Chapter I

Engineering of a Virtual Community Platform: Realization of a Socialware with Integration of the ‘User as Editor’ Concept

Kerstin Röse, University of Kaiserslautern, Germany
Leon Urbas, Technische Universität Berlin, Germany
Alexander Künzer, Aachen University, Germany
Martin Christof Kindsmüller, Technische Universität Berlin, Germany
Sandro Leuchter, Technische Universität Berlin, Germany

ABSTRACT

UseWorld.net is a federated user adaptive Internet portal that supports information exchange and cooperation in research and development in the area of human machine interaction. It has been jointly developed with members of Center of Human-Machine-Systems (ZMMS, TU Berlin), Chair of Industrial Engineering and Ergonomics (RWTH Aachen), Chair for Industrial Design (University of Essen) and Center for Human-Machine-Interaction (ZMMI, University of Kaiserslautern). The portal is operated by an independent open incorporated society. It integrates manifold information services (online journal, different thematic link collections, conference database, expert database) and a sophisticated cooperation component to support distributed teams by
providing shared workspaces. Software agents for community awareness tasks and a clean and consistent interaction design complete the solution and support the portal’s innovative operation concept, which intends to activate the users to become editors.

**WHAT IS UseWorld.net?**

**Design Goals**

Today, cooperative work is a common practice in research and development but it is done mostly “offline” so far. However, it is typical for both teams of developers in industry and scientists of different research organizations to work together as a virtual and interdisciplinary team. The goal of the described project is the development of a portal called “UseWorld.net.” UseWorld.net smoothly integrates different information services with components for collaboration and personalization into an open user adaptive scientific portal. It was jointly developed by a distributed interdisciplinary team at four German universities to support information exchange and cooperation within the research area of human-machine-interaction. Scientific information services (electronic online journal, conference announcements, link list, job postings, pre-print server, bibliographic references, mailing lists, and expert database) are integrated, and structured by means of the metaphor of a browse-able web-catalogue. The integrated search engine of the portal does not only index the internal catalogue. It also considers the external content, which is connected to the portal by links. Registered users can establish and administrate mailing lists for particular interest groups. A shared workspace component enables file-based cooperation in working groups. Once again, registered users can easily form such groups and invite other portal users to take part in this working group.

**UseWorld.net**

The portal is operated by a non-profit organization. Except for the journal that is published by an editorial board, the operational concept does not require an editorial office for supplying new content. Instead, we applied the idea from several successful online communities and participative e-learning projects that all registered users can act as editors.

With this operational concept in mind, two main objectives have to be met by the engineering process: quality assurance of content and online community building. First of all, the community success relies on the activity of the community members. They will only take active part if they gain an individual benefit. Their avail is the content offered by other users, so they have to accept it and thus have to trust the content. Quality assurance is central because every registered user is allowed to place new information in public readable areas of the portal. To introduce quality assurance we provide registered users the possibility to rate content. Ratings are used in the portal’s catalogue to filter and sort listing views. Thus low rated content will not displayed at a prominent place. Since the target group of UseWorld.net is interdisciplinary (psychologists, computer scientists, engineers, graphic designers), the interests and needs of the single portal user greatly differs. This results in a heterogeneous content and ratings. To qualify other users’ ratings we apply (user adaptive) relevance information inferred from different sources: use of same workspaces, profile information (in means of catalogue
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