

## Virtual scares

Delta and Delft Integraal often write about innovative ideas that offer big promises for the future. But what has happened to such ideas a couple years on? What for instance has happened to Virtual Reality Exposure Therapy?



Assistant professor Willem-Paul Brinkman (left) and Niels ter Heijden flank the monitor, while Guntur Sandino wears the helmet. (Photo: Jos Wassink)

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*'The three dimensional image quality should be improved, the VR-helmet should be bigger and have higher resolution to intensify the system's 'presence'.'*

Virtual Reality Exposure Therapy (Vret) was developed at TU Delft's faculty of Electrical Engineering, Mathematics and Computer Sciences, in collaboration with the University of Amsterdam (UvA), as a tool to treat phobias like the fear of flight or heights. Assistant professor Willem-Paul Brinkman reveals that the system is in actual use for therapy at the treatment centres Valk Foundation in Leiden and PsyQ in The Hague. Patients often prefer virtual reality therapy to being exposed to real discomforts, because they think it's less scary. This however often turns out to be an illusion.

For Brinkman, who took over the Vret project in 2007 from dr. Charles van der Mast, the need for better graphics, as was determined in 2002, is hardly an issue. "As a matter of fact, we found out that we didn't actually need better graphics to improve the experience," he says. "Feedback from therapists taught us that if the scenario was real enough, including sounds and shaking chairs, patients didn't pay attention to the poor image quality. They were much too frightened for that."

MSc student Guntur Sandino shows how the flight programme has been adapted to make the experience more real, to augment the presence. The interior of the plane has been made more realistic, sounds consist of actual recordings, and the various stimuli have been packed into 'realistic scenarios' of, for example, steadily worsening weather. Not much need for improvement there.

Instead, the Vret team is exploring new applications in the social domain. Imagine that you walk into a shop and tell the gorgeous girl behind the counter that you're looking for new trousers, size 34 by 34. She then looks you up and down and says: "You'll never fit into them." Schoolboys and girls in the Junior TU Delft programme have conjured up such embarrassing situations.

Another common social scare is talking to an audience. MSc student, Niels ter Heijden, is currently working on the speech recognition to enable a social talk therapy. The current set-up puts you in front of a small panel, and then the panel members ask you questions on a topic of your choice (that is, as long your topic of choice concerns penguins, dogs, democracy or France). The busty girls and fidgeting guys in the picture ask questions. You answer. Currently, it doesn't matter what you say, only that you speak. As technology progresses, so will the flow of conversation.

By the way, the image quality has nevertheless been improved. It wasn't needed therapeutically, but the X-box-spoiled therapists expected better quality. Plus, general image quality has been steadily improving since 2002, so this improvement pretty much came about of its own accord.