Instructions for Scientific Project and Report
TDDC03 Information Security

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1 About the Project and the Report

You have been assigned a project in a Masters level course. This means that the requirements are at Masters level and that we have high expectations of your work.

You will produce a formal, well-written, easily readable, and relevant scientific report. It is not easy, but if you follow the guidelines below, the project meetings and supervision can be focused on content and interesting questions, not on details such as language or the use of references.

1.1 Deadlines

There are deadlines for the project. They guide you through the process of studying, working, testing and writing about your subject. You are required to keep track of and meet all the deadlines.

2 How to Write the Scientific Report

A scientific report is a formal document. Therefor the report is likely to be a bit dull. This is desirable since we strive for clarity and efficiency in reading. In the following sections you find concrete requirements on your report based on experience and documents on scientific writing.

2.1 Reference Your Sources

As soon as you state anything not obviously true you either have to reference your source or justify the statement with your own investigations. There is no other way. Examples:

- "In table 3.4 our experimental results are summarized and they show that a performance increase of up to 20 percent is possible with the tool."

- "Testing of software will not find all bugs in the general case [3]."
  . . .
  "[3] Beizer, Boris: Software Testing Techniques, 2nd Ed. ISBN 1-850-32880-3"

When you reference something it's good practice to make the sentence meaningful even without the reference (try taking the reference out and read the sentence). Example:

- "This problem is explained by George Evans in his paper from 1997 [1]."

2.2 Do Not Copy or Rephrase

Copying or rephrasing of material is not allowed in the report. If you copy or rephrase you might be charged with cheating and expelled from the university. What we mean with copying and rephrasing:

1. **Copying**. Text copied from any kind of source (Internet, books, reports etc) without clearly marking such sections with quotation marks ("") and providing a reference to the quoted material in direct connection to that section of the text. If you are not going to quote, never copy and paste the material into your report at all, write on your own. Since this is *your* report, you are not supposed to quote large portions of text.

2. **Rephrasing**. Rephrased copies of text from any kind of source (Internet, books, reports etc). Rephrasing should be avoided—instead write/explain in your own words, or write the original text and mark is as a quote (see above). Two examples of rephrasing:

   Original 1: "There are several (partially overlapping) definitions of functional requirements."

   Rephrased 1: "Functional requirements have several (partially overlapping) definitions.

   Original 2: "Man-in-the-middle attacks usually occur in networks with several connected computers."

   Rephrased 2: "Typically, Man-in-the-middle attacks will appear in networks with several computers connected to it."

   What we mean with rephrasing here is if you first *copy* a text, and then do rephrasing of the copied material as shown by our examples above.

2.3 Handle Terminology Correctly

Each technical or domain specific term used in the report must be defined either by a reference or by a precise, unambiguous definition before the term is used. When a term is used for the first time it is good practice to write it in *italic* form.

2.4 Avoid Feelings, Opinions and Judgments

Words such as "good", "bad", "nice", and "stupid" are more or less prohibited in a scientific paper. "Correct" and "incorrect" should be used for addressing correctness or errors. Precise words should be used when addressing quality. Avoid qualitative judgments in general.

Writing "we were surprised to notice" is irrelevant for the reader. So what if you were surprised? Tell the reader what you noticed instead. The same thing goes for "funny", "after a long time we", and any kind of jokes.

2.5 Include Abstract, Introduction, Conclusions and Bibliography

The four sections Abstract, Introduction, Conclusions, and Bibliography must be included in your report.

2.5.1 The Abstract

An abstract is not a teaser nor an introduction. Although making the reader interested is nice, the abstract's first and foremost role is to efficiently position the paper and shortly describe its contributions. After reading the abstract the reader should know what to expect from the paper including its main conclusions.

2.5.2 The Introduction

Except for the abstract the report should always start with an introduction that sets the scene, defines the problem, explains the relevance of the problem, and shortly describes the structure of the report. The introduction should be readable by almost anyone, not only experts in the field.

2.5.3 The Conclusions

The conclusions are your results, your contribution. They deserve a section of their own and should summarize your findings. Be careful not to include vague opinions or judgments. Avoid references in this section since the conclusions are yours.

2.5.4 The Bibliography

Here you have the complete information about all your references. They should be ordered in some way (order of appearance, lexicographical order). Web references are allowed and should include the full web address.

2.6 Figures, Tables and Pictures

All figures, tables and pictures should be numbered so that you can refer to them in the text. They should also have captions below (figures and pictures) or above (tables) explaining them. In this way the reader can browse the paper and still understand your pictures and figures. See our examples—Table 1 and 2 on the next page.

When using any kind of axis, metric or measures be sure to explain them. An unlabeled axis in a diagram is simply not allowed.

We encourage you to **use figures, tables, and pictures** since they tend to make the paper readable and often explain things in a clear way together with the text. Go through your paper and think "Where can I include an explaining picture?", but also "Does this picture really explain something or is the text sufficient without it?".

2.7 Use Spelling and Grammar Correction

You are required to produce a correct report both from a spelling and a grammatical point of view. Use spelling and grammar corrections in word processors. Reports with spelling errors will be rejected.

Table 1: Empirical test of dynamic intrusion prevention tools. 20 attack forms tested. "Prevented" means that the process execution is unharmed. "Halted" means that the attack is detected but the process is terminated.
[*This caption fully explains the contents of the table, and is correctly placed above.*]

Development Tool	Attacks prevented	Attacks halted	Attacks missed	Abnormal behavior
StackGuard Terminator	0 (0%)	3 (15%)	16 (80%)	1 (5%)
Stack Shield Glob Ret Stack	5 (25%)	0 (0%)	14 (70%)	1 (5%)
Stack Shield Range Ret Chk	0 (0%)	0 (0%)	17 (85%)	3 (15%)
Stack Shield Glob & Range	6 (30%)	0 (0%)	14 (70%)	0 (0%)
ProPolice	8 (40%)	2 (10%)	9 (45%)	1 (5%)
Libsafe and Libverify	0 (0%)	4 (20%)	15 (75%)	1 (5%)

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Table 2: Empirical test.
[*This caption does not fully explain what the table contains, and it is wrongly placed below instead of above.*]

3   For Swedes Writing in English

- "Efficient" means "effektiv". "Effective" means "effektfull", "har effekt" or "har verkan".

- "Different" almost always means "annorlunda". "Various" means "olika".

- "Construction" means "bygge" or "byggnad". "Design" means "konstruktion".

- Look up the difference between the words "safety" and "security" before you use them.

- Headlines are capitalized except for some short words. Example: Simple and Precise Type Inference of Parametric Polymorphism.

4   Checklist

Go through this checklist before handing in anything to the supervisor.

1. Every statement is either justified by us or referenced

2. Every new term is defined

3. The report contains no judgments or words such as "good" or "bad"

4. The report starts with an abstract which is not a teaser nor an introduction

5. The report has an introduction readable by anyone. The introduction defines the problem and its relevance

6. The report has a section with conclusions

7. The report ends with a complete bibliography

8. Every figure, table and picture has a reference number and a description below or above

9. We have checked the spelling and the grammar in the whole report

GOOD LUCK!