interactive visualization & augmented reality

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> simulations, offline

> real-time computation, steerable simulation

> real-time interactive, co-located graphics
  • new display technology
  • sensing & interaction
augmented reality

- fuse virtual objects with real environment
  - render correct perspective
  - see real + virtual simultaneously
desired properties

> sporadic access
  uncomplicated for the user

> non-intrusive
  minimize worn equipment

> supplementary
  unmediated view and control
ASTOR  An Autostereoscopic Optical See-through Augmented Reality System

[Olwal, Lindfors, Gustafsson, Mattson & Kjellberg 2005]

multiview display (based on HOE)
> no tracking
> autostereoscopic 3D
> scalable for multiple users
> optical see-through (w/ opacity)
ASTOR An Autostereoscopic Optical See-through Augmented Reality System

[Olwal, Lindfors, Gustafsson, Mattson & Kjellberg 2005]

multiview display (based on HOE)

> no tracking
> autostereoscopic 3D
> scalable for multiple users
> optical see-through (w/ opacity)

> monochromatic
> limited number of viewpoints
> horizontal parallax only
> indirect interaction
research in ubiquitous augmented reality
minimally intrusive approaches to the integration of interactive 3D graphics with physical environments

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