Australia with Simon Kaplan (see <http://www.dstc.edu.au/TU/wOrlds/>). My personal involvement with this project has been primarily at the conceptual rather than the technical level.

wOrlds is a collaborative environment aiming to support a wide range of work activities and domains in as seamless a way as possible. It is based on a notion of "locales" as "settings for interaction".

We define a *locale* by: the *purpose* for which it is being created; *people*, i.e., participants who have a role to play in the locale, and visitors, those people who are actually present at a given time (visitors are not necessarily participants); *particulars*, the facilities and resources that tailor a locale to its use or purpose; and *process*, the co-evolution of setting and action over time (process is not necessarily contained within a locale but may span multiple locales over time).

Hence, a computer-based locale is a configurable subset of conditions, e.g., roles, resources, tools, artifacts, actions, process support etc, tailored to support the work of social world (cooperative ensemble) members. The conditions in the locale both constrain and enable the action possibilities within the space. Rich communication channels, including audio and video, are provided to support both synchronous and asynchronous interactions among people participating in **wOrlds** locales.

A prototype of **wOrlds** has been in existence for some months now and has been demonstrated at various forums. **wOrlds** is implemented using an Object Request Broker (ORB) supplied by HP Distributed Smalltalk. This architecture

provides **wOrlds** with a distributed shared object model. In the current version, each user runs their own **wOrlds** environment. External tools may be spawned and terminated as desired, e.g. a shared web browser. External messaging capabilities are provided through a message bus, HTTP, NNTP, email and multicast services.

As we work on future versions, we are continuing to grapple with many of the issues raised for discussion in the workshop, including:

- the characterisation of locales
- the representation of people in locales for both synchronous and asynchronous interactions
- awareness issues, both within a single locale and across locales, relating to the presence of other people, and to the current/past states of objects, artifacts and processes in progress
- the aggregation of locales into sites, including support for both world views of sites and user-defined aggregation of locales
- navigation among locales
- consistency of objects in locales
- persistence of locales
- dynamic tailorability of locales
- resource discovery to furnish and/or discover other locales
- ORB reliability and performance over the internet
- access, security within locales; public versus private spaces

There are many other issues that need to be addressed in ongoing iterations of system development. Because we have already had to think about many of these issues in relation to **wOrlds**, we believe participation in the workshop would be a mutually beneficial experience.