

Robots in future collaborative working environments

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In this workshop, we intend to issue the problem of researching integrative concepts of advanced robotic systems, to be seen as collaborative agents, in various environments working together with humans. For this reason, the Spanish national CYCIT Project PI2004-00325 and the European Project Robot@CWE FP6-2005-IST-5, both developed within the working team Robotics Lab in the University Carlos III of Madrid, are presented.

The special industrial needs for collaborative work with robots and an initial identification of the usability issues and techniques to be applied are presented in order to identify candidate technologies for enabling collaborative working with robots. Several robotic systems will be presented, with special mention to the Humanoid Robot Rh1, developed in the Robotics Lab at the University Carlos III together with helpful technologies and strategies useful for the objective

The conceptual architecture for integrating robots with collaborative working environments used within the Robot@CWE will be presented, complemented by the establishment of multimodal interaction paradigms.



Fig. 1. Humanoid robot HRP-2 during a collaborative task.



Fig. 2. A space-oriented collaborative task.



Fig. 3. A construction-oriented collaborative task.

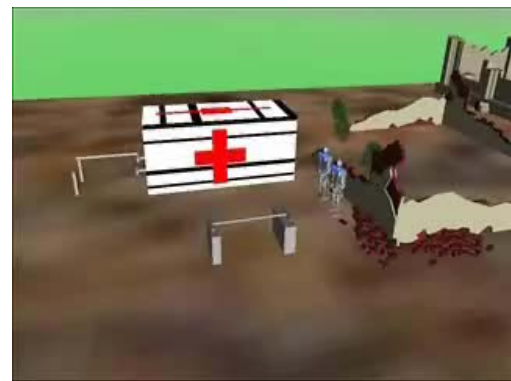


Fig. 4. Disaster scenario

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