Workgroup 2

Technological challenges in the use of VR

Moderator: Charles van der Mast
Gianluca Castelnuovo, Pavel Kral, Dave Lam,
Zeljka Mihajlovic, Sinisa Popovic

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TU Delft
Delft University of Technology

11 CHALLENGES:

discussed
Ł consensus

(no priority)

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1. Personalizing the system

- Giving the opportunity to the individual therapist to plan sessions in detailed steps on the computer off-line and to make individual changes in system and world characteristics for each patient
- Changing UI and navigation style for each patient (patient should navigate – if possible – or not)
- Improving individual usability of the system

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2. Automatic support of therapist [*]

- With agent support and artificial intelligence some steps of the sessions may be proposed to be done by the computer under control of the therapist
- In other words: the therapist can specify and plan some micro routines to be done by the computer under his control; he can monitor what is happening with the possibility to take over immediately
- This is interesting for senior therapists who like to increase their performance and for junior therapists to learn - supervised by their senior therapist who is training them

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2a. Detailed task analysis of therapist's work

- By observation of sessions using VRET
- Collecting logged data of sessions, including recorded digital movies of sessions
- Searching for (individual) patterns of therapists and therapist-patient combinations

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2b. Physiological measurements

- Physiological (heart rate, etc.) measurements may be done to advice (using rules) the therapist about the progress of a patient's session online

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2c. Face recognition

- Emotional face recognition is on the way; it is possible to recognize a lot of emotions from the face - for different races
- Emotions related to fear may be recognized and offered to the therapist in the same way as physiological measurements; if parts of the face are not visible (HMD) this is still possible

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2d. Speech analysis

- Recognition of speech by the patient can be used to learn about his emotional stage; in the same way as with memotional face recognition
- Recognition of speech can also be used to know what the patient is answering to questions about the session, e.g. his SUD, some keywords about his feelings

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2e. Automatic support for patient

- The therapist can specify assignments for the patient to do as self-treatment
- Therapist should specify when and which messages have to be sent to him to be able to monitor and evaluate the progress of the patient

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3. Computer-based training

- A module to make and run CBT modules for training young therapists
- This may be possible with real patients and with simulated patients

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4. Tele-care [and 1:n ratio / multitasking psychotherapist]

- It should be possible for the therapist to manage more than one session simultaneously
- The user therapist interface should support this
- The therapist is able to treat patients locally and in other clinics, or in special case home
- This may free us from the expensive 1:1 ratio for one therapist versus one patient
- Maybe one senior and one junior therapist can together treat 3 or 4 patients at different locations at the same time [1:3/2 or 1:2 ratio]

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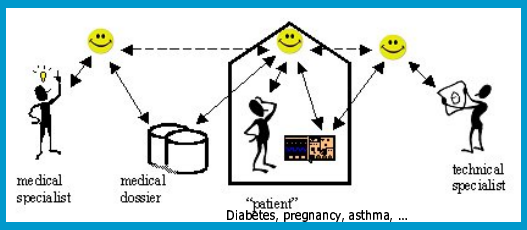
SuperAssist project



- Concept of intelligent personal assistants
- Multi-user multi-agent situation

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5. Eye tracking

- Looking for essential/critical focus points that influence phobia experience
- Showing (graphically) where phocus was during last minute of current session and showing this to the therapist

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6. VRET experience within the MRI/CT scanner

- With non-metallic HMD the influence of experiences on activities in specific regions of the brain can be recorded in a scanner; this is for off-line studies

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DISCUSSION

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