

Seminar Technische Informatik WS0910

Scientific Work

Bastian Blywis

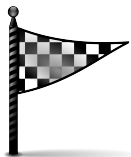
Department of Mathematics and Computer Science

Institute of Computer Science

October 23, 2009

1. Seminar Goals
2. Selected Literature
3. Preparation
4. Telling a Story
5. Structure
6. Scientific Community
7. Plagiarism
8. Figures
9. Literature
10. Presentation
11. Templates
12. Summary
13. Checklist

- Introduction of advanced topics based on telematics and mobile communications
- Familiarization with a new topic
- Literature research, related work
- Critical review and discussion of publications
- Comparison of results and statements
- Filtering the essential from the unimportant
- Technical writing
- Learning and practicing giving a talk





Justin Zobel *Writing For Computer Science*
Springer, 2009, [Link](#)



Henning Schulzrinne *Writing Technical Articles*
[Link](#)



William Strunk, Jr. *The Elements of Style*
Ithaca, N.Y.: W.P. Humphrey, 1918, [Link](#)



J. Schiller and A. Hinze *Professionelle PräsentatorInnen präsentieren
praxisnahe Präsentationstipps*
Vortrag at FU-Berlin, 2002, [Link](#)



Harry S. Delugach *How To Give A Terrible Talk*
Univ. of Alabama in Huntsville, [Link](#)



Important questions regarding the topic:

- What are the goals of the topic? What is the focus?
- What is the central problem and application scenario?
- What is the common / standard approach for the problem?
- Shall I give a survey or comparison of particular approaches?
- Who is my target audience?
- Which information has to be introduced for an understanding of the topic?
- Are there novel and surprising results and findings?



Note: Discuss these issues early on!

The talk and report shall educate the audience

- Present new information based on knowledge learned in classes
- From ideas to results
- Logical closure; answer all core questions and explicitly state remaining questions
- Discuss advantages and disadvantages of published approaches; compare approaches
- Use common scientific writing style: stick to facts, matter-of-fact



Note: Keep you reader interested

Scientific publications have a common structure:

- Abstract
- Introduction
- Related work
- Contribution
- Conclusion

Abstract
Introduction
Related Work
Contribution
Conclusion

Seminar report basically have similar structure

Note: Sometimes related work is discussed after contribution

- Paragraph of 50 to 200 words
- Reader should be able to evaluate relevance
- Summary of the problem, goals, contribution, and findings of the publications
- Should be concise and only mention important facts
- Shall motivate the reader to continue reading

Abstract
Introduction
Related Work
Contribution
Conclusion

Note: Please don't start abstract with "This paper ..."



- Specifies topic and research domain
- Introduces important information vital to understand the following sections
- States a problem
- Names and (shortly) explains common approaches
- Discusses limitations
- Proposes a novel solution, approach or findings that are focus of this report
- Seminar topic and goals are explicitly named
- Ends with a paragraph describing the structure of the report

Abstract
Introduction
Related Work
Contribution
Conclusion

- Lists approaches to solve the central problem
- Gives in-detail information to understand the different approaches
- States deficiencies and open problems
- The specific application scenarios should be discussed
- Elaborated the methodology and results of experiments
- Should not contain a review or extensive comparison

Abstract
Introduction
Related Work
Contribution
Conclusion

- Personal contribution part of the report
- Comparison and evaluation of the introduced approaches
- Discussion of the methodology and results of experiments
- Discussion whether the approaches are applicable in further/all scenarios
- Explicit summary of findings, e.g., as table
- Statement of issues that have been not considered but are of importance
- The results of the tasks and requirements of the seminar topic should clearly visible

Abstract
Introduction
Related Work
Contribution
Conclusion

- Summary of the report
- Similar to abstract
- Explicit statement of the findings

Abstract
Introduction
Related Work
Contribution
Conclusion

- List of all referenced publications
- Only “real”, peer-reviewed publications: conference papers, journal articles, books, . . .
- Wikipedia is NOT a source of reference, as are links to other websites
- Every entry has to at least include author names, title, book/journal/proceedings title, year
- Use Bibtex for formatting and to ensure all information is given
- Do not artificially lengthen the list



John Doe *Meeting Miss Jane Doe*

Proceedings of the 1st International Doe-Conference, 1999

- Scientific community is built on trust . . .
- . . . but peer-reviews shall ensure high quality and prevent plagiarism
- Findings should not be published twice
- Results should be reproducible and plausible
- Scientific methodology should be sound
- Violation of common rules leads to exclusion



“Use or close imitation of the language and thoughts of another author and the representation of them as one’s own original work.”

Stepchyshyn, Vera; Robert S. Nelson (2007). Library plagiarism policies. Assoc of College & Research Libraries. p. 65.

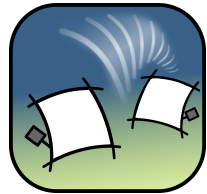


Preventing plagiarism

- Read literature and tell with your own words
- Do not use verbatim copies of text. . .
- . . . or make citation distinguishable from your contribution, reference original publication
- Use quotation marks
- Similar rules for figures and tables
- Create your own figures
- Pure translations also violate rules



- Avoid using figures from publications: often low quality copy
- Use vector-based format: SVG, PDF, EPS
- Use same/similar font type and size as in text
- Colors will be lost when printed b/w
- Caption has to describe what you should see
- Use figures to “loosen up” text
- Invest time in figures: used in report and on slides



Publishers

- Association for Computing Machinery, Digital Library: [link](#)
- Springer Verlag, SpringerLink: [link](#)
- Elsevier, ScienceDirect: [link](#)
- IEEE computer society, Digital Library: [link](#)

Databases

- CiteSeer, [link](#)
- CiteSeerX, [link](#)



Have a look at our link section for more: [link](#)

Note: Very often the publishers provide Bibtex entries

- As general rule: 1 slide per minute
- Focus on particular aspects; you cannot tell everything
- Do not under- or overestimate your audience
- Know what you are talking about
- Practice your talk (time!)
- Show slides to supervisor early on
- Prepare additional slides as appendix for the discussion
- Prepare to skip some slides when low on time



- No sentences but headwords, use common abbreviations
- 5+/-2 item rule
- Enumerations with few levels (usually more than one item per level)
- Few colors, fonts types, and font sizes
- Serif-less font, black font on white background
- Few formulas and source/pseudo code
- Use tables and figures



- Colors will look different on beamer, use high contrast colors
- No slide animations
- Look at the audience and not the screen
- Avoid using a laser pointer
- Show on projection not with mouse pointer
- Speak at moderate pace, include short breaks (drink something)



Note: Don't worry, everyone is nervous

- IEEE Transactions template for report: [link](#)
 - LaTeX
 - MS Word
- FU Corporate Design presentation template
 - MS Powerpoint, [link](#)
 - LaTeX Beamer, [link](#)
- Read and follow IEEE Transactions author rules



Note: Templates are mandatory to be used

- Talk to your supervisor
- Discuss issues early on
- Do not start late; finish early
- Meet deadlines
- Read your own writing, let others review your writing
- Use a spellchecker
- Show dedication
- Consider seminar report as trial master/diploma thesis
- Have a look at our link section: [link](#)



Deadline	Task	State
19.10.2009	Send preferred topics to seminar manager	<input type="checkbox"/>
21.10.2009	You get a topic assigned	<input type="checkbox"/>
	Meet your supervisor	<input type="checkbox"/>
	Show slides to supervisor	<input type="checkbox"/>
Thursday before talk	Email slides to seminar manager	<input type="checkbox"/>
	Talk (25-30min), Discussion (10-15min)	<input type="checkbox"/>
	Show report to supervisor	<input type="checkbox"/>
12.02.2009	Submit seminar report (7-8 pages)	<input type="checkbox"/>

Table: Minimal Personal Seminar Schedule