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RESEARCH STUDENT SEMINAR

Wednesday 27 January 2021
12:00-13:00
ONLINE

"Strengthening the engagement of humans with their Avatar by maximizing the effect of the suggestions of the Avatar to human perceptions."

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ABSTRACT

Affective technology is becoming vital because of its effectiveness to create credibility, human-like behavior and emotionality. This technology can contribute in most fields involved in web-centered applications, from e-commerce to e-therapy. Known also as assistive technology, it helps improving people's quality of life during their daily tasks. Specifically, virtual avatars/characters which are controlled either by bot or by a human, are suitable models to be used as virtual assistants because they allow emotional depiction thus, they increase interaction and immersion. Through the development of systems and devices that can recognize, interpret and simulate human behavior, affective technology is intended to give machines emotional intelligence and stimulate empathy. In order for this technology to represent appropriately the human-like characteristic, a human model is used with appropriate rules that immerse from three scientific sectors. This interdisciplinary field combines computer science, psychology and cognitive science in a way to accomplish core ideas which have their roots in early philosophical inquiries nonetheless, its full potential has yet to be unlocked.

By allowing depiction and generally embodiment of oneself to an avatar, self-perception is achieved which communicates the identity and emotional state through facial expressions, body posture, gestures and speech. The main aim of this study is to explore the means that drive people to trust and engage with technology in order to improve their quality of life. For this purpose a systematic literature review has been conducted, revealing a number of research gaps which lead to the research methodology suggested in this thesis. In order to address the identified gaps, the research methodology suggests integration of personality traits in virtual agents that are correlated with user's personality either based on similarity or based on complementarity principals. Personality traits are depicted in an holistic virtual model including facial expressions, gestures, body postures and speech.

The study adopts a deductive, quantitative approach starting with the existing theories about personality traits in humans and features that reveal them, as well as human communication and attraction principals based on personality. An extent investigation on these theories along with the study of up-to-date affective technology in virtual agents, formulates the theoretical model and the hypotheses to be tested. Collected data from experiments conducted, support or reject the hypotheses in order to verify or adapt existing theories. The results will be analyzed and used to optimize virtual agent's design in order to utilize it in focus groups and provide further insights. Following the integration of the findings from both first and second experiment, the theoretical model will be finalized and will outline the parameters that affect perception of virtual agents by people, feelings elicited and relationships formed between them. Results are expected to verify that interaction between people and human-like virtual agents is governed by the same rules that govern interaction amongst humans. This study is intended to improve future virtual agent's designers to develop more persuasive technology regarding e-health, e-commerce, e-learning and generally applications that can support human's daily life. With a proper combination of technology services and psychology theories, the next step to unlock full potential of machine learning for the shake of emotional intelligence is ahead.

The seminar series is open to all members of *staff* and *students* of CITY and to any *externals* that wish to attend.

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