Presentation and Oral Communication Skills

Lucy Nowell, DOE

Kathryn S McKinley, Microsoft Research
Welcome!

Always greet your audience and tell them you are honored to talk to them!
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
Na Meng
Todd Mytkowicz
Kathryn S. McKinley

University of Washington
University of Texas at Austin
Microsoft Research
Microsoft Research
59 mph
GeoCoordinate PrevLocn = Get();
Sleep(5);
GeoCoordinate Location = Get();
GeoCoordinate PrevLocn = Get();
Sleep(5);
GeoCoordinate Location = Get();
double Dist =
    Distance(PrevLocn, Location);
double Speed = Dist / 5;
GeoCoordinate PrevLocn = Get();
Sleep(5);
GeoCoordinate Location = Get();
double Dist =
  Distance(PrevLocn, Location);  
double Speed = Dist / 5;

if (Speed > 4)
  Print(Speed);

59 mph
Uncertain<GeoCoordinate> PrevLocn = Get();
Sleep(5);
Uncertain<GeoCoordinate> Location = Get();
Uncertain<double> Dist =
    Distance(PrevLocn, Location);
Uncertain<double> Speed = Dist / 5;

if (Speed > 4)
    Alert("Keep it up!");
What’s the point of a hook?

Grabs your audience’s attention

 Peaks audience interest

What’s the point of your talk?
Learn from the best

Ayanna Howard

Who inspires you and why?

Ted Talks --- Amy Cuddy

“Your body language shapes who you are”
One minute exercise

On a scale of 1 to 10, how confident do you feel right now?
Please stand and put your hands on your hips
One minute exercise

On a scale of 1 to 10, how confident do you feel right now?
Knowing your constraints

Elements of style

Question & answer

Feel free to ask questions
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
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

Seize your opportunities!
Elements of Style

Structure
Visual aids
Speech vs words on your slides
Delivery
Structure

Hook

Context setting

Talklets
  point 1, point 2, ... point k

summary

The end
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**

- Smith et al. ASPLOS ‘06
- Foundation ISCA ‘72
- Jones et al. OSDI ‘08
- This Paper

**Related Work—Version II**

**Spatial design space display highlights novelty**

**Required System Changes**

**Runtime Overhead**
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

Cache share decrease
Budget = 2 pages
Delivery & Confidence

Practice!

Monotonous voice?

Improve articulation with tongue twisters

Peter Piper picked a peck of pickled peppers...
Questions

Anticipate them
Prepares slides
You are the expert
Reward questioners with something!
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
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/

Writing
• Joseph Williams, “The Basics of Clarity & Style”
• Gopen & Swan “The Science of Scientific Writing”
thttp://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

General
Female Science Professor blog!
http://science-professor.blogspot.com/
Questions

Anticipate them
Prepares slides
You are the expert
Reward questioners with something!
Aggressive questioners
Follow up