

Novel image/video capture

Application snapshot

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Capabilities

- Ladybug-3: 360 video
 - High end SLR cameras and lenses
 - Gigapixel mounts
 - Miscellaneous other image and video capture devices
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- Presentation hardware
 - iDome
 - Stereoscopic 3D displays
 - Tiled high resolution display
 - Expertise



iDome

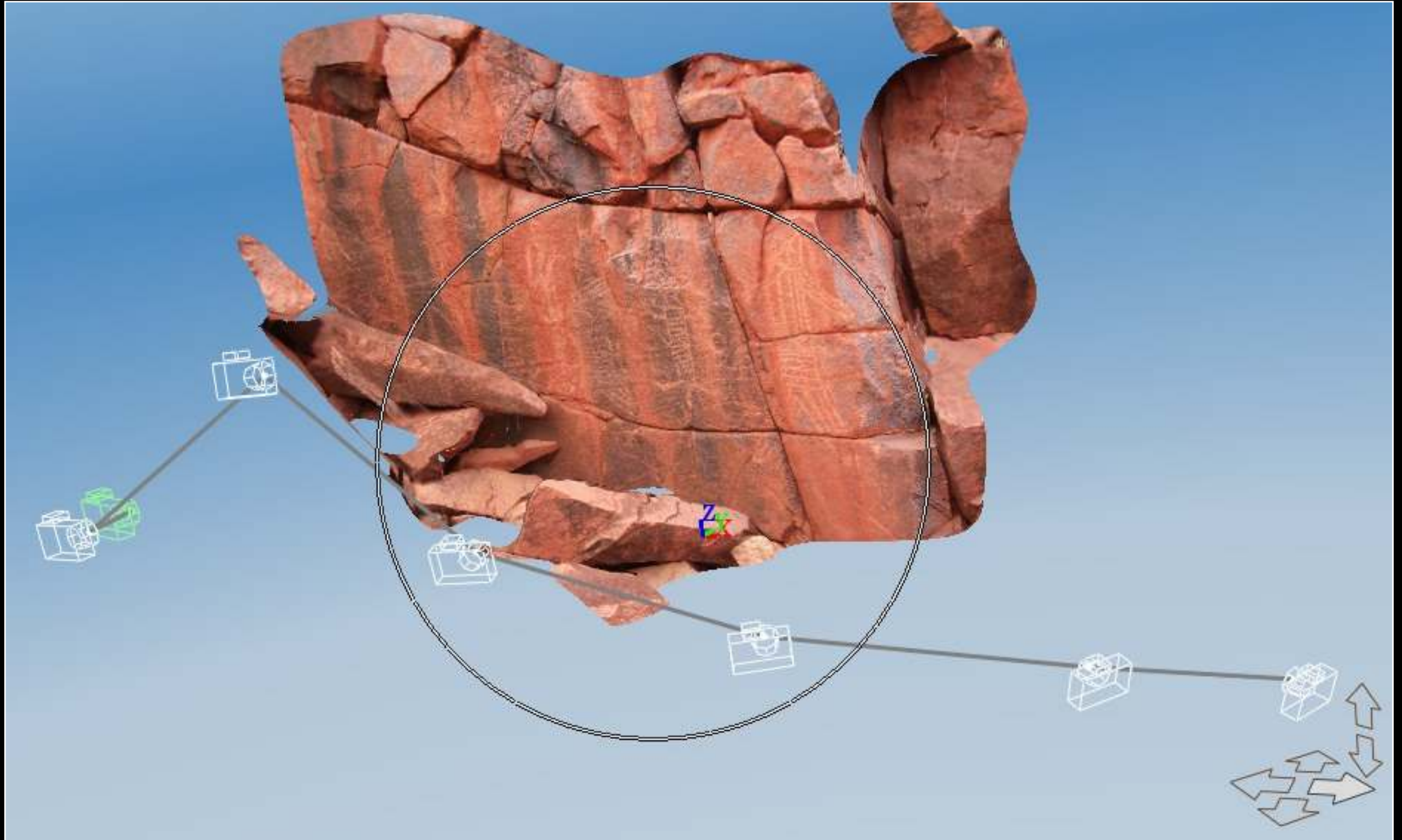


32Mpixel Tiled display

Automatic 3D Reconstruction from Photographs



3D Reconstruction: Camera frustum estimation



3D Reconstruction: Mesh generation



Gigapixel Images

- Realise that camera sensor resolutions are increasing only slowly.
- Solution for higher resolution capture is to take multiple photographs and stitch together.
- A widely used technique from astronomy to microscopy.



Gigapixel Images

13 x 3 grid



40,000 x 10,000 pixels

Gigapixel Images



Single 10MPixel image

15 x 4 grid

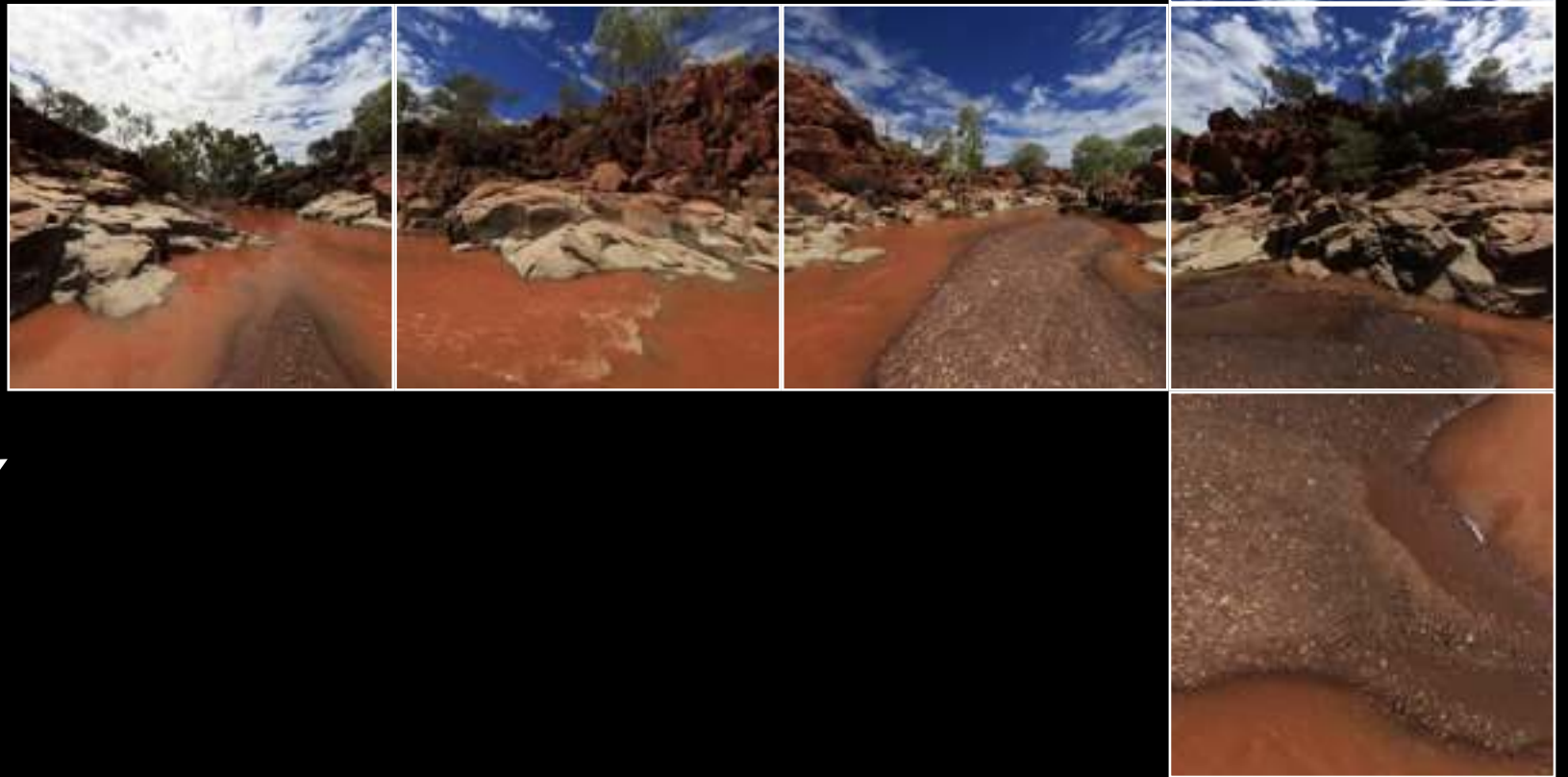
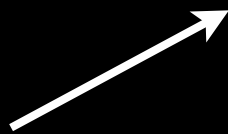


Virtual Tour (Interactive interface to image and meta data)

- 360 degree panorama bubbles
- High resolution images
- Links to web pages



Virtual Tour Bubbles



EON: Eye of Nagaur

Visualizing the inner life of Ahhichatragarh Fort and Palace complex at Nagaur, Rajasthan (India). Visitors make an exceptional journey of discovery of Ahhichatragarh's magnificent architectural spaces and the artistic decorations found throughout. Looking through the 'eye' of its imposing three-metre diameter circular screen, viewers explore a constellation make an exceptional journey of discovery. Eye of Nagaur a prosthetic eye that reveals the beauty of this fort and palace complex, exploring in fine detail the painted ceilings, floors and wall decorations, hydraulic infrastructure and the unique fusion of Mughal-Rajput architectural features. With almost infinite 'zoom' reflecting back the rich life of the former inhabitants." [Sarah Kenderdine]



360 video



360 video: interactive viewing



