$\boxed{3}$

10:45 - 11:15

Universal Rendering Sequences for Transparent Vertex Caching of Progressive Meshes

Alexander Bogomjakov

Technion

We present methods to generate rendering sequences for triangle meshes which preserve mesh locality as much as possible. This is useful for maximizing vertex reuse when rendering the mesh using a FIFO vertex buffer, such as those available in modern 3D graphics hardware. The sequences are universal in the sense that they perform well for all sizes of vertex buffers, and generalize to progressive meshes. This has been verified experimentally.

$\boxed{4}$

11:15 - 11:45

Texture Mapping with Hard Constraints

Ilya Eckstein

Computer Science Department
Technion

We show how to continuously map a texture onto a 3D triangle mesh when some of the mesh vertices are constrained to have given (u,v) coordinates. This problem arises frequently in interactive texture mapping applications and has not been treated before. Our techniques are also applicable to texture mapping in multi-resolution scenarios.
Joint work with Vitaly Surazhsky and Craig Gotsman.

$\boxed{5}$

11:45 - 12:15

Face Fixer: Compressing Polygon Meshes with Properties

Martin Isenburg and Jack Snoeyink

Computer Science Department
University of North Carolina at Chapel Hill, NC

Most schemes to compress the topology of a surface mesh have been developed for the lowest common denominator: triangulated meshes. We propose a scheme that handles the topology of arbitrary polygon meshes. It encodes meshes directly in their polygonal representation and extends to capture face groupings in a natural way. Avoiding the triangulation step we reduce the storage costs for typical polygon models that have group structures and property data.

This invitation is an entry permit for your car at gate 4 of the Tel Aviv University campus.

INVITATION

ISRAEL SIGGRAPH PROFESSIONAL CHAPTER MEETING

Sponsored by

Silicon Graphics (Israel) Ltd.

8:30 - 12:00

January 12, 2001

Schreiber 06

Tel Aviv University

Chairman: Jihad El-Sana

Ben-Gurion University

8:30 - 9:00

Refreshments

$\boxed{1}$

9:00 - 9:30

Arbitrary Precise Orientation Specification for Layout of Text

Surazhsky Tatiana

Technion

In this work, a new method for the layout of text strings over some given free-form parametric base curves is considered. Each letter of the string is represented by a collection of cubic and linear *Bezier* curves. The layout of the string over the free-form parametric curve is derived as a symbolic composition of the string geometry (i.e. a sequence of *Bezier* curves) and a free-form parametric surface $S(u, v)$ with the parameters u, v between zero and one, and $S(u, 0)$ is given by the base curve. This method has proven to provide great flexibility and give high quality results in layout of text.

$\boxed{2}$

9:30 - 10:00

Hardware-accelerated from-region visibility using a dual ray space

Vladlen Koltun

Tel-Aviv University

We describe a novel from-region visibility algorithm, the unique properties of which allow conducting remote walkthroughs in very large virtual environments, without preprocessing and storing prohibitive amounts of visibility information. The algorithm retains its speed and accuracy even when applied to large viewcells. This allows computing from-region visibility on-line, thus eliminating the need for visibility preprocessing. The algorithm utilizes a novel geometric transform, representing visibility in a two-dimensional space, the "dual ray space". Standard rendering hardware is then used for rapidly performing visibility computation. The algorithm is robust and easy to implement, and it can trade off between accuracy and speed.

10:00 - 10:45

Coffee Break