

How Does My Audience Read My Visualization?

Steve Rubin

UC Berkeley EECS, Computer Science Division
CS 294-10 - Visualization Class Project
srubin@cs.berkeley.edu

ABSTRACT

Abstract abstract abstract abstract.

Author Keywords

Visualization understanding; design

ACM Classification Keywords

H.5.m. Information Interfaces and Presentation (e.g. HCI):
Miscellaneous

INTRODUCTION

Research in information visualization and graphical perception has often focused on creating effective visualizations for low-level perception, such as “what is the value represented by this bar in the chart,” and “how much bigger is this bar than that bar.” This work is critical in gaining an understanding of which visual variables and encodings are most easy to understand.

A parallel line of work has looked at how higher level attributes affect the overall memorability of charts and graphs. This work aimed to answer questions like, “does chart junk make my graph easier to remember,” and “what kinds of charts and graphs are most memorable.”

While these two lines of work are posing interesting questions, they neglect one of the most important goals of a visualization, which is to convey a trend or a message to the viewer. The work on graphical perception can tell us how to create the visualization so it is legible, and the work on memorability can tell us how to spruce it up so it sticks in the viewer’s memory, but I am interested in learning more about the how trends in a visualization strike a viewer as important or unimportant. The ultimate vision of this line of research is to take a designer’s visualization, analyze it, and tell him several key facts about the visualization, such as:

- *What trends do viewers think are most important?*
- *How variable is the spread of trends that viewers think are important?*

- *How well do the viewers’ thoughts about this chart match the designer’s intention?*
- *What trends will the viewers retain after the visualization is taken away?*

Ideally a system could performing this analysis in a fully automated way, but for this project we use a large amount of manual identification and classification in the analysis pipeline in order to illustrate the potential benefits of such a system. The final output of this system is a dashboard that shows some of the above key facts to the designer of the visualization.

RELATED WORK

Graphical Perception

Memory

Chart Junk

Summarization evaluation

METHODS

Pipeline

Crowdsourcing

Nugget Analysis

Dashboard Generation

RESULTS

DISCUSSION

FUTURE WORK

REFERENCES

Woop woop woop!