

Presentation and Oral Communication Skills

Kathryn S McKinley, Microsoft Research



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Why do presentation skills matter?

Communicating well makes you happy

Inspires others to give you capital

attention, pointers, funding, collaboration,
ideas, jobs, financing, etc.

*You will explain ideas, techniques, and
results your entire life*

Formally and informally in your personal &
professional relationships, at conferences, in
interviews, in classrooms, with colleagues

WHAT IS YOUR HOOK?

Programming the Internet of Uncertain **<T>**hings

James Bornholt

University of Washington

Na Meng

University of Texas at Austin

Todd Mytkowicz

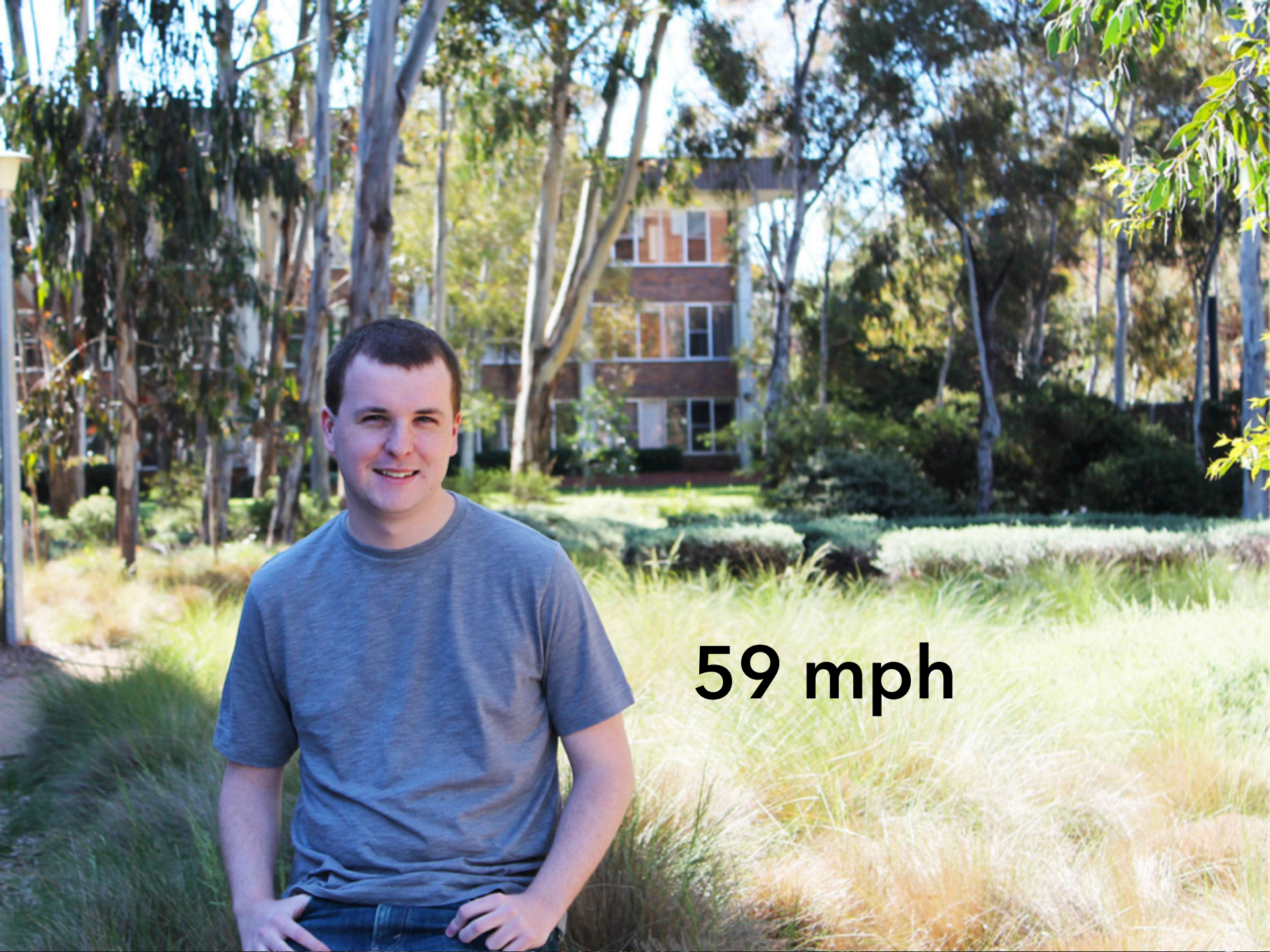
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Kathryn S. McKinley

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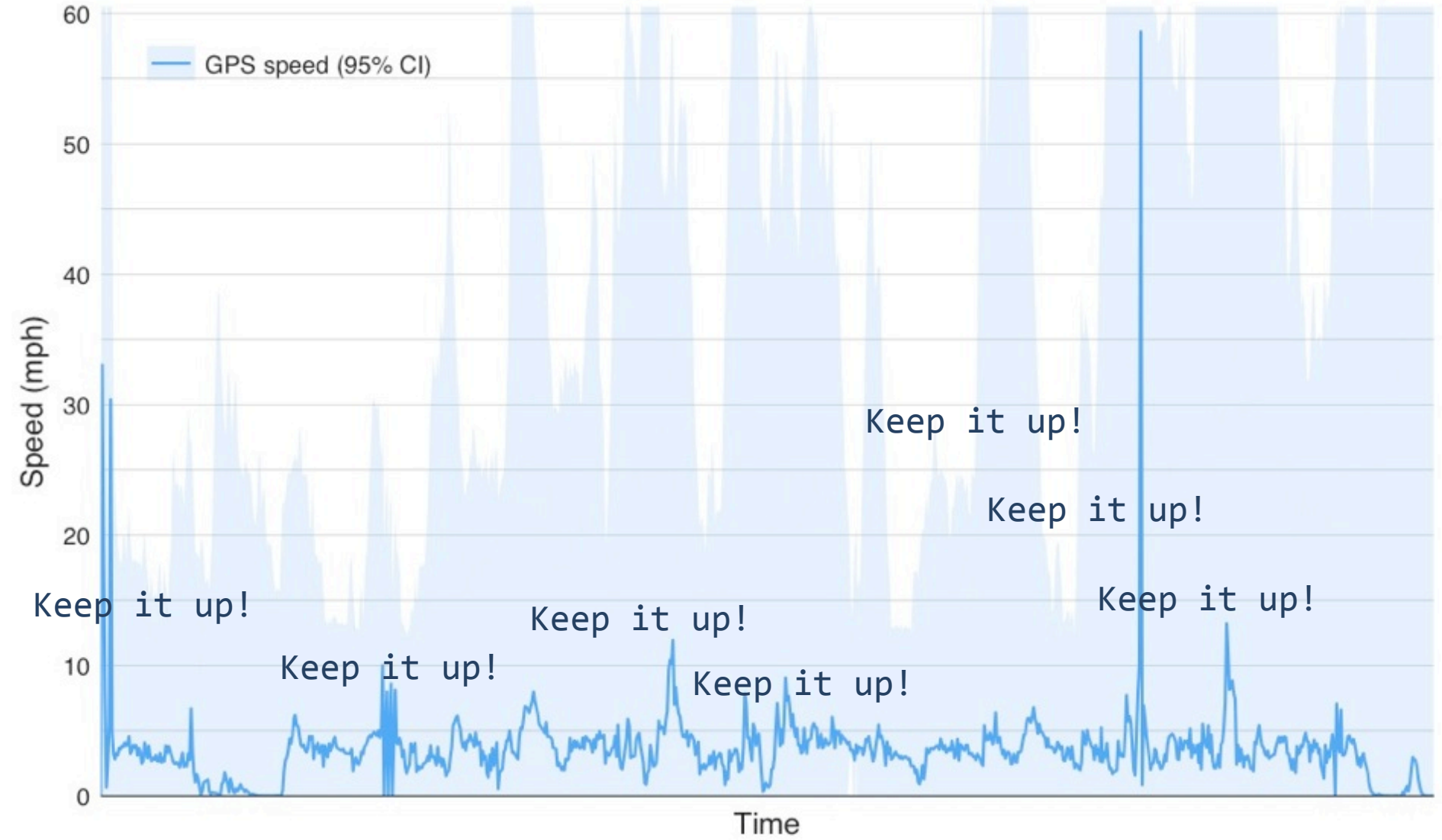


24 mph



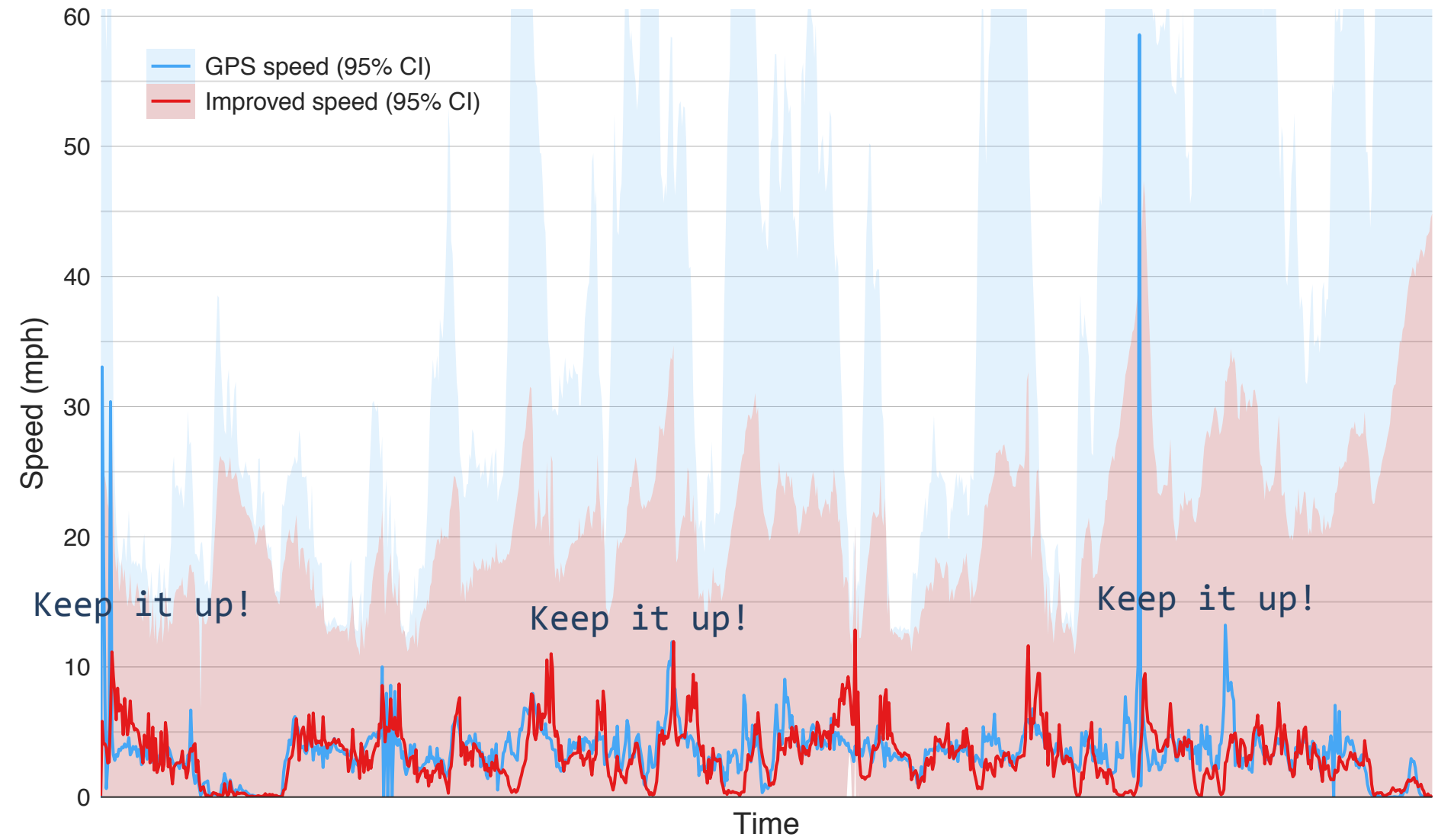
59 mph

```
GeoCoordinate PrevLocn = Get();  
Sleep(5);  
GeoCoordinate Location = Get();  
double Dist =  
    Distance(PrevLocn, Location);  
double Speed = Dist / 5;  
  
if (Speed > 4)  
    Alert("Keep it up!");
```


```
GeoCoordinate PrevLocn = Get();  
Sleep(5);  
GeoCoordinate Location = Get();  
double Dist =  
    Distance(PrevLocn, Location);  
double Speed = Dist / 5;  
  
if (Speed > 4)  
    Alert("Keep it up!");
```

```
Uncertain<GeoCoordinate> PrevLocn = Get();  
Sleep(5);  
Uncertain<GeoCoordinate> Location = Get();  
Uncertain<double> Dist =  
    Distance(PrevLocn, Location);  
Uncertain<double> Speed = Dist / 5;  
  
if (Speed > 4) // Hypothesis test  
    Alert("Keep it up!");
```



What's the point of a hook?

Helps your audience pay attention

Peaks audience interest

Learn from great talks and inspiring people

Ted Talks --- Amy Cuddy

“Your body language shapes who you are”



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Next

Knowing your constraints

Elements of style

Question & answer

Feel free to ask questions



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Analyze your constraints

Audience

What do they know?

Why are they here?

Biases?

Occasion

Time

Size

Purpose

To inform

To teach

To persuade

To inspire



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Analyze your constraints

Audience

What do they know?

Why are they here?

Biases?

Occasion

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Purpose

To inform

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To inspire

Seize your opportunities!



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Elements of Style

Structure

Visual aids

Speech vs words on your slides

Delivery



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Structure

Hook

Context setting

Talklets

point 1, point 2, ... point k

summary

The end



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Context setting

Define problem

Significance

Background

Related Work– Version I

“A reasonable approach to page coloring”

ASPLOS '06

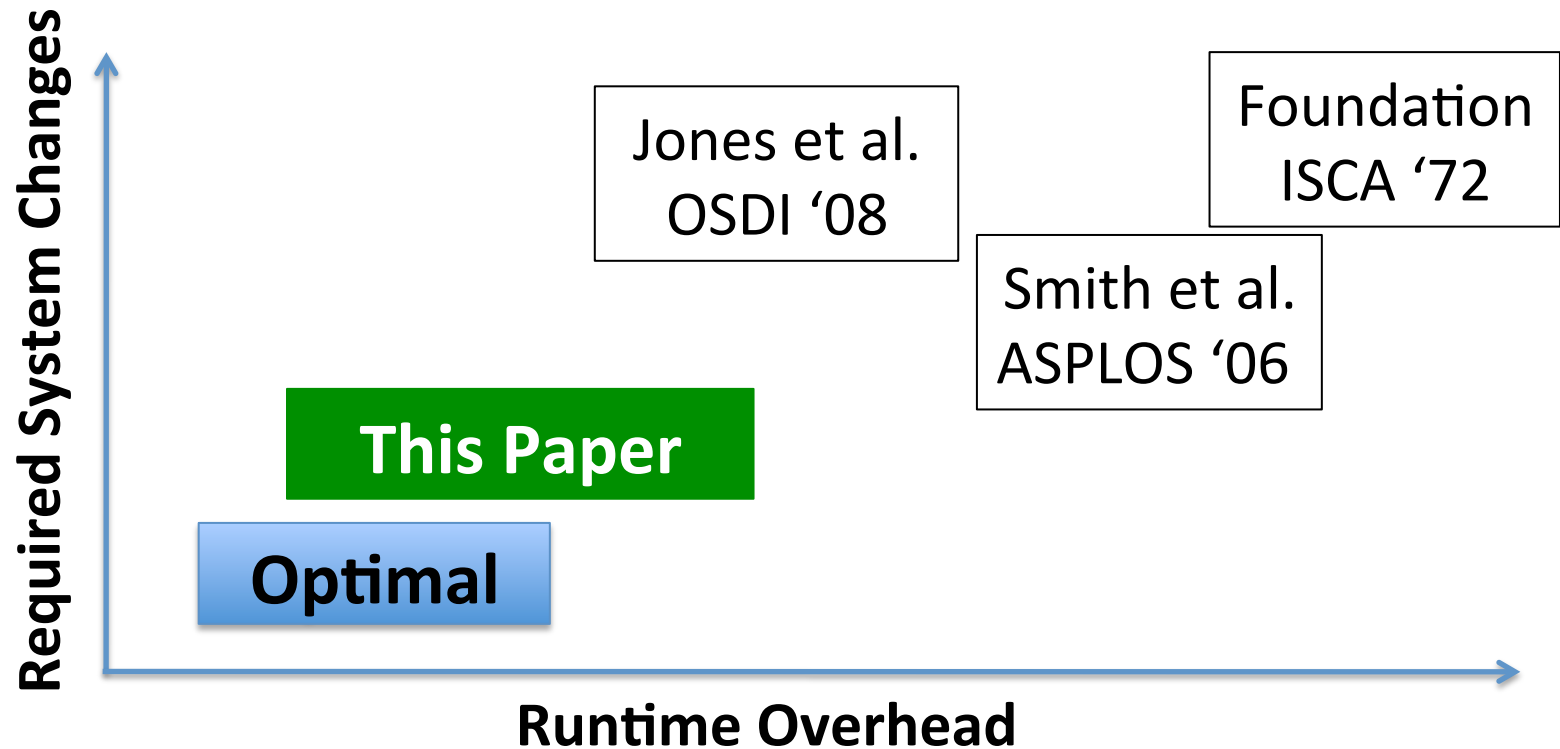
“Another page coloring idea”

OSDI '08

“Yet another page coloring idea”

ASPLOS '07

Related Work– Version II



*Spatial design space display
highlights novelty*

Middle

Don't be afraid of technical depth

But... make it understandable

Typically requires new visual materials
compared to your reference material

Re-coloring Procedure – Version I

Quick search for K -th
hottest page's hotness

$Bin[i][j]$ indicates # of
pages in color i with
normalized hotness in
 $[j, j+1]$ range

procedure *Recolor*

budget (recoloring budget)

old-colors (thread's color set under old partition)

new-colors (thread's color set under new partition)

if *new-colors* is a subset of *old-colors* **then**

subtract-colors = *old-colors* – *new-colors*.

Find the hot pages in *subtract-colors* within the *budget* limit and reallocate to *new-colors* in a round-robin fashion.

end if

if *old-colors* is a subset of *new-colors* **then**

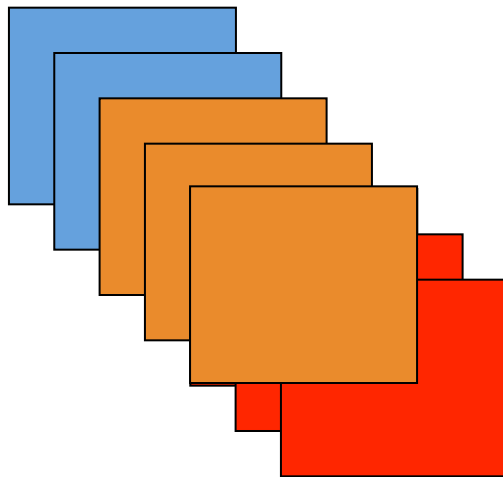
add-colors = *new-colors* – *old-colors*.

Find the hot pages in *old-colors* within the $\frac{|new-colors|}{|add-colors|} * budget$ limit, and then move at most *budget*

(i.e. $\frac{|add-colors|}{|new-colors|}$ proportion) of them to *add-colors*.

end if

Re-coloring Procedure – Version II



hot
warm
cold

Cache share decrease

Budget = 2 pages

Middle & End

point 1
point 2
point 3
point 4

point 5
point 6
point 7
point 8



point 1
point 7

Summary



Big Picture

Speech vs writing



Delivery & Confidence

Practice!

Questions

Anticipate them

Prepares slides

You are the expert

Aggressive questioners

Follow up

Summary

Have a goal

Know your audience

Plan

Content, Delivery, Design, Practice

Great visuals are key

Exceed your audience expectations

Accomplish your goal



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Acknowledgements

Thanks for sharing their presentations

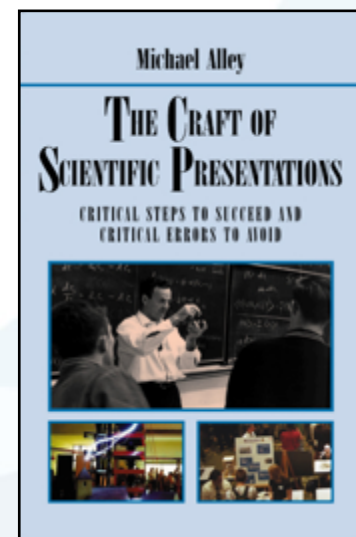
Michael Alley, Penn State (slides too!)

Mike Dahlin, UT Google

David Patterson, Berkeley

Margaret Martonosi, Princeton

Padma Raghavan, Penn State



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Useful Resources

Oral

David Patterson: How to Give a Bad Talk
<http://pages.cs.wisc.edu/~markhill/conference-talk.html#badtalk>

Mark Hill's "Oral Presentation Advice",
<http://pages.cs.wisc.edu/~markhill/conference-talk.html>

CRA-W,
<http://www.cra-w.org/gradcohort>
http://www.randsinrepose.com/archives/2008/02/03/out_loud.html
<http://www.slideshare.net/selias22/taking-your-slide-deck-to-the-next-level>
<http://www.presentationzen.com/>

General

Female Science Professor blog!
<http://science-professor.blogspot.com/>

Writing

- **Joseph Williams, "The Basics of Clarity & Style"**
- Gopen & Swan "The Science of Scientific Writing" <http://www.americanscientist.org/issues/feature/the-science-of-scientific-writing/9>
- Many schools provide many writing resources: Use them!
Writing center or tutor.
- It may be worthwhile to *pay* a writing tutor to help teach you to edit your own work

How to Give a Bad Talk



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I. Thou Shalt Not Illustrate

Clients	xFS BW	NFS BW
1	5.71995e+05	1.65997e+06
8	4.425325e+06	1.19731e+06
16	1.095445e+07	7.88792e+05
32	1.38927e+07	4.70548e+05

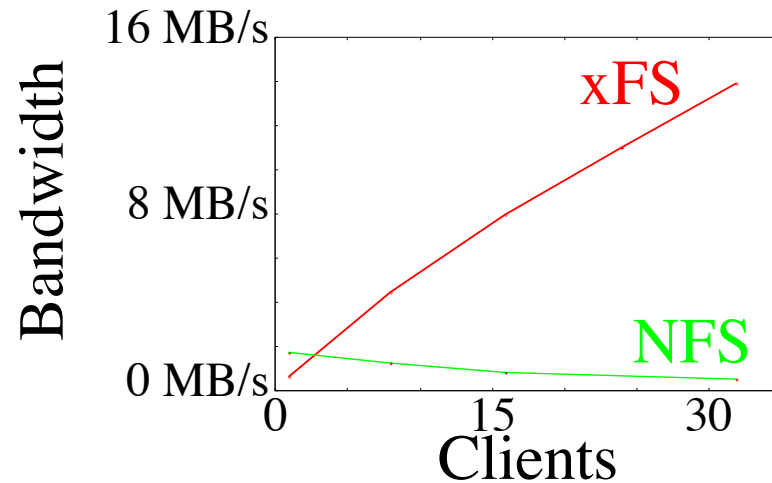


Table:

Precision

Allow Audience to Draw on Conclusions

Pictures:

Confucious: “Picture = 10K Words”

Dijkstra: “Pictures are a crutch for weak minds”

Who are you going to believe?

II. Thou Shalt Not Covet Brevity

Do not omit technical material from your paper

You did the work; it is important; make sure the audience understands all nuances of approach and also how smart you are

Many in audience will never read the paper – they *must* leave the room fully understanding your approach, motivation, and contributions!

Include lots of material in each slide

Avoid sentence fragments because they may make you look illiterate.

- Also, if the slides have full sentences, then you can read the slides verbatim and audience will be able to follow along.
- All points you make orally should also be on the slide, and vice versa.
- Some may say that no item on a slide should span more than one line. Ignore this! Take as much room as you need to make your point.
- Take advantage of technology – small fonts allow you to provide information-rich slides.
 - ✧ Fonts smaller than 24 point are fine
 - ✧ And the important people sit in front anyhow!
- Make several points on each slide.

Include lots of slides in each talk

1 Lampson = 1 slide per second

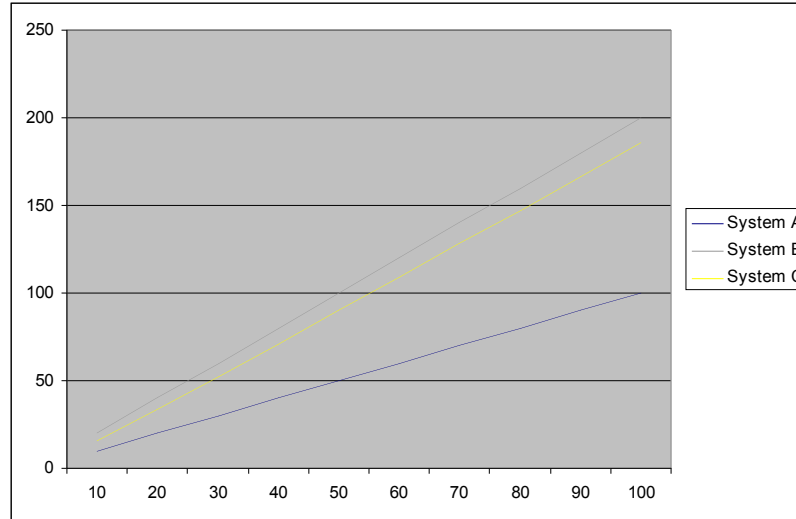
Impress audience with intensity and difficulty of material

- They should leave knowing that you did a lot of work and that it was hard, even if they don't understand all of the details.

Avoid moving content to “backup slides”

- You probably won't get a chance to show many of them

II. Thou shalt Not be Neat



Slide layout << ideas!

“I’ m a **doctor**, Jim, not a graphic designer.”

spelling checker = waste of time

- don’ t worry about consistent capitalization
- Or structure/bullet/etc consistency

Use color and fonts to **emphasize** key ideas

Who cares what 50 people think?

IV. Thou Shalt Cover Thy Naked Slides

Keep audience on your point
Surprise them with your train of thought

If they know the point before you make it

They may think

That they could have figured it out

For themselves

Will they realize

How clever you are?

Advanced techniques

V. Thou Shalt Remain Humble and Demure

No eye contact

Bonus: Help avoid questions

Do not distract with motion

Keep arms at side

Stay at podium

Avoid rhetorical flourishes

Keep voice level

- Avoid raising voice on key point
- Avoid pause

Do not ask rhetorical questions

Do not use humor

Key tool of the trade

Laser pointer

VI. Thou Shalt Not Emphasize Key Points

Do not introduce talk/talklet/slide

Cover more technical material

Do not structure slide

All points are important

Graphs should speak for themselves

Do not summarize talk/talklet/slide

Audience should pay attention

VII. Thou Shalt Not Skip Slides in a Long Talk

You did the work

The research

- And prepared the slides

Audience will be interested in seeing them

Even if briefly

Audience can stay longer

Your work much more interesting

- Than the next speakers
- Than the break
- Than lunch

If necessary, skip conclusions

Just repeating points you've already made

VIII. Thou Shalt Not Plan for Q&A

Keep answers spontaneous

No such thing as dumb question

Just dumb questioner

Whose fault is it they don't understand?

Universal answer:

- Dismiss question as irrelevant/naïve

Everyone remembers a good argument

- Good publicity for paper

Approach

Don't repeat question

Start talking quickly

Don't cut discussion short

When in doubt, bluff

VIII. Thou Shalt Not Prepare Slides Early

IX. Thou Shalt Not Walk In Others' Shoes

You are the expert

You've been working on project for *years*

Anyone could present dumbed down
version

Audiences chance to hear the expert view

Don't worry if part of talk “drags”

Present all technical details

X. Thou Shalt Not Practice

Benefits

- Practice wastes *Hours*

- Out of several years of research

- Ensures spontaneity

If you do practice

- Argue suggestions

- Make talk longer than allotted time

- Audience:

- Experts only (e.g., advisor and group)

- 1 Week is plenty

- Converge on content by last practice
(Night before presentation)

Most Important Commandment!