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:

• Based on a talk by Scott Drysdale, Dartmouth College
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• and a talk by Bill McKeeman
Your Reason for Giving a Talk

• Somebody is making me do it.
• I want to impress the audience with my brilliance.
• I want to get a job.
• I want the audience to understand this piece of 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)
- CS folks in your area (e.g. seminar class)
- Experts in the exact area of your research (focused workshop)
Addressing your Audience?

- General public
  
  **Introduction**  **Body**  **Technicalities**

- CS folks
  
  **Introduction**  **Body**  **Technicalities**

- CS folks in your area
  
  **Introduction**  **Body**  **Technicalities**

- Experts
  
  **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 the audience?
• Avoid forward references
• Motivate each step, tie it back to the overall outline
• Remember that the audience is not as familiar with the material as you are!
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 Pictures

• One picture (graph, diagram) can save 5 minutes of explanation
• Good picture 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 - Tearing through slides faster than the audience can read them
- Symptom - Too many slides. Plan on at least two minutes per regular slide.
- 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.
- Don’t 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*
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.
For this class only…

• Understand the paper thoroughly
  – state anything you could not follow
  – more important than delivery
  – May have to read other papers
  – Get help from instructors

• Acknowledge help from other slides