

Writing a report : The dos and don'ts

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1 Introduction

During the reading of the previous reports, several remarks on the way they were written arose. Since reports are the main support with which you will present your work, it is useful to put some efforts in its redaction.

In this document, you will find some advice about the content and the structure a good report should have. The points mentioned here may seem obvious to some people but appear to not be mastered by a non-negligible amount of students. While being a good reminder for everyone, this document therefore targets especially those students.

2 Global structure

In a general manner, the same information or reasoning can be laid on the paper in many different ways. Some of them are however easier to read and follow than others. In this section, we review some common techniques which make a text more comfortable to read and a reasoning easier to follow.

2.1 Sectioning

The first key point to notice when writing a report is that the text should be structured appropriately. This structure is usually highlighted by explicitly sectioning the text in different sections and subsections. The idea here is to regroup things which belong together (an explanation, a reasoning, reminders...) so that the reader can easily understand the relations between the different parts of your report.

Without loss of generality, a report should be divided in three main parts; an introduction, a body and a conclusion. The introduction is at least strongly recommended, if not mandatory. It is in this section that you remind the context and the purpose of the document you are writing. It is also there that you briefly introduce the different topics which will be discussed further. The body is usually not an individual section but rather consists in several sections. The body is the core of your document. All relevant information should be presented there. Eventually, the conclusion, which is mandatory, should conclude your report appropriately. Concretely, it consists in reminding the main key-points and results of your work in a small text.

Additionally to those three main sections, it is sometimes interesting to add appendices at the end of the document. Appendices can contain a lot of different things which do not necessarily belong to the body. For example, detailed reminders about notions you use in the body can be put there. Long mathematical developments can also be moved in the appendices in order to avoid to saturate the body with math equations. The appendices are also the place to put

graphic elements which take a lot of place and which could break the continuity of the body without a real necessity to do so.

2.2 Text organization

Sections are great for organizing text at a coarse level. But, inside of each section, there remain big chunks of text which should ideally also be structured properly to ease the reading. There is obviously not only one unique way to do it, but there are some rules of thumb which you have to keep in mind when phrasing your text.

The first one is to organize your text in paragraphs. Additionally to make your whole document more readable, they can also be used to structure the text. Different subjects or sets of ideas can indeed be discussed individually in different paragraphs. This highly increases the clarity of a reasoning. For example, this document (the one you are reading right now) is organized this way.

The second rule to follow is to avoid to build sentences which are too long. The notion of “too long” can vary from one person to another, but generally two complete lines is already too much. You should be aware that such sentences are extremely hard to follow and should usually re-read several times to be fully captured by the reader. This problem can be easily avoided since they can usually be simply split in several individual sentences.

The third and last rule of thumb we will mention here is the frequency of same words in a text. Once again, you should be aware that repeating the same word over and over at short intervals can quickly make your text indigestible. The languages are generally rich enough to avoid this problem by finding synonyms or by using sentence buildings which solve the issue (by introducing pronouns for example). This rule is far from being the most important, but it is worth keeping it in mind when writing a long document.

3 Graphical elements

Graphical elements (figures, charts, graphs,...) are sometimes useful to illustrate some parts of a document. However, the inclusion of such elements has to follow some simple rules. This section is dedicated to a reminder of those rules.

The first one is simple. If a graphical element is not referenced (i.e. not mentioned) in your text, this element has nothing to do in your document (even in the appendices). Period. Ideally, when possible, it is even recommended to put this element on the same page than the one where it is referenced.

The second is not more complicated. All graphical elements must be captioned accordingly. Not doing so is like printing a graph without annotating the axis : it’s bad!

And the third rule is that your graphical element should be readable when printed on paper. This implies that the font size should be great enough, that the graphs can not be overloaded,... Be careful that with some picture encoding formats the scaling of your different elements can lead to especially bad results. To avoid this problem, always prefer to work with vectorial formats when possible. When it is not possible, use pictures with enough resolution.

4 Miscellaneous

In this section, we are going to cover a point which is more specifically related to the embedded systems course. For this course, each group has its own project subject and has to handle back several reports throughout the academic year.

Due to the fact that each group has its own subject, we are not able to remember all details of each project throughout the year. For this reason, we expect self sufficient reports for each milestone. It means that each report can be understood without needing to have previous reports under the eyes. To achieve this, each report should contain small reminders of the previous ones when necessary. More importantly, the title of each of them must contain the name of the project to which it is related.

Since the course is given in English, reports are expected to be in English as well... and in a correct English. We don't ask Shakespearean masterpieces, but we expect at least correctly build sentences and an appropriate vocabulary with correct grammar. A vast majority of the mistakes we usually see are obviously due to distraction and/or precipitation. Most of them can easily be found and corrected by a careful reading pass. You should therefore take the time to do it at least once.

5 Conclusion

In this document, we reviewed several points which have to be kept in mind when writing a report. More particularly, we covered the different methods which can be used to structure it properly and make it more enjoyable to read. Additionally, we gave some rule on the way to include graphical elements into such documents. Eventually, some remarks more specific to the course of embedded systems were given.