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Disaster Setting At The RoboCup 2009: Flight And Rescue Robots Demonstrated Their Abilities

ScienceDaily (July 3, 2009) — Modern robotics can help where it is too dangerous for humans to venture. Search and rescue robots (S&R robots) have meanwhile become so sophisticated that they have already carried out their first missions in disasters. And for this reason rescue robots will be given a special place at the RoboCup 2009 – the robotics world championships in Graz.

The flight robot in action. (Credit: Image courtesy of TU Graz)

The rescue robotics programme provided exciting rescue demonstrations in which two complex disaster scenarios formed the setting for the robots' performances. An accident involving a passenger car loaded with hazardous materials and a fire on the rooftop of Graz Stadthalle were the two challenges that flight and rescue robots faced on their remote controlled missions. Smoke and flames made the sets as realistic as possible, ensuring a high level of thrills.

Blazing flames on the eighth floor of a skyscraper means that the reconnaissance and search for injured would already be life threatening for fire services. A remote controlled flight robot can help by reconnoitering the situation and sending information by video signals to the rescue services on the ground. As the robotics world championships, the RoboCup recognised the possible uses of rescue robots a long time ago and promoted their development in the separate category "RoboCup Rescue". RoboCup 2009, organised by TU Graz, dedicates one particular focus to the lifesaving robots with a rescue robot demonstration, a practical course for first responders and a workshop for the exchange of experiences between rescue services and robotics researchers.

A burning rooftop and hazardous materials

Fire and smoke were seen in front of the Graz Stadthalle on Thursday 2nd July 2009, and yet there was no cause for panic – rescue robots were in action. To demonstrate the capabilities of flight and rescue robots, two disaster scenarios were re-enacted as realistically as possible. A crashed automobile loaded with hazardous materials provided a challenge to the rescue robot. Operated by rescuers by remote control, the metal helper named "Telemax" had to retrieve the sensitive substances

and bring them out of the danger zone. The flight robot had to find a victim on the rooftop of the Stadthalle und send information in the form of video signals.

Emergency services meet their future helpers

There is an introduction to possible applications of today's rescue robotics together with a practical course specially for first responders. In the training courses on 3rd and 4th July from 8 to 10am, search and rescue services from the whole world over can practise operating flight robots, go on a reconnaissance mission in a specially designed rescue area with rescue robots or practise various manipulation tasks and recover hazardous materials or retrieve injured persons using remote controlled robots.

A workshop on the topic of rescue robotics will take place following the RoboCup on the 6th July 2009 at TU Graz. The focus will be on an exchange of experiences between first responders and robotics researchers.