



Image-based Modeling and Rendering

Term Project



National Chiao Tung Univ, Taiwan

By: I-Chen Lin, Assistant Professor

Term Project

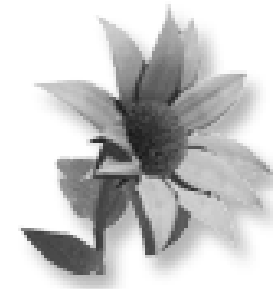
- Paper presentation (May. 6,8)
 - 30 min per person
 - You are encouraged to present papers related to your project.
- Term project (June 3,5 or 17,19)
 - 1~3 members per group
 - Demo systems & presentation.

Term Projects

- Image-based rendering
- Image-based modeling or shape-from-X
- Image-based animation

Image-based Modeling

- Modeling complex scenes (virtual or real)
 - Plants, subtle architectures, translucent materials, shadows, faces,.... etc.



Shape from X

- X = shading, shadow, pattern, etc.

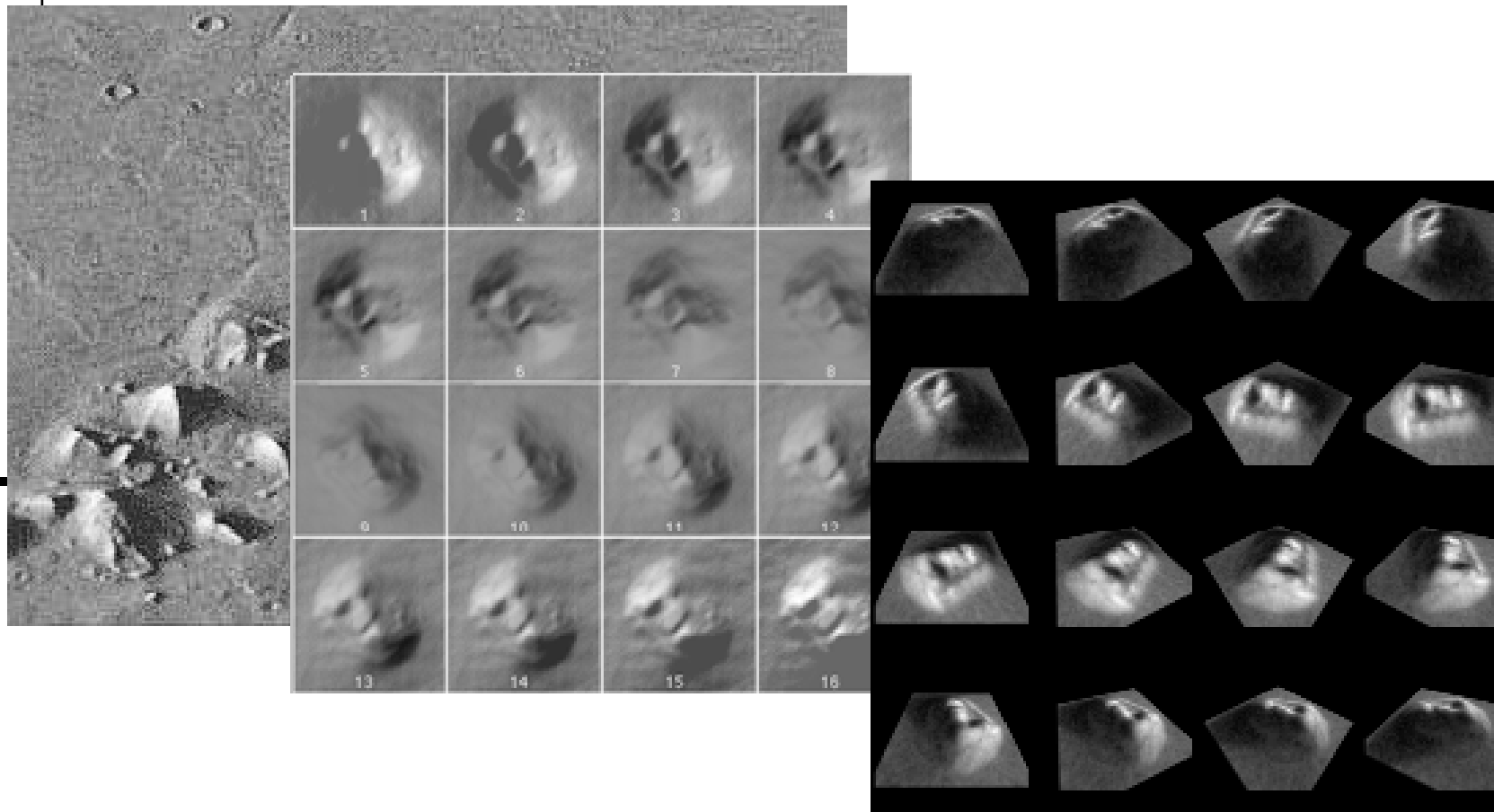


Image-based Rendering

- Image-based walkthrough
 - Reconstructing plenoptic functions
 - E.g. concentric mosaic or image mosaic with “multi-rings”.
 - Animated panoramas.
 - Panoramic Video Textures.

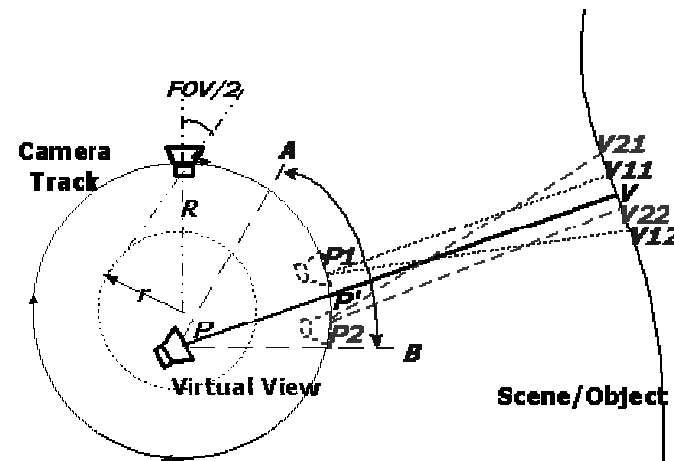
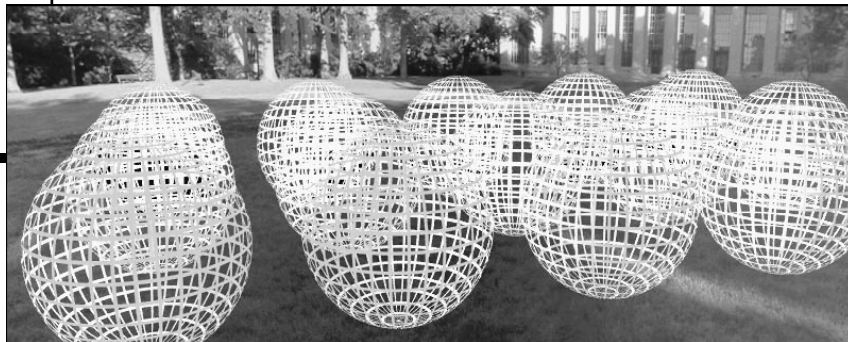
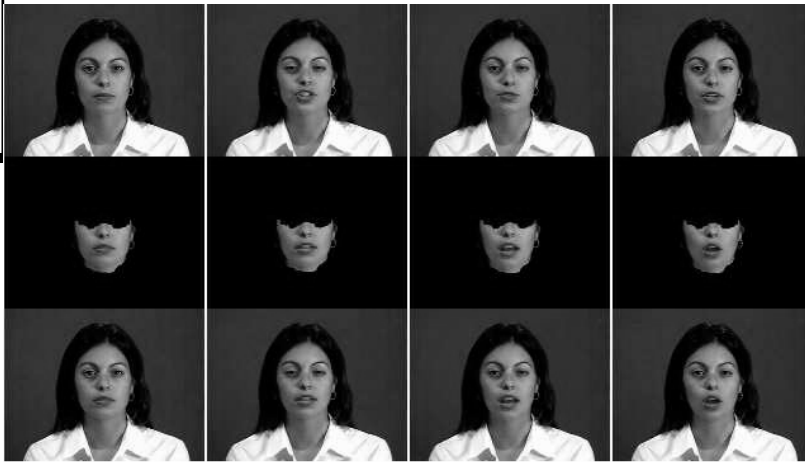


Image-based Animation

- Synthesizing animation through parameterized image sets. (or sample-based animation)
 - For complex or highly deformable objects.
 - Faces, plants, hairs, cloth, flame.....
 - Smooth and reasonable image transitions



Reference

■ IBR + M

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Reference

■ IBM or SFX

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- W. Matusik, H. Pfister, A. Ngan, P. Beardsley, R. Ziegler, L. McMillan. "Image-based 3D Photography using Opacity Hulls." Proc. SIGGRAPH'02.
- H. Fang, J. C. Hart, RotoTexture: Automated Tools for Texturing Raw Video. IEEE Transaction of Visualization and Computer Graphics, Vol.12, Issue 6, 2006
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