

Distributed cooperative knowledge spaces

Virtual knowledge spaces are virtual rooms where users can meet and cooperate. This includes collaborative access to materials and arranging documents. The open source learning and working environment sTeam represents an implementation of the virtual knowledge space concept. As a server-oriented System this virtual environment is limited to a single server.

The goal of this work is to enable the next level of cooperative working in virtual knowledge spaces, which allows for a cooperation independent from server boundaries. At the same time, user actions take also place independent from servers. On the technical level a shared data space acts as the basis for a connection between virtual spaces.

The respective focus is to connect knowledge spaces lying on different servers. Thus, users are enabled to access distant spaces and work cooperatively with remote users and groups. In order to describe these facts the concept of an activity space is introduced, which is based on events in contrast to simple data spaces. It therefore also represents user actions within shared data spaces.

Based on these concepts different architectures of distributed knowledge spaces have been developed. Those architectures include design patterns, which serve as solutions for diverse problems in the area of distributed virtual knowledge spaces.