Reporting Services Tips for the Stephen Few Fan

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Presentation Information

- A copy of the presentation as well as links to sources and other helpful articles is posted on Google+.

- Feel free to interrupt me to ask questions or share your own tips or experiences.
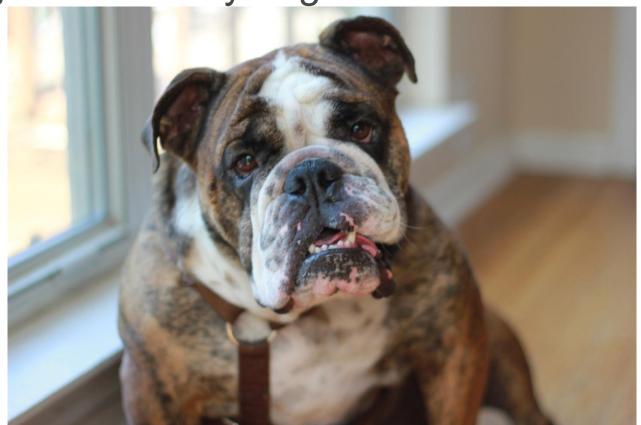
My Background

- Originally from Duncanville, Texas
- University of Nebraska – Lincoln: Raikes School of Computer Science and Management
- Started my career at Cerner Corporation
- MBA in Information Systems from KU
- Currently employed at Zillner in Lenexa, KS

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Buster the Bulldog

Things that make you go…

Why Do I Like Stephen Few?

- He backs up his opinions with research.

- He does not lose focus of the objective of the data visualization – to communicate a message.

- He has a great blog where he and his colleagues review current data visualization technology and trends.

Goals For This Session

- Review ideas from Few (and Tufte)

- Share helpful tips for the implementation of these concepts in Reporting Services

- Discuss obstacles we face when trying to implement these best practices in a real business setting and suggest solutions

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Graph Selection & Design Process

1. Determine your message and identify your data
2. Determine if a table, graph, or combination of both is needed to communicate your message
3. Determine the best means to encode the values
4. Determine where to display each variable
5. Determine the best design for the remaining objects
6. Determine if particular data should be featured, and if so, how

Effectively Communicating Numbers, Few 2005

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Graph Choice

- Use the Graph selection matrix to help you decide.

- Just because a graph exists doesn't mean you need to use it.
  - Say No to Pie Charts.
  - Consider a bullet chart instead of a gauge

Newer Graph Types

- Bullet Chart – Few
  - Small footprint
  - Linear
  - Bullet Graph design specs available online
  - DEMO!
- Sparklines - Tufte
  - Provide context by showing a trend
  - "Word-sized", clear and compact
  - Example on Google Finance

Concepts from Tufte

- "The overwhelming fact of data graphics is that they stand or fall on their content, gracefully displayed… Above all else show the data."

- "Do not deceive or distort"

- Data-Ink Ratio

- Chartjunk

- Context

Concept: Data-Ink Ratio

- Definitions:
  - data-ink/total ink used in graphic
  - proportion of a graphic's ink devoted to the non-redundant display of data-information
  - 1.0 - proportion of a graphic that can be erased without loss of data information
- Erase non-data-ink and redundant data-ink, within reason

Concept: Chartjunk

- Keep gridlines light and remove them where necessary
- Avoid 3D presentation of 2D data
  - "The number of information-carrying dimensions depicted should not exceed the number of dimensions in the data" - Tufte
- Remove unnecessary legends when information is redundant with the chart title
- "We-Used-A-Computer-To-Build-A-Duck Syndrome": Just because it is new doesn't mean you should use it

Concept: Sufficient Context

- "graphics must not quote data out of context" - Tufte

- [Real example from a client](#)

- **DEMO:** Repeat columns and row headers on each page - workaround for 2008 R2

Component Design

- Preattentive Processing

- Gestalt Principles of Visual Perception

- Bar charts:
    - Start numerical scales at 0
    - Order bar charts by value
    - Use a single color in bars of bar charts unless there is a good reason
    - Don't rotate labels

Fonts

- Legibility and consistency are the goals of font choice for data visualizations

- Serif or Sans-Serif is acceptable: Arial, Verdana, Tahoma, Times New Roman, Palatino

- Emphasis and color can be used for grouping text

Colors

- We can distinguish preattentively between no more than about 8 different hues
- Colors that are light/pale are useful in tables and graphs for anything you don't want to stand out above other content. Fully saturated, bright versions of primary hues tend to demand attention and should be used to highlight information.

  Practical Rules for Using Color in Charts - Few 2008
- Example from Marchex
- My favorite tools:
  - Instant Eyedropper
  - Color Combos

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Color Palettes

- Ways to indicate your color palette in SSRS:
  - Using a Color Fill on each series
  - Built-in color palette
  - Custom color palette
  - Expressions
  - VB Code

  Melissa Coates article on MSBICentral.com

- DEMO!

Obstacle: "You must use our corporate colors"

- My current company's corporate color

- My solution: toned down versions of the colors.

- Create a color palette, get it approved once, and reuse it in other reports.

Obstacle: "It's Not Flashy Enough"

- Use this as an education point, but be open to suggestions
  - "What I'm arguing is that, beyond a few basic principles of visual aesthetics, one's goal when designing a data visualization should not be to make it beautiful (or attractive). The goal is to communicate. If additional focus on visual aesthetics is required for a data visualization to communicate, then it's appropriate." – Few, Visual Business Intelligence, 2012
  - "If the statistics are boring, then you've got the wrong numbers…" - Tufte
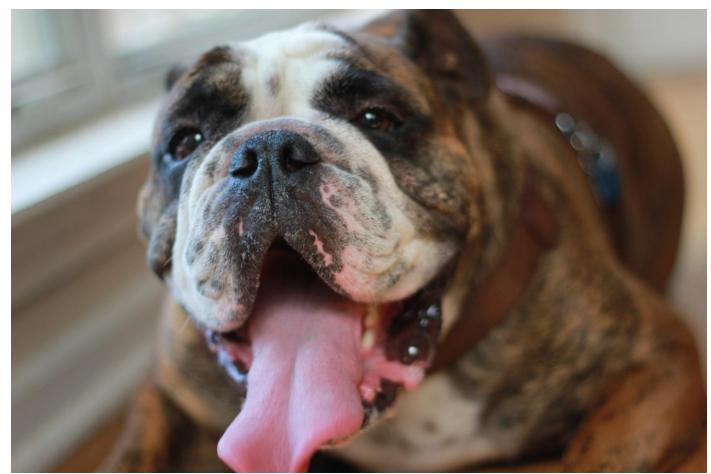
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Obstacle: "I want to know the exact numbers"

- Use hover text to provide precise numbers
  - Demo
- Are the precise numbers important, or is the pattern/trend important?
  - Tables work best when the display will be used to look up individual values or the quantitative values must be precise. Graphs work best when the message you wish to communicate resides in the shape of the data (that is, in patterns, trends, and exceptions). – Few, Effectively Communicating Numbers, 2005
- You can have both a graph and a table

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Desired State

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Contact Me

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