Assignment 6
• find dataset, visualize it, and write story about it
  • you’ve now had practice in
    • effective visual encoding: space, color
    • finding the story within a dataset
    • wrangling
    • linking up and partitioning into multiple views
  • you’re encouraged to consult with us if you get stuck!
    • is your idea viable/newsworthy?
      • how can you do what you want inside Tableau?
    • is your visual encoding well justified?
  • you’re encouraged to post story publicly (but not required)
    • note you can embed visuals within web page with Tableau Public

Last Time

Stories

Idiom: force-directed placement
• visual encoding
  • link connection marks, node points marks
• considerations
  • spatial position meaning directly encoded
    • left box is smaller coverage
  • proximity semantics
    • sometimes meaningful
  • sometimes arbitrary, artifact of layout algorithm
    • ravens with breathing
  • visual encoding
    • cell shows presence/absence of edge
• tasks
  • explore topology: locates paths, clusters
• scalability
  • node/edge density E = 4N

Idiom: adjacency matrix view
• data/network
  • transform into data/encoding as heatmap
• derived data: table from network
  • 1 quadrant attri.
    • weighted edge between nodes
  • 2 using strikes node box x 2
• visual encoding
  • cell shows presence/absence of edge
  • 1K nodes, 1M edges

Connection vs. adjacency comparison
• adjacency matrix strengths
  • scalability, supports recording
  • some topology tasks trainable
• node-link diagram strengths
  • topology understanding, path tracing
  • intuitive, no training needed
• empirical study
  • node-link best for small networks
• matrix best for large networks

Idiom: radial node-link tree
• data
  • tree
• encoding
  • link connection marks
  • point node marks
  • radial axes orientation
  • angular proximity: radius
  • distance from center: depth in tree
• tasks
  • understanding topology, following paths
• scalability
  • 1K – 10K nodes

Networks

Connection

http://www.cs.ubc.ca/~tmm/courses/journ16
Week 6: Networks, Stories, Vis in the Newsroom
Tamara Munzner
Department of Computer Science
University of British Columbia
JRNL 520H, Special Topics in Contemporary Journalism: Data Visualization
Week 6: 18 October 2016

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Last Time: Rules of Thumb
• No unjustified 3D
• Resolution over immersion
• Overview first, zoom and filter, details on demand
• Responsiveness is required
• Function first, form next

Demos 1 & 2: Wrangling Tutorial, Simple Survey
• Credit: Caitlin Havlak
  • Wrangling Lessons
    • first row for headers (right menu over source in)
    • Tableau data inspector
    • manual Excel/GoogleDoc cleaning
  • Big Ideas
    • reshaping data: from wide to tall
    • join: inner, left, right, outer
    • pivot: one observation per row, no cross-tabulation

Arrange networks and trees

Schedule
• today: office hours 2:30-3:30pm, Tamara & Caitlin
  • next week:
    • Tamara on travel Sat Oct 22 - Sat Oct 29
    • in VIS conference in Baltimore, likely extremely slow with email
    • Caitlin here
    • Tue Oct 25 9:30-12:30, 1:00-4:30 in Seg Tsal big lab room 313, drop by for help/interaction
    • available by email throughout the week
  • two weeks:
    • project 6 due Tue Nov 1 9am

Today
• stories
• networks
• (break)
• vis in the news
• beyond this class
• individual meetings on final project
Idiom: treemap

• data
  – tree
  – 1 quant attrib at leaf nodes
• encoding
  – area containment marks for hierarchical structure
  – rectilinear orientation
  – size encodes quant attrib
• tasks
  – query attribute at leaf nodes
• scalability
  – 1M leaf nodes

Link marks: Connection and containment

• marks as links (vs. nodes)
  – common case in network drawing
  – 1D case: connection
    • ex: all node-link diagrams
    • emphasizes topology/path tracing
    • networks and trees
  – 2D case: containment
    • ex: all treemap variants
    • emphasizes attribute values at leaves (size coding)
    • only trees

Tree drawing idioms comparison

• data shown
  – link relationships
  – tree depth
  – sibling order
• design choices
  – connection vs containment link marks
  – rectilinear vs radial layout
  – spatial position channels
• considerations
  – redundant/arbiterary?
  – information density?
  – avoid wasting space
