

EE/CprE/SE 491 – Senior Design I and Professionalism

Final Presentation Guidelines

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Do not seek praise. Seek criticism. – Paul Arden

Final Presentations for 491

- During Dead Week each team will have 25 minutes total presentation time (this includes setup and Q/A)
- Take approximately 19-20 minutes for the talk and reserve ~5 minutes for Q&A:
 - It's a tight schedule, and we will have to cut things off as need be
 - Generally it is much better to have a presentation be too short (leaving more time for Q&A) than too long
- 100% team attendance is required, and each team member should have at least some part in the presentation or Q&A

General Guidelines

- Guidelines are assuming ~ 1 minute per slide
 - Practice, practice, practice
 - Assume an interruption or two but we will attempt to defer most questions to the end
- Template is ~ 21 slides for the 19-20 minutes, with some backups in order to respond to any in-depth technical questions you can anticipate
- Presentation **must** include both the Project Plan and System Design aspects (see the design review evaluation form)

General Guidelines (cont.)

- Your websites should be 100% ready, with all documentation, project overview, and team bios in place:
 - Make sure that your team name, website URL, project title, advisor, and client are shown on slide 1, with a template that includes the team name and title on each slide
 - Post your presentation (zip it up if it requires videos, other local data) on your website so both you and the panel can find it without delay
 - The review panel will be having your project website open in one tab and the online review form open in another – make their job easy!

Presentation Template

- Title slide (title, team, advisor, and client info)
- Project plan (~9 slides):
 - Problem Statement
 - Conceptual Sketch
 - Functional Requirements
 - Non-functional Requirements
 - Technical/Other Constraints/Considerations
 - Market survey – articulate what makes your project unique
 - Potential Risks & Mitigation
 - Resource/Cost Estimate
 - Project Milestones & Schedule

Presentation Template (cont.)

- **System Design (~9 slides):**
 - Functional Decomposition
 - Detailed Design (functional modules design, interface definition, user interfaces, etc.)
 - HW/SW/Technology Platform(s) used
 - Test Plan – simulation, what tests, what metrics, hypothesis, etc.
 - Prototype Implementations or basic building block implementations (and applicable results)
- **Conclusion (~3 slides)**
 - Current project status with respect to milestones
 - Task responsibility/contributions of each project member
 - Plan for next semester

Types of Questions During a Technical Presentation (1)

1. The *technical probe* :

- **Example:** “Going back to slide 7, I noticed you used a differential op-amp in that circuit. Can you explain your design choice in more detail?”
- **Why:** you likely went over a fairly challenging aspect of either the problem space or the solution too casually. Alternately, something you said gave the impression you didn’t understand some aspect of the problem/solution.
- **How to avoid:** do not put a pixel on a slide that you are not willing to defend.
- **Strategies:** expect 2-3 of these in any given talk. Create backup slides as needed if there’s insufficient time/space to go in-depth during the scheduled presentation time

2. The *related work comparison* :

- **Example:** “This seems like a clever way of filtering background noise. But have you compared it to the latest product Amazon just announced last month?”
- **Why:** either someone has made recent headlines in a reasonably related area, or the questioner is performing a desperate Google search during your presentation.
- **How to avoid:** periodically refresh your market survey / related work search, including right before your presentation.
- **Strategies:** consider the perspective of the *Popular Science* or *Hacker News* reader as well as the *IEEE Transactions* reader. Have reasonable answers to defend your approach against market leaders who may also be looking into similar solutions.

Types of Questions During a Technical Presentation (3)

3. The *philosophical inquiry* :

- **Example:** “I just do not understand why someone would ever need to do this, when in fact they could just do this other very loosely related thing instead.”
- **Why:** you might not have motivated the problem / solution sufficiently. Alternately, the questioner is attempting to use the Socratic method (or just trying to sound clever)
- **How to avoid:** have a nice, tight description of the what/why/how. Leave no doubt about why this project is important and your solution relevant - elevator pitch can help here.
- **Strategies:** refer back to motivation repeatedly, since there is no real answer unless you have also studied the other loosely related area as well. Attempt to engage but don't let a derail happen...agree to move on in the interest of time :)

4. The *data analyst* :

- **Example:** “In the graph on slide 16, can you explain why you believe the trend you are seeing is significant?”
- **Why:** very similar to the technical probe, but everyone thinks they are an expert in data visualization and/or statistics.
- **How to avoid:** only visually present data that is highly relevant to your project. Ask 3 friends to review just any one graph in isolation and see how they interpret what you are attempting to show. Plan for significantly more time spent on these than on other slides.
- **Strategies:** Review your slides in advance with your faculty advisor (or me), and specifically ask for advice on this part. Even PhD students with 20+ technical presentations struggle with this - repeatedly.

5. The *universal translator* :

- **Example:** “What are the asymptotic bounds on your object tracking algorithm?”
- **Why:** similar to the philosophical inquiry, but in this case the questioner needs assistance in translating the domain you are working on to their domain of expertise.
- **How to avoid:** do not use terms you do not fully understand. Be careful with jargon that may belong to another EE/CprE/SE domain.
- **Strategies:** if possible, know the background of the people attending your presentation. Recognize an otherwise incomprehensible question as a request for translation, and answer or deflect accordingly.

Acknowledgments

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