

VISGRAF at 2010

Luiz Velho
IMPA

1

Legally Adult !



2

Formula for a Lifetime

- Challenging Research Problems
+
- Interesting Applications and Projects
+
- Freedom for Student Work
+
- Innovative Lab Resources

3

Some Research Areas

- Interactive Media
- Virtual and Augmented Reality
- Omnidirectional Images and Video
- Advanced Modeling
- Expressive Animation

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Ongoing Projects

- Panoramic Narratives
- Total Immersion
- Visorama 2
- Muan
- ...

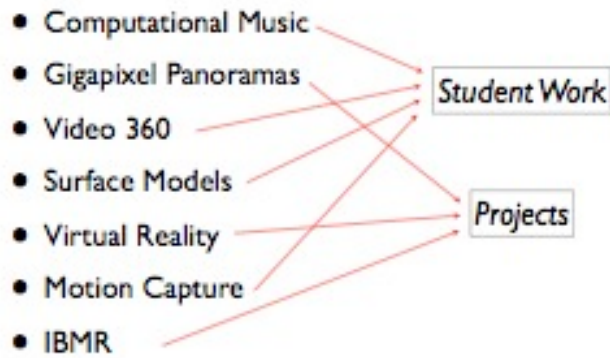
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Thesis & Dissertations

- Current
 - Dalia / Cicconet / Thiago / Leonardo
- Just Finished
 - Fernando / Sergio / Anderson / Aldo / Eric
- Starting
 - Adriana / ...

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Preview

- Computational Music
 - Gigapixel Panoramas
 - Video 360
 - Surface Models
 - Virtual Reality
 - Motion Capture
 - IBMR
- Student Work
- Projects
- 

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Computational Music

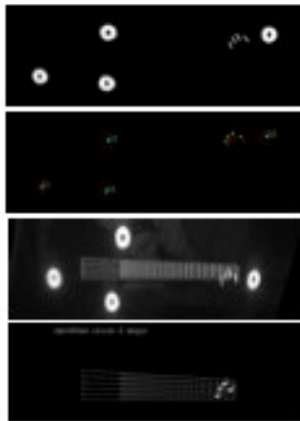
- Sergio Krakowski
 - Interaction
- Marcelo Cicconet
 - Data Fusion
- ▶ *Combines*
 - *Vision / Signal Processing / Learning*

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Guitar Chord Identification



[more](#)

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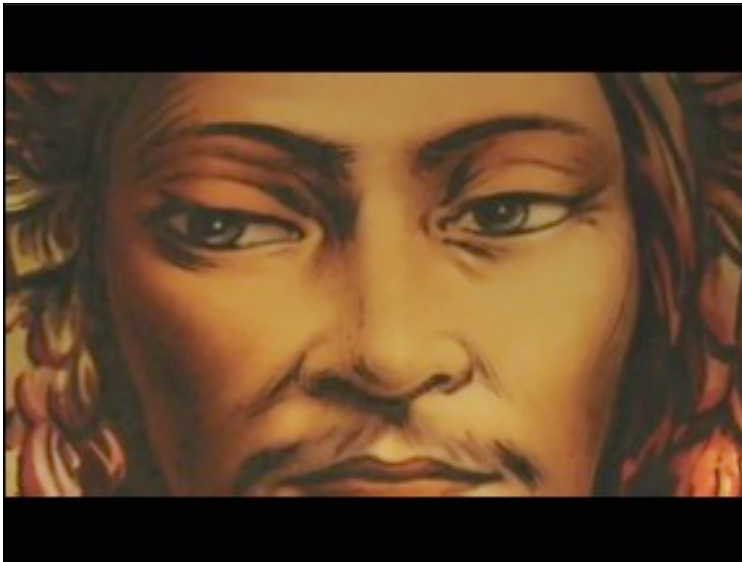
Panoramas & Narratives

- [N-Pan Project](#)
 - Collaboration IMPA / ESDI
- Gigapixel Panoramas
 - [Gigapan Epic](#)
 - [Image Processing Course](#)
- [Authoring New Media](#)

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Omnidirectional Images

- Leonardo Koller
 - Wide-Angle Content-Preserving Projections

▶ *testbed*

✓ Ladybug

* the "Dome"

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Multum in Parvo

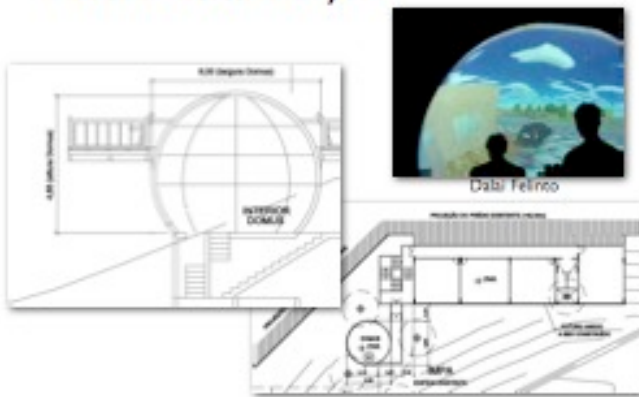
- New Cinema...



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the "Dome"

- soon a *Theater* near you!



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Modeling Surfaces

- Structuring
 - Exoskeleton
 - Fernando de Goes
- Editing
 - RGBN on Manifolds
 - Thiago Pereira

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Patches



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RGBN Editing

- Features and Mesostructure



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Playful Virtual Reality

- Bruno Madeira

- Simulation



- Games



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3D Stereo



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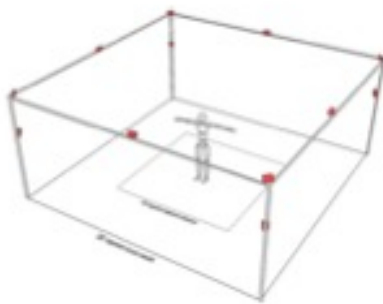
Motion Capture

- Adriana Schulz
 - Articulated Structures
 - Human Animation and Interaction
- ▶ the Setup
 - Optical Track
 - TI Playground

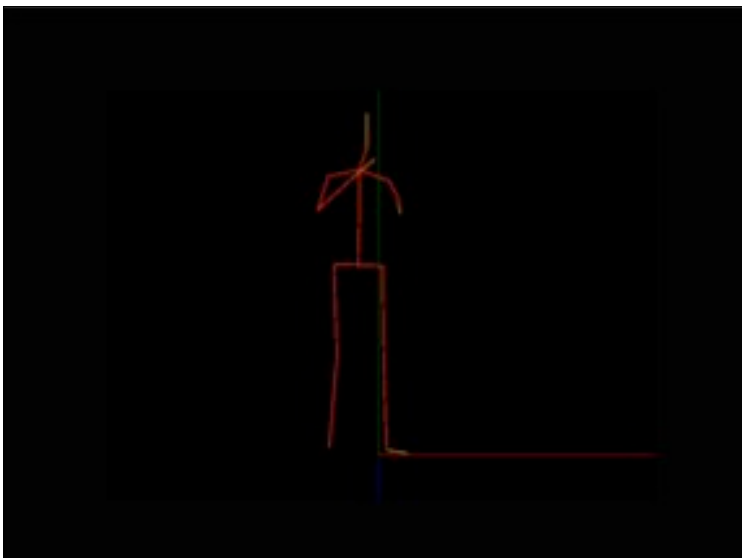
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Mocap Stage

- 2 Full Body Capture



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Vision-Based Rendering

- Camera Calibration and Tracking

- Bruno Madeira

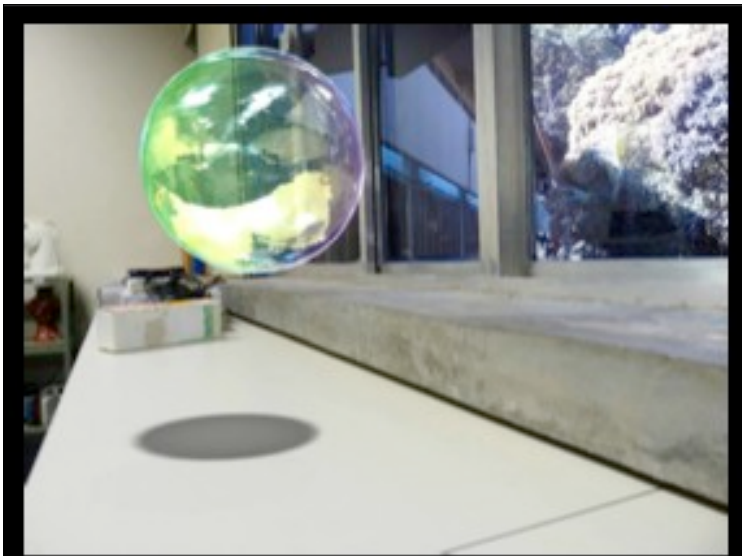
- Illumination Maps

- Aldo Zang



- PBR

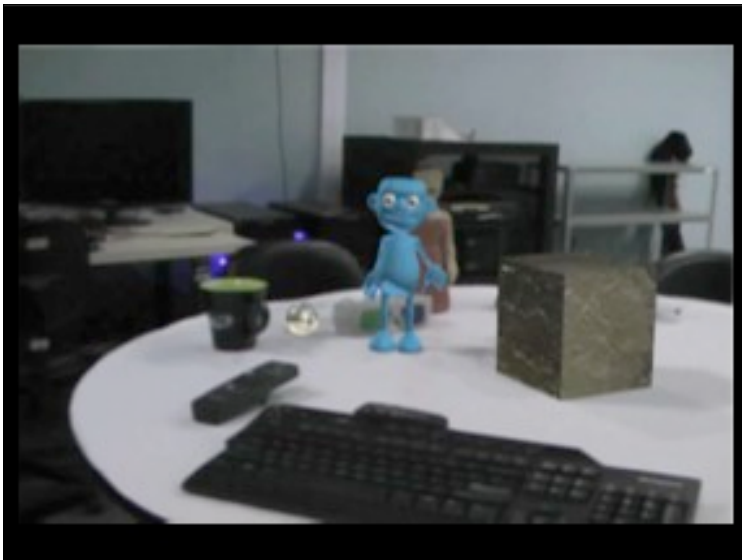
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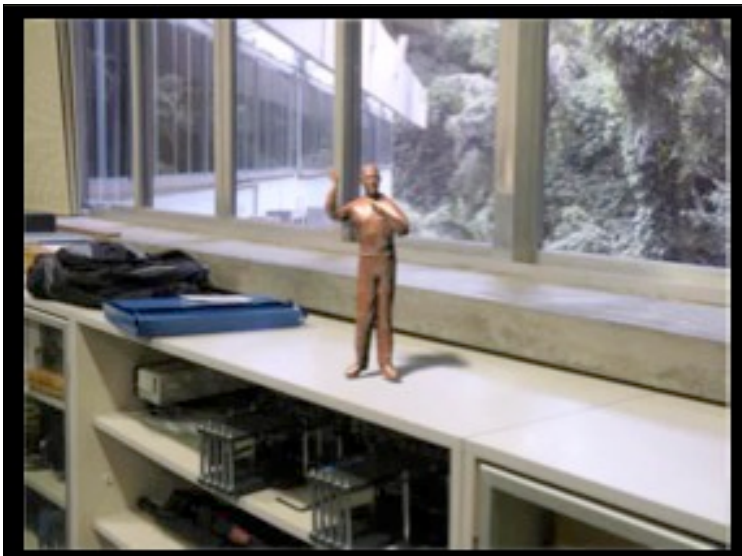
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That's All Folks!

(enjoy Carnival.. ;)