



Seminar Series Supported by Jeffrey and Holly Ullman

Seminar Artzi on Augmented Reality and Human-Computer Interface

January 02, 2008

Saal Auditorium (202), Alon Building for Hi-Tech, Dept. of Computer Science,
Ben-Gurion University, Israel

11:00 - 11:15 Coffee and registration

11:15 - 12:15 Looking to the Future in Augmented Reality Research
Mark Billinghurst,
Human Interface Technology Laboratory, New Zealand
University of Canterbury

Abstract:

Although Augmented Reality (AR) technology was first developed in the 1960's it is only recently that the first commercial AR applications have begun to appear. There are still many research challenges that need to be addressed before AR technology will become commonplace. This talk gives a brief review of the history of AR development and then discusses several important topics that need to be explored further. Examples will be drawn from some of the leading AR groups worldwide and also research undertaken at the HIT Lab NZ. Finally predictions will be made about how technology trends may impact AR applications in the future.

12:15 - 13:00 Augmented Mashup
Eyal Gever, Gizmoz Ltd.

Abstract:

For over 15 years Eyal Gever has been dedicated to leading the convergence of technology and art and enabling an advanced medium of visual expression for people and businesses. During his presentation Eyal will introduce both his artistic research as well as commercial work and demonstrate how he utilizes his research interests, which include 3D graphics techniques for enhancing user interfaces, mixed reality and real-time interaction techniques for interactive multimedia.

13:00 - 13:45 Lunch

13:45 - 14:30 Your Next Life: From Second Life to the 3D3C Metaverse
Yesha Sivan, Metaverse Labs Ltd., and Afeka College of Engineering

Abstract:

- What is the Metaverse compared with the Internet, web 2.0, gaming, etc.
- Key technical challenges and opportunities (hardware, software, 3D graphics)
- Key business challenges and opportunities
- A definition of the Metaverse as a new media that combines interactive 3D, Community, Creation, and Commerce

14:30 - 15:15 Controlling Highly-Immersive Virtual Reality by Thought Using a Brain-Computer Interface
Doron Friedman, IDC

Abstract:

As part of the EU Presencia project, we have integrated the EEG-based Graz brain-computer interface (BCI) with the UCL Cave-like virtual reality (VR) system, and have conducted several experiments. In this talk I will provide background to BCI, and explain why the combination of BCI and VR is particularly interesting. Next, I will briefly provide several results from our experiments over the last three years: navigation of a virtual street, controlling an avatar by thought, and a tetraplegic patient that was able to navigate a street and interact with virtual characters in the Cave.

15:15 - 16:00 Interactive Rendering of Large Polygonal Models
Jihad El-Sana, BGU

Abstract:

Augmented reality concerns enhancing user perception by supplementing the real world with virtual, often synthetic content. Ideally, we would like the added content to look and act as an integral part of the real world, which is 3D. Therefore, the added content often has the form of 3D models, which are registered and rendered into the real world in real-time. Usually a detailed representation is required to enhance a realistic appearance of these models. However, it is not always possible to render such detailed models in real-time. In this talk, we will enable the rendering of such large models at interactive rates, without affecting the original appearance of the models. This is possible through the use of multi-resolution level-of-detail representation, while utilizing the advances in graphics hardware.

16:00 Coffee and open session

