IT Eminent Lecture Series

Procedural Graphics

Dr. Turner Whitted, Microsoft Research

Pioneer in three-dimensional Computer Graphics

Design Building Auditorium
May 04, 2007 - 02:00 pm

Abstract:
The re-introduction of programmability into graphics hardware has produced a tremendously flexible imaging platform. At the same time, increases of processing speed relative to memory speed have shifted the performance advantage from memory-intensive graphical models to processor-intensive ones. The combination of these two trends has prompted designers of real-time systems to move away from passive models and towards procedural representations for shading, shape, and texture. This talk presents an overview of Microsoft Research's work on new procedural representations and architectures. It also presents a challenge to the established graphics pipeline and proposes alternatives more amenable to these procedural representations.

Speaker's Bio:
As a manager and researcher at Microsoft Research, Turner Whitted has explored topics in hardware devices, HCI, and computer graphics. He was a member of the computer science faculty at the University of North Carolina at Chapel Hill from 1983 until 2001 as well as a cofounder and director of Numerical Design Limited. Prior to that he was a member of the technical staff in Bell Labs' computer systems research laboratory where he introduced the notion of using recursive ray tracing to implement global illumination. He earned BSE and MS degrees from Duke University and a PhD from North Carolina State University, all in electrical engineering. In the past he has served on the editorial boards of IEEE Computer Graphics and Applications and ACM Transactions on Graphics, and was papers chair for SIGGRAPH 97. He is an ACM Fellow and a member of the National Academy of Engineering.

This lecture has a reception.

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