Augmented Reality as a User Interface for Mobile Computing

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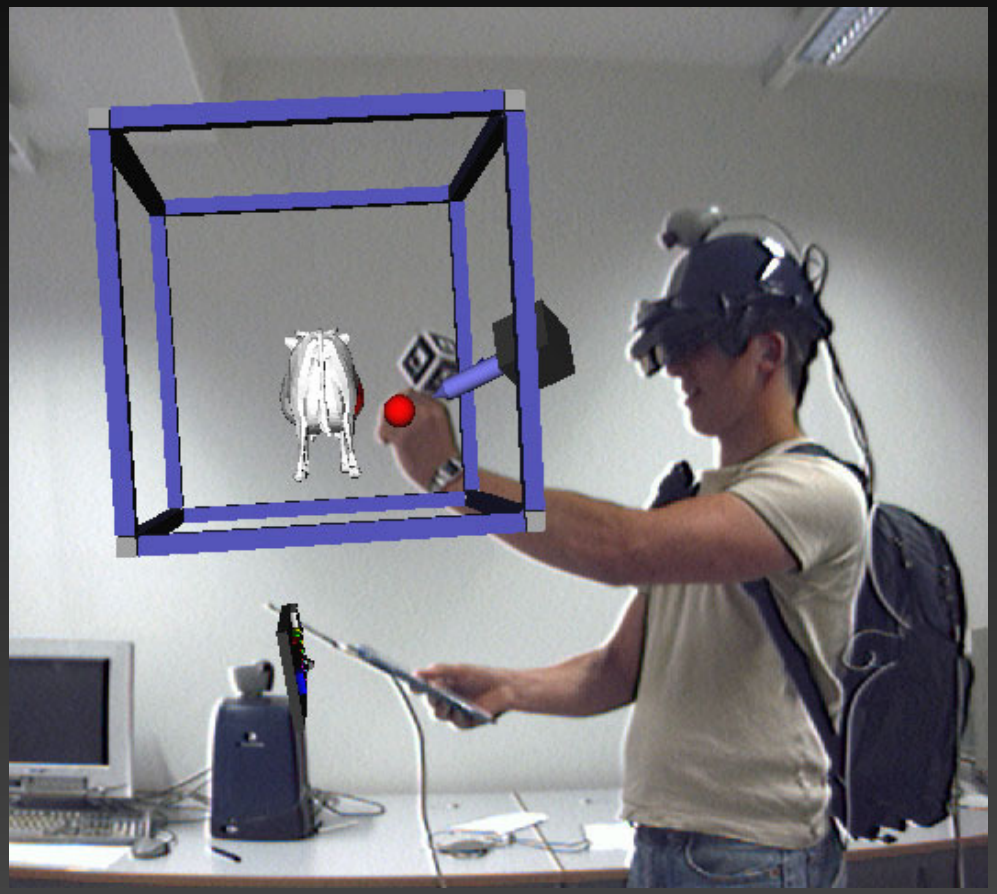
Motivation

- AR is a compelling display technique for location based spatial information.
- Mobility allows access to AR applications everywhere.
- Mobility leads to less structured and spontaneous collaboration.

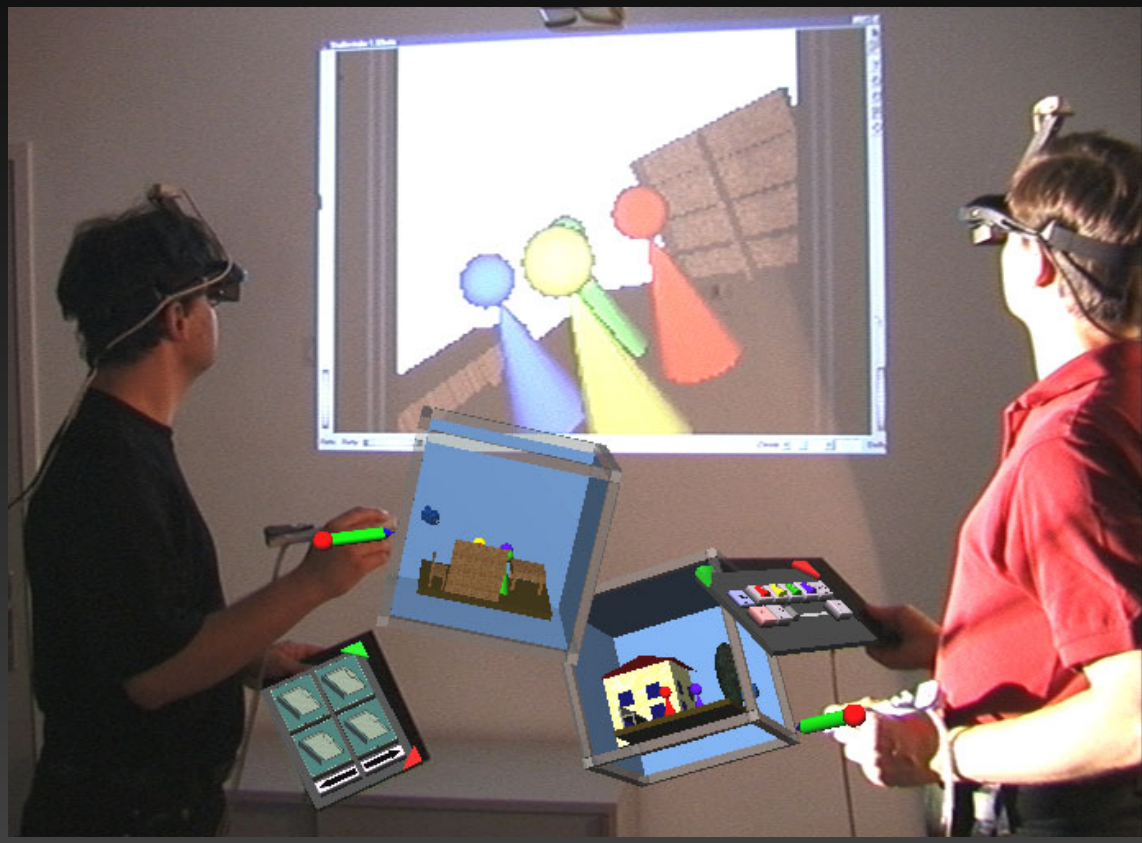
Our Vision: 3D Mobile AR



- Wearable 3D workspace
- Direct interaction with virtual objects
- Collaboration
- Framework for rapid application prototyping

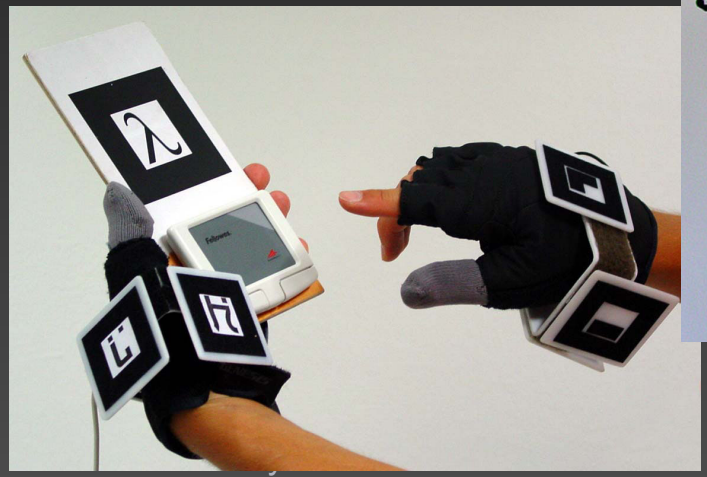
User interface system

- *Studierstube*
- Manages UI elements
  - 3D windows
  - Widgets
  - Multiple applications
- Pen & tablet
- Multiple users



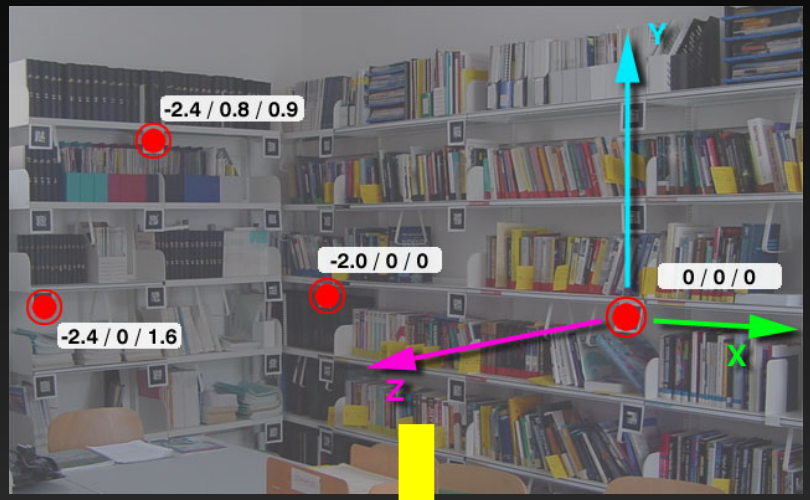
Hardware

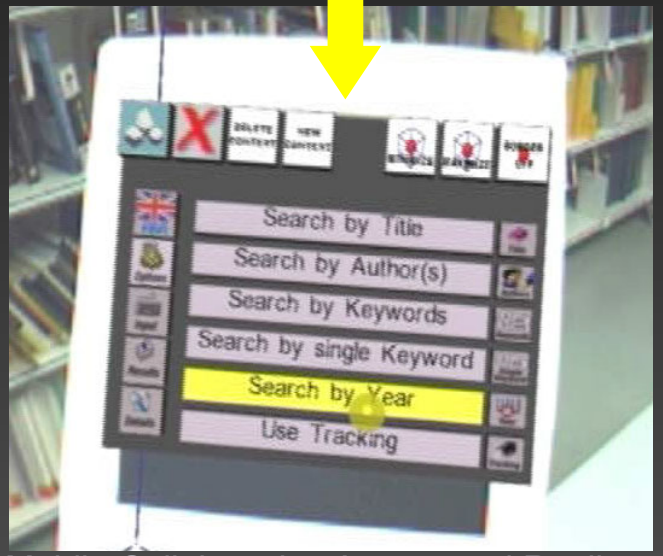
- Optical see-through HMD
- Notebook, GeForce graphics
- Camera, orientation tracker
- Two handed pinch glove interface
- Touch pad



Application - ARLibrary

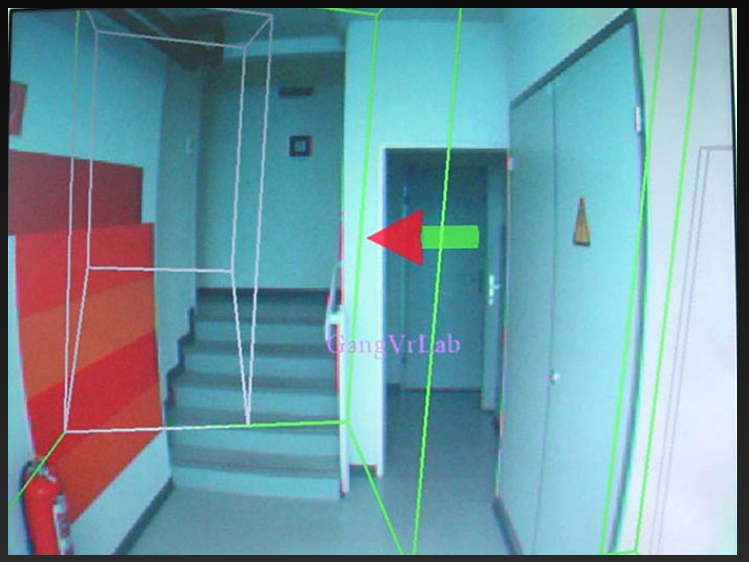
- Augmenting position of books in a library
- For retrieval and returning





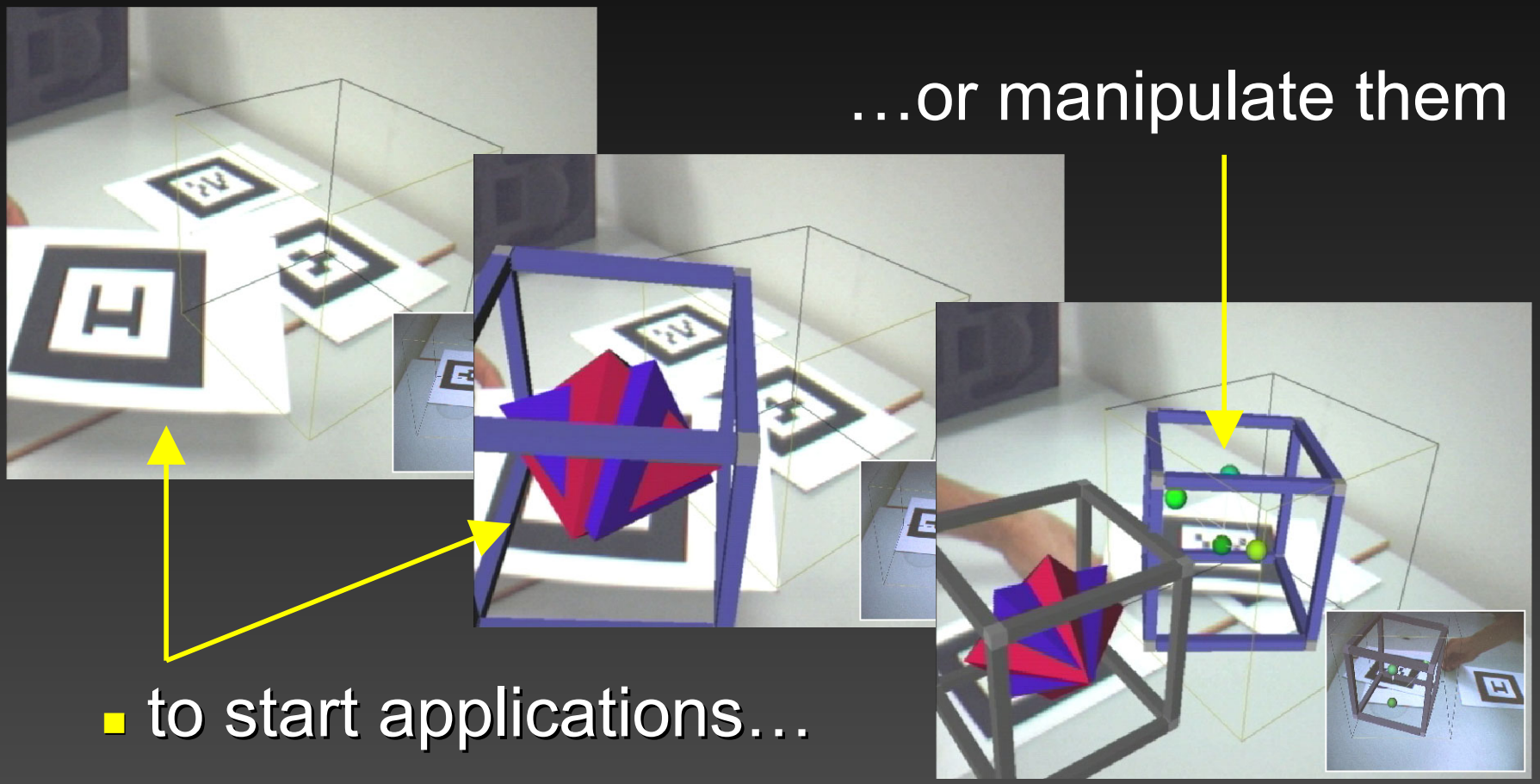
Application - SignPost

- Navigating in buildings
- Heads-up display of room geometry
- Direction arrows
- Hand-held world-in-miniature tablet



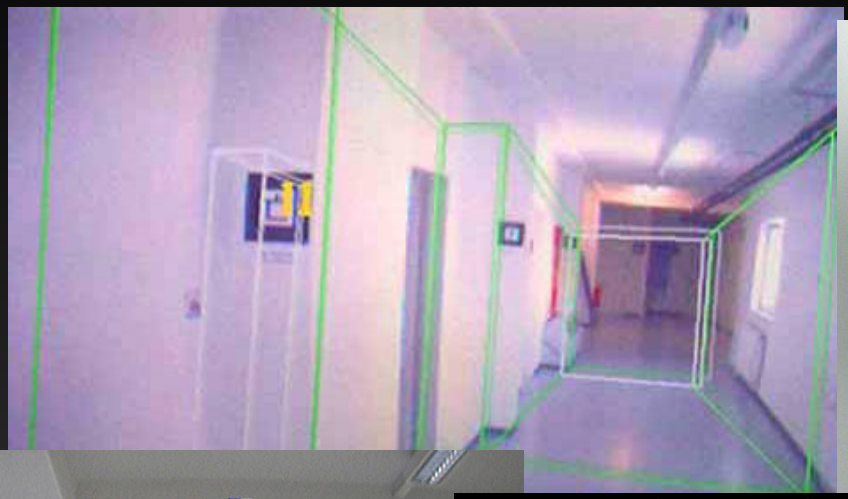
User interface - Applications

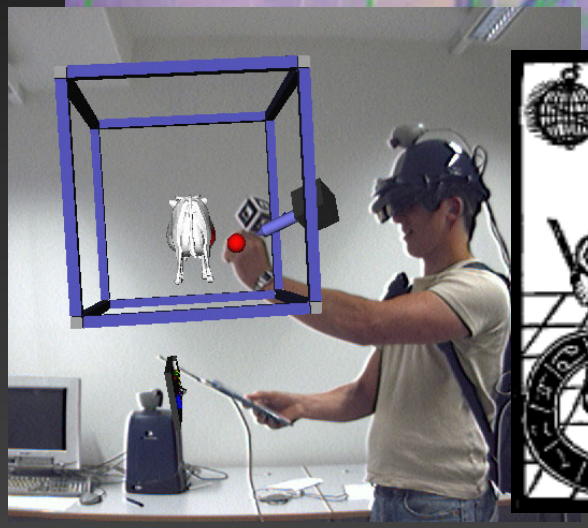
- Tangible markers to manage applications

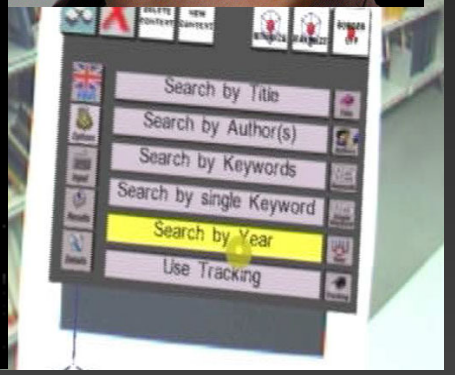


- to start applications…

Thanks!







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