

Presentation of technical material to a general audience.

CS 109: Data Science Presentations

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A blurry, low-light photograph of a person's hands holding a smartphone horizontally. The screen of the phone displays a presentation slide with the text "EVERY PRESENTATION EVER" in large, white, sans-serif capital letters. The background is dark and out of focus.

EVERY PRESENTATION EVER

Results of the 2015 Annoying PowerPoint Survey

The speaker read the slides to us

71.7%

Full sentences for text

48.6%

Text too small to read

47.7%

Visuals too complex

36.9%

Results of the 2015 Annoying PowerPoint Survey

much long busy use
Death another one
deck cluttered death one
audience texts story Wordy
understand PPT info hate purpose
Deck add right understand PPT notes
summary need tool per colors
time work speakers make
easy clear confusing
Necessary Speaker Get helpful
read
many point
words get unclear
small see
choice template clever lack
good hard
Great material way less design
for better better way
less design
Easy fit next tell
next sorry clearly Just
data complex
informative detail
bad like
short concise overkill
poor go
information
reading eye
enough presenter
follow numbers
text
Confusing just
great chart
chart points
boring

Death by PowerPoint



A man with white hair and glasses, wearing a dark suit and light blue shirt, stands on a stage. He is looking towards the right. Behind him is a choir of people in blue shirts and black pants, singing. The stage has a dark background with blue lighting.

APRIL 2013

NEW YORK NEW YORK

Sir Ken Robinson, <http://www.ted.com/>

Clarity

- Clarity of Message
- Clarity of Slides
- Clarity of Delivery

I. Message

- Where do you want the audience to be?
- Where are they now?
- What is the best route to get them from here to there?

Every talk has ONE big idea. Answer to a problem statement
Focus and stay concise.

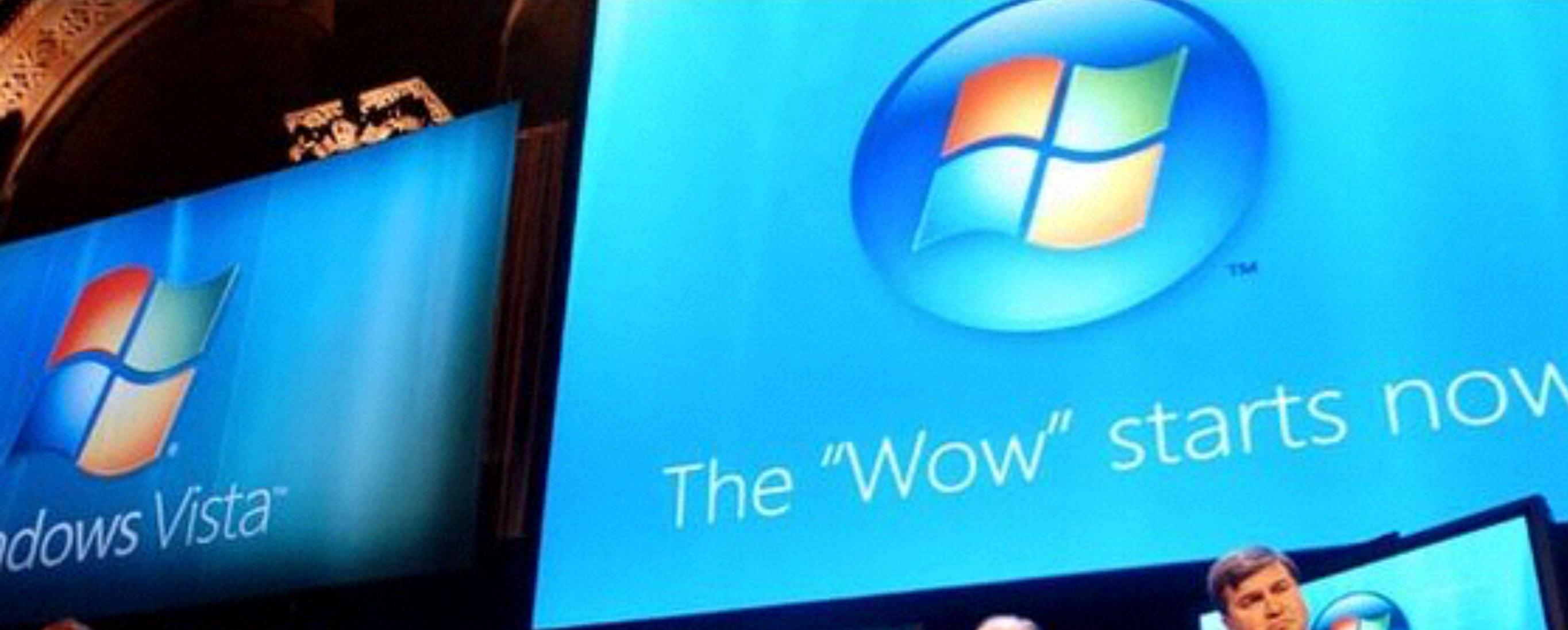
The Big Idea

Your unique point of view and a statement of
what's at stake if it is adopted or not



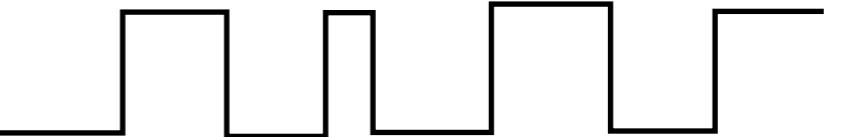


Steve Jobs, 2007



Telling a Story

- Problem - Pathway - Solution
- Problem - Solution - Reasoning
- The Hero's Journey (cf. Star Wars)
- What is vs. What could be
- ...



Telling a Story

Memorable Opening

Technical Nugget 1

I. More detail / 2. More detail / 3. More detail

Technical Nugget 2

I. More detail / 2. More detail / 3. More detail

Technical Nugget 3

I. More detail / 2. More detail / 3. More detail

Memorable Closing

2. Slides

- Avoid:

- spelling errors
- colors that are hard to see

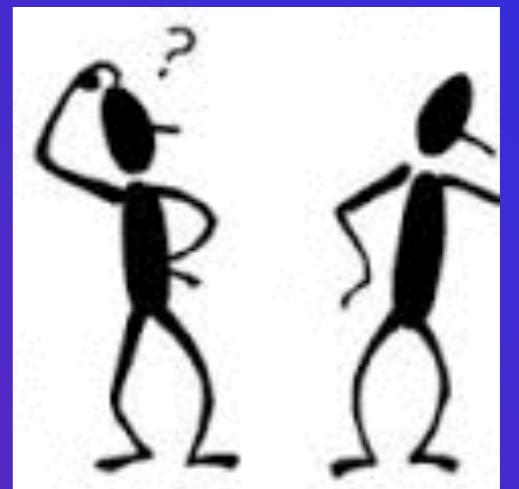
- fonts that are too small or hard to read

- LOW QUALITY FUZZY IMAGES



- clipart

- misaligned images



Iraq: I&W of Civil Conflict

CENTRAL COMMAND

Key Reads:

- Political / religious leaders increase public hostile rhetoric
- ▲ Political / religious leaders lose moderating influence over constituents
- Provocative sectarian attacks / assassinations
- Unorganized spontaneous mass civil conflict

Additional Indicators:

- ▲ Militias expand security role
- ▲ Governance
- ▲ Police ineffectual
- Army ineffectual
- Neighbors enable violence
- ▲ Sectarian tensions / violence displace populace
- ↑ Sectarian conflicts between / within ISF forces
- ↓ ISF refuse to take orders from central government, mass desertion
- Kurdish accelerate moves toward secession / annexing Kirkuk
- ◆ Low level violence motivated by sectarian differences

CHANGE SINCE
LAST WEEK

ROUTINE

IRREGULAR

SIGNIFICANT

CRITICAL

Urban areas experiencing “ethnic cleansing” campaigns to consolidate control ... violence at all-time high, spreading geographically.

18 Oct 06

United States Central Command



Strategy Map for US Army/Army/Army Scorecard : Dec-03

MISSION
OWNER
INTERNAL PROCESS
LEARNING & GROWTH
ENVIRONMENT



VII. Maximizing Average Local Consistency

- Algorithm 7.4: find consistent labelings when the matrix of compatibilities is symmetric

Initialize:

1) Start with an initial labeling assignment $\bar{\beta}^0 \in \mathbb{K}$.

Set $k = 0$.

Loop until a stop is executed:

2) Compute $\bar{q}^k = \frac{1}{2} \text{grad } A(\bar{\beta}^k)$.

3) Use the algorithm in Appendix A, with $\bar{\beta} = \bar{\beta}^k$, $\bar{q} = \bar{q}^k$, to find the solution \bar{u}^k to Problem 7.1.

4) If $\bar{u}^k = 0$, stop.

5) Set $\bar{\beta}^{k+1} = \bar{\beta}^k + h\bar{u}^k$, where $0 < h \leq \alpha_k$ is determined so that $\bar{\beta}^{k+1} \in \mathbb{K}$. The maximum step size α_k is some predetermined small value, and may decrease as k increases to facilitate convergence.

6) Replace k by $k + 1$.

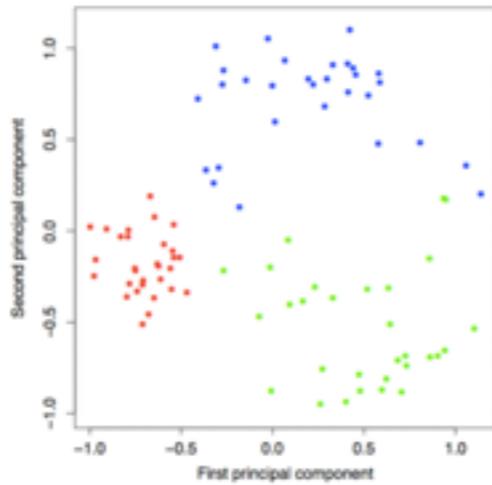
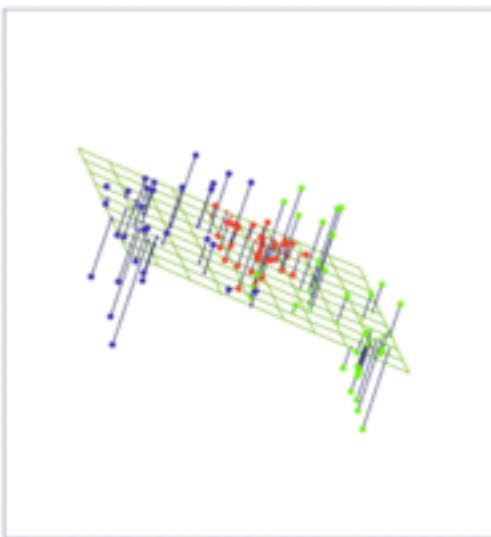
End loop. □

Successive iterates are obtained by moving a small step in the direction of the projection of the gradient

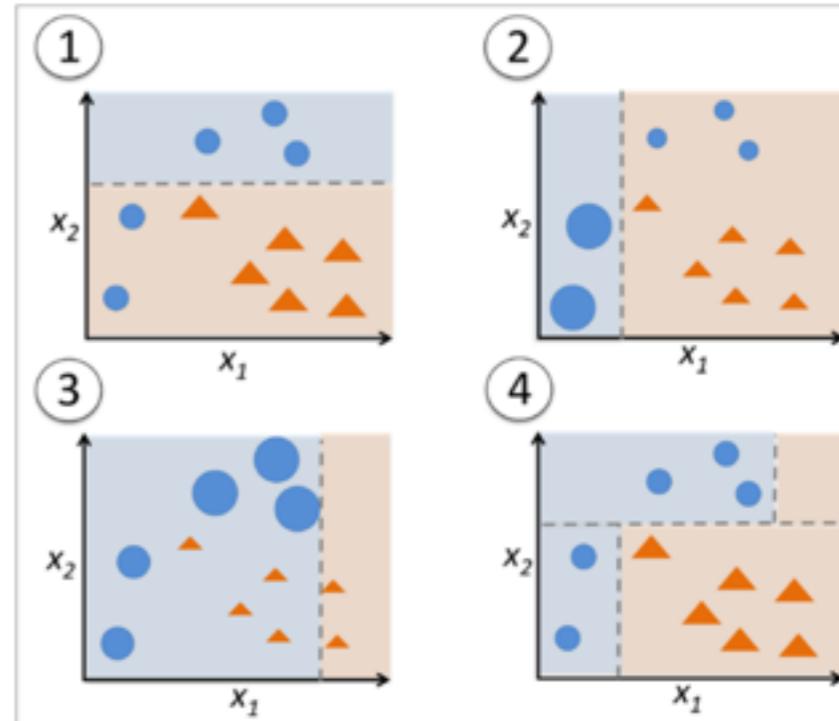
Algorithm stops when the projection $\bar{q} = 0$

Visualize Ideas

Dimensionality Reduction

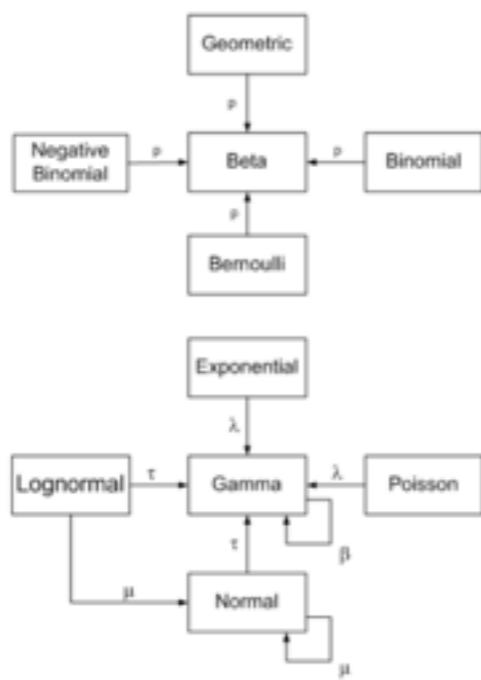


Hastie et al., "The Elements of Statistical Learning: Data Mining, Inference, and Prediction", Springer (2009)



Raschka, Python Machine Learning

Conjugate Priors



http://www.johndcook.com/conjugate_prior_diagram.html

MCMC as mountain exploration



vs.



<http://healthyalgorithms.com/2010/03/12/a-useful-metaphor-for-explaining-mcmc/>

Practice it AT LEAST 3 times.

Engage the audience

3. Delivery



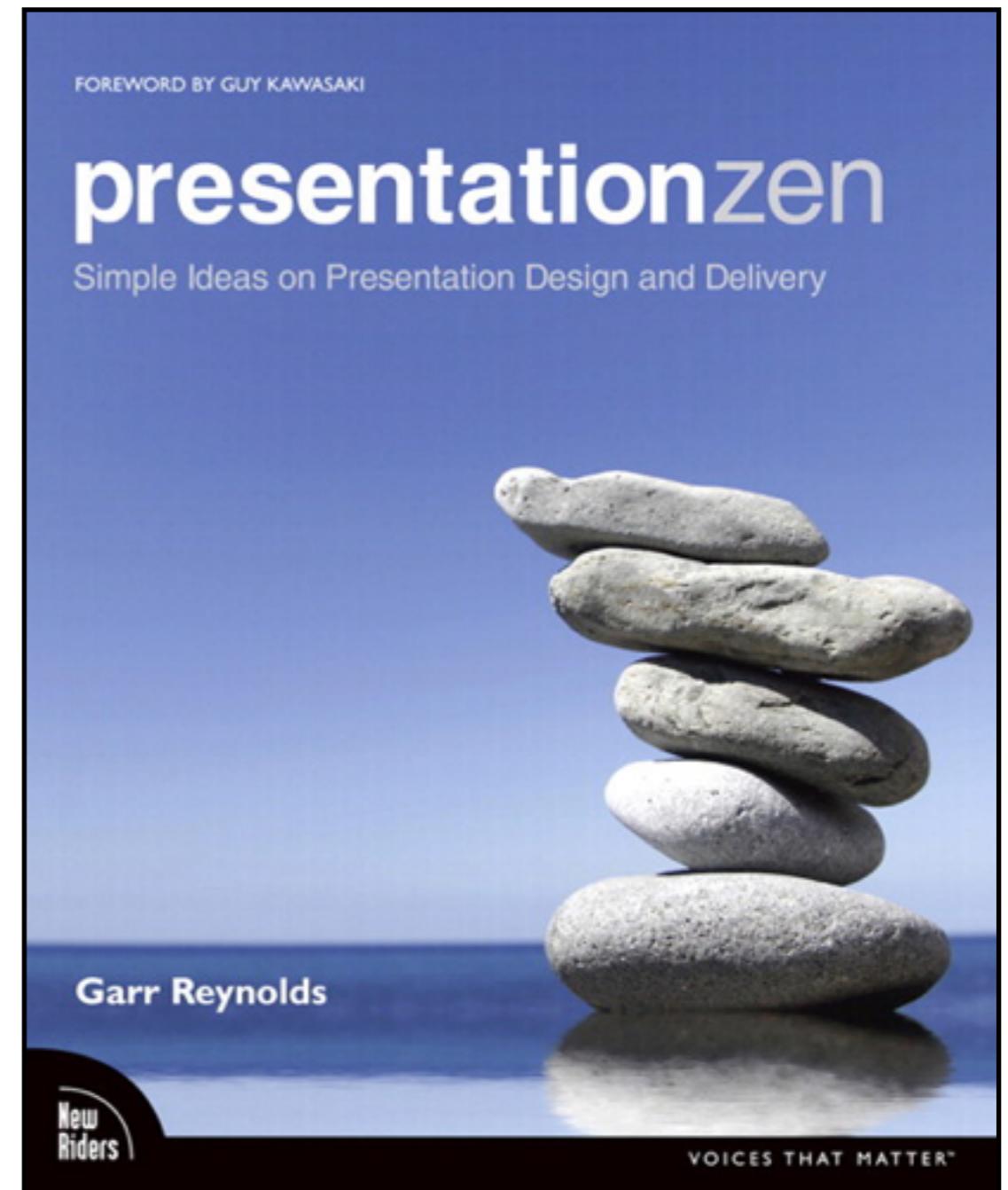
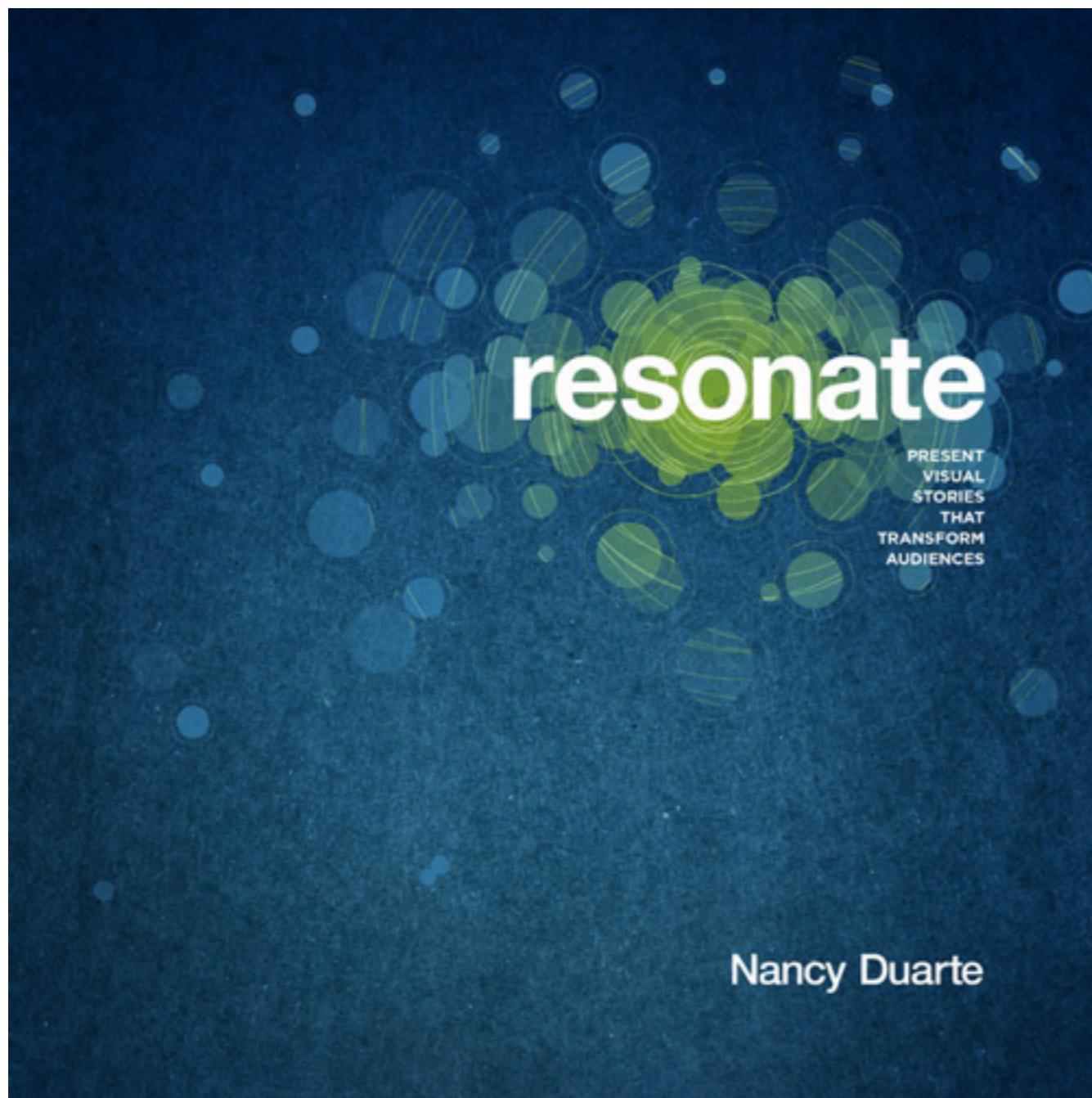


STEINWAY & SONS

Benjamin Zander, <http://www.ted.com/>

Make People's Eyes
Shine

Further Reading



Further Reading

- Alexei Kaptelev, Death by Powerpoint
<http://www.slideshare.net/thecroaker/death-by-powerpoint>
- Kayvon Fatahalian, Tips for Clear Talks
<http://www.cs.cmu.edu/~kayvonf/misc/cleartalktips.pdf>
- Rebecca Schumann, PowerPointless
http://www.slate.com/articles/life/education/2014/03/powerpoint_in_higher_education_is_ruining_teaching.html