



# Blockmaps: Visualization technology for exploring large social networks

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CASOS Summer Institute

Center for Computational Analysis of Social and Organizational Systems

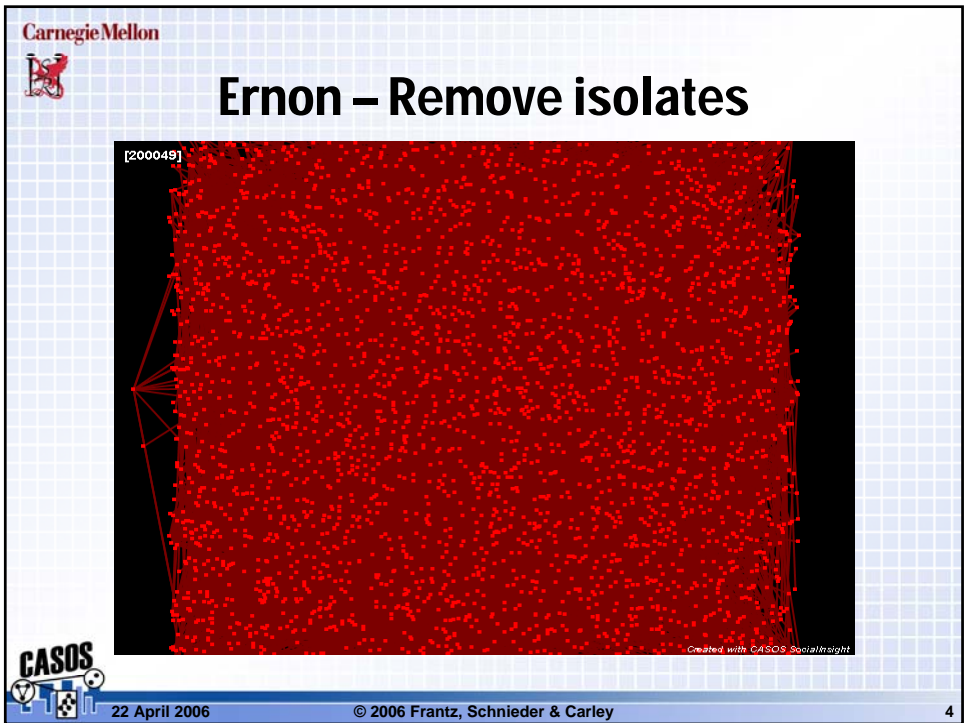
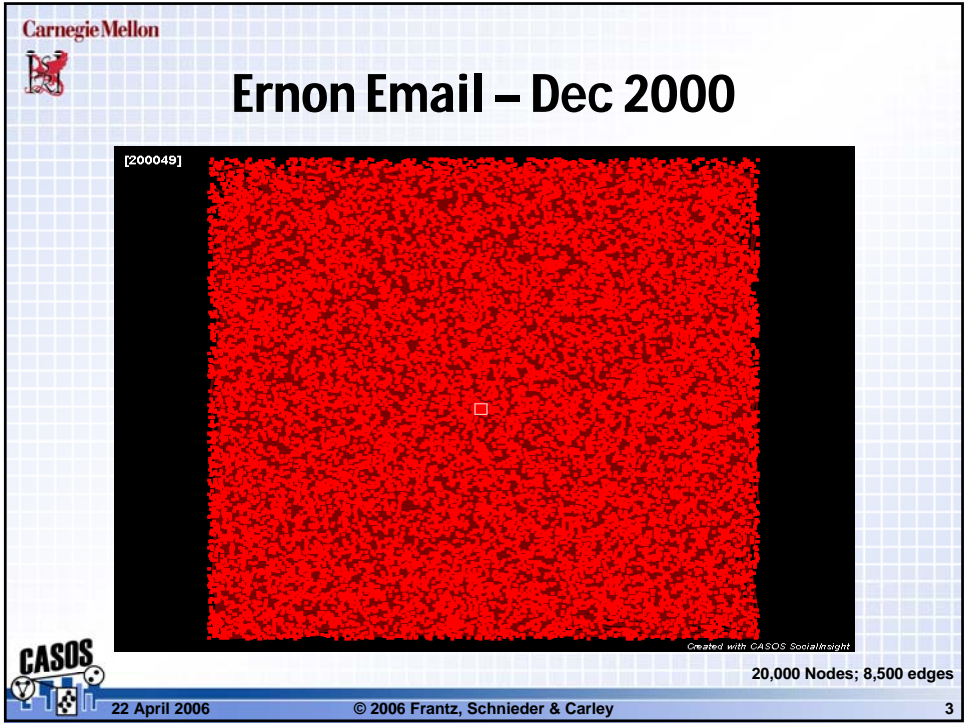
<http://www.casos.cs.cmu.edu/>



## Agenda

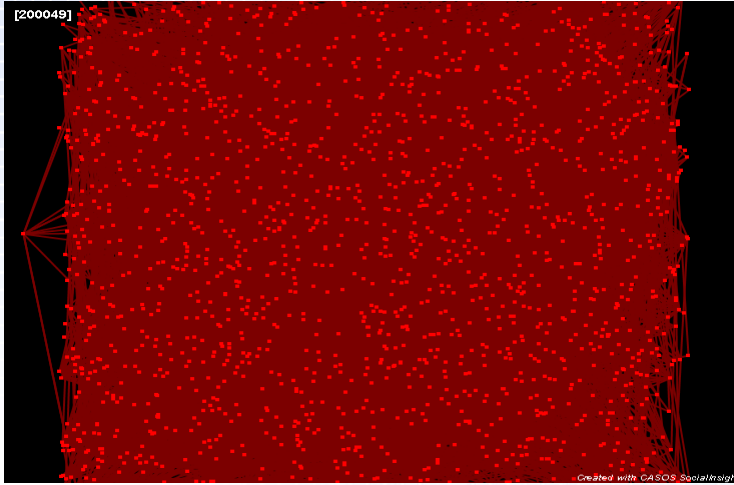
- Problem:
  - *Clearly*, the visualization of large network datasets is ineffective from a human-cognition.
- Solution:
  - ✓ reduce the network frame -- show the portion the network that is of *immediate interest* to the human.



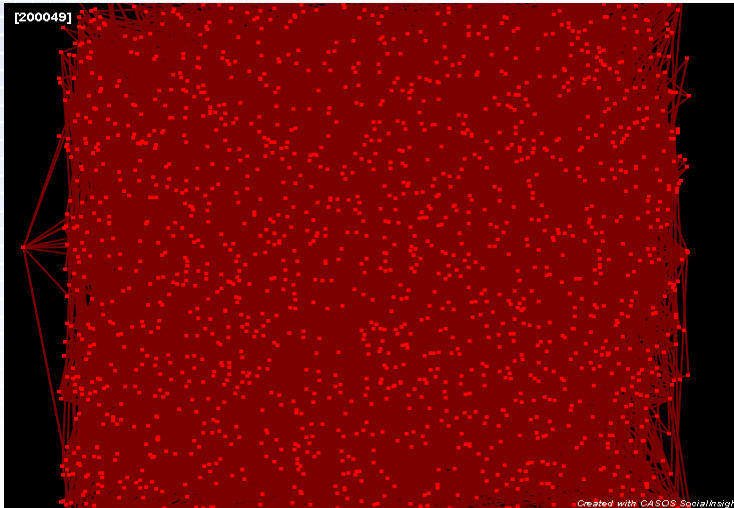




# Ernon – Remove isolates & pendants



# Ernon – Recursively rm nodes & edges



Carnegie Mellon

# Mouseovers Help

2000491 - CASOS Social Insight Network Visualizer

File Actions Tools Options Help

Rotate Lbl Font Size 10 Hide Edges with Weight: Less Than 0.0

vasant.sharbhogun@ericon.com  
 Entry class is "agent"  
 ID is "vasant.sharbhogun@ericon.com"  
 3 links

Attributes: none  
 Measures: none  
 Neighbors:

CASOS

Zoom: -8 Hyperbolic: 0 1761 nodes, 7032 edges

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# Hide edges with < 10 edges

2000491 - CASOS Social Insight Network Visualizer

File Actions Tools Options Help

Rotate Lbl Font Size 10 Hide Edges with Weight: Less Than 0.0

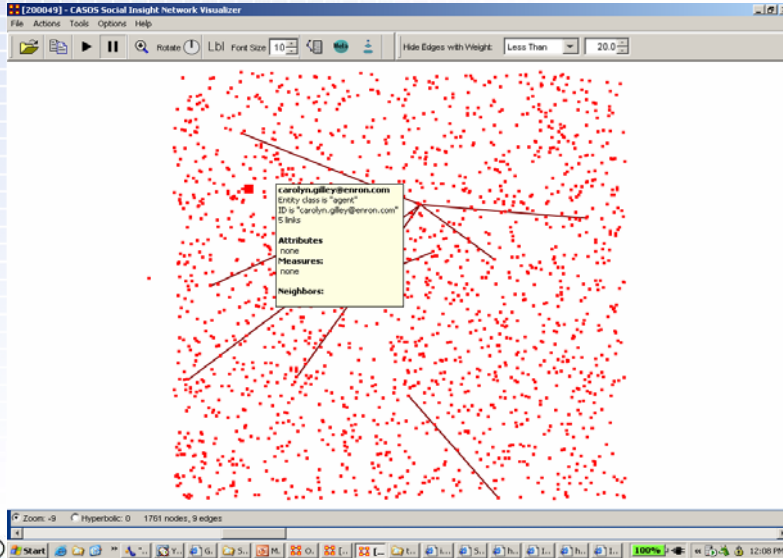
CASOS

Zoom: -9 Hyperbolic: 0 1761 nodes, 511 edges

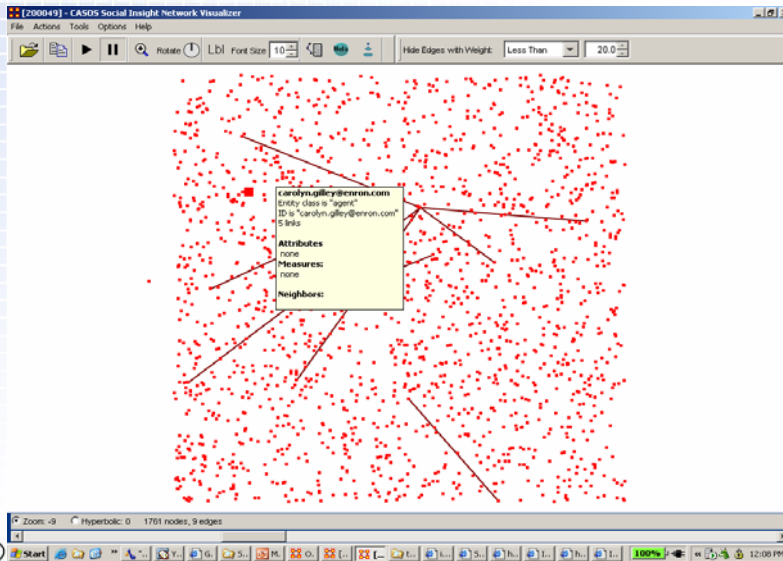
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# Hide edges with < 20 edges



# Still too much for me....







# Re-Introducing Treemap Visualization

Introduced by:

Johnson, B., & Shneiderman, B. (1991).

Tree-maps: A space-filling approach to the visualization of hierarchical information structures.

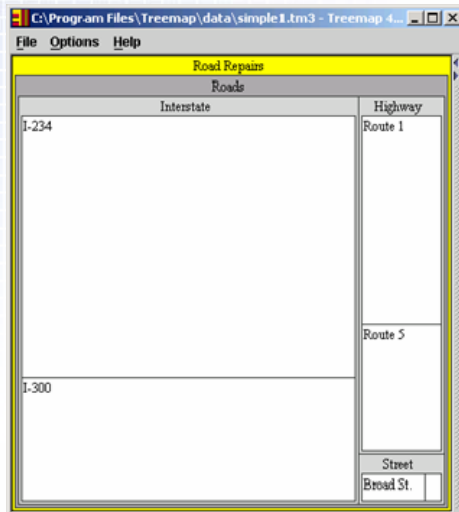
In *Proceedings of the 2nd International IEEE Visualization Conference*, pp. 284-291, San Diego, CA.



# Treemap

### Road Repairs hierarchy

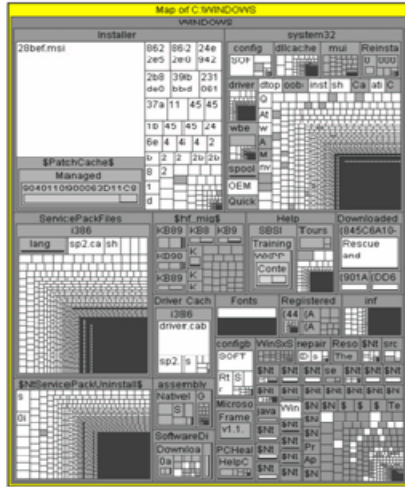
- 1. Roads
- 2. Interstates
  - 1. I-234
  - 2. I-300
- 3. Highway
  - 1. Route 1
  - 2. Route 5
- 4. Street
  - 1. Broad St.
  - 2. Other St.



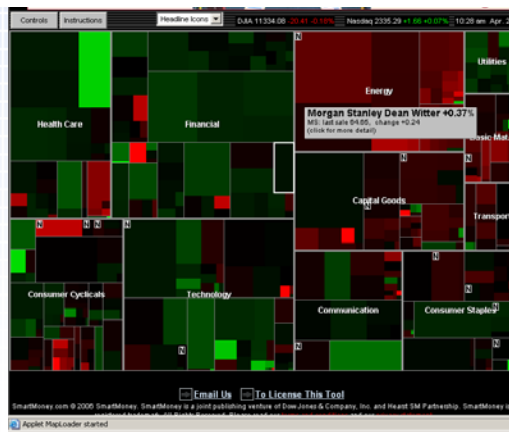


# Treemap

Windows OS Disk hierarchy



# Treemaps used on Wall St.

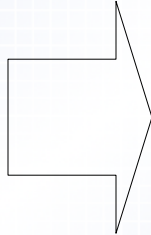


Smartmoney.com : Map of the Market

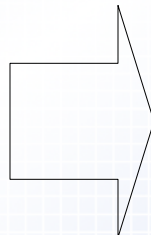
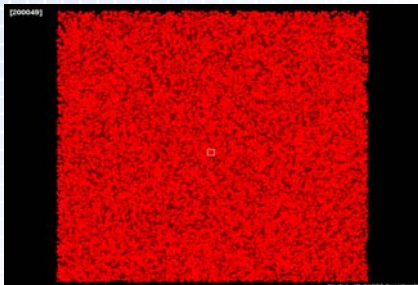




# Transforming the glob...



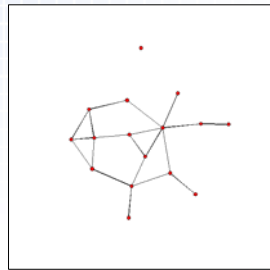
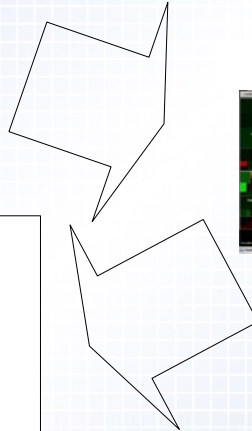
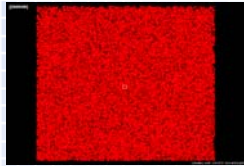
# How about networks?







## Use treemaps to drill-down



## "Blockmaps" are...

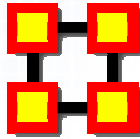
...treemap technology plus coloration

-- applied to social network analysis





## Implementing blockmaps in ORA



**ORA**  
*The Organizational  
Risk Analyzer*



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## Acknowledgements

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