How to Give Technical Presentations

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Chapter 12 of the Book
Etiquette Before and After the Talk

• Face the audience

• Look Professional (Remove your hat, spit out gum, comb hair, etc.)

• Introduce yourself and your team

• End the talk with this statement:

  “Thank you. I’ll be happy to answer questions.”
Basic Guidelines

• Images: Figures, Charts, Pictures, Videos
• Simple
• Few Words
• Large
Guidelines for Presenting Images

• Describe and explain the diagrams and charts that you show
• Point to (touch) the things you talk about
• Use specific, descriptive words to name concepts, subsystems, and components
• Avoid poor photographs and light figures
Example: MACE Experiment
MACE Experiment: Space Station
Figures and Words

• Your slides should concentrate on images (figures, tables, etc.) instead of words
• You add value by describing your displays
• Text descriptions belong in written reports, not on the screen
When speakers read slides, they contribute nothing to the presentation – except distraction.
Here the presenter describes labeled drawings while we view the drawings.
Displaying Figures and Tables

- Choose light backgrounds (White)
- Make displays fill the screen
- Show descriptive title
- Describe your images to the audience:
  - What is it?
  - Why is it presented?
  - What should the audience see?

Reformat design tools for screen display
Figure 1. Tennis Ball Catapult Powered by Air Ram.
Figure 1. Tennis Ball Catapult Powered by Air Ram.
Figure 1

Air-Powered Catapult:

**Functional Objective**
- Deliver Tennis Ball to home zone reliably and quickly.

**Specifications**
- Air Reservoir, solenoid valve, pneumatic actuators, hinge and launch pad
Air-Powered Catapult

Fills the slide
Has labels

Descriptive Title
# Specification Sheet

<table>
<thead>
<tr>
<th>Changes</th>
<th>D/W</th>
<th>Requirements</th>
<th>Resp.</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Move CD Rom to target.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geometry</td>
<td>D</td>
<td>Fit within 24x12x12 inch area</td>
<td>Instructor</td>
<td></td>
</tr>
<tr>
<td></td>
<td>W</td>
<td>Quick acceleration</td>
<td>Mfg. Engineer</td>
<td>&quot;</td>
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<td>Straight line</td>
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<td></td>
<td>W</td>
<td>Smooth acceleration</td>
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<tr>
<td>Forces</td>
<td>D</td>
<td>Operates with mouse traps</td>
<td>Instructor</td>
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<td></td>
<td>D</td>
<td>Gravity</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
</tbody>
</table>

**Focus on Important Part**

Spec sheet cropped to give larger fonts
Function Tree (for CD Mover)

Activate System
Move To CD
Stop At CD
Manipulate CD
Defend Result

Retrieve CD and Place on Target
End Forward Motion
Anchor Capture Device
Capture CD
Deliver CD
Protect Our CD
Move Their CD

Rows align for ease of reading

Use one noun and one verb per box
# Morph Chart (for CD Mover)

## Rows from Function Tree

<table>
<thead>
<tr>
<th>Generate Power</th>
<th>Mouse Trap</th>
<th>Gravity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Transmit Power</strong></td>
<td>Trap turns axle</td>
<td>Car hit by trap</td>
</tr>
<tr>
<td><strong>Move to CD / Target</strong></td>
<td>Rolling</td>
<td>Sliding</td>
</tr>
<tr>
<td><strong>Move / Pick-up CD</strong></td>
<td>Suction</td>
<td>Tape covered platform</td>
</tr>
<tr>
<td><strong>Brake on CD / Target</strong></td>
<td>Anchored</td>
<td>String around axle</td>
</tr>
</tbody>
</table>

Zero or few words per cell
## Evaluation Matrix

<table>
<thead>
<tr>
<th>CONCEPT</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CRITERIA</strong></td>
<td>Drive Distance</td>
<td>Size</td>
<td>Speed</td>
</tr>
<tr>
<td>Drive Distance</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Size</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Speed</td>
<td>3</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Low Cost</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Ease of Operation</td>
<td>3</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Ease of Production</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Ease of Reset</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Functional Safety</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>18</td>
<td>16</td>
<td>23</td>
</tr>
<tr>
<td><strong>Relative</strong></td>
<td><strong>Total/32</strong></td>
<td>0.5625</td>
<td>0.5</td>
</tr>
</tbody>
</table>

*Highlight scores with high impact*

*Fonts 24+ pt.*
Focus, Color, and Information

• Important information must visually dominate images
• Center and cluster important information
• Reserve color to highlight important information
Clustered information permits focus

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Motion, Sound, and Information

• Motion should highlight important information

  Animated concept drawings can be helpful

  Animated Text Is Not Helpful

• Videos can be very helpful

• Sound is best avoided

  Unless the sound IS the information
Photographs can display poorly

- Sliders for mobility
- Mousetraps
- Gravity-deployed ramp
- Pneumatics for whacking arms
Even lighting is hard to achieve
You control the light in drawings
Summary

1) Act Professionally
2) Focus on Images
3) Clearly Describe (and Touch) Images in the Presentation
4) Simple is Better
5) Large Fonts (and Few Words)
6) Practice
Questions?