interactive visualization & augmented reality

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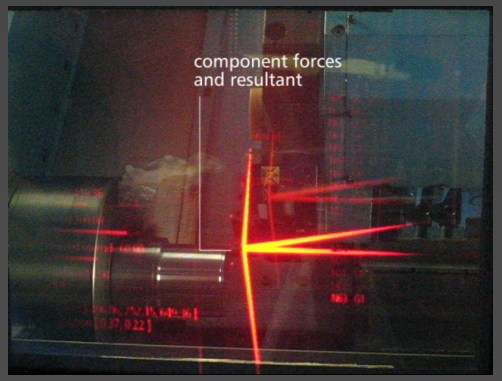


- simulations, offline
- real-time computation, steerable simulation
- real-time interactive, co-located graphics
  - new display technology
  - sensing & interaction

augmented reality

fuse virtual objects with real environment

- render correct perspective
- see real + virtual simultaneously

desired properties

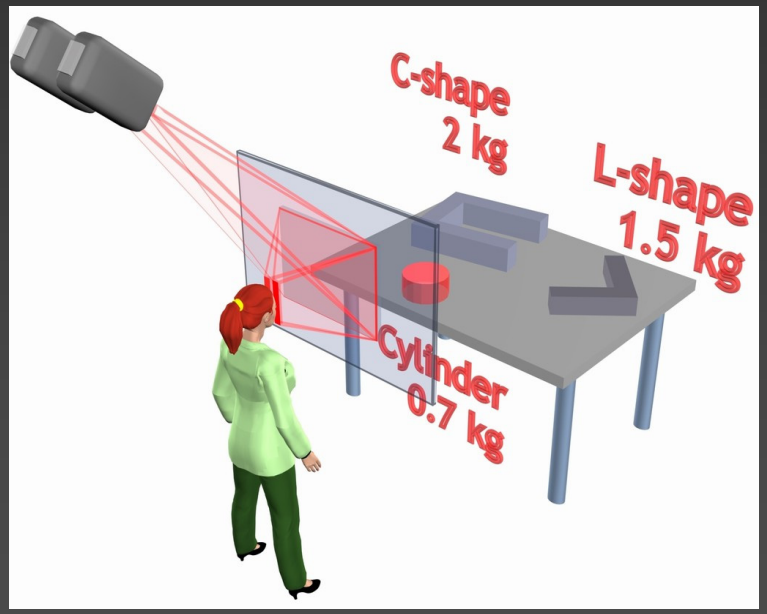
- sporadic access
  - uncomplicated for the user
- non-intrusive
  - minimize worn equipment
- supplementary
  - unmediated view and control

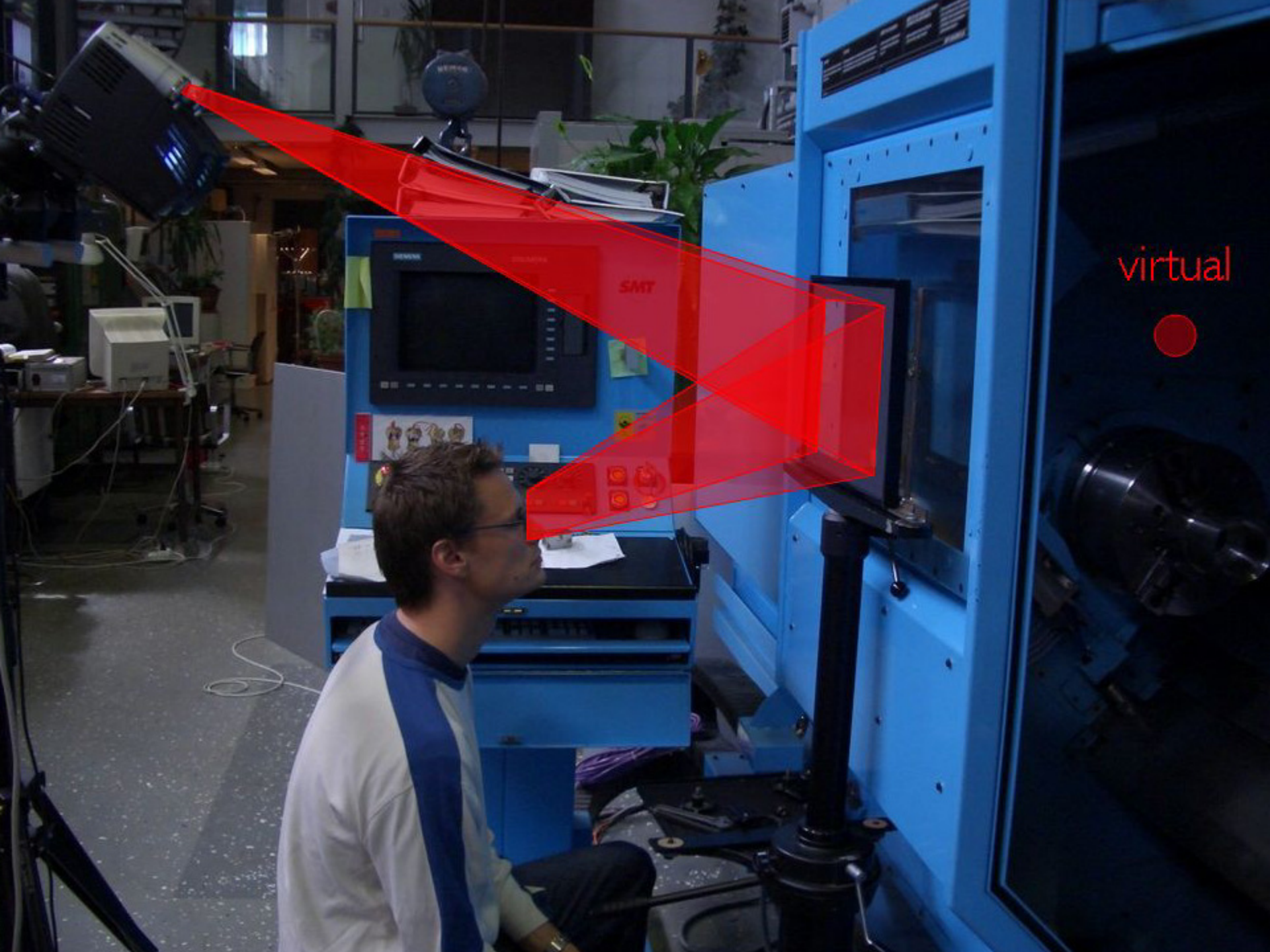
ASTOR An Autostereoscopic Optical See-through Augmented Reality System

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

multiview display (based on HOE)

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




virtual

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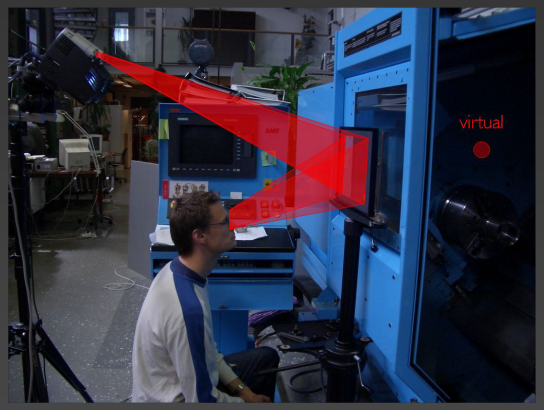

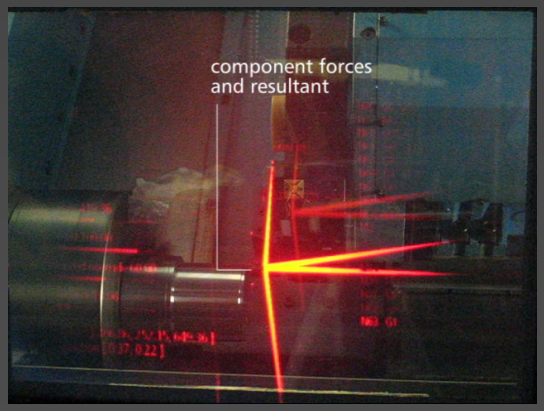

- monochromatic
- limited number of viewpoints
- horizontal parallax only
- indirect interaction

research in ubiquitous augmented reality

minimally intrusive approaches to the integration of interactive 3D graphics with physical environments

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