L12: Oral presentations

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Motivation

Why place so much emphasis on oral presentations?

– You want to get your message out!
– You will be required to make presentations in your academic and professional career - count on it!
– Those who express themselves well:
  • Are held in high regard by their peers
  • Tend to advance more quickly in their careers than those who don't - regardless (almost) of your technical expertise

– Yet, according to a 1973 survey, public speaking is the number one fear of Americans!
  • We are less afraid of death than of public speaking
How people evaluate presentations

A “right brain” function

– An oversimplification of brain function but
  • **Right brain**: dominated by emotion and intuition
  • **Left brain**: associated with logical thinking and reason

– That means that ________________ , not ________________ , are important to the listener’s interpretation of what you are saying

The 3 V's of giving a talk

– **Verbal**: What you say, content of what comes out of your mouth

– **Vocal**: How you say it – inflection, enthusiasm, intonation

– **Visual**: What the audience sees – speaker appearance, posture, gesture, facial expressions

– The Mehrabian myth (7:38:55)
  • Only 7% of your message’s impact is due to verbal cues
Mehrabian’s 1964 study on ‘silent messages’

– Experimenter read single words (e.g., love, dear, terrible) in different tones and with different expressions, then asked participants how they knew what the speaker really meant, i.e., their intent

– The speaker’s intent was decoded from visual clues 55% of the time, from vocal tone 38% of the time, and 7% from the actual words

– This result has often been taken out of context; it only applies when speakers are talking about their feelings or attitudes; it does not apply to technical presentations

– What to make of it:
  • We get most of our clues of the emotional intent behind people’s words from non-verbal sources
  • When the two are in conflict, we believe the non-verbal every time
  • Talking gibberish with a nice smile and intonation will get you nowhere (except in politics)
First impressions

– In the first seven seconds of meeting you, people generally form subconscious opinions on your

• Income level
• Education level
• Trustworthiness
• Personality style
• Confidence level
• Intelligence
• Work ethic
• Dependability
Preparing the presentation

Analyze the audience

– Presentations are for the benefit of the audience, not the speaker
– Analyze their needs, and prepare the presentation to meet them
  • What are they interested in?
  • What do they want from your talk?
  • What does they already know about your talk?
  • What don't they know?
  • What is their attitude towards you and your subject?
– Rule of thumb
  • Identify the three main points for your talk
  • Then organize your talk to support them
  • Why? people will forget more than that
Organize the presentation

– Tell the audience a story: introduction, body, conclusion

– The conventional wisdom
  • Tell them what you are going to tell them
  • Tell it to them
  • Conclude by telling them what you just told them

– The introduction
  • Absolutely critical: if the audience doesn’t follow it, they will tune out
  • Explain the problem in simple terms
    – *Nothing should be explained in such a way that it cannot be understood by an intelligent 12 year old* –Albert Einstein
  • Suggestions
    – Ask rhetorical questions
    – Narrate an experience the audience can relate to
  • The goal is to motivate the audience to continue listening
— The **body**

  - Organize it to support those main points
  - 2-4 slides that support each point
    - 1st of the group provides key ideas
    - The remainder give more of the detail
  - Don’t be overly technical, avoid acronyms and jargon
  - Use analogies for complex material
  - Increase level of complexity as talk proceeds (12 year old → expert), that way EVERYBODY LEAVES HAPPY!

— The **conclusion**

  - As important as a good introduction
  - Tell them what you told them - summarize the main points
  - Motivate people to action, i.e., we better implement this!
    - OR motivate them to future research
    - OR explain to them what the next things you are going to address are
Meet the time constraints

– Don’t be a Speedy Gonzalez or a Slow-Poke Rodriguez!

– Running over your allotted time is a sure way to make your audience unhappy, especially if there are presentations following yours

– Rule-of-thumb: take the length of time in minutes that you have and divide it by 2. That is a rough estimate of how many slides you need

– Preparation
  
  • Experience counts: practice, practice, practice
  • BUT do not over-prepare to the point of becoming scripted
  • Practice talk the night before the presentation, not right before the talk
Prepare for the Q&A

– Are you familiar with the work of Bozo and Bozo from 1984 in which they proposed the exact same idea as yours?

– How do you handle it?
  • Rephrase the question, ask the person if that is what they meant. Why?
    – It gives you time to think
    – It ensures you answer the correct question!
    – It allows you to ask the questions in a positive light if it is hostile
  • Make eye contact, smile, remain relaxed
  • DO NOT get angry or put the person down - you're in power position
  • If you can't answer it
    – admit it - don't B.S
    – Offer to discuss it after the presentation, if questioner is persistent

– Be knowledgeable, but accept you cannot know every possible answer
Laying out the slides

- Use a large font: 24 point font or greater, so they can see it in the back of the room
- Have a goal of 5-7 bullet items per page
- The text on each bullet should fit in 1-2 lines
- Use color and fancy graphic graphics sparingly
- Go easy on the backgrounds
- Do not use PowerPoint "CPU Wasters". For example the spiraling text and other frivolous visuals.
- Do use PowerPoint to introduce bullet items one at a time. This helps keep you on track with your discussion.
Need

– According to AppleInsider, approximately 10.3 million people owned iPods at the end of 2004 and used them while operating their automobiles. The National Highway Traffic Safety Administration estimates that driver distraction is a contributing factor of 20 to 30 percent of all motor vehicle crashes— or 1.2 million accidents per year. One research study has estimated that driver inattention may cause as many as 10,000 deaths each year and approximately $40 billion in damages. iPods can present a distraction to drivers that is similar to cell phones in that the driver’s attention is divided between controlling the steering wheel, watching the road, and navigating controls on the iPod. A system is needed to allow users to navigate among the music selections of their iPod without distracting their attention from the road.

Objective

– The objective of this project is to design and prototype a device that will make the iPod safer to use while driving and a more enjoyable, allowing hands-free control of the iPod. The device will interact with the user using spoken English commands. The user will be able to issue simple voice commands to the device to control the operation of the iPod. In turn, the device will communicate with the user, such as song titles that are displayed on the iPod screen.
**Need**

- 10.3M people owned iPods in 2004; many use them while driving
- Driver distraction contributes to 20-30% of all accidents
- It may also lead to 10,000 deaths and $40B in damages per year
- iPods take the driver’s attention away from the road
- A system is needed to control iPods w/o distracting their attention

**Objective**

- Design a hands-free control to make iPods safer to use while driving
- The device will interact with the user using spoken English
  - User issues simple voice commands to the device
  - The device communicates information verbally (e.g., song titles) to user
Equations and derivations

– Use sparingly
  • Academia teaches us to go through lots of steps on equations, but the goals of a typical classroom lecture are very different
– Don't derive or give too many intermediate steps, unless that is the point of your presentation (say a math conference)
– Give assumptions, important intermediates, and results
– People assume you have done your homework and derived the equation properly
– If you show an equation talk about it!
  • Every equation has it's own story, it is your job to tell it's story
The project proposal presentation

Introduction
  – Provide an overview of the project and address the need, motivation, and objective
  – Explain the concept in simple and concise terms

Problem statement
  – Describe the state of the art regarding the technology
  – If it is a new product, identify similar products that are available and what is unique about yours
  – If it is a research oriented project, include basic theory and current work in this area

Requirements specifications
  – Address the engineering requirements and provide a justification
  – Describe standards and constraints that apply to your problem

Design alternatives
  – Provide some preliminary design options that you have developed
The CDR presentation

Introduction
- Provide a brief overview of the motivation for the project

Requirements
- Recap the critical requirements that have to be met

Proposed design
- Present the high-level design
- Explain how it works and how its pieces fit together
- Include design details for all the subsystems and components
- Address how the proposed design meets engineering requirements
- Identify alternatives investigated

Preliminary test results
- Include test and prototype results

Project plan
- Provide a summary of the plan (schedule, responsibilities, cost)
The final presentation

Introduction
– Provide an overview and motivation for the project

The final design
– Describe the final design implementation
– Start with a high-level overview and describe how it operates
– Then, provide details on each subsystem

Testing and results
– Describe the key tests and results that show the functionality of the design
– Provide demonstrations if appropriate
– Indicate how the final system met or didn’t meet the requirements

Conclusions
– Summarize conclusions about the project and provide recommendations for further work
– Indicate lessons learned