

## SKILLS: Acquisition and Transfer of Skills using Ecologically-oriented Multimodal Human-Machine Interfaces

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SKILLS is a European Integrated Project (2006-2011) dealing with the acquisition, interpretation, storage, maintenance and transfer of human skill using multimodal technologies such as virtual and augmented realities, human-machine interfaces, interaction design, and robotic systems. The ontology, structure, and main results of the project are presented.

**Mots-clés:** Skill, learning accelerator, virtual reality, human-machine interface

SKILLS is a European Integrated Project (2006-2011) dealing with the acquisition, interpretation, storage, maintenance and transfer of human skill using multimodal technologies such as virtual and augmented realities, human-machine interfaces, interaction design, and robotic systems. SKILLS introduces a novel approach to technology-assisted acquisition or rehabilitation based on the direct and multimodal interaction between learner and technology. Perception-action, affordance-based, and cognitive accelerators embedded in specific training protocols are used at various stages of learning in several (real) trainee – (virtual) trainer situations. In this talk, the SKILLS project — mission, objectives, methodologies, and movement primitives — will be shortly presented. Illustrations of the SKILLS results will be given in the domain of Sport & Entertainment (rowing, juggling), Surgery & Rehabilitation (upper-limb movements of stroke patients), and Industrial maintenance (assistive robotics during assembly). These results highlight the efficacy of an ecologically-oriented training of complex actions in a technologically-assisted multimodal environment.

## REFERENCES

[www.skills-ip.eu](http://www.skills-ip.eu)

[www.euromov.eu/skills](http://www.euromov.eu/skills)

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