Presentation and Oral Communication Skills

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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 Things

James Bornholt  University of Washington
Na Meng  University of Texas at Austin
Todd Mytkowicz  Microsoft Research
Kathryn S. McKinley  Microsoft Research
24 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”
Next

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?

Purpose
- To inform
- To teach
- To persuade
- To inspire

Occasion
- Time
- Size
Analyze your constraints

Audience
What do they know?
Why are they here?
Biases?

Occasion
Time
Size

Purpose
To inform
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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
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

$\text{Bin}[i][j]$ 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 $\frac{|\text{new-colors}|}{|\text{add-colors}|} \times \text{budget}$ limit, and then move at most budget (i.e. $\frac{|\text{add-colors}|}{|\text{new-colors}|}$ proportion) of them to add-colors.

end if
```
Re-coloring Procedure – Version II

Cache share decrease

Budget = 2 pages
Middle & End

Summary

point 1
point 2
point 3
point 4

point 5
point 6
point 7
point 8

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
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
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”
• 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
I. Thou Shalt Not Illustrate

Table:

<table>
<thead>
<tr>
<th>Clients</th>
<th>xFS BW</th>
<th>NFS BW</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5.71995e+05</td>
<td>1.65997e+06</td>
</tr>
<tr>
<td>8</td>
<td>4.425325e+06</td>
<td>1.19731e+06</td>
</tr>
<tr>
<td>16</td>
<td>1.095445e+07</td>
<td>7.88792e+05</td>
</tr>
<tr>
<td>32</td>
<td>1.38927e+07</td>
<td>4.70548e+05</td>
</tr>
</tbody>
</table>

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!