



Nonverbal behaviors for virtual agents



MARKET CHALLENGES

Many real-time interactive systems feature **virtual anthropomorphic characters** in order to simulate conversing groups and add plausibility and believability to the simulated environments.

They are called embodied conversational agents (ECAs), can communicate with virtual or real interlocutors using verbal and non-verbal means.

Believable nonverbal behaviors for ECAs can create a **more immersive experience** for users and improve the effectiveness of communication. The models usually cover six prototypical expressions of the emotions: anger, disgust, fear, happiness, sadness and surprise. However, these basic emotions can lead to **caricature behaviors** of the ECAs.

SUGGESTED APPLICATIONS

- Intelligent personal assistants
- Video Games & Serious Games
- E-learning, e-tourism & e-commerce
- Robotics

DEVELOPMENT STATUS

A proof of concept is being developed

INNOVATIVE SOLUTION

The solution relies on an expressive embodied conversational agent system, in particular, a model of multimodal behaviors that includes dynamism and complex facial expressions.

It aims at generating nonverbal behaviors for ECAs (e.g. gestures, facial expressions, proxemics), depending on the interpersonal attitudes that they want to express within a group while talking.

By applying different methodologies, based on corpus analysis, user-centered, or motion capture, the agent's palette of multimodal behaviors has been enriched with social attitudes, multimodal expressive skills, active listening skills.

COMPETITIVE ADVANTAGES

- Fine expressions of emotions (for instance: regret, pride, anger masked by joy...)
- Go beyond the emotions and generate characters expressing different personalities and attitudes
- Animation calculated in real time

IP RIGHTS

Software