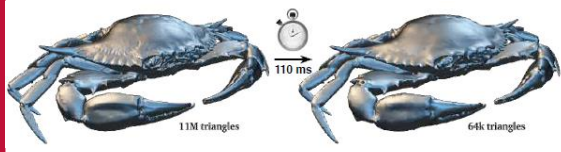
HEEPTSER

Real Time Geometry Processing API for Large 3D Data



DESCRIPTION

- HEEPSTER is a high performance API for processing large 3D point clouds and surface meshes, in split-seconds. HEEPSTER can process single objects, 3D data collections or live 3D stream.
- Award winning high-speed geometry simplification with color and feature preservation (a 3D scan with 1.5M triangles is simplified to 120K triangles in 34 ms).
- With fast meshing algorithm, the API enables the reconstruction of surfaces with boundaries and colors.
- Fast geometric smoothing, removes noise or stylizes surfaces and preserve features.
- HEEPSTER handles:
  - millions of 3D samples in milliseconds,
  - points clouds, polygon soups or indexed meshes,
  - attributes: normal, colors, etc.,
  - easy-to-use client side I/O buffers.

Keywords

Real time 3D Processing

Big 3D Data

3D Scans

Virtual & Augmented Reality

Web 3D

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COMPETITIVE ADVANTAGE

- HEEPSTER enables real time 3D data processing trough an API written in C++ (CPU) and CUDA (GPU), running 1000x faster than state-of-the art.
- A new method for high-speed adaptive simplification of 3D geometry
- Achieves split second simplification/filtering/reconstruction over millions of polygons, on a single low-end computer.
- Works with meshes, polygons soups, point clouds and animated data.

APPLICATIONS

- HEEPSTER can be integrated in a large spectrum of systems:
  - Future mobile 3D capture devices and streaming
  - 3D Broadcast
  - Robotics perception system
  - Smart augmented reality system
  - Data-driven virtual reality systems

DEVELOPMENT STAGE

- TRL 4
- Code based on industry standard (versioning, documentation, build, modularity)

INTELLECTUAL PROPERTY

- Software deposit to the Agency for the Protection of Programs
- French Patent Application (May 2015) and PCT application in May 2016