The Aachen Media Space

Jan Borchers

Media Computing Group

RWTH Aachen

http://www-media.cs.rwth-aachen.de/

The Media Computing Group

- New group within the CS department at RWTH Aachen, established Oct. 2003
  - Prof. Jan Borchers (head)
  - Rafael Ballagas, Eric Lee (Ph.D. students)
  - Several undergraduate research assistants
  - Growing to ~8 PhD students in the next few years
  - Also involved in Bonn IT Center *(b-it)*
- Mission: Exploring new ways to interact with ubiquitous media

Sample research topics

- Fluid interaction with time-based media
  - Interactive music conducting exhibits
  - Creating an interactive multimedia workspace
  - Audio services for ubicomp environments

- Physical interfaces for media interaction
  - The iStuff physical user interface prototyping toolkit
  - Device and metaphor design in interactive rooms

- User interface design patterns
  - New format to disseminate interaction design experience
  - Applied successfully to interactive exhibits (book)
  - Developing into a new research field in Human-Computer Interaction
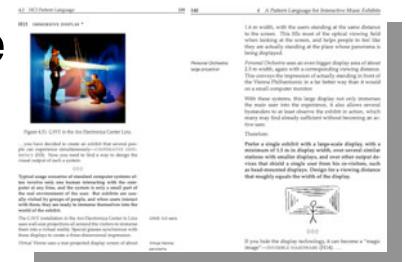
Media Space

- 3 main functions:
  - **Testbed** for our research
  - **Everyday** meetings+presentations
  - **Showcase** for visitors
- Part of flexible floor concept for entire group
  - Media Space: displays, disappearing computers
  - Lab: student work areas
    - Fostering small group work activity
  - Office spaces: including electronic whiteboards
  - Completely reconfigurable (hopefully)
    - Mobile walls and furniture

Sample Project Videos

- At http://www.actibits.com/
  - **WorldBeat** award-winning interactive music exhibit for the Ars Electronica Center in Linz (Austria)
  - **Personal Orchestra** public exhibit in the House Of Music Vienna to "Conduct the Vienna Philharmonic"
- At http://iwork.stanford.edu/photos.shtml#iclub
  - **iClub:** Students turning the Stanford Interactive Workspace into a dance club
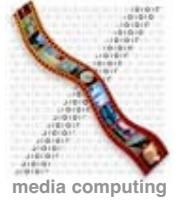
# Floor Architecture

By 4/2004:
110 m^2 here
+ 110qm elsewhere

By 2006: 400 m^2 here

Lab Architecture

Mobile & foldable desks
and computer trolleys

Coffee corner

Lab (100 m^2)
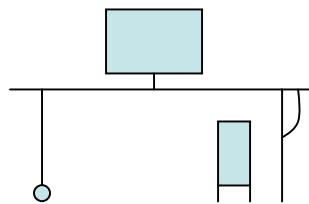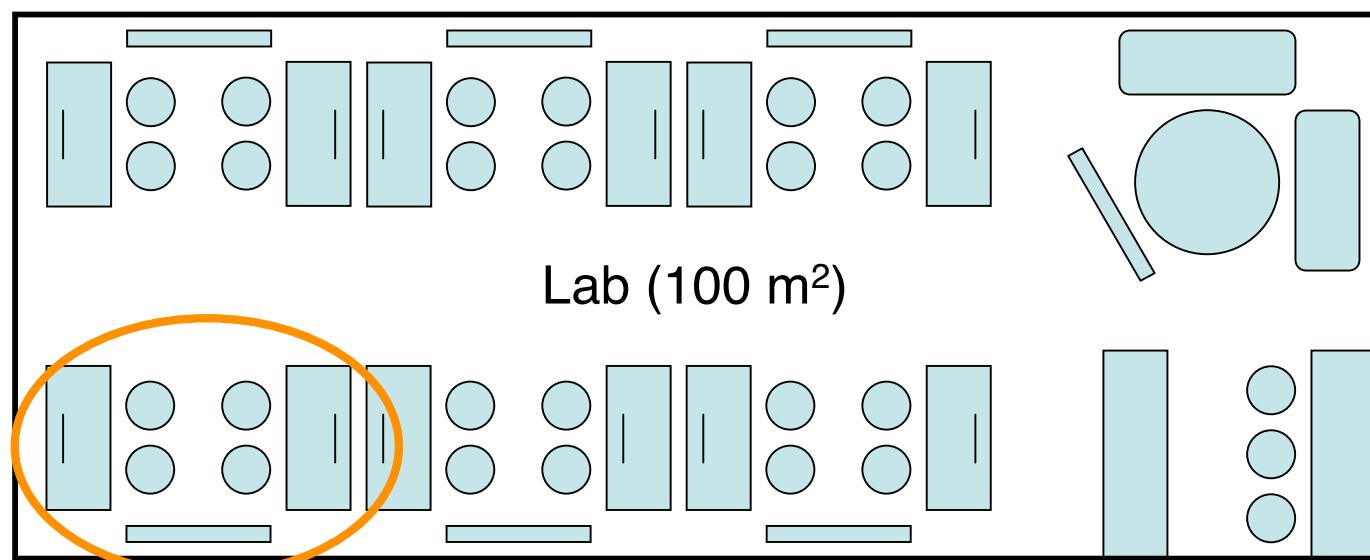
Small group cells for 4
with interactive wall display

Print&scan,
hardware bench

Media Space Architecture


Media Space (75 m^2)
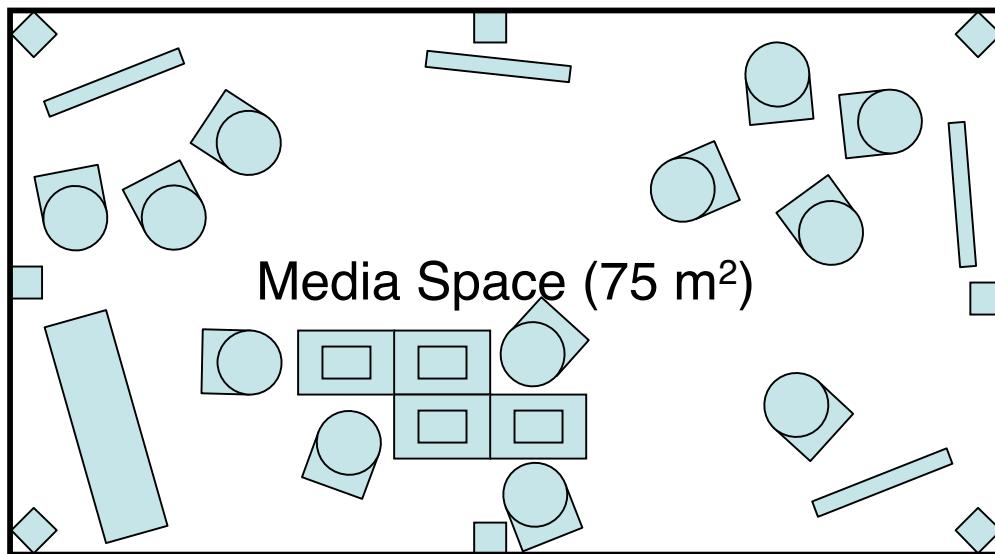
Mobile wall displays
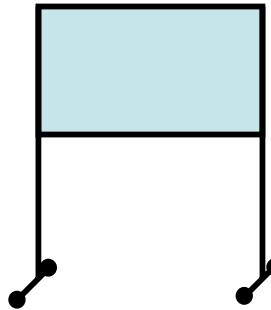
Personal chairs — with battery power?

Sample use: 8 mobile displays for 360° video project
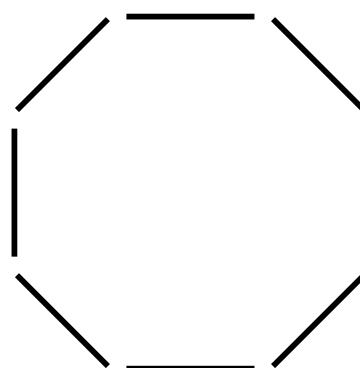
Flexible floor design issues
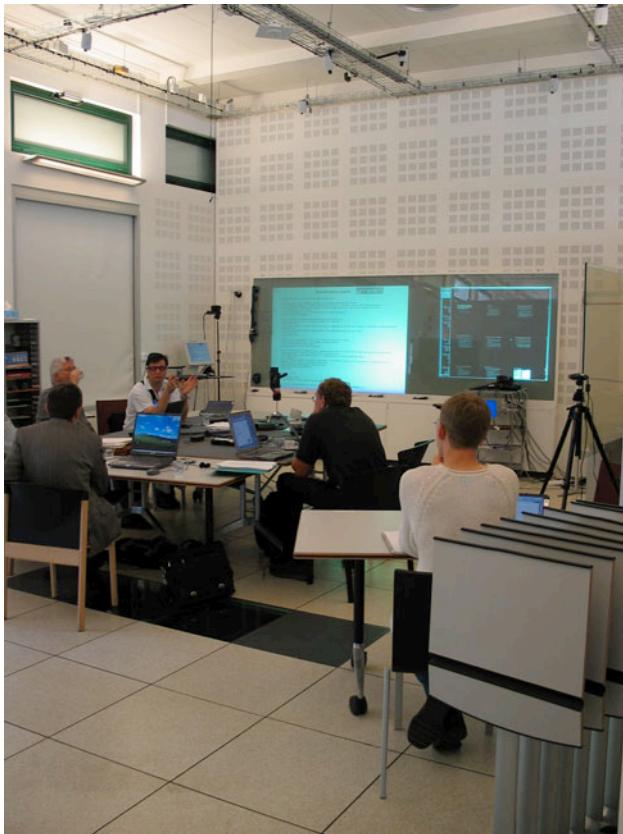
- Raised floor, sub-floor satellite connection nodes & individual floor boxes
- Noise control
- Storage space
- Controllable daylight
- Remote control of all technology
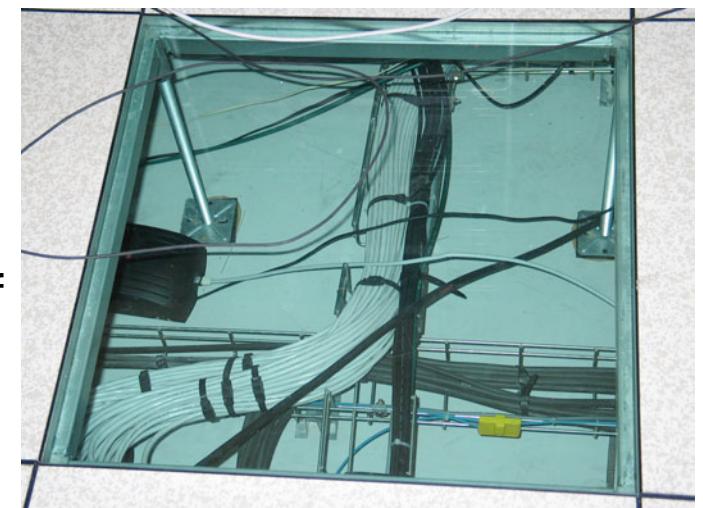
Equipment

- **Final state**
  - 30–40 Power Macintosh G5 PCs, 2 Xserve Servers
  - 15 group displays
    - e.g., SMART 40" LCDs (or Totoku 9 MPix LCDs?)
  - 5–10 tablets
  - Videoconferencing, surround audio service
  - Gbit Ethernet, 802.11g wireless
  - Lots of cams, mikes, custom UI hardware
- **~500k€ total for lab startup**

For more information contact:

Prof Dr. Jan Borchers
Media Computing Group
(Lehrstuhl Informatik X)
RWTH Aachen
52056 Aachen, Germany
http://www-media.cs.rwth-aachen.de/
borchers@cs.rwth-aachen.de
Tel.:   +49-241-80-21714
Fax: +49-241-80-22215