



Trinity College Dublin
Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin

Research Seminar

Prototyping the Future

Prof. Ken Perlin

NYU Media Research Lab
MIT Senseable City Lab & CNR Pisa

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Abstract

The question our lab at NYU is asking is "How might people in the future communicate with each other in everyday life, as computation and display technologies continue to develop, to the point where computer-mediated interfaces are so ubiquitous and intuitive as to be imperceptible?" To address this, we are combining features of Augmented and Virtual Realities. Participants walk freely around in physical space, interacting with other people and physical objects, just as they do in everyday life. Yet everything those participants see and hear is computer-mediated, thereby allowing them to share any reality they wish. A combination of wireless VR, motion capture and 3D audio synthesis simulate the experience of future high resolution contact lens and spatial audio displays.

To interact with this environment, we have created Chalktalk, a casual interface for sketching ideas in VR, as on a chalkboard, while also containing many paths for hand drawn sketches to seamlessly morph into software mediated diagrams, 3d objects, and simulation components, which can all then be used together. Sketches can be introduced in any order, without the requirement of a visible GUI. Participants in our environment make animated drawings in the space between them.

Our vision is that in the future, people will freely combine verbal and visual description. Natural language itself will evolve to incorporate gestures for creating animated visuals. In the course of every day conversation, people will literally draw their ideas in the air.

Bio:

Ken Perlin, a professor in the Department of Computer Science at New York University, directs the NYU Games For Learning Institute, and a participating faculty member in the NYU Media and Games Network (MAGNET). He was also founding director of the Media Research Laboratory and director of the NYU Centre for Advanced Technology. His research interests include graphics, animation, augmented and mixed reality, user interfaces, science education and multimedia.

He received an Academy Award for Technical Achievement from the Academy of Motion Picture Arts and Sciences for his noise and turbulence procedural texturing techniques, which are widely used in feature films and television, as well as the 2008 ACM/SIGGRAPH Computer Graphics Achievement Award, the TrapCode award for achievement in computer graphics research, the NYC Mayor's award for excellence in Science and Technology and the Sokol award for outstanding Science faculty at NYU, and a Presidential Young Investigator Award from the National Science Foundation. Dr. Perlin currently serves on the program committee of the AAAS. He was general chair of the UIST2010 conference, and has been a featured artist at the Whitney Museum of American Art.

Dr Perlin received his Ph.D. in Computer Science from New York University, and a B.A. in theoretical mathematics from Harvard University. Before working at NYU he was Head of Software Development at R/GREENBERG Associates in New York, NY. Prior to that he was the System Architect for computer generated animation at Mathematical Applications Group, Inc. He serves on the Advisory Board for the Centre for Digital Media at GNWC, and has served on the Board of Directors of both the New York chapter of ACM/SIGGRAPH and the New York Software Industry Association.