Effective Technical Presentations

Senior Design Project Course 1 (25780)

Department of Electrical Engineering
Sharif University of Technology
Fall 2017

What do you want from a talk?

- Before planning your talk think about its purpose.

- the audience you will be talking to, and the setting.

- Don't assume the audience will all be experts.

- Never underestimate your audience!

- Check on the time that has been allotted to you.

- How big is the room?

What is an effective technical presentation?

- One that interests the audience.
- One that educates the audience.
- One that complements or enhances your written material.
- One your audience remembers. (of course in a positive way!)

Presentation Components

- Presentation material
  - Slides
  - Video
  - Other visual aids
- You
  - Your delivery
  - Your Knowledge
  - Your confidence
  - Your personality

Why care? (1)

- A Good Presentation…
  - Educates, informs, entertains.
  - Positive impression- speaker and organization.
  - Further or establish your technical reputation.
  - Is memorable.

Why care? (2)

- A Poor Presentation
  - Impairs knowledge transfer from speaker to audience.
  - Negative impression- speaker and organization.
  - Can damage your reputation.
  - Is forgettable- or worse- memorable.

Effective Technical Presentations

- Outline
  - Preparation
  - Format / Organization
  - Backgrounds and Fonts
  - Presentation Do's and Don'ts
  - Presentation Day
  - Summary
  - References

Preparation

- Know your audience.

- Know your material.

- Know your time limit. (important!)

Know Your Audience (1)

- Material should be appropriate to the audience
  - How does the audience know about your subject?
  - Experts or novices?
    - Will they know the jargon, acronyms?
  - Determines
    - Amount of background material
    - Amount of detail
    - If humor is OK- make sure they'll get your jokes!

Know Your Audience (2)

- ## What do you want from your audience?
  - Increased knowledge of your subject?
  - A job?
  - Laughs?
  - Renewed research funding?
  - Buy your product?

- ## Objective determines content and delivery
  - Our focus is on education
  - Identify your objectives for the audience

Know your material (1)

- Know your presentation so well you don't need the slides
  - If you want to lose your audience- read your slides!

- Your command of the subject should be apparent.
  - It's in your head not on the slide!

- Slides should contain talking points.
  - Not your complete text/ presentation

- Presentation should complement not duplicate your written work.

Know your material (2)

- Practice, practice, practice…
  - Give several dry runs,
    - Out loud to yourself,
    - To several peers,
    - To other authors- go to their talks too!
  - Helps with "How to say what I want to say",
  - Helps with transitions between slides,
  - Ask for feedback- did you get it?
  - Practice answering question.

- Practice yields confidence.
- Practice helps you stay on time.

Know your time limit (1)

- Amount of material = Amount of time.
  - Affects number of slides and the amount of detail.

- Rule of thumb is 1-2? minutes per slide
  - Outline slides will go more quickly.
  - Explanation of drawings may take longer.

Know your time limit (2)

- Too much material
  - Causes you to rush.
  - You may not complete.
  - You may eat into question time or another author's slots.
  - Don't make the session chair cut you off!

- Too little material
  - Audience may think that's all you know.
  - Causes awkward gaps in a program.

Know your time limit (3)

- Timing should be planned as follows:
  - Introduction 15-25%
    - Welcome and Outline minimal
    - Background 10-15%
    - Introduction of topic 5-10%
  - Body 60-70%
  - Conclusions 10-15%
  - Questions left for after...

Outline

Background

Introduction

Main Arguments

Summary and Conclusions

Questions

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Format / Organization

- Title slide
- Introduction / Motivation
- Outline
- Body
- Conclusion or summary
- Acknowledgements / References

Title Slide

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Presentation Title

Effective Technical Presentations

Mr. Bargh Mohandesi ← Presenter name
Sharif University of Technology ← Affiliation

(you can add a logo here)

Introduction (1)

- Identify who you are/ establish your "presence".
  - Why should they listen to YOU? Express your qualifications, passions, become a bit "human" to the audience.

- Give a roadmap: Tell them what you are going to tell them,
  - Explain where you plan to go, set up the story.
  - Explain what the audience can anticipate.

Introduction (2)

- Don't say "Before I begin".

- Don't apologize for being nervous.

- Don't read the introduction.

- Don't use a dramatic, irrelevant opener.

- Don't make the introduction too long.

Motivation

- Why my presentation is important?
  - Describes a really interesting problem.
  - And my solution.

- Why do you care?
  - Because it affects you!
  - Your design will be faster and smaller!
  - You'll make millions!

Outline

- List major topics:
  - Problem
  - Causes
  - Solution
  - Conclusion / Summary

- Repeat the outline between major sections of your talk.

Structure

- The scope of each component follows from this common image.

- Here:
  - The introduction is a big picture.
  - The body focuses on the objective.
  - The conclusions reframe the presentation back into the broader scope.

The structure of a good talk: start broad, get specific, and end broad
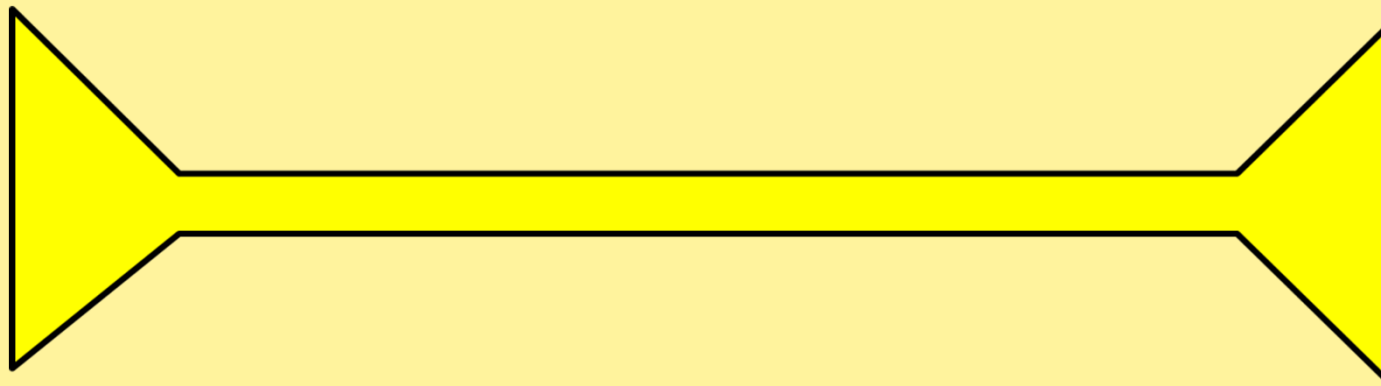
Start with the biggest questions and
get progressively more specific.

A powerful tool in a talk is a "home slide"

- Design and introduce a "home slide" that you'll come back to at each major transition in your talk.
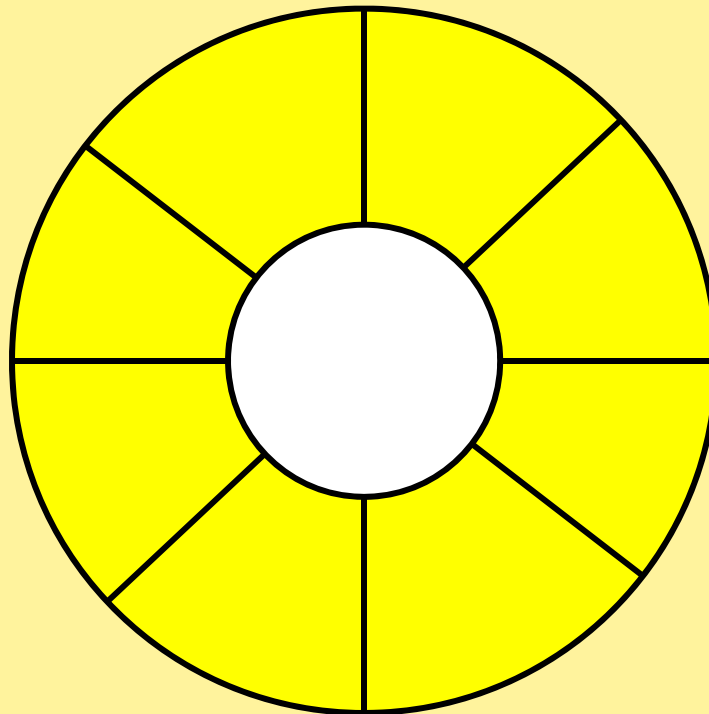
A powerful tool in a talk is a "home slide"
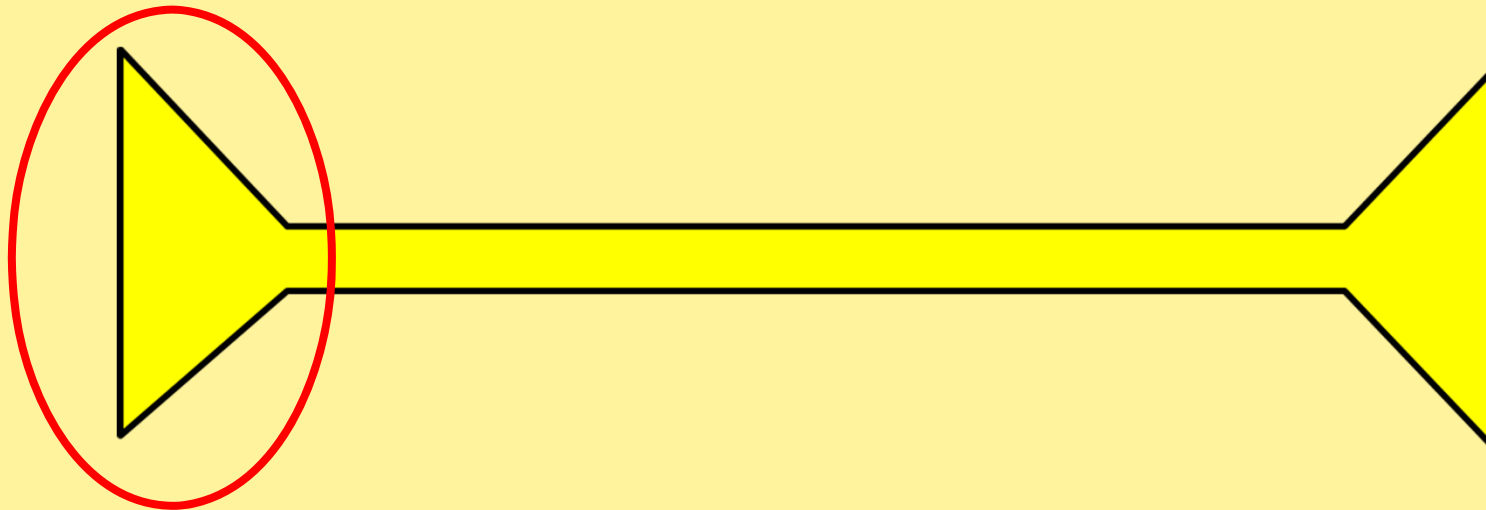
Now we'll build an introduction and a home slide that puts the previous data into context.
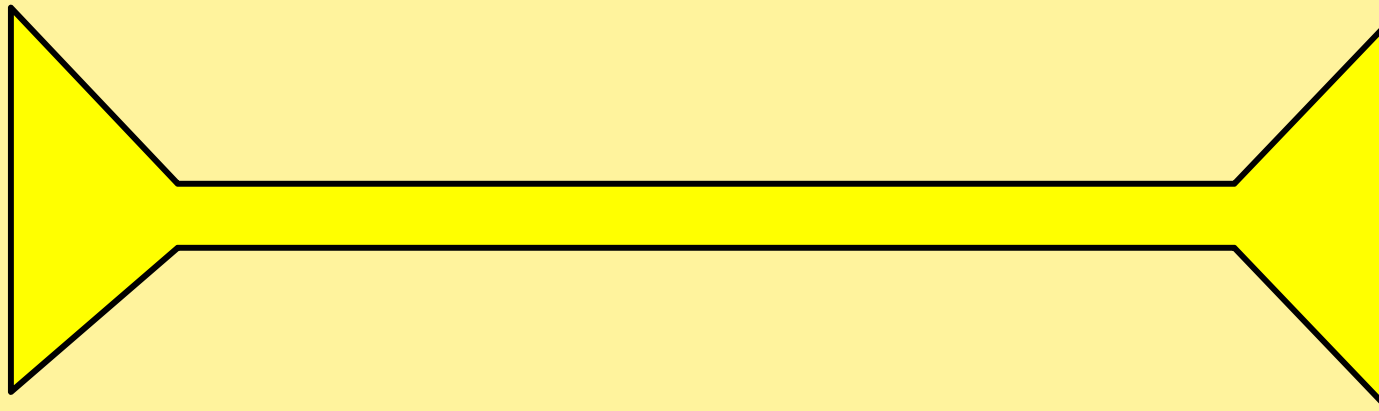
Our bodies are full of tubes

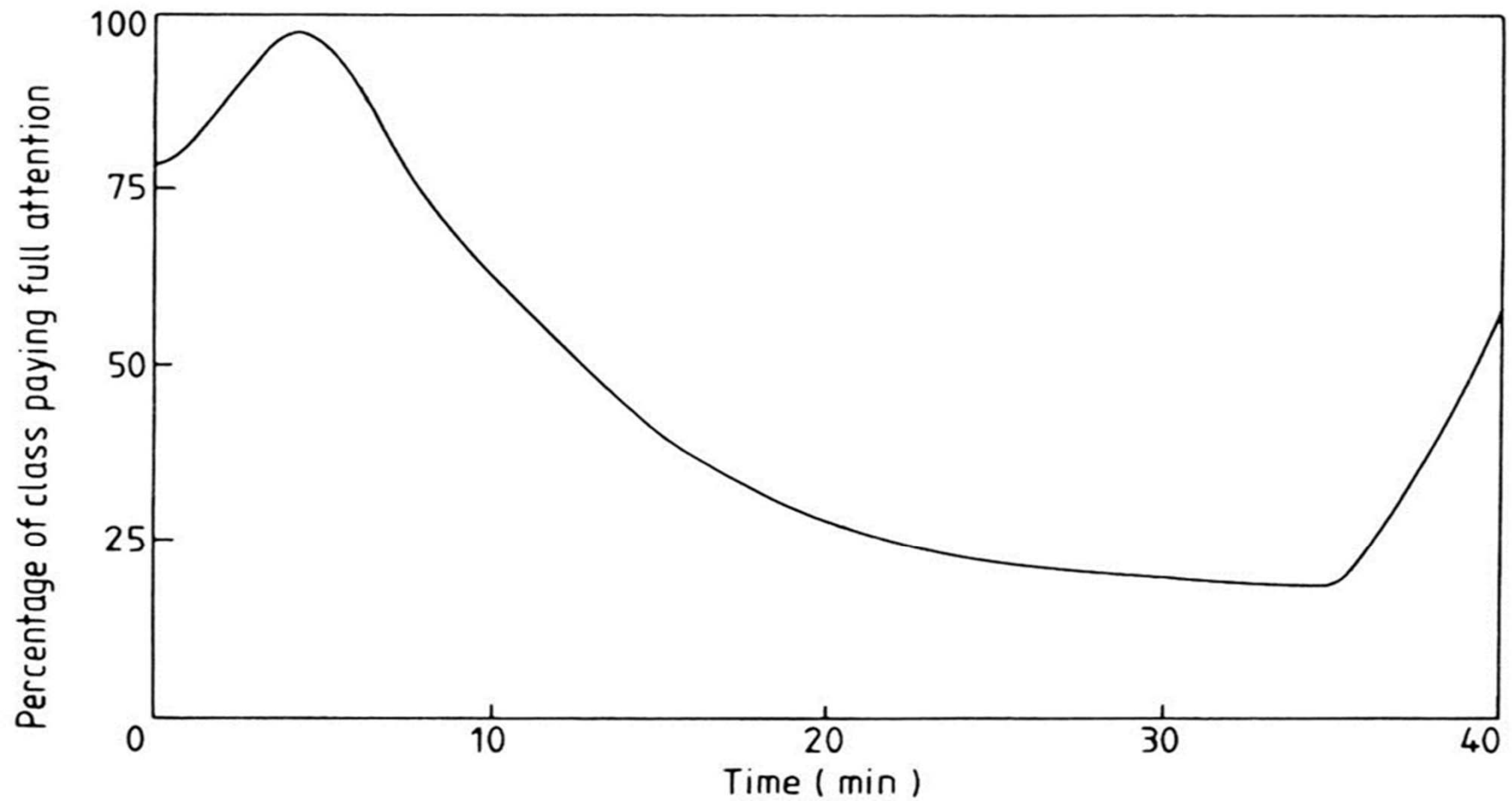# The structure of a good talk: start broad, get specific, and end broad

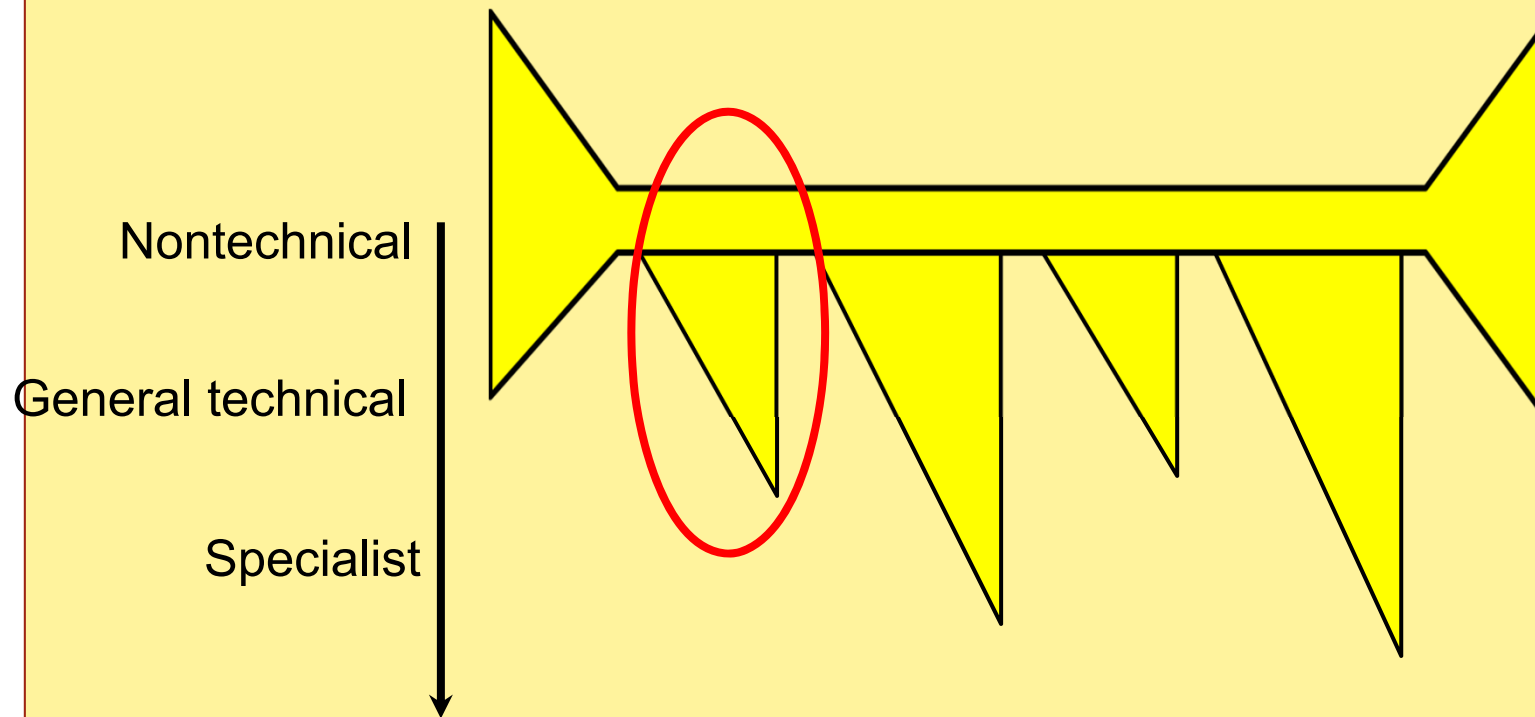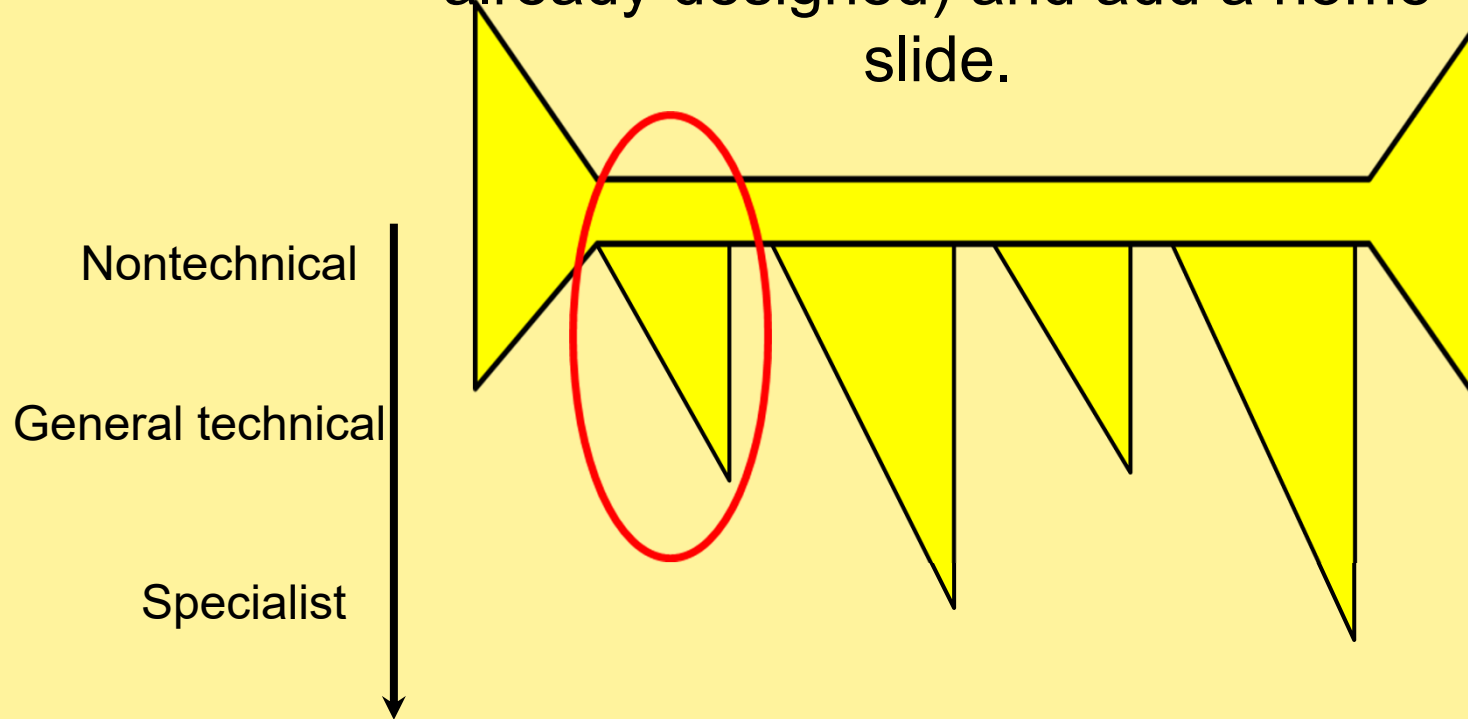The middle is the meat of the talk…

Audience attention curve

The structure of a good talk: start broad, get specific, and end broad

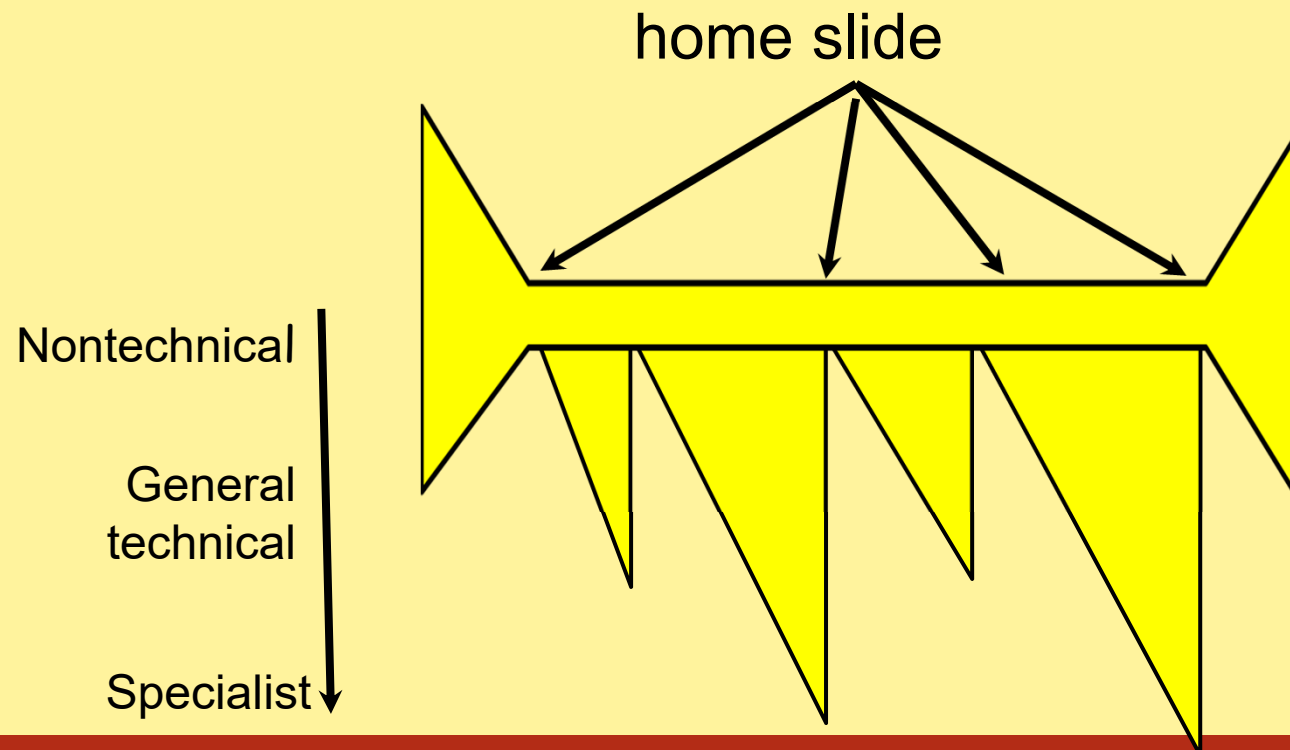After going into depth, come back to your home slide to make transitions.

Nontechnical

General technical

Specialist

Let's review "episode 1" (which we've already designed) and add a home slide.

Nontechnical

General technical

Specialist

Use your home slide repeatedly to build a theme over time and enable the audience to catch up.

home slide

Nontechnical

General technical

Specialist

Over the course of the talk, you can progressively build a fairly complex model.

final home slide

Nontechnical

General technical

Specialist
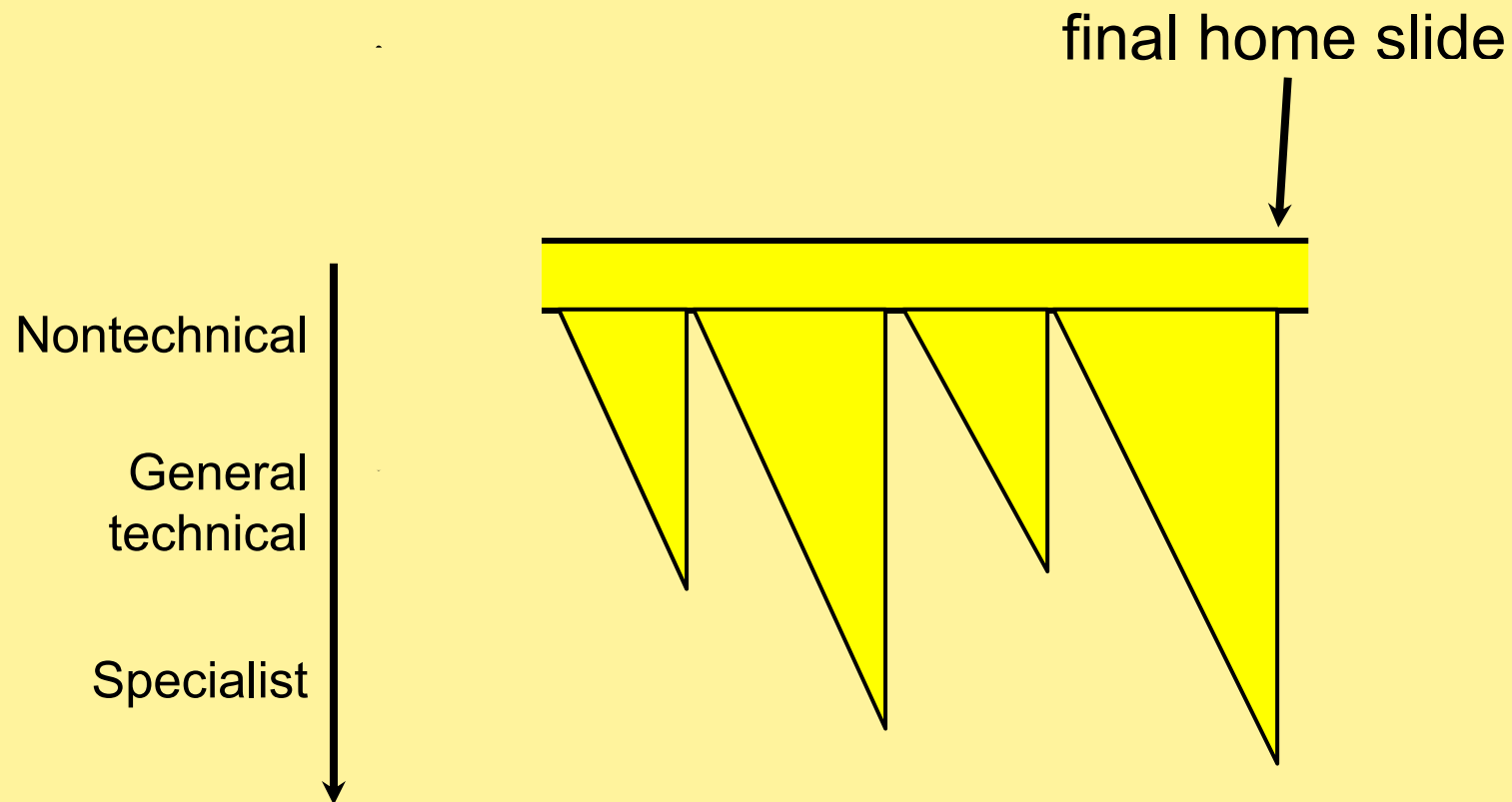
The structure of a good talk: start broad, get specific, and end broad
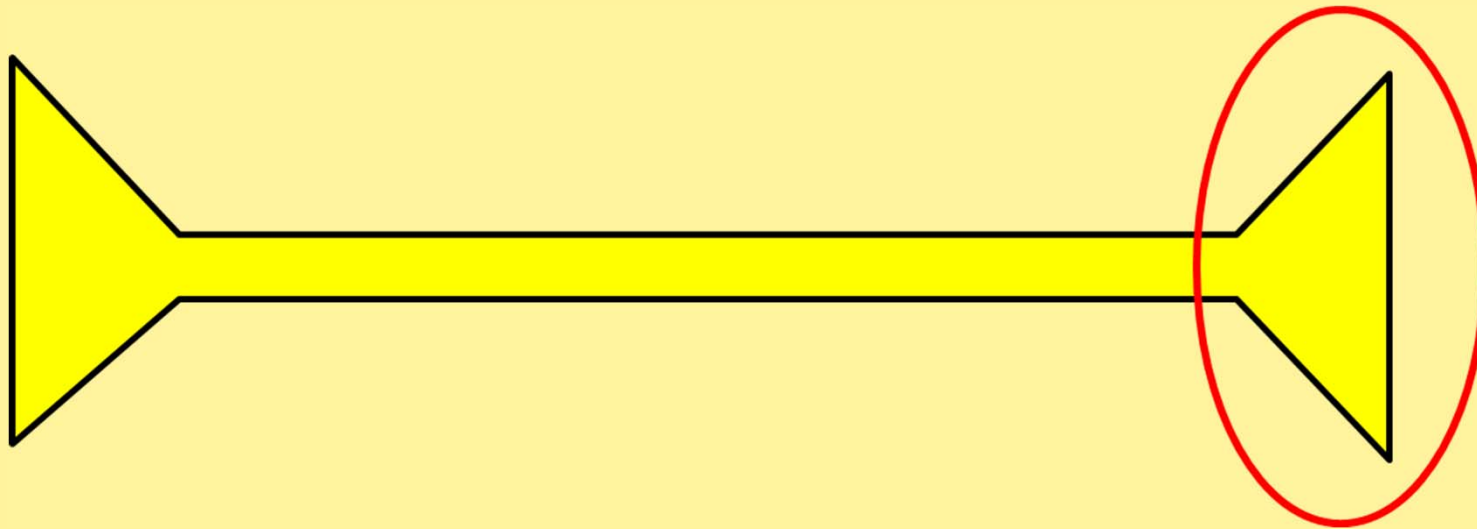
Focus now on conclusions

Body

- Types
  - Word charts.
  - Tables, Graphs, Drawings.
  - Videos.

- Content guidelines
  - Max two-three points per slide.
  - Avoid overcrowding- make more charts.
  - If I don't read it it doesn't count.
  - Videos- make sure I can hear it.
  - Verbalize connections between points.

Transitions

- A word or phrase that signals a speaker has finished one thought and is moving to another,
  - Should state the idea that the speaker is leaving
    - The review part.
  - And the idea that the speaker is coming up to
    - The preview part.

Conclusion / Summary

- What is your "take away" message?
  - Offers audience a sense of closure.
  - Reinforces thesis.

- One- two points.

- Should match your motivation.

Conclusion cont.

- Don't drag out the conclusion
- Don't end on a weak or rambling note.
- Don't introduce new points.
- Don't say "so in conclusion" !

Acknowledgments / References

- Acknowledge those who contributed to the presentation.

- List other's work (e.g. charts, graphs, etc.) you used.

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Background / Font Color

- Best choice depends on:
  - Size of the room.
  - Room lightning.
  - Presentation length.

- Darker, solid color background with white or yellow text
  - Best for large, well-lit rooms.

- White or light backgrounds with dark text
  - OK for small rooms, short duration.

Poor color choices

- Yellow on bright green will be impossible to see, no contrast.

- Avoid red/ green combination. It can't be read by people who are color blind.

- White on black has good contrast but the dark background may blacken the room too much and if your font is too thin, it won't be visible.

Font Types

- ## Use a simple, bold font,
  - Arial or Helvetica are best.
  - Avoid thin fonts- not readable at the back of the room.
  - **Avoid Times font- can look fuzzy at a distance.**
  - ***Avoid "hip" or "artsy" fonts- not professional***

- ## Stick with one or two font types.
  - Don't change size, type, color, for no *reason!*

Font Sizes

- Titles should be 40+,

- Main text should be 24-36,

- Don't get below 20 for a large room.
  - I won't be able to read!

The Abuses of Capital Letters

- Bullet points typically have one capital letter at the beginning.
- Just because you think a word is important does not mean it should be capitalized.

- ALL CAPITAL LETTERS MAKE IT HARDER FOR YOUR AUDIENCE TO DECIPHER WORDS.

The exclamation point

- **Warning!**

- Don't over use this. Be careful of where and when you use it.

!!!

Background Design

- Simpler is better.

- Avoid clouds, lightning bolts, globes, flowers, etc..

- Focus on the presentation content, not the slide background.

- Should enhance, not distract.

- If a graphic does not add to your message,
  - Get rid of it!

Clip Art and Animation

- Avoid "cutesy" clip art.

- Avoid excess animation,
  - It's distracting.
  - It may not work.
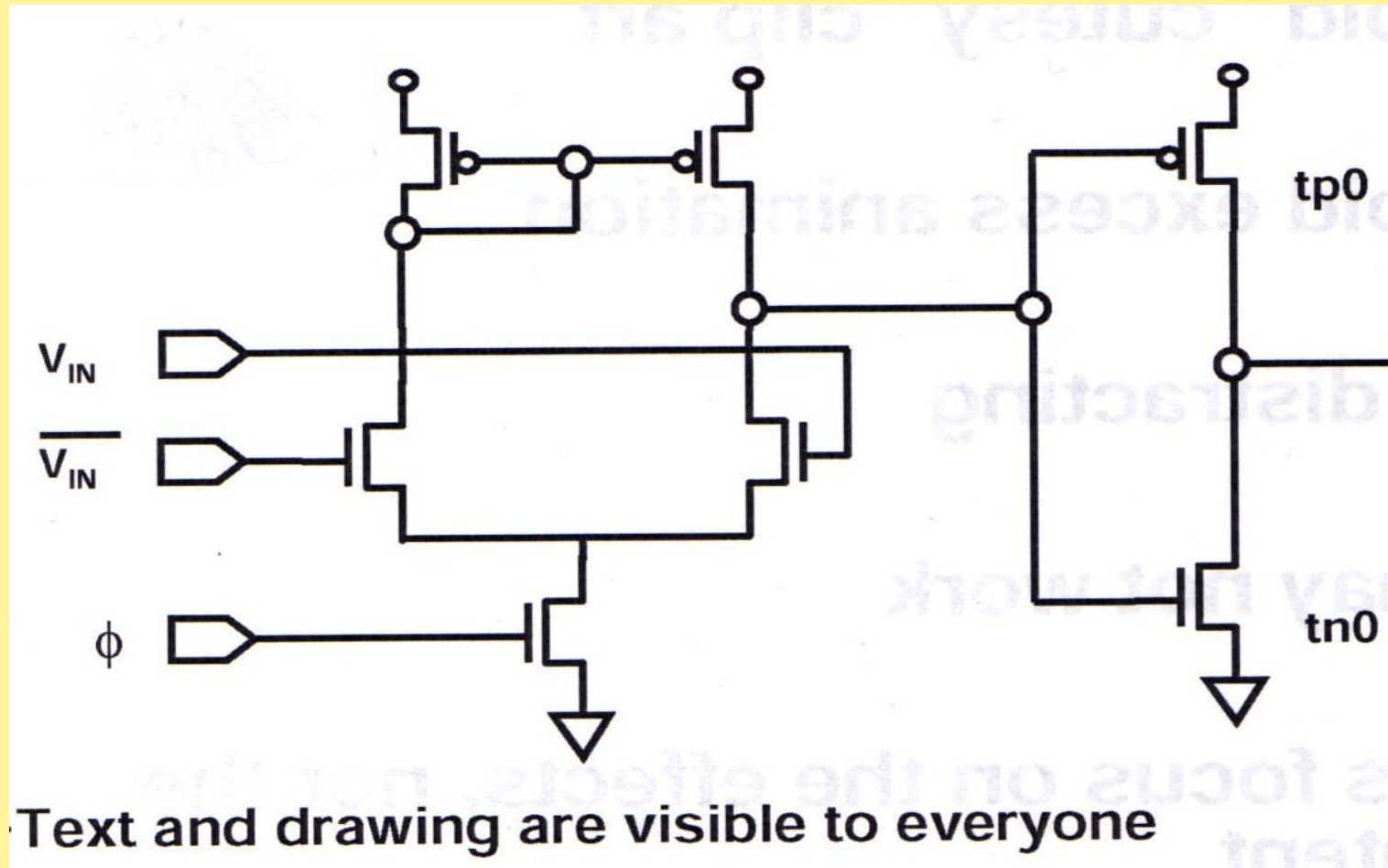 - Puts focus on the effects, not the contents.

Graphs and Figures

- Don't make graphs overly complicated.

- The audience can't read

  - Graphs with too much information.

  - Graphs with lots of thin lines.

  - Graphs or figures, with dotted, dashed, or other specialty lines unless they are very bold and thick.
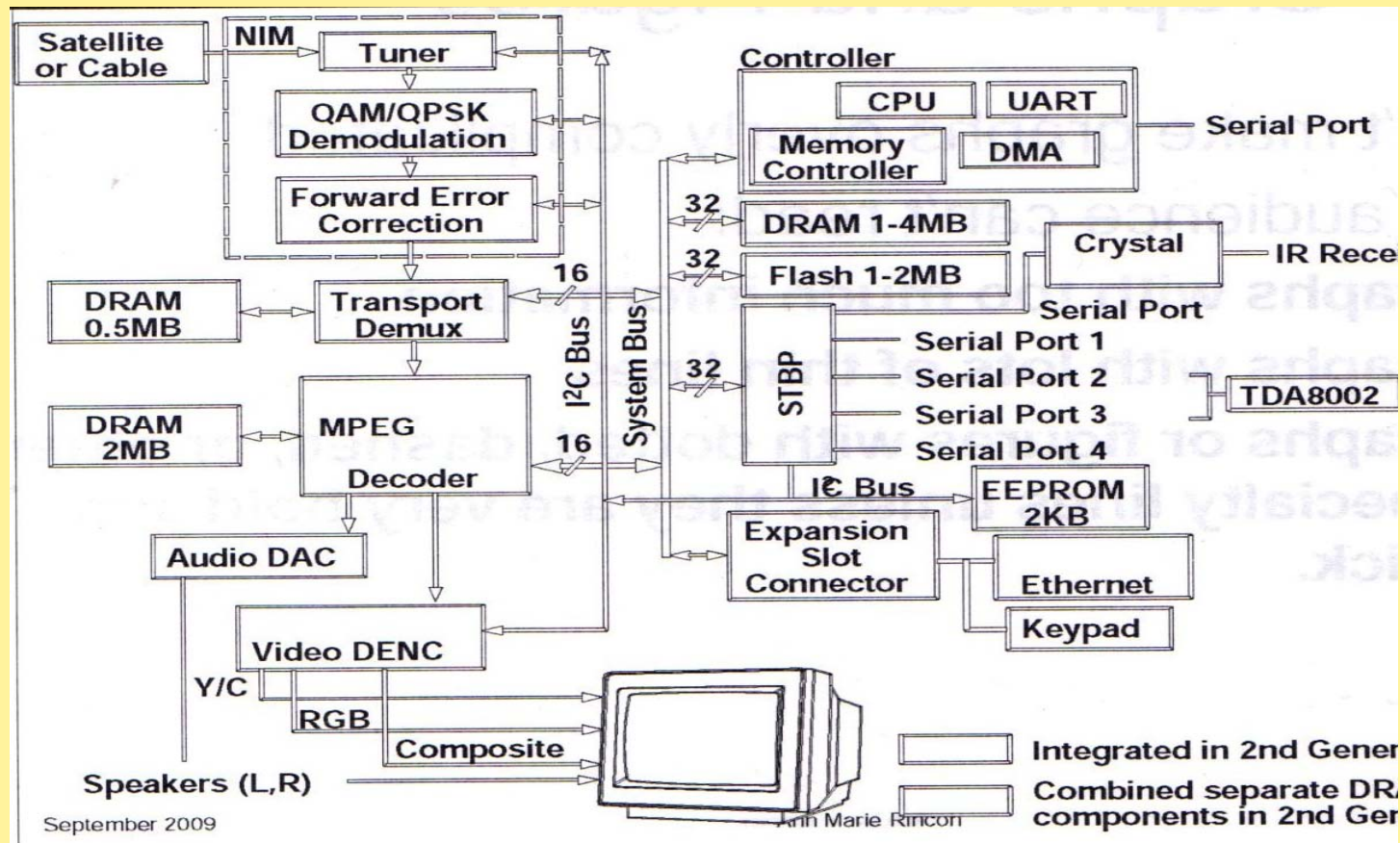
Differential I/O Circuits

This figure is way too busy

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Do's and Don'ts (1)

- Do
  - Be enthusiastic.
  - Make eye contact with the audience.
  - Talk in a loud, clear voice.
  - Move, occasionally.
  - Breathe, smile, relax.
  - Say "I don't know" if you don't know.

Do's and Don'ts (2)

- Don'T
  - Read your slides.
  - Talk to the screen or laptop.
  - Point at your laptop.
  - Turn away from the microphone.
  - Mumble.
  - Lock into podium "Death Grip".
  - Invent answers to avoid "I don't know".
  - Engage in "Laser Pointer Madness".

Do's and Don'ts

- Do
  - Use bullets and short phrases.
  - Target max of seven lines of text / slides.
  - Run spell- check.
  - Use pictures, graphs drawings.

- Don't
  - Put entire paragraph of text into your slides. It's your job as the presenter to elaborate on the key points captured by the bullets. If every word you are going to say is on your slide, what does the audience need you for? Also no one is going to have the time or patience to read this much text. If it's absolutely necessary to include large amounts of text, plan to read it to the audience yourself.

Conference Etiquette

- Do
  - Provide your final slides on time.

- Don't
  - Show up with changes on a thumb drive right before your presentation
    - Very unprofessional.
    - Shows lack of preparation and consideration.
    - Last minute changes can be fatal.

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Presentation Checklist

- Check the room.

- Bring your presentation on a reliable disk.

- Decide how loud you must speak.

- Check the presentation projection.

Dealing with the nerve!

- Practice dramatically reduces nervousness.

- Try breathing exercises.

- Nervousness is natural,
  - Use the nervous energy to speak loudly and energetically.

Teamwork Considerations

- Work out all transitions
  - Between sections.
  - Between team members.

- Practice as a team.

- Speak with one voice.

- Give the speaking member full attention or it may distract your audience.

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Summary

- **Effective Presentations based on:**
  - Your material
    - Appropriate to the audience.
    - The audience can read / understand it.
    - Fits in the amount of time given.
  - You
    - Know your material.
    - Speak loudly, clearly, to the audience.
    - Make the experience enjoyable for the audience.

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References

1. Rincon, A., "Effective Technical Presentations", CICC Place, 2008.
2. Robertson, A., "A Guide To Technical Presentations", University of Utah, 2005.
3. Harder, D.W., "On Technical Presentations", University of Waterloo, 1995.
4. Susan McConnell, "Giving an effective presentation: Using Powerpoint and structuring a scientific talk", Department of Biological Sciences, Stanford University, 2005.
5. Fotowat Ahmadi A., "Effective Technical Presentation", Dept. of Electrical Engineering, Sharif University of Technology, 2009.