

# In therapy with avatars

April 29 2011

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(PhysOrg.com) -- Combating phobias and psychotic disorders using virtual technology. This is what the work of TU Delft researcher Willem-Paul Brinkman involves. In the latest edition of Delft Outlook, TU Delft's science magazine, Brinkman shows how this method can provide solutions for such problems as fear of flying and, in the longer term, possibly also for social disorders.

## **Fear of flying**

Brinkman is developing so-called VRET systems (Virtual Reality [Exposure Therapy](#)) which can be used to help people deal with their anxieties, such as fear of flying, fear of heights or claustrophobia or psychotic disorders, such as [paranoia](#). One of the first products to emerge from the Delft [Mental Health](#) Computing Lab was a vibrating aircraft seat. TU Delft researchers have been working with other parties to develop a system to enable people with a fear of flying to experience the sounds and feel of flying via a virtual reality helmet and the vibrating seat as if they were really in the air. This helps them to become exposed to the feared situation and so overcome their fear. The system is already being used intensively, explains Brinkman.

## **Virtual pub**

Recently, Brinkman's work has concentrated on programmes like the virtual pub that are designed to help people with social problems. The idea is that reconstructing the social environment in a [virtual world](#) and exposing people to it will enable psychiatrists to study psychotic symptoms more effectively and ultimately provide better help to patients.

### **It needs to be even scarier**

The virtual pub is still in the pilot phase. It all needs to be made even scarier. Patients find it extremely frightening when people look at them for long periods. So this feature needs to be added. It also needs to be possible to conduct a simple conversation.

'We have now conducted research on what happens when we expose people to a busy environment and to people of a different ethnicity; two factors which are known to relate to psychosis. People with paranoia

seem to show a similar response to situations in the virtual world as in the real world', explains Dr Wim Veling from the psychiatric institute Parnassia in Delft Outlook.

The researchers record people's reactions using physical measurements. There are changes to the patterns of the heartbeat and sweat production, and these can be analysed by computer programs.

## Therapy

The aim of the research is ultimately to develop a method for cognitive behavioural therapy.

'Now patients tell us afterwards that they were afraid when they were sitting in the tram, for example, because they felt that they were being stared at', explains Professor Mark Van der Gaag in the article. 'Or that they heard fragments of conversations and thought they were about them. In cases like these, their response is to flee.'

'In the virtual world, we encourage them to respond differently. The threshold for staying in the tram for one more stop – we intend to also create a virtual world in the tram – is lower because you know that there is no real danger. The patient realises that people eventually look away and there is actually nothing the matter.'

Provided by Delft University of Technology

Citation: In therapy with avatars (2011, April 29) retrieved 23 May 2024 from <https://medicalxpress.com/news/2011-04-therapy-avatars.html>

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