Skye Bender-deMoll

- Researcher & consultant dynamic network viz
  - http://skyeome.net

- SoNIA (Social Network Image Animator) developer
  - http://sonia.stanford.edu
Mapping Interests:

- Putting abstract high-dimensional data and relations into comprehensible forms that support intuition.
- Moving beyond rapid arm movements as a means for communicating about dynamic networks.
- Improving validity and rigor of network displays.
- Dirty data: aggregation, matching, cleaning.
Dynamics & diffusion

- **CSDE sims**
  - ERGM statistical model of sex contacts and disease diffusion in heterogeneous network
  - statnet team, Center for Studies in Demography and Ecology of University of Washington (Morris, Handcock, ..)
When is the network?

Dan McFarland’s Class 33_10/9/96
Multiple component Kamada-Kawai layout,
Circular start, Avg aggregation

35 min

10 min

5 min

1 min etc...
Show trends or relationships?
When can I trust a layout?

- **Stability**
  - Do minor parameter tweaks give similar results?

- **Comparability**
  - How well do positions and neighborhoods match?

- **Repeatability**
  - Can I do it again?

- **Layout specific measures**
  - stress & distortion
Cleaning politics with dirty data

- FEC PAC contributions db
  - Transactions to senate candidate’s central committees reported in May 2006
  - very rough draft!
Mapping interactions

- McFarland's classrooms
  - Continuous-time logging of communication events between teachers and students
    - blue ties = social
    - red = conflict
    - black = task
Dimension reduction

- Choosing what to throw away or compress

Figure 6a. Birds-eye perspective rendering of Piran and Portoroz, Slovenia. Color and shading are used to convey topography, geometric layout is somewhat distorted and some regions are obscured. [image copied without permission from http://dragonja.nib.si/indexA.html]

Figure 6b. Plan map of Piran and Portoroz, Slovenia. Distances are more “correctly” represented, but elevation information is discarded completely. (Red circle indicates site of Sunbelt 2004 networks conference) [image copied without permission from http://tis.telekom.si/karta/map.exe]

- Is perspective a form of Principal Component Analysis?