

Computer Graphics Research

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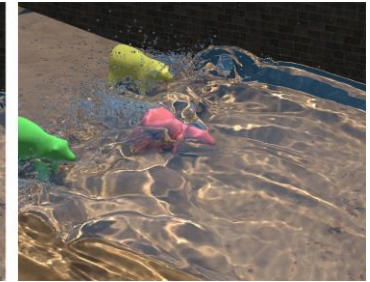
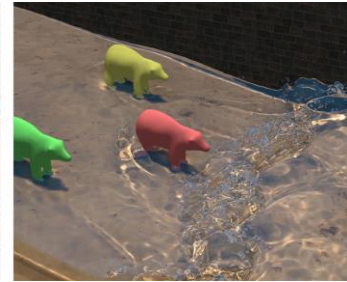
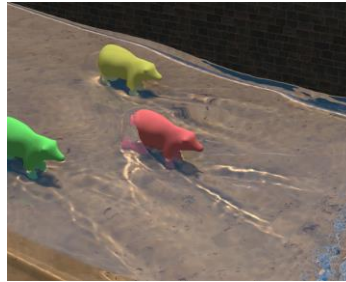
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Research Topics

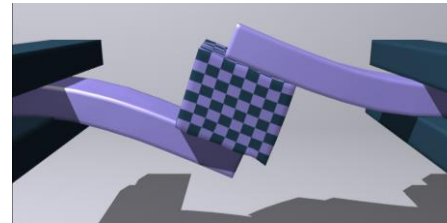
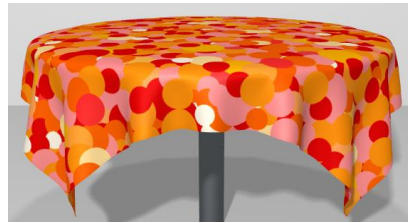
- physically-based animation and rendering of
 - rigid bodies
 - deformable objects
 - fluids



rigid bodies



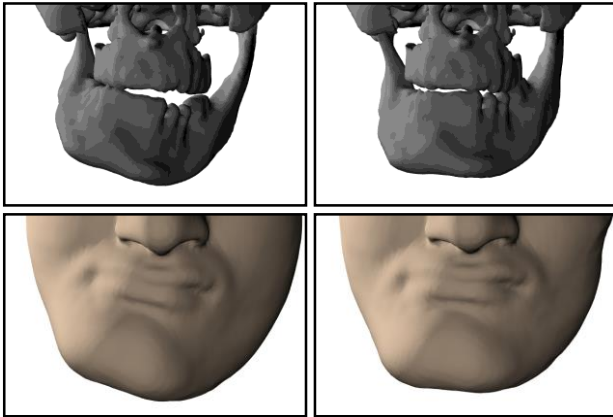
fluids



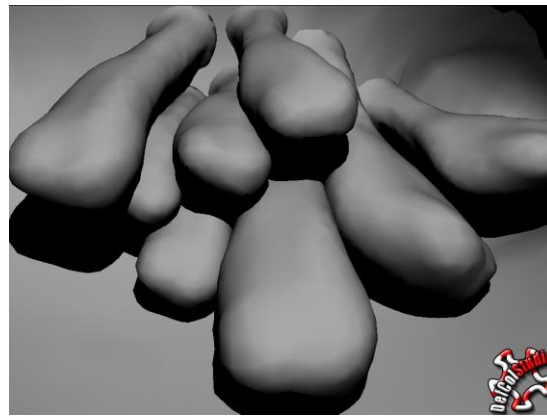
deformable objects

Applications

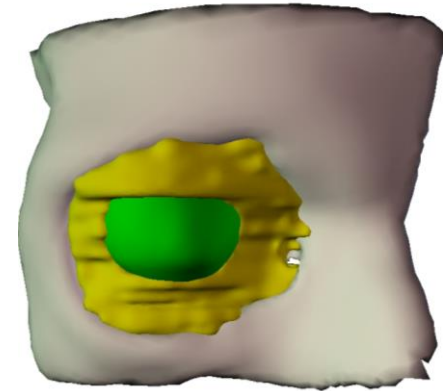
- computational medicine



pre-operative planning in
cranio-maxillofacial surgery



interactive hysteroscopy
simulation for educational
purposes



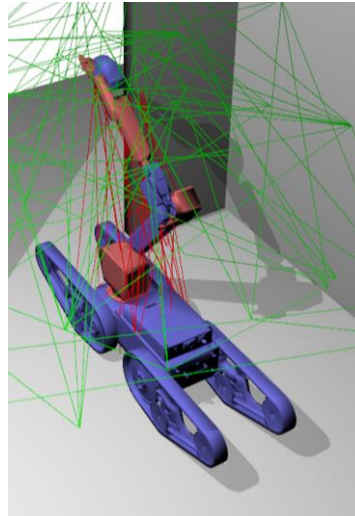
intra-operative support
in orbital reconstruction

Applications

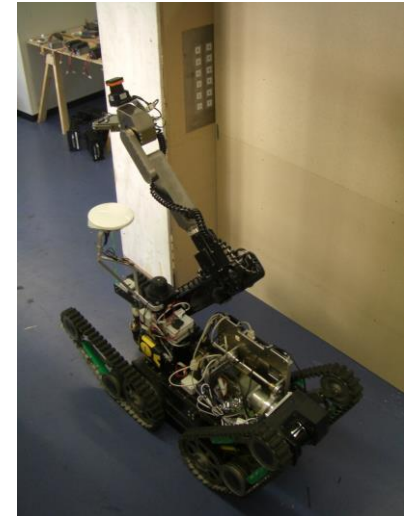
- robotics



support of robot navigation
with simulation environments



generation of virtual
environments using robots



DFG SFB TR8 (with Wolfram Burgard and Bernhard Nebel, University of Freiburg)

Applications (with Pixar)



10 million fluid + 4 million rigid particles, 50 s simulated,
50 h computation time on a 16-core PC, www.youtube.com/cgfreiburg

Applications (with FIFTY2 Technology)

PreonLab: Drive Through



PreonLab, FIFTY2 Technology GmbH, www.youtube.com -> fifty2

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