Visualization by Demonstration: An Interaction Paradigm for Visual Data Exploration

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Data Exploration without Specification

Introduction
Use demonstrations to generate:
- visualizations techniques
- mappings
- parameters

Contributions
1. Does not require users to specify vis techniques
2. Extracts vis mappings and parameters

Video
https://www.youtube.com/watch?v=JFdStB0nYRs

Design Guidelines
1. Support direct manipulation
2. Balance human/system workload
3. Enable user interactions to drive transformations
4. Enhance interpretability of recommendations

Task Example
Potential Transformations

1. Visual Representation
2. Data Mapping
3. Axes
4. View Specification

Recommendation Engine

1. Visual Representation
2. Data Mapping
3. Axes
4. View Specification

Discussion
1. Tradeoff between flexibility of vis-by-demonstration vs. the loss of formality

2. Other vis techniques

3. No sophisticated analytic operations

4. Transforming to vis techniques with different graphical encodings

5. Consistency in visual mappings

6. Exploring methods of presenting recommendations in visualizations

Critique
1. No validation
2. Need to keep track of favorite points -> makes comparison hard
3. Cannot set axis to a certain attribute
4. Great start to the exploration problem.

Dilan Ustek
Thank you!