

Palpable technology helps rehabilitate children with different abilities

A new technology from the European research project PalCom makes rehabilitation more effective and enjoyable for children with motor or cognitive impairments. The prototype, developed in collaboration with an Italian hospital, is a set of interactive tiles used during swimming pool therapy.

One of the outcomes of the European research project PalCom is a new technology for rehabilitation children with Down's syndrome, autism or other kinds of physical and cognitive impairment. The prototype is called 'Active Surfaces' and consists of interactive tiles designed for event games during swimming pool therapy.

Therapists configure the tiles in specific patterns that the children will have to reconstruct during the game in the water. The children then have to discover the correct combination, for example how to put in sequence different images from the smallest to the biggest.

Easy and fun to use

- Therapists can configure the waterproof tiles on-the-fly. The prototype is easy and fun to use – for both therapists and children. The tiles can be configured in many different ways and offer a stimulating and exciting environment for therapy, says Professor Patrizia Marti from the University of Siena. She is one of the researchers behind the new technology.

The prototype is developed and tested in close cooperation with the rehabilitation unit of the Le Scotte hospital in Siena. The scenario is a swimming-pool, because the water allows the children to move more effortlessly. Many of them have problems with their balance, some cannot walk, and others have difficulties in social relations or in maintaining the focus of attention. Active Surfaces creates a stimulating environment where they can play and have fun.

Designed for palpability

The new technology is the fruit of international cooperation within the research project PalCom. The purpose of PalCom is to develop a new approach to pervasive computing; 'palpable computing'.

- The Active Surfaces prototype is a textbook example of palpable technology: It is straightforward to use and easy to modify in accordance with the changing needs of users, says Professor Patrizia Marti.

The prototype will be presented at the Fifth Symposium on Human-Computer Interaction – CHIItaly – on the 29th of June 2007, in Padua.

About the PalCom project

PalCom (IST 002057) is a four-year integrated project that is funded by the European Union. Over 100 researchers and professional developers take part in PalCom. They come from universities and IT companies all over Europe. Read more about PalCom at the project's web page: <http://www.ist-palcom.org>