Monash Immersive Visualisation Platform (MIVP) operates Monash University’s advanced visualisation systems. We are a team of highly skilled scientific and graphics programmers, who support users by applying established and emerging data visualisation and processing techniques and technologies to contemporary research and industry challenges. It is our vision to enable new understanding, and bring forward the greatest discoveries, by capitalising on advanced immersive visualisation and accelerated computing capabilities.

**KEY INSTRUMENTATION**

- **Display systems**
  - Monash CAVE2
    - 84 million pixel, HD displays
    - 22.2 channel audio
    - 4TB RAM
    - 240GB graphics memory
    - Tracked glasses and wand
    - Five video capture inputs
  - Monash TR10
    - 24 million pixels, UHD displays
  - Monash ‘Big Windows’
    - 32 million pixels
    - Lectern, keyboard and mouse

- **Software**
  - LavaVU (Monash)
  - Omegalib (UIC EVL)
  - CaVR (UCSD Calit2)
  - S2PLOT (Swinburne, Monash)
  - SAGE (UIC EVL)
  - Unity

**EXPERTISE**

Our team of programmers have experience in many disciplines, including geoscience, biomedical imaging, scientific visualisation, radioastronomy, computer vision, virtual reality and more. Our expertise extends across computer graphics, parallel supercomputing, GPU-accelerated computation and visualisation, cross-platform and web-based 3D visualisation as well as, methods for publishing 3D figures and images.

**WORKING WITH US**

- Fee for service
- Consultancies
- Collaborative research
- Training
SPECIALIST SERVICES

The Monash CAVE2™ is an ultrascalar 2D and 3D display system featuring Virtual Reality (VR) aspects. However, our platform is suited to collaborative visualisation activities as 12 people can view the VR at the same time. CAVE2 leverages Monash’s expertise in high performance computing, computer graphics and networks, to render terascale datasets in unparalleled clarity. CAVE2 plays many roles in the 21st century microscope:

Viewfinder
CAVE2 enables the immersive visualisation of very large images from sources including the Australian Synchrotron, electron microscopes and medical imaging instruments. All 2D, 3D and 4D images are easily examined in the CAVE2.

Virtual fieldwork space
CAVE2 enables the interactive exploration and characterisation of mapped or imaged environments, such as mines, farms and archaeological sites.

Virtual retail environment
CAVE2 enables the simulation and assessment of retail spaces and shelving, as well as real-time integration of inventory level information.

Decision theatre
CAVE2 enables the collaborative, surround review of design models, building plans, architectural spaces, and more. Three dimensional models, rendered fly-throughs, and BIMs can be loaded and displayed in CAVE2.

Meshes computed via photogrammetry and LiDAR point clouds – even those approaching one billion points in number – are simple to study in the CAVE2.

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