Virtual Worlds for Serious Applications (VS-GAMES'12)

An affective model for a virtual recruiter in a job interview context

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Abstract

The TARDIS[1] project aims to build a scenario-based serious-game simulation platform for young people at risk of exclusion to explore, practice and improve their social skills. This paper presents a model for socio-emotionally realistic virtual agents in the context of job interview simulations.

Keywords: Affective model, Emotions, Moods, Social attitudes, Job interview

1. Introduction

The number of young people not in employment, education or training (NEETs) is increasing across Europe (22.6% of the global population). Current research reveals that NEETs often lack self-confidence and the essential social skills needed to seek and secure employment [1]. In [2], a study shows that people who tried to suppress or hide negative emotions during a job interview are considered more competent by evaluators. To help those young people to access jobs, youth inclusion associations across Europe provide social coaching programmes.

In TARDIS, we propose to use job interview simulations with a virtual agent to train youngster's emotional intelligence. Several models have been proposed in the domain of affective computing to build credible virtual human based on cognitive models of emotions [3], moods[4], personality [5] and social relations [6]. However, to our best knowledge, no computational model of social attitude have been proposed. Social attitudes are the expression of the personality of an agent through its behaviour and its emotional expressions, in the context of social norms. For example, in the context of a job interview, the social attitudes tells the recruiter a lot about the interviewee's personality and feelings about the job.

2. Architecture

The TARDIS architecture considers four main components. The *Social Signal Interpretation module* provides the affective model with information about the youngster's affects detected by the system. The *Scenario module*

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[1]TARDIS stands for Training young Adult's Regulation of emotions and Development of social Interaction Skills.
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tells the virtual recruiter the expectation in terms of emotions and attitudes, depending on the interview progress. The *Animation module* is responsible for expressing the virtual recruiter's affective state through its behaviour. *The Affective Model*, that is presented in this paper, is responsible for determining the agent's internal state (output) depending on the recognized affects and scenario expectations (inputs).

Figure 1 gives an overview of this architecture. The Affective Model periodically computes the new affective states for the Virtual Recruited Model, based on differences between youngster perception, expectations from the scenario and current affective states.

Our model considers emotions, moods, social attitudes and personality. Emotions (joy, distress, relief, disappointment, admiration, anger, hope, fear) are based on the perception and the expectation of the virtual recruiter. Moods (relaxed, hostile, exuberant, bored, disdainful) are computed in a middle-term dynamic on the base of emotions. Social attitudes (friendly, aggressive, comprehensive, dominant, attentive, inattentive, gossip) relies on the mood and the personality of the recruiter.
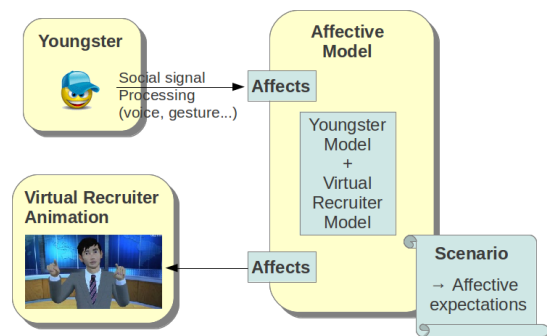

Fig. 1. Global architecture

3. Experimentation

We use a job interview scenario with predefined questions/answers. Figure 2 shows the dynamics of the recruiter's mood in Pleasure (P), Arousal (A) and Desire (D) dimensions. It shows how the recruiter reacts positively/negatively to positive/negative affects expressed by the youngster. Indeed, pleasure increases with good affective answers and decreases with bad ones.
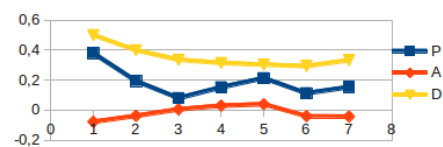

Fig. 2. PAD evolution for a relaxed youngster

4. Conclusion

The model presented in this paper is only at a preliminary stage and its implementation in the TARDIS simulator is in progress, with an evaluation of the platform in next winter. One core issue that has to be dealt with is the imprecisions and errors in the social signal interpretation. We are currently considering how our model can be extended to consider probabilistic or fuzzy theories.

Acknowledgements

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