Readings for Today:


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- Society of Professional Journalists' Code of Ethics
- Visual.ly's Code of Ethics for Data Visualization Professionals

Institutional Review Board (IRB)

- Privacy, Confidentiality, Anonymity, Informed Consent
- Reduce risk (physical/mental/privacy) to the participants engaged in research

Informed Consent

- Do you carefully read every document you sign? Every “agree to terms” button you click?
- Data can be taken out of context, used in ways other than intended
- Previously: required a team of researchers to gather data
- Now: a single person can do it alone - lost informal peer consultation of ethics concerns
Interesting Tidbits

- Internet is an ocean of data
- Research results poured back into ocean of data
- Surveillance: Shopping malls are private spaces, but made to feel like public spaces
- File/log planned data collections in advance (pre-planning required, data more precious)
- Researchers should make themselves equally public

Privacy & Visualization

- Most visualization computation assumes unrestricted access to data
- How do we do this computation with partial information?
- How do you design hardware/software system to ensure data security?

What data has privacy concerns?

- Corporate secrets
- Health records
- Personal finances
- Personal location

Who would potentially benefit from access to this Data? (why is a grey area?)

- Scientific discovery
- Improve healthcare

What is sufficient to anonymize data?

- Remove explicit identifiers
- Small datasets cause problems
- Quasi identifiers
- What are the sensitive attributes
- Sanitize data on the fly, constraining the interaction
- Assume data holder is aware of data sensitivity (and appropriately concerned)
Stanford Multi-Camera Array
[Wilburn 2002]
- 640 × 480 pixels × 30fps × 128 cameras
- synchronized timing
- continuous video streaming
- flexible physical arrangement

Synthetic aperture photography using an array of mirrors
- 11-megapixel camera
- 22 planar mirrors

Confocal imaging in scattering media
- small tank
  - too short for attenuation
  - lit by internal reflections

Experiments in a large water tank
- stray light limits performance
- one projector suffices if no occluders
In Class Exercise

- In a team of 2... someone you haven’t worked with yet!
- Inspired by a classmates homework 6 submission (or not)
- Script a skit or debate revealing both sides of a privacy/security/ethics issue related to data and or visualization
- Can be a personal anecdote, a worst-case scenario, a legal court case
- Related to business, health, personal privacy, …

Homework Assignment 7: Interaction & User Interfaces

- User Interface Design for Data Exploration
- Complex user interaction
- Performance efficiency

- Focus: Visualization Execution (secondary)
  Visualization Design (secondary)
  Teamwork: strongly encouraged!!
  (work with someone new!)
  Revisit previous assignment ideas: encouraged!

Readings for Next Week:

- “Focus Plus Context Screens: Combining Display Technology with Visualization Techniques”, Baudisch, Good, & Stewart, UIST 2001
- “QSplat: A Multiresolution Point Rendering System for Large Meshes”, Rusinkiewicz & Levoy, SIGGRAPH 2000