**Master thesis projects: emotion expression in 3D virtual environments**

**(joint project of Industrial Engineering, Design Aesthetics and Elektrotechn., Wisk. & Inform, Man-Machine-Interaction)**

**Contact: Joost Broekens (joost.broekens@gmail.com)**

In this project we use avatars in 3D virtual worlds as conversation partners in the context of negotiation training. Emotion plays an important role during a negotiation: it can be both a positive influence on the process as well as a negative one. It is therefore of importance that the avatars have a good way of expressing emotions. Valid and reliable emotion expression is an important, and currently unresolved, topic in modeling avatars. Emotion can be expressed through faces, gestures and more global movements of the avatar, as well as through its behavior and choice of actions. In this project we focus on emotion expression through faces and gestures. Faces will be modeled, for example, based on FACS (Ekman), a system that in detail prescribes how the human face changes in accordance with particular emotions. Key in the project is that the emotional expression generated by the avatar is validated with human subjects. As such, there are three faces in this project: an initial modeling phase, an evaluation phase and a second modeling phase that will take into account the results of the evaluation phase.

Obviously having reliable and valid emotion expression in such avatars is of broader interest than the current application (negotiation training), for example, gaming, tutor agents, other simulation and training systems and human-machine interaction in general.