

Grimage

becomes

Kinovis

A large environment for the visual perception of shapes in motion.

INRIA
Grenoble
France



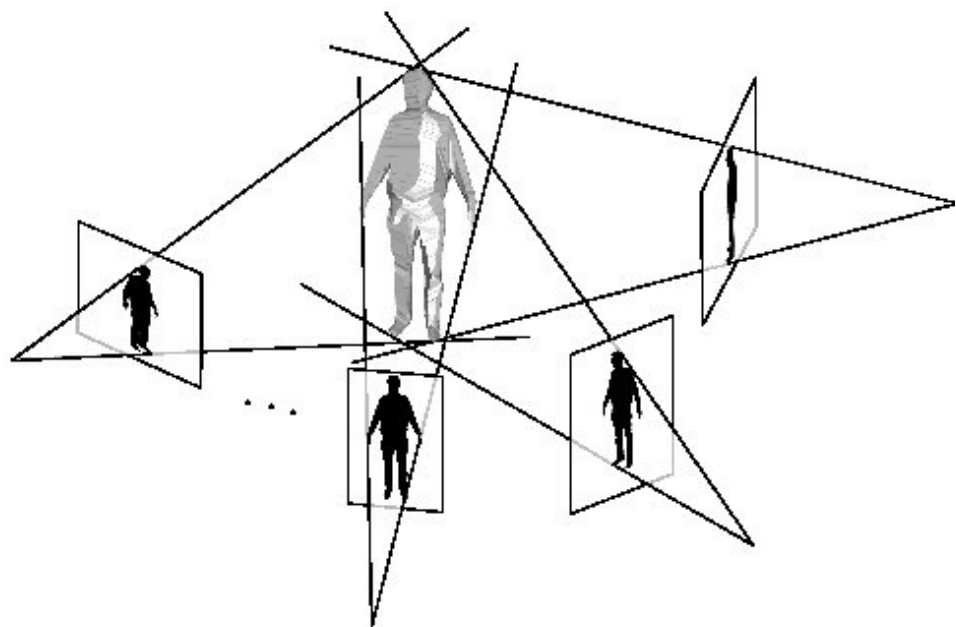
Grimage: the current platform

- 2x2x3 m reconstruction area
- 8-16 cameras



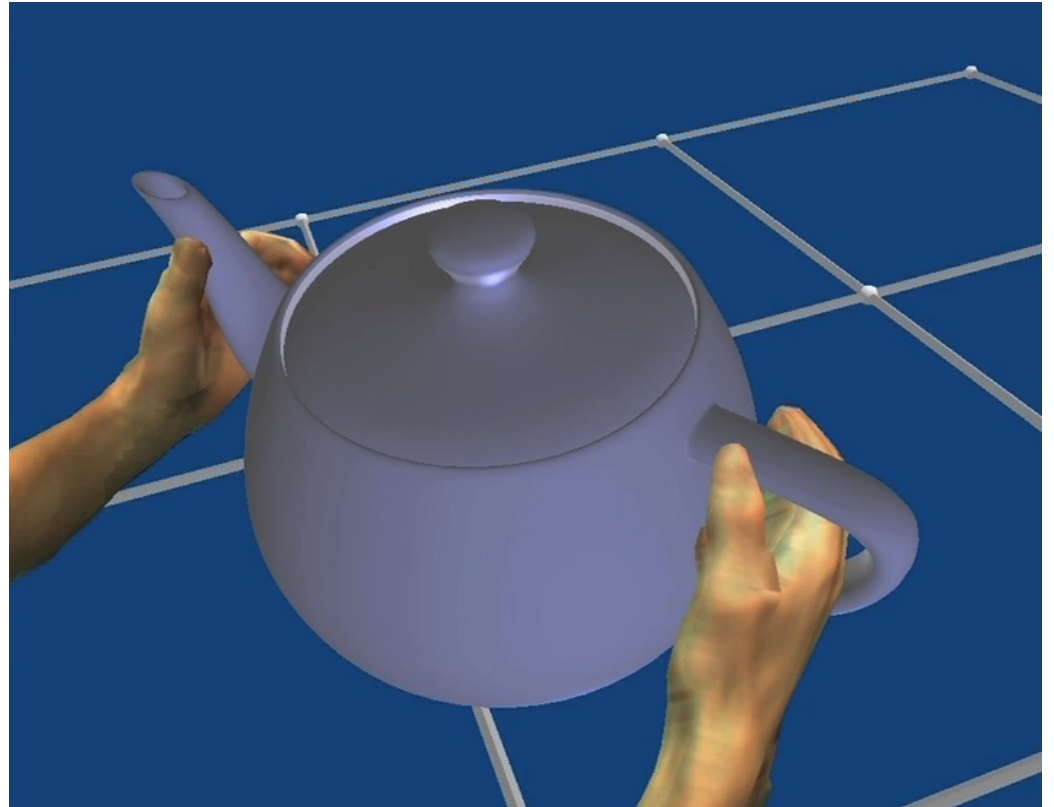
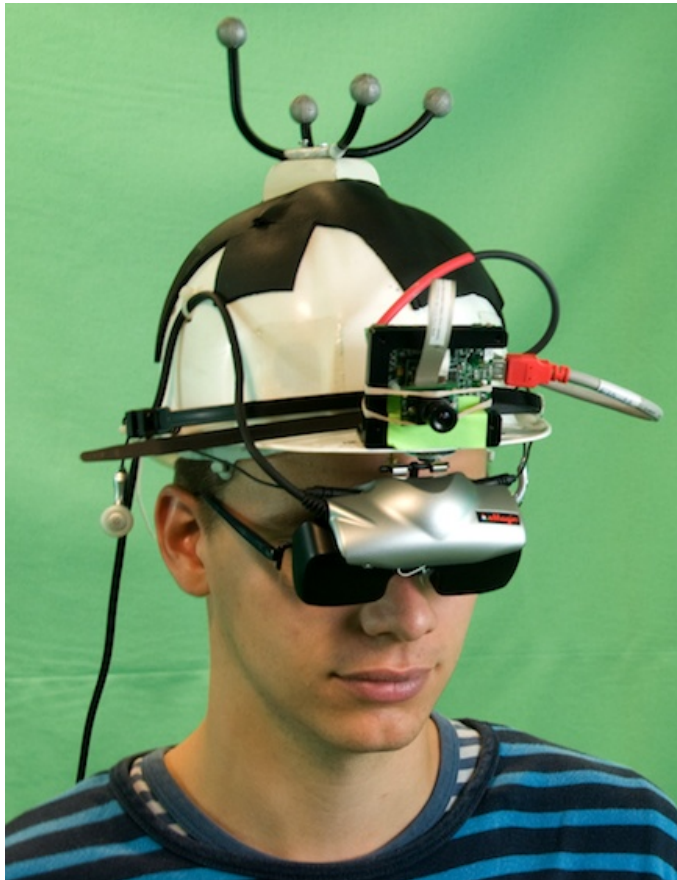
Grimage: the current platform

- real-time reconstruction
 - subtract background
 - intersect visibility cones
 - project textures from camera images



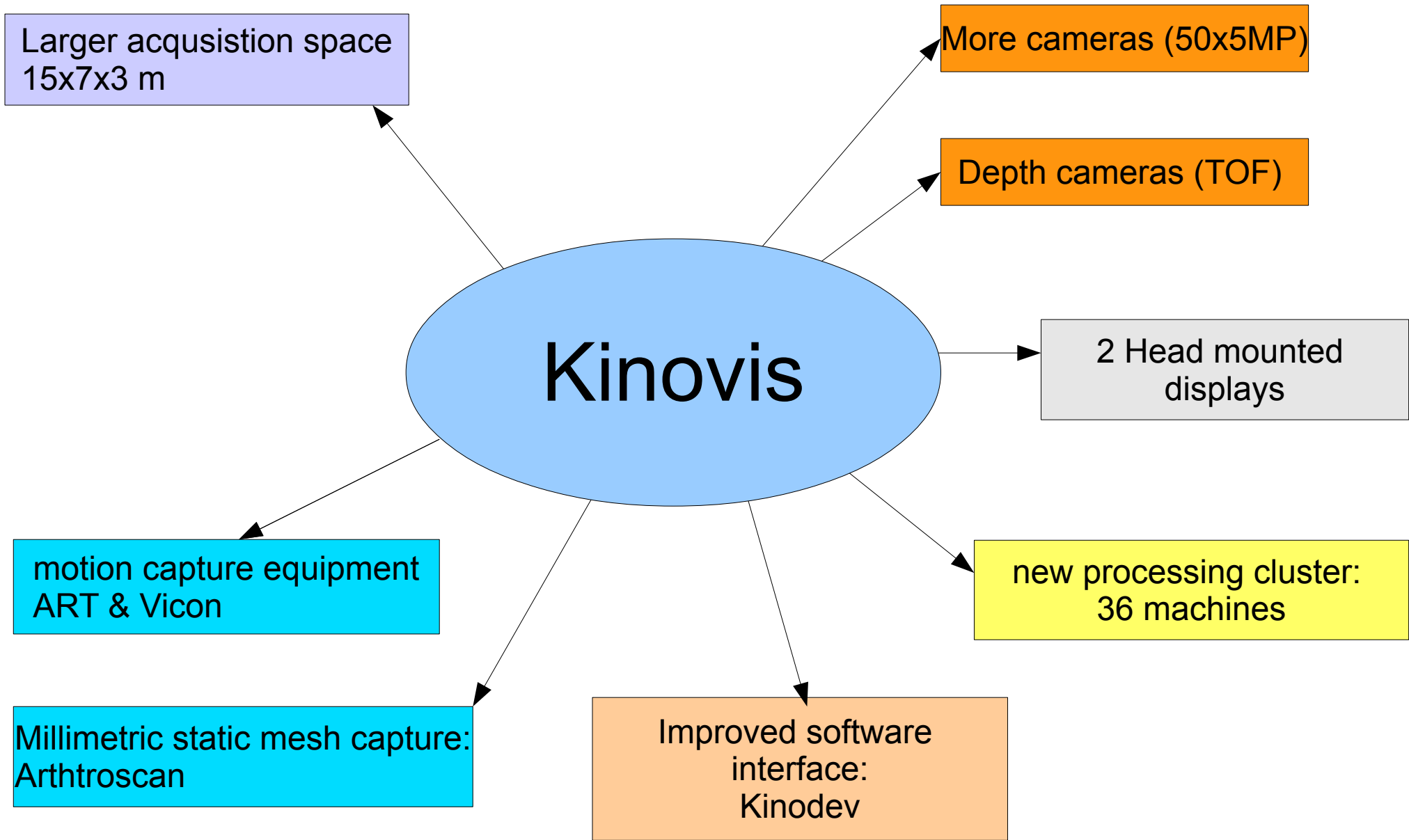
Grimage: the current platform

- immersion via a head-mounted display



Computation

- 8-machine cluster
 - offline capture: fast storage
 - real-time reconstruction: parallel processing
- software environment
 - capture: 4DViews software
 - 3D reconstruction: EPVH
 - rendering: CUDA
 - distribution: FlowVR





Larger acquisition space
15x7x3 m

- capture:
- someone running
 - more people
 - large animals?

More cameras (50x5MP)

- De
- necessary to support 3D reconstruction in the larger capture area.
 - Integration of modalities

2 Head mounted displays

- local interaction
- VR interaction

motion capture equipment

- static ground-truth
- dynamic ground-truth
- integration of information

Arthroscan

new processing cluster:
36 machines

- support more cameras
- costly algorithms
- stress-test distribution

Improved software interface:

- Challenges:
- partial visibility
 - large-scale calibration & reconstruction
 - distribution of reconstruction algorithm

Kinovis interface

- transition in 2012-2013
 - Grimage not available...
 - after: Kinovis available to Visionair
- software:
 - 1.5 engineers for software development
 - objective: integration of modalities
 - the INRIA/Fraunhofer Vcore project
 - integrate state-of-art VR components: scene graph, distributed processing, physical interaction...
 - improved compliance with standards