

heig-vd

Haute Ecole d'Ingénierie et de Gestion
du Canton de Vaud

RH1-Y

Facts

- First time at Robocup
- Success in other competitions
 - 100% Eurobot qualifications 1998-todate
 - 4th European out of several hundred teams
 - Winner of Per'Ac robot competition
 - Numerous publications
- Ten previous robots and more

Methods

- Architecture and Tools
 - Star network with TCP-IP and Ethernet
 - Compact computer for supervisory control and MMI
 - PLC for I/O's
 - Distributed low-level vision and joint control
 - Real-time interaction and multi-agent programming in Piaget
- Special aspects
 - Extremely fine-grained multi-threading
 - VAL-style instructions for high-level specifications of compound transforms, motions, and trajectories
 - Thorough capabilities for visual engineering, general simulation, and debugging
- Novel additional contributions for Robocup-at-Home application
 - Vision primitives for guide recognition and tracking
 - Multi-sensory data fusion
 - Integration of vocal communication (analysis and synthesis)
 - Map and trajectory management
 - Wireless remote control ("chat" mode)
- Concept
 - 3D vision with TOF camera
 - Path thinning
 - Obstacle-based path management

