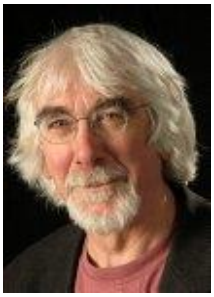
Keynote Talk 4: Virtual and Augmented Reality Animals in Smart and Playful Cities



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Abstract:
Our future urban environments are smart. Sensors and actuators are embedded in these environments and their inhabitants. We have an Internet of Things, where the 'Things' include objects, cars, tools, buildings, street furniture, and whatever can be equipped with sensors and actuators, including human and non-human animals. Augmented humans and augmented animals have their senses extended with digital technology. Their smart wearables connected with the smart environment make humans and animals smarter. Rather than on living animals, in this survey paper we focus on non-living virtual and augmented reality non-human animals that will inhabit our smart and playable urban environments. They will co-exist with robotic animals and (digitally augmented) humans and nonhuman animals. We include observations on augmented humans interacting with virtual and augmented reality animals. The paper is meant to raise awareness for the possibilities of augmented reality to introduce virtual animals for social, entertainment, and educational reasons.

Short Biography:
Anton Nijholt is Professor-Emeritus of the University of Twente. He started his professional life as a programmer at TNO-Delft, The Netherlands. He studied civil engineering, mathematics and computer science at the Delft University of Technology and did his Ph.D. in theoretical computer science at the Vrije Universiteit in Amsterdam. He held positions at the University of Twente, the University of Nijmegen, McMaster University (Canada), the Vrije Universiteit Brussels (Belgium), and at the Netherlands Institute for the Advanced Study of Humanities and Social Sciences NIAS) in Wassenaar. During some years he was a scientific advisor of Philips Research Europe, Eindhoven. A few years (2015-2017) he was a global research fellow at the Imagineering Institute in Iskandar, Johor, Malaysia. In 2018 he became a member of Microsoft's Technical Leadership Advisory Board on Brain-Computer Interfaces (BCI). Anton Nijholt has an interest in human-computer interaction, entertainment computing, affective computing, humor research, playable cities, and Brain-Computer interfacing. He has been program chair and general chair of the main international conferences and workshops devoted to these topics (ICMI, F&G, ACE, IVA, ACII). Nijholt is chief-editor of the specialty section Human-Media Interaction of the journals Frontiers in Psychology and Frontiers in Computer Science. He is also the series editor of the Springer Book Series on Gaming Media and Social Effects.