Optimized Facial Rigging and Animation

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Optimized Facial Rigging and Animation

The process of planning and setting the mechanics and controls to animate the face of a 3D character.
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Applications: Media

Films   Videogames   Advertising

Prometheus, 2012   Samaritan, 2012
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facial model→deform→mechanics→trigger→controls (UI)
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The artists' approaches since the 90s: state of the art

- Many approaches worldwide
- Complexity of the approaches

Bastos et al., Facial Rigging for Key Frame Animation, Proc. ARTECH’2012
VIDEO
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Character facial rigging and animation is:

- laborious and frustrating
- very time-consuming
- expensive
“Simulating the ocean is hard, simulating a face is harder.”

Jen Hsun Huang
NVIDIA Co-founder & CEO

2013 GPU Technology Conference
Focus in the human face

The human face as a basis for other facial styles:

- rig mechanics (behaviors)
- rig controls (interface)
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Focus in the human face: facial model

P. Bastos, Exploring Facial Modeling for Animation in Blender, BlenderArt Mag. 39
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Implementation

- open-source / community support
- tool quality
- significant impact in community
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Optimization of the facial rig **mechanics**

P. Bastos, Generic and Certified Facial Rig Mechanical Approaches for Key Frame Character Animation, Proc. CONFIA’2012
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Optimization of the facial rig mechanics
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Overall facial expression detail
A multimodal rig interface for facial animation:

- Window-based
- Camera-based
- Viewport-based

P. Bastos, Multimodal Rig Interfaces for Facial Animation, Proc. TKB’2013
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User experiment in Blender PT Conference

problender.pt/conf2013
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User Experiment Design

- **Training Stage**
  
  group (computers room)

- **Task Stage**
  
  individual (experiment room)
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Training stage

Training system freely

- group use with 18 computers (20 min.)
- skills questionnaire + consent sheet (10 min.)
Building poses for the human face

- individual poses (8 min.)
- interview (4 min.)
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Thank you