DAT110
Methods for Electronic System Design and Verification

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Embedded Tutorial: Technical Writing and Oral Presentations

Technical writing

Communication Is Essential

- Knowledge without communication is of limited use.
- In engineering, individuals need to transfer their knowledge to others.
- In research, our work is not finished until we have written and presented a research paper.

Reflections on Presentations

- The writing process helps you refine your ideas: "Writing to learn".
- But "Writing to learn" is also applicable to preparing and executing oral presentations.
- The audience may misunderstand the author/presenter. Authors shouldn't blame the audience, but have to work hard to develop pedagogical and unambiguous material.
- Presentations are not chronological narratives.
- Unless you make a project documentation, downplay the unsuccessful parts of your project.

Report/Term Paper Flow

- Three phases:
  1. Tell the readers what you're going to tell them,
  2. tell them,
  3. then tell them what you told them.
- Heading outline:
  1. Introduction.
  2. Core (technical description + results).
  3. Conclusions.

     Bibliography.

Research Ethics: Plagiarism vs Paraphrasing

- Relate to existing body of knowledge:
  Paraphrasing and quotation are essential tools for us.
  - When paraphrasing, you need to write fresh text that has your own style, structure and type of expression.
  - If you use exact wording, you need to use quotation marks “”.
- When you integrate other people’s material (figure, text or results), always cite that work.
  - Ask for permission to use published figures.
  - IEEE: You can reprint figures but need to acknowledge IEEE, using Copyright © 2018, IEEE in formal reports.

Oral presentations

Conventional Oral Presentations

- State your name and the presentation title.
- Give a motivation for the presentation.
- Show intended presentation flow - an outline slide?
- Give background info, so as many as possible can follow.
- Now, at last, the core of the presentation.
- Any results, any verification, or any comparison?
- Reflections on what has been said.
- Summary or Conclusion? They are different ...

Presentation Layout

- Font size of at least 30 points is desirable.
  - Then you can reduce to 28 points at the next level.
- Since my intention is to provide slides that you can read before and after my presentations, I use quite much text for each slide.

Presentation Layout, Cont.

- Font size >= 30 points.
  - Using 28 points.
- Be concise.

This would have been the preferred style for a conference presentation.

Separators may be useful

Presentation Layout, Cont.

- Avoid Times as font - it does not suit presentations.
- Rather choose a simpler font, for example, Helvetica, Arial, or Verdana.
- Why not use underlining and italic style; but try to be consistent.
- Use colors, but avoid inconsistent use.
- The optimal presentation mixes text and figures/pictures.
- Explain complex illustrations.
  - The classical mistake is to fail to explain axes inside graphs.

Oral Presentation Performance

- Presentation speed depends on ...
  - experience - with experience you can regulate speed.
  - individual slide design - complex or simple slides?
  - slide flow - how do the slides fit together; transitions are important!
- If in doubt of presentation time, make a so-called dry run.
- Always keep the time limit.
- Never quit in the middle of the slide flow.
  - If the presentation is taking longer time than you anticipated, you have to make a graceful exit:
    Skip slides in the middle and jump to the last slides.

Practical Tips

- Number the slides,
  so people can make references to these during Q&A.
- Do not use Q&A slide as final slide.
- Avoid busy backgrounds.
- Use a spelling checker.

Unconventional Presentation Styles

- PechaKucha
  - 20 slides, each 20 seconds long (< 6m40s).
- Lightning talks (to which PetchaKucha belongs)
  - < 5 minutes.
  - Ignite talk: 5 minutes and 20 slides (each slide advances automatically after 15 s).
  - Data blitz.
- Takahashi method: one word per slide.
- Lessig method: one phrase per slide.
- Speed geeking: short presentations, rotating audience.