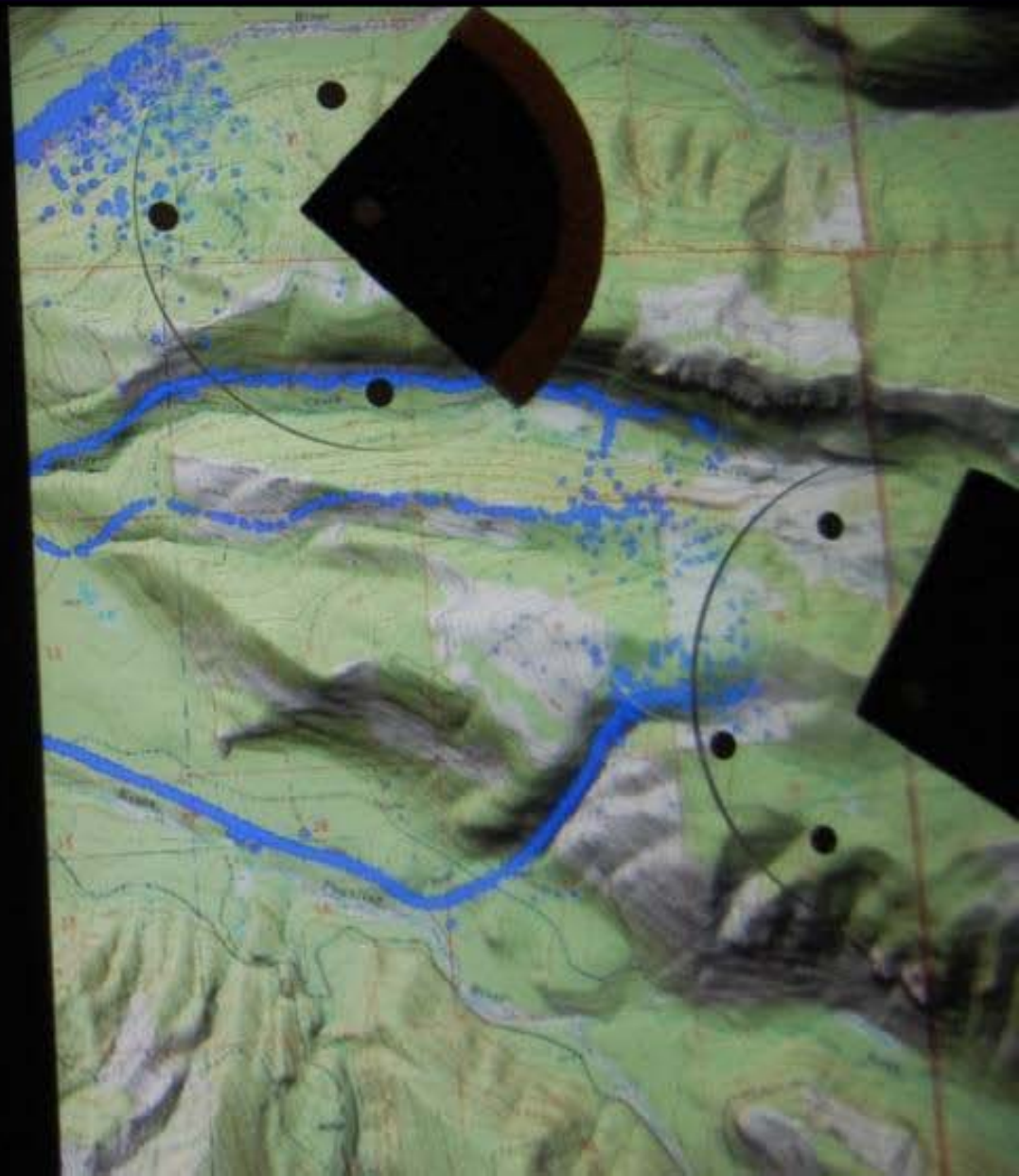
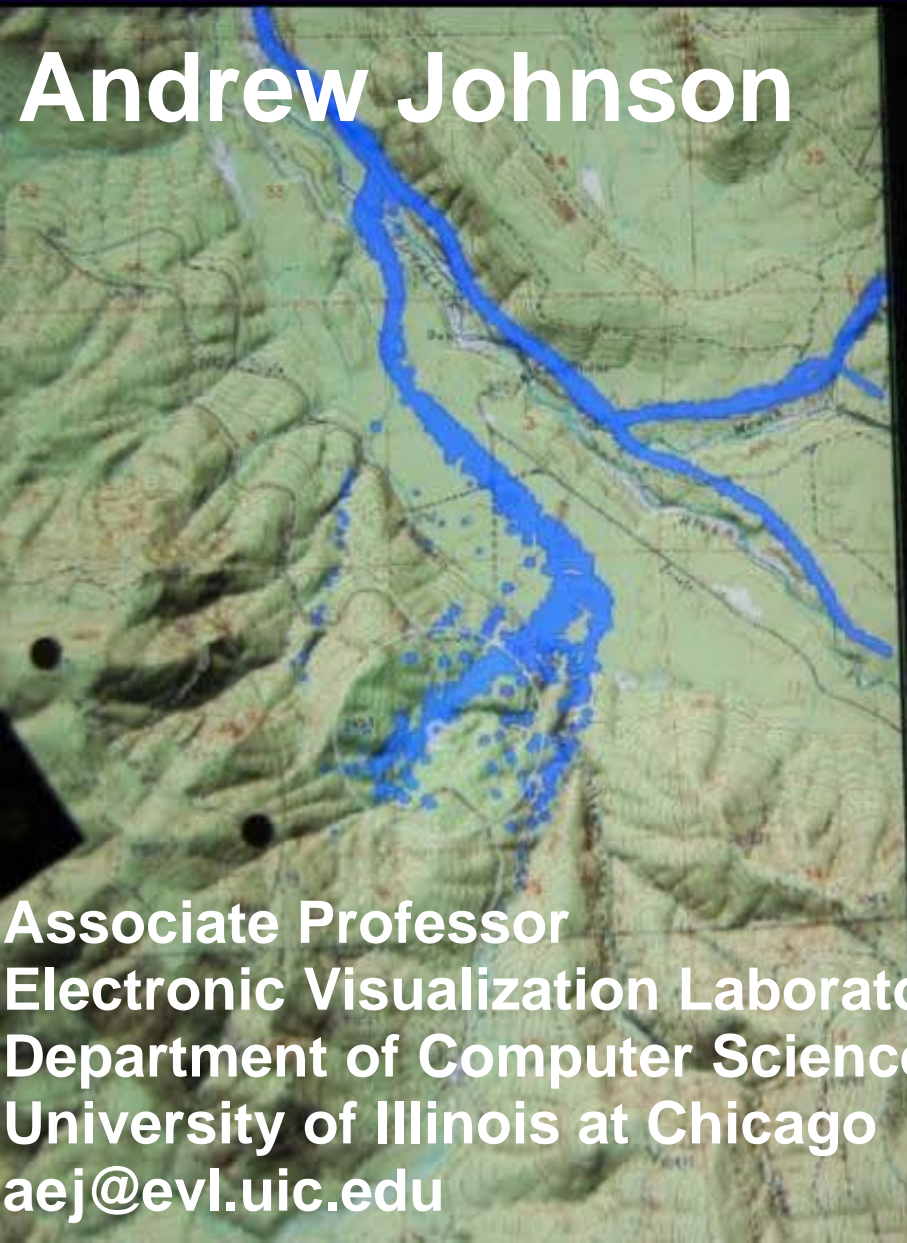


RainTable - EVL & Minnesota Science Museum

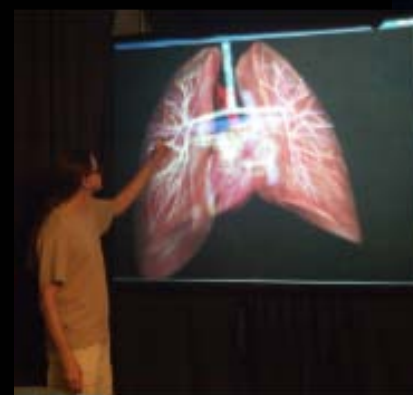
Andrew Johnson

Associate Professor
Electronic Visualization Laboratory
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EVL: Big Screens and Shared Experiences

- Established in 1973 by Tom DeFanti and Dan Sandin
- Interdisciplinary: Computer Science and Art
- Jason Leigh is the current director
- 8 full time staff, 20 graduate students (CS and Art)
- Research in advanced display systems, visualization, high speed networking, interaction, and collaboration
- Created several projection-based devices: CAVE in '92, ImmersaDesk in '95, GeoWall in '00, PARIS in '03



Newer Devices from Commodity Hardware



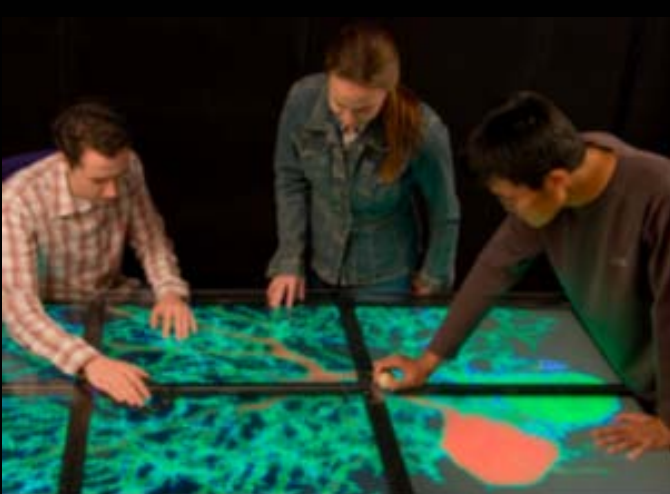
EVL's Past & Current Work with Museums

- Museum of Science and Industry, Chicago, IL
 - 1987: Interactive Image
 - 2003: Virtual Harlem*
- Ars Electronica, Linz, Austria, 1996
- NTT/ICC, Tokyo, Japan, 2001*
- SciTech, Aurora, IL, 2002-2004*
- Adler Planetarium, Chicago, IL, 2003-present*
- Science Museum of Minnesota, St. Paul, MN, 2004-present*
- Various art galleries and art museums*
- We also do K-16 Education Research*

* ones that I have participated in

LambdaTable (2005)

- People look at walls but work on tables
- People more intimate in the way they engage each other and information on a table
- Resolution is important to work with real data - we have 24 times the resolution of Microsoft's surface
- Shown at Supercomputing '07



Rain Table Collaboration

- Started in Summer 2006
- Worked with GeoScientists in Minnesota before, helped with passive stereo system at Minnesota Science Museum
- Goals
 - Deal with misconceptions about water
 - Show water flow at local, regional, continental scales
 - Forum for discussion of scientific, social and political issues related to water flow
 - Ability to travel with Water Planet exhibit
 - Robust, affordable technology
 - Fun interactive group experience

Rain Table Video from Summer '07

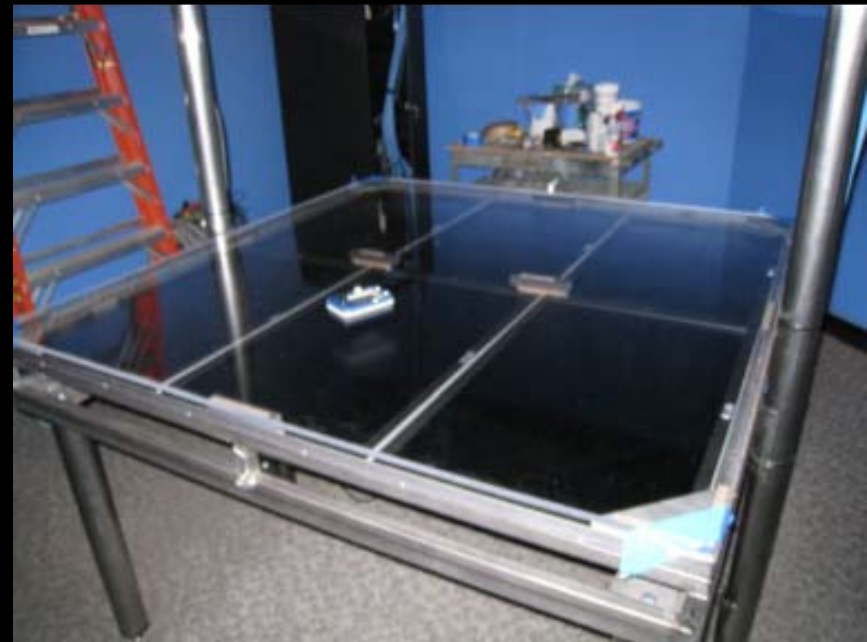


Primary People Involved

- Kent Kirkby, Paul Morin
Dept. of Geology and Geophysics, Univ. of Minnesota
- Dmitry Svistula, Jason Leigh, Andy Johnson
EVL, UIC
- Ryan Currier
Dept. of Earth and Planetary Science, Johns Hopkins
- Karen Campbell
National Center for Earth Surface Dynamics
- Pat Hamilton, Dan Dahm, Bette Schmitt, Bryan Kennedy,
Science Museum of Minnesota
- And many other people behind the scenes

Rain Table

- Similar to pouring water on a physical model - virtual version has advantages and disadvantages
- Original plan was a floor - similar to Shigureden museum in Kyoto - lots of challenges to implement this, so we decided to start with a table first
- St Paul is close enough to Chicago that we can have meetings roughly every six months
- Minnesota funding a student to work on the project
- Will have rain table running at the museum this summer
- They will begin studies on hardening the exhibit and improving the interaction



Example of Evolving Design

- Over the past three years the pucks have evolved from fragile battery powered devices shown at the top of the photo to the fairly robust passive devices at the bottom of the photo, with further evolution to come
- We are working on the next generation of the table which will have stereo visuals and use direct multi-touch with fingers instead of the pucks



Why do these Collaborations work at EVL?

- All of our projects are collaborative - work with people from Geoscience, Astronomy, Education, Medical, Nano, Communication, Psychology
- Culture of final critiques from art side of the lab leads to work that is showable to the public
- We regularly take our hardware and software on the road to conferences where it must work with real people
- At least one demo every day in EVL where students show off their work to guests from a variety of disciplines
- Our students spend time 'in the field' during the summer with the users while developing their work

Questions?

For more info:
www.evl.uic.edu
or come visit us

aei@evl.uic.edu

