Presentation Skills
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Making Good Presentations

• Essential for
  – Crystallizing your ideas
  – disseminating important results
    • Ideas don’t sell themselves; they will lie on the shelf and gather dust unless you sell them
  – Explaining your work to colleagues
  – Giving talks/seminars in industry or academia
  – Selling your ideas to funding agencies (or venture capital firms)
  – Interviewing for jobs

• Written
• Oral

Oral Presentation: The Three MUST HAVES

• Content: know your material really well
• Design: Organize the material and create a high-quality presentation (usually, for formal research talks, in the form of slides)
  – Drive home key points
  – Visualize what you are saying
• Delivery: plan your oral presentation/what you will say along with each slide
  – practice, practice, practice
Content: Know Your Material

- Do you have sufficient motivation for the work?
- What is the state of the art?
- What is your contribution/approach? How is it novel?
- Is the work mature enough for presentation/have you ironed out the corner cases?
- How sound are your results and analysis?

Remember: you are the expert (have chosen to become one): now you need to project that image

Design: Organize Your Material

- What are the key points you want your audience to remember?
  - Keep it simple
  - Repeat them: tell them what you’re going to tell them (forecast) and why, tell them, and tell them what you told them (summary)
- Is your presentation at an appropriate level for your audience?
- Start with the outline

Conference Talks

- Remember
  - There is no way you will cover every detail of a 10 page paper in 25 minutes
  - The main goal is to get the audience interested in your work so they go read the paper
  - The talk is that sales job (but don’t overdo the selling)

A General Talk Outline (25 mins.)

- Title/author/affiliation (1 slide)
- Motivation and problem statement (1-3 slides)
- Related work (0-1 slides)
- Main ideas and methods (7-8 slides)
- Analysis of results and key insights (3-4 slides)
- Summary (1 slide)
- Future work (0-1 slide)
Outline Slide or No Outline Slide: To be or not to be

Roadmap
- Background
- Design
- Evaluation
- Conclusion

Background: Brief Introduction of Page Coloring

Instead …
The Multi-Core Challenge

- Multi-core chips
  - Dominant on the market
  - Last level cache is commonly shared by sibling cores, however sharing is not well controlled

- Challenge: Performance Isolation
  - Poor performance due to conflicts
  - Unpredictable performance
  - Denial of service attacks

Possible Software Approach: Page Coloring

- Partition cache at coarse granularity
- Page coloring: advocated by many previous works
  - [Bershad'94, Bugnion'96, Cho '06, Tam '07, Lin '08, Soares '08]
- Challenges:
  - Expensive page re-coloring
    - Re-coloring is needed due to optimization goal or co-runner change
    - Without extra support, re-coloring means memory copying
    - 3 micro-seconds per page copy, >10K pages to copy, possibly happen every time quantum
  - Artificial memory pressure
    - Cache share restriction also restricts memory share

Hotness-based Page Coloring

- Basic idea
  - Restrain page coloring to a small group of hot pages

- Challenge:
  - How to efficiently determine hot pages

Roadmap

- Efficient hot page identification
  - locality jumping
- Cache partition policy
  - MRC-based
- Hot page coloring
How to Give a Bad Talk: The Ten (9) Commandments*

- Thou shalt not waste space
- Thou shalt not be neat
- Thou shalt not covet brevity
- Thou shalt not write large
- Thou shalt not use color
- Thou shalt not illustrate
- Thou shalt not make eye contact
- Thou shalt not skip slides in a long talk
- Thou shalt not practice

*Courtesy David Patterson, circa 1983, via Mark Hill, with appropriate modification to accommodate changes in technology.

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Slide Design

- 3 is the golden number (almost!); 3-5 bullets or points per slide
  - Don’t overcrowd
  - Make sure font is legible even in your figures (test it out in a room of similar size)
  - Spell and grammar check!
  - No need for complete sentences, but be consistent in your style and format

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Accuracy

Instead …
Hot Page Identification Accuracy

- No major accuracy loss due to jumping as measured by two metrics (Jeffrey divergence & rank error rate)
- Result is fairly accurate

Illustration and Color

- “A picture speaks a 1000 words”
  - A 1000 words don’t speak, however
  - The picture may need a little help
- Color for emphasis (when appropriate)
- Animation when appropriate

Re-coloring Procedure

- 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

Instead …
Re-coloring Procedure(I)

Cache share decrease
Budget = 2 pages

Old colors
Subtract colors

Re-coloring Procedure(II)

Cache share increase
Budget = 2 pages

Old colors
Add colors

Oral Presentation

PRACTICE, PRACTICE, PRACTICE!

Build your confidence; get feedback; form a support group; return the favor
**Helpful Hints**

- Tape yourself and watch the tape
- Enroll in a public speaking class
  - Toast masters, community courses
- Memorize first 5 minutes of your talk
  - Helps start out if you are nervous
- Leverage your nervous energy
  - Adrenalin can help you give a good talk

**Plan Your Verbal Presentation**

- Work on the flow
- Motivate the work
- What are the main points
- Reiterate the main points
- Summarize – tell them what you told them

**Body Language**

- Eye contact
- Fillers
- Gestures
- Enunciation
- Voice modulation and emphasis
- Speed of delivery
  - There’s no prize for learning how to fit 20 words in 10 seconds
- Most of all, project your enthusiasm for what you are presenting!

**It Pays To Be Cautious!**

- Redundancy/fault tolerance: make copies of your slides on a flash drive
  - Your computer may fail you
- Create versions in multiple formats for just in case
  - E.g., ppt and pdf
- Make sure you check the projection systems prior to your talk or session if at a conference
- Use practice talks to get possible questions
  - Be prepared with backup slides on details
Poster Presentation

• 1-2 minute presentation that addresses
  – What
  – Why
  – How/what’s novel
  – Outcome
• Poster content
  – Once again, pictures speak a 1000 words
    • With some help from text
    • Don’t overcrowd
    • Make sure the main points above stand out

Poster Presentations: Follow-Up Questions

• Be prepared to
  – Discuss approach in more detail
  – Discuss validation in more detail
  – Discuss limitations of your work
  – Discuss related work
  – Outline ongoing and future work

Writing Style

• Clear organization of individual ideas
  – Sections and paragraphs should have a logical flow
    • Define terms before you use them
    • Keep forward references to a minimum
  – Each section represents a high-level topic/organizational unit
  – Each paragraph contains a single idea with supporting details
  – Each sentence expresses a single point/detail
• Pay attention to detail – spelling and grammar

Good Presentation: The Three MUST HAVES

• Content: know your material really well
• Design: plan what you want to say and how you will say it (both visual and auditory)
• Delivery: practice, practice, practice! … and use feedback you receive to improve
Useful Resources

• 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