Technion-Israel Institute of Technology

Computer Science Department

Center for Graphics and Geometric Computing

CGGC Seminar

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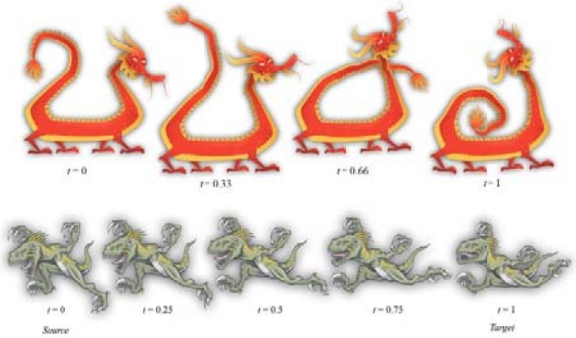
Planar Shape Interpolation with Bounded Distortion



Planar shape interpolation is widely used in computer graphics applications. Despite a wealth of interpolation methods, there is currently no approach that produces shapes with a bounded amount of distortion with respect to the input. As a result, existing interpolation methods may produce shapes that are significantly different than the input and can suffer from fold-overs and other visual artifacts, making them less useful in many practical scenarios. We introduce a novel shape interpolation scheme designed specifically to produce results with a bounded amount of conformal (angular) distortion. Our method is based on an elegant continuous mathematical formulation and provides several appealing properties such as existence and uniqueness of the solution as well as smoothness in space and time domains.

We further present a discretization and an efficient practical algorithm to compute the interpolant and demonstrate its usability and good convergence behavior on a wide variety of input shapes. The method is simple to implement and understand. We compare our method to state-of-the-art interpolation methods and demonstrate its superiority in various cases.

The lecture will be held on Sunday, 12.5.2013, at 13:00, Taub 337

Snacks and Beverages at 12:45

הזמנה זו מהווה אישור כניסה עם רכב לטכניון