A Short Guide for Student Talks and Papers

Gerd Aiglstorfer

Department of Informatics
Technische Universität München
Gerd.Aiglstorfer@in.tum.de

January 26, 2004

Abstract: This Paper contains a short introduction of giving a talk and writing a paper. It is especially provided for undergraduates having no experience in this area of activity and for those looking for an overview.

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1 Giving a Talk

This section is divided into three parts. Part one deals with the formal aspects of creating slides and part two shows how to structure a presentation. Part three offers advice on acting during a talk.

1.1 Creating Usable Slides

When designing your slides, you should observe the following rules:
- Rule of thumb: count 3 minutes per slide.
- 1st slide: print your name and the subject of your talk.
- Font size: at least 18 pt (the listeners in the last row should also be able to read your slides).

- Font style: use sans-serif style, e.g. "arial", not "times new roman" etc. .
- Be careful with use of colour. Multicoloured transparencies sometimes confuse the audience.
- Number each slide and define a headline.
- Beware of filling up your slides with too much information (keep each slide in a manageable complexity).
- Don't use complete sentences.
- Structure all slides in the same manner – if possible.

You can use an overhead projector or another presentation tool (e.g. Microsoft PowerPoint). Eventually it is your choice and depends on the technical equipment of the lecture room!

1.2 Structuring Your Talk

Beyond part 1.1 you should take heed of the following instructions:
- Prepare a handout containing the basic information of your talk (that way the listeners have a template for making notes).
- In the beginning introduce yourself to the audience and present the subject of your talk.
- After this give a short abstract: "Say what you are going to say."
- After each chapter of your presentation: "Summarize shortly what you have just said and start motivating the next section."
- In the end: "Give a short summary of your talk and motivate the audience to ask questions and discuss your topic." E.g. (maybe use a separate transparency):
    - o Simple: "Any questions?"
    - o Evaluate the topic from your own point of view and moot your opinion.

A typical structure might look like:
    1. outline
    2. motivation of the topic
    3. definition of the problem
    4. solution of the problem
    5. use of the problem, results, conclusions, further work
    6. summary
    7. questions and discussion

1.3 Some Advice for Your Talk

Giving a lecture needs preparation. Your presentation will be as good as your preparation is! Therefore invest enough time for designing the slides and arrange your own strategy of giving a talk:

- Prepare 2 or 3 sentences to introduce the subject (that way the 1st part of the talk will be done fine!).
- Define transitions for changing your transparencies (so you can close old topics and introduce new ones).
- Do not only recite the items which you have already listed: motivate your audience by giving examples, telling stories or something else and explain the topics.
- Don't read off your talk from a written paper (the audience will assume that you are not specialized in the topic).
- Normally there are several kinds of media (overhead projector, whiteboard, blackboard, beamer, etc.). Use them if necessary, e.g. for explanations or drawings. Change gently between two or three kinds of media and you will improve the working atmosphere.
- Don't be afraid of making short breaks, that is much better than a forced and monotone talk.
- Your articulation should be loud, clear and not too fast or too slow.
- Maintain eye contact to the audience and try to interpret their response (attention: this is not as simple as it seems to be, because sometimes not all listeners are really interested in your topic), but continue your talk even if you feel unconfident.
- Do not stare at a small part of the audience, change eye contact during your talk and stay calm (you are not in a hurry).
- If somebody asks a question, give a precise, short and polite answer. If the answer takes too long, refer to the end of your presentation.
- Finish your presentation with a period for discussion and questions.
- If you are restricted to a specific period (e.g. 45 minutes), you should observe it.
- Don't finish designing your talk and slides on presentation day. Exercise yourself in giving the talk to a selected audience. They can give you feedback and you can measure the required talking time.
- In order to avoid exceeding the time-limit you should prepare some slides which can be omitted.

Important: take a look at [Pa93] for further studies (you can download a copy of the postscript-file at http://ddi.in.tum.de/Lehre/Seminare/how-to-present-a-paper.ps).

<div style="color:red; text-align:center">

An excellent presentation of a paper is a challenge!
Therefore take up time and gather experience!

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2 Writing a Paper

A paper is a written report of the topic of your talk. Or the other way round a presentation is an oral summary of a paper. Normally a paper has almost the same structure as a presentation:

1. title page with subject, author name, location, date
2. abstract (a concise summary with description of goals and results, 200 words)
3. table of contents
4. introduction (motivation and terminology)
5. description of the problem
6. solution of the problem
7. use of the problem, results, conclusions, further work, etc.
8. summary
9. appendix
10. bibliography

If necessary respectively possible you can include the results of the discussion after your talk in the summary. Well, this is a short paper, but it has about the same elements needed in an article.

With regard to layout you should avoid extraordinaire design. The size of a paper varies (not mandatory):
- basic studies (proseminars): 5-20 pages
- main studies (advanced seminars): 5-30 pages
- diploma thesis: at least 100 pages

2.1 The Bibliography

In most cases you will find useful information in some literature. You must refer to it in your bibliography using a specific shape. References normally look like [Hu00] (take notice of the brackets). For the bibliography itself see the following examples:

[Ai03]   Aiglstorfer, G.: *Algorithms and Data Structures. A module for in-service teacher education in informatics – design and test.* Diploma Thesis, Department of Informatics, Technische Universität München, 2003.
[Hu00]   Hubwieser, P.: *Didaktik der Informatik. Grundlagen, Konzepte und Beispiele.* Springer Verlag, Berlin, Heidelberg, 2000.
[Hu01]   Hubwieser, P.: *Didaktik der Informatik. Grundlagen, Konzepte und Beispiele.* Springer Verlag, Berlin, Heidelberg, 1. Korrigierter Nachdruck 2001.

The bibliography is ordered alphanumerically. If there are two or three authors use the capital letter from each surname instead of the small letter above (e.g. [AB89] or [ABC67]). Nothing changes if there are more than three authors. The two numbers represent the year of publication. Same identifiers are treated like [Hu00a], [Hu00b] and so on.

3 Scientific Work

Normally the audience consists of several people who are interested in the topic (e.g. scientists). They assume that you are specialized in the subject and that you will present the results of your work.
Therefore you must avoid drawing your opinion in the main parts of your talk. You should refer to results founded by your or other research work. In the last case don't forget adding citations and sources.

Nowadays it is common practice that you use URLs as references. There is nothing to be said against it, but in most cases you will find all you need in accredited technical literature and proceedings. Of course, standard specifications from committees like IEEE, OMG, W3C and so on should be referenced by their URL.

4 Any Questions?

Consult your tutor, he will help you!

Bibliography

[Pa93]   Parberry, I.: *How to Present a Paper in Theoretical Computer Science: A Speaker's Guide for Students.* Department of Computer Sciences, University of North Texas, 1993.