Introduction to Seminars

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Overview

- **Motivation**
- **Literature Search**
- **Presentation**
- **Report**

Motivation

- **Seminars**
  - Introduction to and training of scientific work
    - Structured information search
    - Public presentations
    - Written reports
  - Fundamental techniques for your daily work
    - In almost all of your potential future jobs
  - Major component of your education
    - Self motivation
    - Self organisation (schedule!)
    - Really needs more than two seminars
  - "Secondary" effect: Learning about the scientific content

Literature Search

- **Why?**
  - Reuse knowledge from others
  - Do not reinvent the wheel
  - Obtain overview of scientific area
  - Structuring and delimiting the area of interest

- **Two-Phase Process**
  - Browsing literature to obtain an overview
  - Detailed reading of relevant references

Browsing of Literature

- **Goal: Overview – NO DETAILS !!!!**
  - Detect important issues
- **Iterative process**
  - Start with overview papers: extract keywords and references
    - Teaching books
    - Web
    - General subject literature: CACM, IEEE Computer, ...
    - Popular science journals can be very informative but not deep
      - E.g. c`t
  - Data mining in found Literature
    - Keyword search in WWW
      - Internet search machines (e.g. Google)
      - Link collections
    - Keyword search in (e-)libraries
  - Recursion
    - New references in relevant papers
    - New keywords

Browsing of Literature

- **Avalanche: Continuously check relevance (pruning)**
  - Ignore things not relevant for your topic
  - But randomly sample seemingly irrelevant pointers
    - You might be missing something
- **Systematic structuring**
  - BibTeX, HTML, Database, notes, post-its on the wall, ...
  - Write down important information
    - Important citations (who, what, when, where, ...)
    - Your own abstract of the paper (very important!!!)
      - Summarize most important contributions (to your problem)
    - Your own thoughts during reading
- **Start with recent references**
  - Only this allows to obtain other recent references
    - But often focuses on niche issues
  - First references of an area are often most helpful as overviews
    - More general, motivate the area, provide overview, …

Detailed Reading

- **Before you start: Write down your questions**
  - What do I need to learn from this paper?
  - What is still unclear?
- **During reading: Write down important issues**
  - Cross references on topics covered in other papers
    - Build a network of references (also help your memory)
  - Document terminology (and their differences)
    - Equivalence (and non-equivalence) of notations and terms
- **After you are finished: What did I get out of it?**
  - Which new questions did arise?
  - How could I answer them?

Presentation

Goal: Comprehension by listeners !!!!!!!

Presentation

- **Listeners**
  - Who is coming?
  - What is their background?
  - What is the environment for your talk?
    - Style, terminology, level, discussion?
  - Which questions do you expect?
- **Planning**
  - Familiarize yourself with the environment !!!
  - What is the motivation of you listeners?
    - Why should they be listening to me?
  - How can I reach them?
  - What is the right level !!!
  - Questions for integrating listeners

Presentation

- **Organization**
  - Present structure to listeners
    - Repeat the overview to pick up lost listeners
  - Say, what you want to say
    - Motivation: Setting and overview
    - Problems
    - Solution strategy
  - Say it
    - Clear line of narration
    - From simple to complex issues (sometimes in reverse)
      - Storytelling !!!!
      - As in a murder story
  - Say, what you said
    - Summary
    - Your judgment (clearly separated from content)
    - Open questions, spurring a discussion, ...

Presentation

- **Form**
  - Cover slide with title, name and affiliation
    - Speak about it (start talking about the topic)
  - Slides are for supporting to listeners (not for you) !!!
    - Only keyword, so sentences !!!
    - Figures and images instead of too much text
    - Few formulas and animations
    - Color and bold/italics are important for emphasis (only)
    - About 2 minutes per slide
    - Maximum of 8-10 lines of text per slide
    - Do not partially cover slide
  - Have extra slides for anticipated questions ready (e.g. details)
  - Make sure people know when you are done
    - A simple „Thanks" or „Are there questions?" is enough
  - Test talk with timing is mandatory
    - You are likely to be faster in the real talk, though

Presentation

- **Organize your environment**
  - Make sure devices and tools are there and work
    - Notebook, projector, software (version, movie players, codecs, ...)
    - Slides, black/whiteboard, chalk, pens, ...
  - What will you be doing where?
    - Where do you stand?
    - Where will you place slides and notes, etc.?

Presentation

- **Probleme**
  - English versus German terminology ➔ Consistency
  - Only present things you fully understand
  - Not too much material (speak normally), not too many details
  - Tell a story – do not simply enumerate facts
    - Motivate each topic, show how they are interconnected
  - End with a list of open questions (controversial)
    - Helps start discussions about your topic
    - It feels bad if no questions are asked
  - Your own judgment is important (separated at the end)
    - Present it clearly in a non-aggressive, well-supported way
  - Speak freely, do not read your notes
  - Try to avoid any "Äääääähhhhhhmmmmmmm"
    - There are many opportunities to train speaking
  - Look at people
    - Face the listeners and watch them
    - Be aware of your body language

Report

- **We will make a „meta-report" available on the web site**
  - Text describes how to write a report
    - Read it to understand what is important
  - It is itself a report
    - Look at the report, as an example you can build on
    - It includes images, a bibliography, and some more
  - You get the LaTeX source code
    - You can quickly prepare your report in LaTeX using this as a template
    - Cut and replace works great!
    - Gets you started easily and without too much pain