A Good Method to Prepare and Use Transparencies for Research Presentations

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Abstract

This paper summarizes some of the author's experiences in preparation and usage of overhead transparencies for research presentations. Since one picture is worth a thousand words, the amount of the text is minimized (so one decides to read it), and the stress is on actual transparencies (so one can see the issues). Figures of this paper are in the form of ready to use transparencies, for teachers of methodology classes.

Introduction

The first figure defines the details of a well-structured title transparency. It contains three important elements: title, name(s) and affiliation(s) of the author(s), and the symbol of the research group (important in some environments).

The second figure defines the issues of a well structured introductory transparency. It contains three important elements: tuning the audience to the subject (for example, basic issues about the research field), showing the entire forest before individual trees are approached (for example, table of contents), and making the introductory comments to avoid misunderstandings (important in some cases). An introductory anecdote is more than welcome (of course, it has to be well balanced and compatible with the subject; otherwise, it brings more harm than help).

Preparing the Transparencies

The third figure defines the ten essential elements of each well structured research presentation. Details on these elements and more could be found in [1]. Good work which is not well presented is not necessarily a good work!

The fourth figure sheds some light on the fact that each research problem is essentially a logical problem; consequently, the formal analysis should contain the seven elements of a generalized hypothesis testing. There is a strong analogy between the terms in the fourth figure and the typical engineering terms (variables, primitives, procedures, conditions and assumptions, subrules, rules, and implications).

The fifth and the sixth figure are related to semantic splitting of bulleted text which spans two or more lines, as discussed in [1]. The fifth figure gives a positive example (with semantic splitting). The sixth figure gives a negative example (without semantic splitting). Once a person gets used to semantic splitting, he/she can't live without it any more!

The seventh and the eighth figure are about font size and line count, as discussed in numerous education related references [2], together with many other "tricks of the trade," like single font, figures with all details visible from the most remote corner of the lecture hall, etc. The seventh figure gives a positive example (large enough font and a single-digit line count). The eighth figure gives a negative example and exaggerates in order to underline the essence.

Using the Transparencies

The ninth figure gives some advice related to the actual presentation. Each keyword carries lots of meaning, and leaves lots of room for the speaker to improvise when explaining its essence.

Make an effort to verify the setting of the presentation desk and the screen, before the session starts.

IEEE TCCA Newsletter, March 1997.

There should be enough space to lay out the transparencies and to use them without crossing the overhead beam. Also, there should be a space for the speaker to position himself/herself so that he/she can see both the audience and the screen without turning around and without blocking the view of the audience. If all these conditions are not satisfied (which is frequently the case if conferences are held in hotels, where the presentation desk and screen are typically set by people without Ph.D. in computer architecture), do not hesitate to do rearrangements (after asking for permission, if necessary).

Make sure that you look good during the presentation (and compatible with your general image). Do not forget to get combed, to check buttons, etc.

Let the introductory transparency be there while you are being introduced by the chairman.

Check the screen after each new transparency is placed, in order to see if it is in line and fully visible.

Point with your pointer to the wall and not to the overhead projector; while pointing, make sure that you do not impair the clear view of the screen.

Avoid the SOS words and sounds while talking; they irritate the audience, and may hurt the presentation.

Watch your time; in the research environment overtime is considered one of the worst sins, and will hurt the speaker not careful with time.

Remember that the discussion after the presentation is when the speaker demonstrates who he really is (this is where many good presentations get blown away).

Do not promise more material on your work before you are explicitly asked for. If explicitly asked, suggest that the request be forwarded to you by e-mail.

Let the introductory transparency be there while you are waiting for the post-presentation questions, so the probability is increased that the audience leaves with a lasting memory of your lecture.

Conclusion

The last transparency has a special weight and should include the three points indicated in the tenth figure. Finally, a concluding anecdote is welcome; its major purpose is to reiterate the major message of the paper in a way which creates smiles and is easy to remember.

For more details on the experiences presented here, and the related experiences of the author working with his younger colleagues, the reader is referred to [3] and [4].

Acknowledgment

The author is thankful to all the poor presentations that he enjoyed at conferences, and all the good suggestions that he received from students.

References

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University of Belgrade Technical Report,
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[3] Milutinović, V.,
*Surviving the Design of a 200 MHz
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IEEE Computer Society Press,
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[4] Milutinović, V.,
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Figure 1: The three elements of a well-structured title page.

Introduction

- Tuning the audience to the subject
- Presenting the forest to the audience
- Preventing misunderstandings of any kind

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Figure 2: The three elements of a well-structured introduction (with an introductory anecdote).

The Ten Compile-Time Commandments

- Introduction (to tune the reader)
- Problem statement (and why it is important)
- Existing solutions (and their criticism)
- Proposed solution (and its essence)
- Conditions and assumptions (of the analysis to follow)
- Details of the solutions to be compared (1 + *k*)
- Formal analysis (or analytical modeling)
- Simulation analysis (to show performance)
- Implementation analysis (to show complexity)
- Conclusion (from the performance/complexity viewpoint)

Figure 3: The ten elements of a well-structured research presentation.

The Magnificent Seven

- Elements of the set
- Operations
- Functions
- Axioms
- Lemmas
- Theorem(s)
- Corollaries

Figure 4: The three elements of a well-structured formal analysis.

Topic Title

- Fixed/variable allocation scenarios
based on the home property (page manager):
DSM + DSIO system approaches
- Writes get satisfied on distance or locally,
depending on what brings better performance
and smaller complexity
- Good if reads and writes
are interleaved
with similar probabilities of occurrence

Figure 5: Semantic line breaks: Good.

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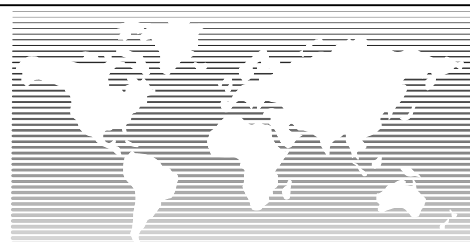
Figure 6: Word processor forced line breaks: Bad.

Title

- Simple superscalar (four)
- Branch prediction issues (2-bit history table)
- On-chip caches (primary and secondary)



A picture is worth a 1000 words

Figure 7: Font size and line count: Good.

Title

- Simple superscalar going after high clock rate; four instructions fetching from an 8Kbyte I cache, and placed in one of two I buffers (four instructions in each one).
- Issue goes from the buffers (in-order, no instructions bypassing at all); one must be empty before the other one can be used (simpler design, but slower issue).
- Branches predicted using a 2-bit history table associated within the I cache controller; I issue stalled if 2nd branch encountered before the 1st branch resolved.
- After fetch and decode, instructions are arranged according to the functional unit they will use; issue follows after the operands are ready (from registers or via bypassing).
- Four FUs: int with shifter, int with branchevalor, FP adder, FP multiplier; integer instructions update registers in-order; FP instructions update files out-of-order; not all FP exceptions are precise.
- On-chip primary caches: 8Kbytes each (I + D, dm for 1cp cache access); a 6-entry MAF with MissAddresses/TargetRegs for up to 21 missed loads (merge).
- On-chip secondary cache: 96Kbytes (shared, 3w/sa); in most of the current microprocessors this cache memory is off the chip.

Figure 8: Font size and line count: Bad.

The Ten Run-Time Commandments

- *Do not hesitate* to redo the presentation desk prior to session start, in order to optimize your efficiency and comfort.
- *Make sure* that you look good during the presentation.
- *Let* the introductory transparency be there
  while you are being introduced.
- *Check* the screen after each new transparency.
- *Point* at the wall, not at the transparency.
- *Avoid* the SOS words.
- *Watch* your time!!!
- *Remember,* discussion is where you show who you really are.
- *Do not promise*; just suggest the audience to ask by e-mail.
- *Reload* the introductory transparency immediately after you finish.

Figure 9: The ten elements of a well-structured presentation.

Conclusion

- Performance versus complexity
- Who will benefit
- Newly open problems…

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Figure 10: The three elements of a well-structured conclusion (with a final anecdote).

Epilog

If the work is well presented, it attracts more interest, and gets used and referenced by others more often. As an example (see below) the work of the author gets used and referenced by others probably more than it deserves (because it tends to be well presented).

General citations:
SCI—over 50 (excluding self-citations);
BOOKS (including textbooks, monographs, as well as M.Sc. and Ph.D. theses)—over 100;

Note:
This list includes **all** textbooks available at the Stanford University Bookstore and at the Purdue University Bookstore in Fall 1996 (only the textbooks published on or after 1990), which include the term **Computer Architecture** in their title (or subtitles), and cover the general field of computer architecture.

Legend:
Position *X*—position of VM in the ranking of referenced authors (s = shared position);
Y citations—number of VM citations in the textbook (na = not applicable).

Flynn, M. J., *Computer Architecture*, Jones and Bartlett, USA (96)
position 1 (12 citations)

Bartee, T. C., *Computer Architecture and Logic Design*, McGraw-Hill, USA (91)
position 1 (2 citations)

Tabak, D., *RISC Systems (RISC Processor Architecture)*, Wiley, USA (91)
position 1s (6 citations)

Stallings, W., *Reduced Instruction Set Computers (RISC Architecture)*, IEEE CS Press, Los Alamitos, California, USA (90)
position 1s (3 citations)

Heudin, J. C., Panetto, C., *RISC Architectures*, Chapman-Hall, London, England (92)
position 3s (2 citations)

van de Goor, A. J., *Computer Architecture and Design*, Addison Wesley, Reading, Massachusetts, USA (2nd printing, 91)
position 4s (3 citations)

Tannenbaum, A., *Structured Computer Organization (Advanced Computer Architecures)*, Prentice-Hall, USA (90)
position 5s (4 citations)

Feldman, J. M., Retter, C. T., *Computer Architecture*, McGraw-Hill, USA (94)
position 7s (2 citations)

Stallings, W., *Computer Organization and Architecture*, Prentice-Hall, USA (96)
position 9s (3 citations)

Murray, W., *Computer and Digital System Architecture*, Prentice-Hall, USA (90)
position >10s (2 citations)

Wilkinson, B., *Computer Architecture*, Prentice-Hall, USA (91)
position >10 (2 citations)

Decegama, A., *The Technology of Parallel Processing (Parallel Processing Architectures)*, Prentice-Hall, USA (90)
position >10s (2 citations)

Baron, R. J., Higbie, L., *Computer Architecture*, Addison-Wesley, USA (92)
position >10s (1 citation)

Tabak, D., *Advanced Microprocessors (Microcomputer Architecture)*, McGraw-Hill, USA (95)
position >10s (1 citation)

Zargham, M. R., *Computer Architecture*, Prentice-Hall, USA (96)
position >10s (1 citation)

Hennessy, J. L., Patterson, D. A., *Computer Architecture: A Quantitative Approach*, Morgan-Kaufmann, USA (96)
na (0 citations)

Hwang, K., *Advanced Computer Architecture*, McGraw-Hill, USA (93)
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Kain, K., *Computer Architecture*, Addison-Wesley, USA (95)
na (0 citations)