Giving Technical Talks

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how not to endlessly repeat the same mistakes
Overview

• Why are you Giving a Talk?
• How to Organize a Talk
• Some More Detailed Advice
  – Ten Commandments
  – Seven Deadly Sins
• Conclusions
Acknowledgements:

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  - http://www.eng.unt.edu/~ian/guides/speaker.html
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Your Reason for Giving a Talk

- Somebody is making me do it
- I want to impress the audience with brilliance.
- I want to get a job
- I want the audience to understand my research.
- *I want to detail everything I know on the subject while someone is still listening*

Ability to give a good talk does help your career
A technical talk is great for conveying:

• Context
  – What has been done before?
  – Why is the research important?
  – What problems are still open?

• An overview and framework
  – What does this research contribute?
  – What methods were used to solve problems?

• Enthusiasm and excitement
A technical talk is a poor way to convey:

- Nitty-gritty details
- Lots of factual information
- Theorems & proofs

Leave those to technical papers…
The Parts of a Technical Talk

• Introduction
• Body
• Technicalities
• Conclusion
• Questions
Introduction

- Define the problem
- Motivate the problem and hook audience
- Introduce needed terminology
- Discuss earlier work
- Explain the key contributions
- Provide a roadmap for the rest of the talk
Body

- Describe the main hypothesis, experiments, analysis
- List the major results
- Explain the significance of the results
Technicalities

• Present a key lemma or technical idea…
• Descend into detail briefly, slowly and carefully

• perhaps convince people that what you have done is not trivial …
Conclusions

• Summarize the key points – regain lost audience
• Make observations that would have been confusing in the beginning
• Give weaknesses, open problems
• Indicate that the talk is over
Questions

• Genuine request for information –> answer the best you can
• Questioner wants to look smart and knowledgeable --> be polite and complimentary
• Malicious questions
  – be polite and measured in response
  – Move questions “offline” if needed
  – Say “I don’t know” (with assurance) if needed
Who is your Audience?

- General public
- CS folks (e.g. colloquium)
- Experts in the area of your research (conference/workshop)

What does the audience care about – not what you think is cool!
Addressing your Audience?

- General public

  Introduction  Body  Technicalities

- CS folks, e.g. a colloquium

  Introduction  Body  Technicalities

- CS folks in your area, e.g., seminar class

  Introduction  Body  Technicalities

- Experts, e.g, focused workshop

  Introduction  Body  Technicalities
The Ten Commandments

- Repeat key concepts
- Remind, don’t assume
- Give examples, not proofs
- Use logical order
- Size talk to the time
- Maintain eye contact
- Maintain ear contact
- Simple visuals
- Employ pictures
- Do not get anxious
Use Logical Order

• You are telling a story. What order will make the best sense to an audience? (who is not that familiar with the subject)
• Avoid forward references
• Motivate each step, tie it back to the story
The order in which you did the research is irrelevant
Size Talk to Time

• Leave time for audience interaction
• Plan to end at least 5 minutes early
• Plan what to leave out if you get behind
• You can’t include everything. Keep the most important stuff – the rest can be read from the paper
Maintain Eye Contact

• It is a way to communicate

• It is how you tell if the audience is following, lost, bored, etc.

• Talk to your audience - don’t read your talk, talk to your feet, talk to the screen
Maintain Ear Contact

- Speak slowly
- Speak clearly
- Project your voice
- Pause after delivering a packet of information or asking a question
Simple Visuals

- Make sure that the text is large enough to read

- The purpose of the slide is to give the audience a structure, as something to jog their memory as to the point you are trying to make, or as a concrete expression of a formula, etc. It should not be a verbatim transcript of what you are saying. If you are saying exactly what is on the slide then you are doing something wrong.
Simple Visuals

- Too many *special effects*, fonts, colors, etc. make slides hard to read and understand and distract from your talk.
Pictures

- One picture (graph, diagram) can save 5 minutes of explanation
- Good pictures are worth the (considerable) time to make them
- ... but don’t litter your overheads with pictures from the web
Do Not Get Anxious

• Prepare, Practice, Get Experience
• Quietly organize your thoughts before talk
• Try out the projection equipment beforehand
  – Think about what you will do if the equipment does not work
• Pause and take a deep breath if panic strikes
Seven Deadly Sins

• Trying to include too much
• Going over your time
• Being boring
• Speaking unintelligibly
• Arrogance
• Losing your audience
• Including material you don’t really understand
Trying to include too much

• Symptom - Time almost up and you are half way through your talk
• Symptom – Too many slides. Tearing through slides faster than the audience can read them

Disaster - you left the most important stuff to the end, and are out of time
Being boring

• Presentation is a public performance
• You have to be energetic, animated, enthusiastic. (You can overdo this.)
• If you don’t seem to be interested, why should your audience be interested?
• If you find the material boring, so will your audience. Pick more interesting material.
Speaking unintelligibly

- Don’t mumble
- Don’t talk in a monotone
- Don’t use jargon or undefined terms
- Don’t swallow your words or endin...
- Avoid mannerisms that distract your audience from what you are saying
- Speak slowly if it helps
Arrogance

- The fact that you know more about your talk than the audience does not make you superior to them.
- Do not put down or belittle questioners.
Losing your audience

- Over their heads (slow down, back up)
- Beneath their interest (get to the good stuff)
- Too big a step (go back and fill in details)
- Not enough relevant examples
- *Loss detector: eye contact*
Including material you don’t understand

• No excuse for it
• It is your talk even if you reference other material
Conclusions

- *Everybody can learn to give good talks*
- Plan and organize your talk
- Think from the audience’s point of view
- Keep the focus on key points and ideas
- Practice! Get feedback. Get better.