Guidelines for Report Writing

Computer Science education
Multimedia Design education

EASV, August 2010

This guide on how to write a report provides guide lines for you to follow, to make sure your written material is structured and meets the expectations on the computer science and multimedia educations.

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Introduction

The objective of this document is to explain the schools expectations to a report. A proper and concistent report is important, because both the structure and the content is taken into consideration when your work is evaluated.

The report you produce is the principal way of communicating your work. Good structure, layout and writing reflects the process and how you work. The report is the first impression, and you want it to be professional and of high quality - both for the sake of readability and credibility.

The following guidelines are standard requirements that must be meet. You may experience more specific demands in some of the projects - this will be stated clearly in the presentation of the project.

Report style and audience

The report should be a structured presentation of your project, making it easy for for the reader to follow the process and the intention. Therefore the chapters and sub-sections should follow a logic progressive path.

The reader has never seen your project, so therefore be sure to document and argument properly. Take the reader by the hand and lead them gently through the report, convincing them that you have put great deal of effort and concideration into your project.

You must assume that the reader has the same technical and theoretical level as you, but not specific knowledge about your subject area. Be sure to explain these in depth and use technical terms from lechtures.

Documentation

You must document your work carefully during the process, because it helps you to structure your report. This can be particularly helpful if you finish early in the project period or if you are several group members keeping track of each others work.

Contents of the report

A report should contain the following sections:

- A front page
- Title page
- Preface
- Table of content
- Introduction
- Problem description
- Problem definition
- Delimitations
- Main section
- Conclusion / perspectives
- References
- Appendix

Front page

The front page must state:

- Title of the project
- Education
- Institution (Business Academy South West)
- Date of handing in
- Group number
- You may use graphics or pictures on the front page

Title page

The title page must contain:

- Title of the project
- Authors with signature
- Supervisors names
- Education and semester
- Project period
- Number of pages
- A list of products submitted.

Remember to write the url of your webpages, url and login to the backend

Preface

The preface contains information about the report itself. It should state the writers intention, acknowledgements, requests regarding confidentiality and other special circumstances.

Table of content

The table of content gives a overview of the content with page numbers.

It is possible to use automated formatting, indexing and referencing facilities in most programs - this will ensure that the table og content is consistent and updated. Otherwise be sure it is the last thing you write.

After the table of content the actual report begins.

Introduction

The introduction should guide the reader into the project and the formulation of the problem. It sholud also give sufficient information to explain the background of the project, why it is relevant and what issues are being adressed.

Problem analysis

This chapter provides the background for the problem definition and delimitations. It should be initiated with a description of the situation and an introduction to the main problems.

Consider the following relevant questions when you make the problem analysis:

- What are the problems?
- Why are they problems?
- To whom are they problems?
- How are they related to the company, business environment, to society, to individuals etc.?
- What is the impact of the problems?
- Does someone else have an opinion on this problem, or a similar problem?
- How does other try to solve similar problems and situations?
- What has been done to solve the problems?

Problem definition

The starting point of a problem definition is the information gathered in the problem analysis stage. The different aspects surrounding the problem that have been analysed and should be taken into account in the problem definition.

A structured description of the problem, with the goal of creating an explicit statement on the problem and possibly the direction of idea generation. Also, a problem definition clearly written down provides for a shared understanding of the problem and its relevant aspects.

A problem definition can be designed in more ways, for emample:

- One or few questions accompanied by an explanatory text.
- A text that outlines one or more questions.
- Stating assumptions on how to solve the problem which the following report confirmes or rejects.

The question in the problem definition could be something that:

- makes you wonder and want to investigate further
- seems filled with contrasts
- there is no immediate answer to

The problem analysis, problem definition and the delimitations sets the stage for the entire report and guides the project - so make sure they are well-considered and coherent. While working with these subjects it might be necessary to adjust them - you can never foresee what you may discover during the project.

Scope and delimitations

You will most likely not be able to deal with all the problems found during the problem analyses. The scope and delimitations states your focus area and a description of why this specific area is relevant.

Here is an analogy
The scope and delimitations of your study is like the scope of a sniper - it is used to give additional accuracy using a point of aim and tells what your study is going to cover.

Sample phrases that help express the scope of the study:

The coverage of this study...
The study consists of...

Sample phrases that expressed the delimitations of the study:

The study does not cover the...
The researcher limited this research to...

Methodology - only for PBA level

In this section you should start by clarifying your approach to the collection and analysis of data. The research philosophy you adopt affects the strategy for choosing methods, models and theories to solve the issues presented in the problem definition and how they presumable will help doing this.

The methods section of a report provides the information by which a study's validity is judged. Therefore, it requires a clear and precise description of how research is conducted in a particular field and the rationale for why specific philosophical choices were adopted.

The methods section should describe what was done to answer the research question, describe how it was done, justify the research design, and explain how the results were analysed.

Scientific writing is direct and orderly. Therefore, the methods section structure should:

- describe the research paradigms
- explain the research philosophies e.g. this case is treated with a positivistic approach to...
- describe the strategies used in the study
- explain what was done to collect and analyse the data
- explain why certain methods were adopted e.g. qualitative and/or quantitative methods for analysing data

Once all elements of the methods section are written, focus on how to present those elements as clearly and logically as possibly.

The description of data, method choices, approach and strategies should be organized chronologically.

When you encounter some problems when collecting or generating your data do not ignore significant problems or pretend they did not occur. Often, recording how you overcame obstacles can form an interesting part of the methodology. This means that you also can give a rationale for certain decisions, plus a realistic view of using the methods you chose.

The main section

The mail section is where you explain your work and the process of research, analysis and decisions during the project. It is important that you keep a clear line of reasoning and a logical structure.

You may find it useful to devide each sub-section into: intro, subject and summary - leading up to the next sub-section. It is the process during the project that decides how best to structure the main section, but make sure that it is possible for the reader to keep track of the process and the reasoning.

Consider the relevance of these topics when writing the main section:

• Theories and methods: which have been used, how should they be presented and how important are they?

• Emperical data: how where they found and how should the be presented?

• Research: what research have been made and how should it be presented?

• Analysis: what do we analyse, why and how?

• Technical issues: What are they, should they be presented and how?

Always make sure that the content of your report is relevant and contributes to the transparency and the understanding for the reader.

Conclusion / Perspectives

The conclusion is the your last comments about the project and the process. A conclusion should be short and summarize the most important results. When you compare your conclusion to the problem definition, it should answer the question raised in the beginning of the project and don't ever raise new questions.

If relevant you can add a perspective. Here you can give your opinion on possible future developments reguarding the project - this must be done in a seperate section after the conclusion. Perspectives should always be based on the conclusion and don't ever use this section for excusing for not getting further with the project.

I all major reports you will be required to put the conclusion into perspective.

Reference list

Here all references used during the report must be listed i alphabetically ordet by auther's name. Note the following examples:

When a book, state the auther's surname, first letter of first name, year of publication, title, publisher and edition.

> Krause, J. (2004): *Design basics index*. David & Charles, 1st edition.

When an article in a magazine:

> Hansen. E. (1974): "Når det offentlige henvender sig til folket". In Mål og mæle, 1975, volume 1, pp. 14-73

References to the internet should contain date, where the document is cited (because documents online often have a limited lifespan) and accessibility (the url):

> Ford, Janet Lynn: "Itten's color contrasts" (quoted 24-11-2010).
> URL: http://www.worqx.com/color/itten.htm.

Appendix

The appendix ia any addiction to your report and should be palced in the end of the report.

Start this section by inserting a list of appendices, which should list the appendices in the same order in which they are referenced in the report. The appendices should be numbered sequentially and make sure that any appendices included are referenced from within the report.

Layout and presentation

The layout and the visual design should support the reading and the content. Remember that the layout is the first thing a reader sees and it can influence the expectations for the overall project.

FONTS AND PAGES
Recommended size is between 10 and 12 depending on the font choosen and the layout. Most reports are limited to a certain number of pages - this number is measured in unit of "standard pages". A spandard page is 2400 characters including spacing. Most programs have a feature to count the number of characters.

FOOTNOTES AND ENDNOTES
Footnotes and endnotes are used for short but necessary comments that cannot be included in the text. Footnotes[1] are placed numerically at the foot of the very same page where direct references are made, while Endnotes are placed numerically at the end of the essay on a separate page entitled Endnotes or Notes.

Use either footnotes[2] or endnotes - don't mix the two forms of notes.

HEADER AND FOOTER
You are not required to make a header and/or a footer, but these should contain useful information.

The header could be used to inform the reader about the title of the main chapter which the actual page is a part of (like shown in the top right corner). You could also use the header/footer to inform about title of the project, date, group number and education

ILLUSTRATIONS
This could be pictures, graphics, figures and tables. All illustrations must be numbered consecutively. Most often the mumber is placed below the illustration along with a short explanation.

Remember to make a reference to the number of the illustration, when mentioned in the text.

If you use pictures from the internet you should make an illustration reference list as well. Just like doing references to the internet; state picture number, the date and the url in the bact of the report.

MARGINS
When making the margins, remember to make room for binding or punching holes.

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1 This is a footnote and it is number one.
2 This is the second one - telling that this information is from a students guide on how to write footnotes and endnotes.

Layout and presentation

PAGE NUMBERS
The pages in a report have to be numbered - normally the numbering starts after the title page.

The simplest way to do this is by making a page number setting in the master page in your dtp-program.

QUOTES
Quotes can either be in line or in a separate paragraph. In line quotes should be no longer than 1-2 lines, lengthy quotes are made a paragraphs.

Formal quotations, cited as documentary evidence, are introduced by a colon and enclosed in quotation marks.

> ... In *Design Basics* Jim writes: "Variety in spacing, just as in life, adds spice" (Jim Krause, 2004, p. 16). There are more examples of this fact...

Quotations grammatically in apposition or the direct objects of verbs are preceded by a comma and enclosed in quotation marks.

> ... In his *Design Basics* Jim says, "Variety in spacing, just as in life, adds spice" . This means...

These quotes are normally only used for common knowledge and rarely used for documentation.

Quotes in paragraphs stands out a bit more.

> "Design in art, is a recognition of the relation between various things, various elements in the creative flux. You can't invent a design. You recognize it, in the fourth dimension. That is, with your blood and your bones, as well as with your eyes."
> D. H. Lawrence

Remember to make correct quotes.

Layout and presentation

REFERENCE TO LITERATURE
Any reference to literature should be made clear using name, year of publishing and page number in brackets, for example (Katzenelson 1996, page 175).

The reference to literature should always be consistent with your reference list. This can be made in various ways and you might need to differ from the guidelines in this paper.

Year and version might be irrelevant due to the nature of the source, like "And it came to pass in those days, that there went out a decree from Caesar Augustus, that all the world should be taxed" (St. Luke, 2. 1).

You might need to use the first publication year in your reference, like (Itten, 1961, p. 178), instead a reference to the version you use. Your reference list should then look like this:

> Itten, Johannes (1961): *The art of colour*. New York, John Wiley & Sons, 2nd edition (1974)

Meaning: The book was first published in 1961, the references goes to the version from 1974.

Above all: Be consistent and use the same kinds of references through the entire report.

FINAL WORDS
Proof reading is important and is a simple way to improve your report. You might have to rewrite your text several times. The quality improves considerably with each revision.

Finally – do not hesitate asking the lecturers in case of any doubts or questions concerning these guidelines.