

Short Bio Pattie Maes

Pattie Maes joined the MIT Media-Laboratory as an Assistant Professor in the fall of 1991. Two years before that, she came to MIT to work as a Visiting Professor at the AI-Laboratory. She obtained her PhD in Artificial Intelligence from the University of Brussels, Belgium in 1987. Her area of expertise is Artificial Intelligence and its application in media and the arts. In particular, she is interested in modeling and building "Autonomous Agents" that interact with participants in virtual animated as well as cyberspace environments. Pattie Maes is the author of several publications, including a book on Meta-Level Architectures and Reflection (North-Holland Publishers) and a book on Designing Autonomous Agents (MIT Press). She has given numerous invited talks, including one at Ars Electronica '93, Imagina '93 and TISEA '93.

ALIVE is an artificial reality system which was demonstrated by a group of researchers at a conference in Anaheim, California. More than 500 participants used the system and saw the system in action. ALIVE is currently set up as a permanent system in a virtual space at the MIT Media Laboratory in Cambridge, Massachusetts.

The majority of virtual reality systems do not represent a very natural or engaging environment for the participant. The first problem is that they require the participant to be "wired up" by means of goggles or gloves. The second problem is that they typically only allow the participant to engage in simple, straightforward interactions. Typically, a user can only navigate through the virtual space, thereby changing what he/she perceives, and sometimes the participant can also perform some simple manipulations on virtual objects.

The goal of the ALIVE system was to provide a very different kind of experience. Inspired by the work of pioneer Myron Kruger, we wanted a participant to be able to interact with a virtual environment in a much more natural, unconstrained way, using familiar gestures that do not require any obstructive equipment. In addition, we wanted the user to be able to do more than just navigate through the environment or manipulate simple objects. We wanted to demonstrate that in order for a virtual environment to be very engaging, it might not be so important how fancy and fast the graphics are, but rather how meaningful and interesting the interactions can be.

In particular, the goal was to offer a more "emotional" and evocative experience by allowing the participant to interact with animated autonomous agents. These agents have a mind and "will" of their own, but are not indifferent to the actions of the participant. They respond to what the participant does, where he goes, and what kind of gestures and postures he engages in. For example, one of the agents responds to a pointing gesture by going away and showing an unhappy face. When the user beckons it to come back, it returns with a big grin on its face.

In the early days of Artificial Intelligence, the text-based Eliza or "doctor" program was believable enough to make users interact with it as if they were interacting with a real psychiatrist. In a similar way, we wanted to build animated agents that act and react in a "life-like" way (this time in terms of their actions and facial expressions rather than what they say). We hoped that users would find the agents convincing and would be hard to distinguish from the normally reserved for real living beings - reactions such as anger, sadness, happiness, and so on. The technical video hopefully demonstrates that for many participants, young as well as old, that was actually the case.