

INTERSTRESS Tests Technology Solution to Stress

What if lowering your stress level was as easy and as much fun as playing a video game? What if all of the work was automated for you, with reminders on your mobile phone? What if the system that achieved this was so smart, it changed the program the second you changed your behavior?

This is the vision of a new project funded by ICT for Health, European Commission. Called Interreality in the Management and Treatment of Stress-Related Disorders, or INTERSTRESS for short, the project aims to design, develop, and test an advanced ICT-based solution for the assessment and treatment of psychological stress.

The project's creators define "interreality" as a hybrid, closed-loop, empowering experience bridging both physical and virtual worlds into one seamless reality. In other words, behavior in the physical world will influence the virtual world experience, and behavior in the virtual world will influence the real-world experience. Clinical use of interreality is based on a closed-loop concept that involves the use of technology for assessing, adjusting, and/or moderating the emotional regulation of the individual. This is achieved by increasing the individual's coping skills and appraisal of the environment based upon a comparison of the individual's behavioural and physiologic response with a training or performance criterion. The project will provide a proof of concept of the proposed system with clinical validation.

The objectives of the project may read like something out of science fiction, but the researchers want to educate the public that these objectives are attainable based on scientific fact:

- *Quantitative and objective assessment of symptoms using biosensors and behavioural analysis
- *Decision support for treatment planning through data fusion and detection algorithms
- *Provision of warnings and motivating feedback to improve compliance and long-term outcome

These goals will be achieved through the novel use of technology:

- *3D shared virtual world role-playing exercises in which players interact with each other, using immersive technology in the healthcare centre augmented by non-immersive technology in the home setting
- *Biosensors and activity sensors to transmit data from the real world to the virtual world, tracking emotional, health, and activity status of the individual, thereby influencing the individual's experience in the virtual world
- *Mobile phone applications to transmit data from the virtual world to the real world

The project kick-off meeting was 19 March 2010 at Istituto Auxologico Italiano in Milan, Italy. The project will run for 36 months.

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