On writing, academic honesty

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2020-02-24

Upcoming

- Friday Feb 28:
  - Sprint review & planning
  - Sprint retrospectives
    - Retrospective should follow as soon as possible after review
- Scrum master meeting
  - Thursday Feb 27, 11.00 in 4128
- Next end of sprint:
  - Presentations: Monday March 30 13-17

Sprint reviews & planning

- M teams in 4128 (or in 4209)
  - M4: 8.00
  - M3: 9.00
  - M2: 10:00
  - M1: 11:00
- Q teams in 4471(or in the lab)
  - Q3: 9.00
  - Q2: 10.00
  - Q1: 11:00

Why discuss writing?

- For master's degree, the student shall:
  - demonstrate the ability in speech and writing both nationally and internationally to report clearly and discuss his or her conclusions and the knowledge and arguments on which they are based in dialogue with different audiences
- For Civilingenjör degree, the student shall:
  - demonstrate the ability to present his or her conclusions and the knowledge and arguments on which they are based in speech and writing to different audiences in both national and international contexts
- Get used to requirements early!

Outline

- Academic writing
  - Structure of a report
    - Chalmers writing guide
- Plagiarism
- Retrospectives
- Visual aids (for your reference only)

Structure of academic report

- Academic writing vs technical writing?
- What sections does an academic report comprise?

On writing in general

- writing.chalmers.se
  - On Front page select “Writing Guide”
  - Then open “Thesis and report writing”
  - And select “Parts of a thesis / report”
  - Also check out the other sections.
- Refer back to lecture & workshop in Methods course.

Citations

- The “correct” way to include and refer to previous work
- Leads reader to foundations for present work, and to other context
- Academic honesty: credit where it is due!

- Many conventions…

What sources to use

- Research articles
- Text books
- Other published sources
  - Often tries to find the earliest publication.
- “Private Communication”
- Is Wikipedia OK to use as a source?

How to evaluate a reference

- When was the source written?
- What does the source depend on?
- Who wrote it?
- Why was it written?

What is generally known?

- For what is considered to be generally known, you do not have to give credit
- The level of the general knowledge is increased with the level of the text. (In a PhD thesis, the level of common knowledge is higher than in a student paper).
- If you are not sure, it is better to include the citation; you can always remove it later.

Conventions in EE

- Place the citations close to the fact or claim they refer to (not at the end of the sentence or paragraph).
- Use the IEEE style for references and citations
  - IEEE style allows for footnote style or noun style citations. I prefer footnote style!

Library guide

Examples from the IEEE style manual

- Footnote style:
  - As shown by Brown [4], [5]; as mentioned earlier [2], [4]-[7], [9]; Smith [4] and Brown and Jones [5]
- Noun style
  - as demonstrated in [3]; according to [4] and [6]-[9]
- IEEE style manual is available in Ping Pong

Web references

- Necessary when content is only available on web
  - Otherwise optional
  - Must include access date unless it is a formally published source or has DOI
  - Beware of dynamic URLs!
    - Better: point only to site or forum

DOI

Other citation styles and conventions

- Much variation across academic fields
- Constant purpose:
  - Unambiguity + academic credit
- General advice:
  - Find out about applicable conventions
  - Use software support

Plagiarism: the problem

- When we study the goal is to make the knowledge of others our own
  - but
- Scholarly work requires that we build on what others have done before, while giving them credit for what they have done

Contradictions in academic writing

- As a student you are often required to:
  - Develop a topic based on what has already been said and written **but** write something new and original
  - Rely on opinions of experts and authorities on a topic **but** improve upon and/or disagree with those opinions
  - Give credit to researchers who have come before you **but** make your own contribution
  - Improve your English or fit into a discourse community by building upon what you hear and read **but** use your own words and your own voice

Source: OWL Purdue “Avoiding plagiarism”

~~Contradictions~~ in academic Areas of tension

- As a student you are often required to:
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The clear-cut cases

- It is definitely plagiarism if you:
  - buy, steal or borrow a paper, or if you copy a text from the web
  - hire or otherwise induce someone to write text that you then claim as your own
  - copy large sections of text from a source without clearly indicating this in the text with quotation marks (“ ”)

Three good ways to incorporate information

- Quoting
- Paraphrasing
- Summarizing

The gray zone

- Paraphrasing but not enough
- Reusing the structure but changing the exact words

A quiz

- Go to www.socrative.com
- Select student login
- Room: DAT0962020
- Login with your CID

The questions have been slightly adapted from A.-S. Henriksson, *Att förebygga plagiat i studentarbeten - en pedagogisk utvecklingsmöjlighet,* Uppsala universitet 2008

Any question that caused problems?

About the final report

- All group members are responsible for the entire contents!
- For the final, and half-time, reports we use “Urkund”: a tool that checks for plagiarism by searching for matching text.
    - Urkund proposes; examiner disposes.
- Half-time report is an opportunity for feedback, but not an examination. Any problems with plagiarism I will bring up for discussion with you to correct for final version.
- Final version is examination: Plagiarism is cheating and you will be subject to disciplinary actions if you cheat.

Team discussion

- How should we work to avoid plagiarism when writing the report?
- Identify some good practices you want to adopt when writing.

Good sources for more information

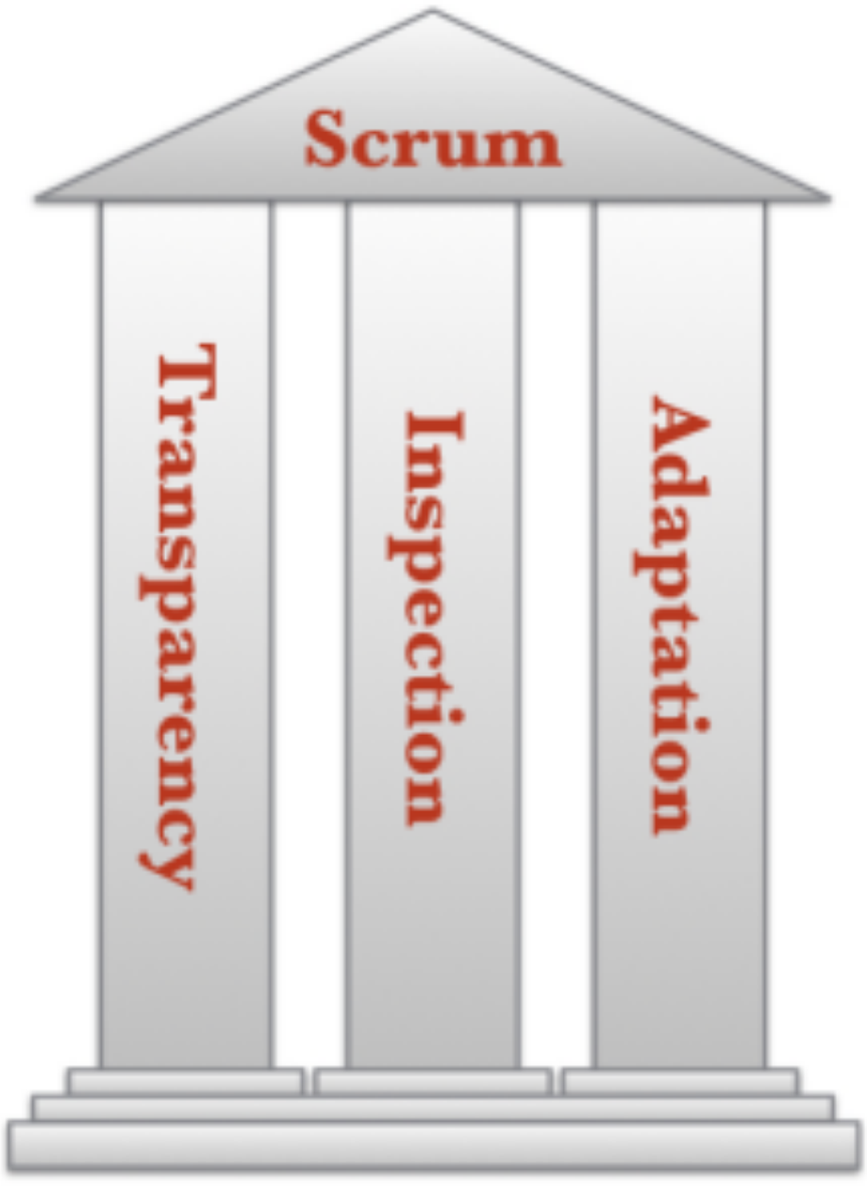
- Academic Integrity at the Massachusetts Institute of Technology: A Handbook for Students. http://web.mit.edu/academicintegrity/handbook/handbook.pdf

- Purdue OWL (2008) *The OWL at Purdue: Avoiding Plagiarism*. http://owl.english.purdue.edu/owl/resource/589/01/

- Chalmers policy on Academic Honesty https://student.portal.chalmers.se/en/chalmersstudies/joint-rules-and-directives/pages/academicintegrityandhonesty.aspx

Retrospective 1 this week

- Purpose:
  - **Inspect** the “how” of what happened during sprint 1
  - Decide to **adapt** some aspects



Good personal skills are important in the workplace

- Personal and inter-personal skills are fundamental for getting a good job and advancing your career!
- Both group skills and individual skills are important
- Presentation skills & writing skills
- Ethics!

Visual aids

- Figures
  - Graphs
  - Diagrams
  - Photos
- Tables
- Equations

Conventions!

What to illustrate?

- Facilitate/improve understanding
- Save space and reader time
- If you don’t refer to the figure (etc) from the text, either text is incomplete or figure superfluous

Figures in general

- Well-chosen size
  - Common mistake: too small
- As clear as possible
  - Drawing can be better than photograph!
- Not too complex
- Absolutely no pixelisations etc! Yuk!

Graphs

- Label axes and include units.
- Label data clearly (experimental vs theoretical, new vs. literature, etc)
- Graphically emphasize what is important in data.
- Use distinct line styles (not only colors…)
- Remove unnecessary details.

Diagrams (circuits, other)

- Follow standards and conventions!
  - If several sets of standards exist, pick one.
- Clear and crisp lines, etc
  - Be careful when importing and scaling!

Photos

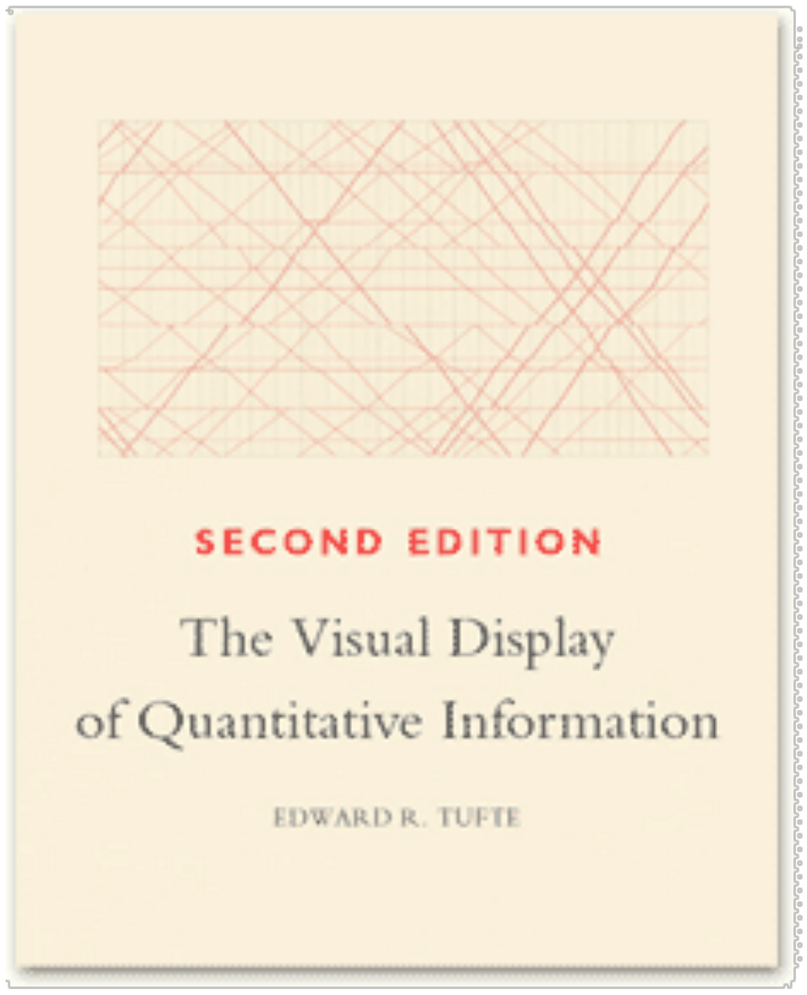
- General advice:
  - High contrast (uniform white / light background)
  - No unrelated things in view
  - Check appearance in monochrome reproduction
  - Annotations (arrows etc) may help

Tables

- Label each row and column
- Put units of measure in table head
- Credit any sources.
- Get permission to use data (if necessary).
    - Confidentiality!

Visualizing data

- Edward Tufte is a guru!
- www.edwardtufte.com



Captions

- Explain figure sufficiently in caption.
- Match caption text with graph text.
- Place caption:
  - Below figure
  - Above table
- Number figures and tables separately.

Referencing figures

- It is not acceptable to use figures from other publications without referencing them!
- Because of copyright law, you also need explicit permission in many cases.
  - Less strict for the DAT096 report than for master's thesis which are made publicly available.

Equations

- Use italic type for variables and roman type for units. Use single Greek or Latin letters for entities. Use subscripts to discriminate.
- Equations are part of sentences; they cannot stand alone in the text.
- Use colon before an equation only when called for.
- Be consistent in whether or not you use end punctuation in displayed equations; but
  - do not mix math notation, text notation, and source code notation!

IEEE style

- In DAT096 we use the IEEE style for:
  - References / citations
  - References to tables / figures
  - References to equations