



POLYTECHNIC SCHOOL OF THE UNIVERSITY OF NANTES
COMPUTER SCIENCE DEPARTMENT

RESEARCH AND DEVELOPMENT REPORT

A Polytech Research Report

A Model and Short Guide

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Abstract

As the name suggests, the abstract is a very short but informative piece of information about everything you did in this work, i.e., successively the description of the problem at hand, the objectives, the main point of the state-of-the-art, the choices made, the conceptual developments, the conducted experiments, results and interpretations, the new issues.

It is the last thing to write! (Do not provide any details, give popular scientific information. The introduction and conclusion of the report are there to develop the overall ideas.)

Bibliographic indexing is required. Use the ACM thesaurus: See <http://www.acm.org/about/class/>. (The following example is based on the 1998 version, where general terms and additional key words are optional.)

Categories and Subject Descriptors: H.2.8 [**Database Applications**]: Image databases; H.3.3 [**Information Search and Retrieval**]: Clustering, Information filtering, Relevance feedback; H.3.7 [**Digital Libraries**]: User issues; I.5.3 [**Clustering**]: Algorithms, Similarity measures; I.4.10 [**Image Representation**]: Statistical, Multi-dimensional

General Terms: Algorithms, Performances, Experiments, Human factors, Verification.

Additional Key Words and Phrases: Content-based image retrieval system, Classification, Feedback loop, Supervised learning.

Acknowledgements

The usual place of acknowledgements, if this pleases you or if the work has been conducted as part of a larger endeavour.

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Preface

This is just an outline document. All the paragraphs are given either as explanations or as examples and must disappear in your final document, except for the logical architecture.

For instance, this preface is optional. It allows you to provide additional information to the reader about some additional goals of the report and the work, the context and environment, and more generally any aspect which is not part of the content of the work by itself.

Here, it allows us to provide some insights about:

- the way a research report must be written;
- what is expected in various parts of such a report.

First of all, a *structured* document is the result of a process that leads to an organised and rather standard way to present a scientific work. Most of the time this leads to a tree-like structure that is well illustrated by the table of contents.

In such a structure, you have to clearly distinguish between the leaves and the internal nodes. Leaves are the actual content of the work, whereas the rest of the tree describes a logical way to go through that stuff.

In the simplest case, you just walk through from the hypotheses to the conclusion. In most cases, the length of the path is too long to be understood clearly at a single level. Therefore, the difficulties are split into smaller

problems and the same step repeated, leading to the common tree structure.

In a few cases, the hierarchical structure is not the best one. For instance, a clearer view of your work could be a bi-dimensional matrix, or even a planar graph. Nevertheless, you do have to use the hierarchical structure. Even worse, the final report by itself is just a single sequence of sentences! Therefore, the content of an inner node is just a way to help the reader understand where he or she is the large explanation of the work. Each inner node should contain its own introduction, a link between each of its sub-trees and a local conclusion.

Of course, this recursive explanations lead to several repetitions in the text. However, they are not presenting the subject with the same level of details. Also, they considerably help the reader remember previous steps and results. In fact, by using such a disciplined way of writing a report, all the sections headings could be removed! As a consequence, we know that chapter, section, sub-section titles, etc., are *not* actual text, but rather visual marks helping the reader to rapidly find a particular area of the work. In the normal process of reading the whole report, the eyes do not read them! So, do not use pronouns that refer to the title of the new section (e.g., after a title saying “Database.” do not use “it,” but repeat “The database” in the main text).

The reader is directed to numerous sources in order to learn to better write a scientific document (e.g., [[Wol06](#)]).

In the sequel, some parts of this pseudo report have been written in a way closely related to the final result. In contrast, some other parts give only rough hints and/or some examples. This is due to the fact that it is not possible to provide a guide for each and every kind of work, e.g., strong mathematical modelling vs. engineering experiments.

Lastly, notice that the English version of the report model is still much shorter than its French counterpart. Therefore, if you are proficient enough in French, have a look at the other version.

Introduction

Each chapter starts with a presentation of its sections. For the introduction chapter, these sections are generally the statement of the research problem, the chosen objectives and used methods, the work done, the key results and drawn conclusions. The last section of the introduction is an overall presentation of the subsequent chapters.

1.1 Statement of the problem

The topic of the research is probably way too large. Therefore, your own work has to be delimited.

Firstly, describe it in general terms, providing, up to your knowledge, evidence of the intrinsic interest and lack of satisfying solutions for the questions that you wish to explore.

Within a large scientific and technological field, discuss the background to some point and justify the particular points that you want to improve. (All this will be detailed in the next chapter.)

1.2 Objectives

Sometimes, the introduced problem remains too large to be solved in a single study, e.g., too many potential solutions could be envisaged. It is necessary to introduce additional objectives that are added as constraints to the resolution of the original research problem. At the end of the work, you shall be able to compare the initial expectations and choices to the attained objectives and known limitations they incur.

This and the previous section help understand the problem starting from a general and high-level point of view down to the *necessary* details to understand the formal research problem.

1.3 Work achieved

By describing a clear objective, you can draw a clear line of work, may be with probability of failures and successes, that can help you determine, at each step, if a goal

is still attainable, if a degraded solution has to be pursued, if a new line of development is mandatory, etc.

This part will be updated during the course of the work.

1.4 Contribution

Never let the reader wait till the end of the report in order to know the results, positive as well as negative ones, of your work. Results are presented in the introduction, not the conclusion!

1.5 Report organisation

As soon as the overall picture has been drawn, the logical organisation of the report is described chapter by chapter. The goal is to provide the reader with a detailed abstract of the whole report without having to read the introduction of each chapter. In addition, you can provide hints on the way the report can be read by different kinds of audience, e.g., skipping some chapters, changing the order, going first to the appendix, etc.

Roughly speaking, the report is probably to be split into three main parts.

Chapter 2 studies related proposals of the scientific literature. Analysing and comparing them help both to understand the limitations and to open new research directions.

Chapter 3 studies, from the theoretical point of view, one or even several promising directions. The consequences of the established and chosen hypotheses are pur-

sued to the point only experiments can give satisfying answers.

Chapter 4 follows a development, experiment, and analysis path in order to quantify the theoretical results.

Finally, the conclusion summarises the work and introduce new research issues that are worth pursuing.

State of the Art

The goal of this chapter is to give the necessary provision to understand and *solve* the research problem. In particular, you should not solve an already well-solved problem! Neither should you reinvent solutions to basic sub-problems. Should you find a solution to your original problem in the literature, then either a new/extended problem has to be designed according to this new knowledge, or a substantially different and/or better solution designed.

Notice that most of the conclusions in this chapter must be taken with a grain of salt. Oversights are always possible. However, if *very* recent or confidential contributions can be missed, the more established literature has to be known to some depth. Some general background can be omitted from this chapter and put into Appendix B.

The chapter is most probably a sequence of previous proposals along with an analysis and comparison with respect to a set of criteria that have to be adequately designed. The final conclusion of this chapter is some kind of table along with initial motivations for the proposed

new solutions that will be discussed in chapters 3 and 4.

If this chapter tends to be too lengthy and clumsy, then split it into several chapters and create a part.

Notice that it is in this chapter that you must adequately and honestly refer to all the work that you consulted. In the following chapters, whenever an idea is not yours, you must again reference the source. If these guidelines are not obeyed, you are committing plagiarism!

Also note that the bibliography consists only of *permanent* references, i.e., conference proceedings, journals, books, etc. All the “details,” authors, title, journal or conference name, volume, number, pages, place, year, etc., have to be provided to their full extent, as exemplified in the fake bibliography of this model. They can be extended with references on the Web, which is appreciable for rapidly downloading a version of the reference work.

In contrast, web sites alone must not be placed into the bibliography because they may rapidly disappear or be substantially modified after your reading. However, you

can mention them as footnotes.¹ In case they provide an important thought for your work, it is advisable to put a copy of them in the appendix after having obtained the authorisation of their author.

2.1 Previous Proposal 1

Presentation and analysis of previous work related to your topic.

2.2 Previous Proposal 2

Etc.

2.3 Synthesis

A clear view of the advantages and disadvantages of the partial solutions found in the literature can be summarised by one or several tables (cf. table 2.1) where a number of important criteria have been introduced and described.

Note that all figures, tables, and algorithms must be put into their corresponding floating environments, captioned, referenced from the main text, and sourced if they have been copied from previous work.

1. For instance, the “reference” [Wol06] should really be located here: Joe WOLFE, *How to Write a PhD Thesis*, 1996, <http://www.phys.unsw.edu.au/~jw/thesis.html>

2.4 Conclusion

By the end of this bibliographic work, some previous proposals can give explanations about the difficulty of the task, some others hints for further promising investigations, some even for avoiding dead-ends.

The promising directions and the motivations for following them can then be listed before going to the detailed descriptions of the proposed new solutions in the following chapter(s).

	Proposal 1	...	Proposal i	...	Proposal n
Criteria 1	✓				✓
...
Criteria j	≈				
...
Criteria m			✓		

Table 2.1 – Comparison of various proposals



Proposals

Introduce the various ideas and proposals. As for the state-of-the-art, if this chapter is too long, split it into different chapters.

3.1 Proposal 1

For each of contribution, it is advisable:

- to introduce it thanks to preliminary intuitive ideas (coming both from your understanding of the problem and from the ideas brought to you by the literature);
- then to formalise them through mathematical models and/or algorithms;
- then demonstrated, as much as possible;
- finally analysed (e.g., Do you solve the whole problem? Is the solution resource efficient? Etc.).

3.2 Proposal 1

Etc.

3.3 Conclusion

If too many ideas have been enumerated and none can be totally and formally demonstrated to be the best, then some choice has probably to be made in order to limit the time-consuming experiments that follow. It is preferable to achieve a few well-conducted experiments that will provide unquestionable conclusions though in a limited scope.

Experiments and Results

When it is not possible to work only at the theoretical level, experiments will take place. In Computer Science, this is most often through developing code then running experiments with it and analysing the output.

Notice that if both parts are important, or if more than one proposal has been investigated, it is certainly better to split this chapter into several distinct chapters. In the former case, you can even enclose these chapters inside a new part.

4.1 Experiment 1

Be extremely precise when describing your experiments. They must be reproducible by any reader deeply interested in your work.

You should describe all the hypotheses and constraints related to the manipulated data and the developed algorithms or used softwares. Check them carefully in order not to draw false conclusion from bad inputs or erroneous processing!

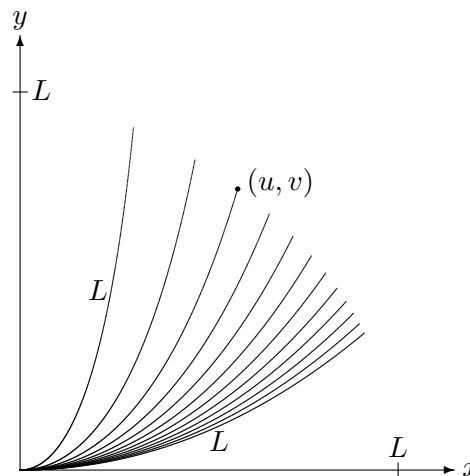


Figure 4.1 – Quality of the results obtained [Source : « *Graphics in LaTeX 2_ε* », page 23]

In this part of the report, you should put forth *synthetic results*, in the form of several tables and figures (e.g., See figure 4.1¹)

For the sake of completeness, these synthetic results must be supported by the base results from which they are derived. These lengthy results have to be put into the appendices (e.g., See Appendix C).

4.2 Experiment 2

Etc.

4.3 Conclusion

The conclusion of this chapter (alternatively of this part) is normally the culmination of this research work. All the quality of the work, along with its limitations, have to be emphasised. Also, you can draw some personal conclusion on the way this study has been conducted and what could be done better should you have the chance to restart it anew.

1. Urs Oswald, “*Graphics in LaTeX 2_ε*,” March 2003, <http://www.ursoswald.ch>.

Conclusion

By the end of the work, you should firstly summarise the main steps and key results of the study. Then, you should describe the research directions that this work opens, both simple extensions and new endeavours.

5.1 Summary

Even if it is yet another repetition, it is convenient to summarise not the whole report but at least your own work and results, stressing their value.

5.2 Outcomes

The most valuable teachings of the work (there always have) must be emphasised. Some can be personal.

5.3 Research directions

It is quite rare that a given work totally closes a topic! Even in that case, it remains possible to introduce new research directions, more or less connected to the topic and the new state-of-the-art. More generally, you can mention all and every question that has arisen during the course of your work.

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1. http://www.polytech.univ-savoie.fr/fileadmin/polytech_autres_sites/sites/listic/Theses/thesekhodja.pdf

2. http://www.samizdat.qc.ca/arts/lit/Pascal/Pensees_1671_ancien.pdf

3. http://www-sop.inria.fr/mascotte/Herve.Rivano/?lang=fr&to_inc=thesis.php

4. <http://www.phys.unsw.edu.au/~jw/thesis.html>

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Quoting Correctly

When copying verbatim the text of some author, i.e., doing a copy-paste operation from an electronic document or simply rewriting it by hand, you must obey some rules.

A.1 Short Quotations

Short quotations are written « on-line » but emphasised by being put:

1. into italics;
2. between quotes;
3. followed by the reference to the original text from which it has been extracted.

In that way, we could write “[s]i on est trop jeune, on ne juge pas bien [;] [s]i on est trop vieil, de même”¹ [Pas71].

The rationale is to clearly give credit to the author.

1. if one is too young, one does not judge well; so if one is too old

In the previous example, notice that some parts of the text are put between squared brackets. This are parts of the original text that have been slightly modified in order to fit the syntactic and grammatical rules of the whole sentence. Here, that corresponds to an original sentence that has been transformed into a subordinate.

The most important of those marks is the ellipsis (unused here), denoted “[...]”. It corresponds to a part of the text that has been removed. The reason for doing that can be to avoid a digression from the main matter. Nevertheless, omitting to inform the reader that the text has been purged is a means to lie to the reader and possibly to change the original meaning of the text, whether intentionally or not.

A.2 Long Quotations

Longer quotations – from a few sentences to some paragraphs – use a specific format, illustrated below. The whole borrowed text is indented and still obeys the previ-

ous rules.

For instance, by taking the full original text of the previous example, we obtain:

*« Si on est trop jeune, on ne juge pas bien. Si on est trop vieil, de même. Si on n'y songe pas assez, si on y songe trop, on s'entête, & l'on ne peut trouver la vérité. »*² [Pas71]

A.3 Foreign Languages

When the text is written in a foreign language, it must be kept into its original format, and the other rules are the same. However, in addition, a translation should be given as a footnote (which can help to detect misunderstandings!...).

A.4 Figures

Any kind of schema (figures, tables) belonging to someone else can only be copied with parcimony and by referencing the source in the legend.

A.5 Plagiarism

Any other usage of someone else production means plagiarism, more or less shameless depending of the num-

2. If one is too young, one does not judge well; so if one is too old. If one does not think enough, or too much, one gets obstinate and cannot find the truth.

ber of modifications that have been made on the original source.

For instance, the following text:

Dans le monde réel, très rares sont les situations où l'on serait capable d'effectuer une partition nette d'un ensemble d'objets en des parties disjointes, voire même aux frontières clairement établies. La gradualité du passage entre des classes différentes aux frontières non reconnaissables n'est-elle pas l'une des motivations essentielles, sinon la première, qui furent à l'origine de la naissance de la théorie des sous-ensembles flous. Les techniques floues de classification sont souvent nées de la tentative de généralisation de techniques déjà existantes d'après [Kho97].

is an awkward “quotation” of:

« En effet, dans le monde réel qui nous entoure, très rares sont les situations où l'on serait capable d'effectuer une partition nette d'un ensemble d'objets en des parties disjointes, voire même aux frontières clairement établies. La gradualité du passage entre des classes différentes aux frontières non reconnaissables n'est-elle pas l'une des motivations essentielles, sinon la première, qui furent à l'origine de la naissance de la théorie des sous-ensembles flous [ZAD65]. L'introduction du concept de fonction d'appartenance dans des techniques de classification, et ce, très rapidement après la parution de l'article sémi-

nal de Zadeh, et les différents travaux qui le suivirent, témoignent de la fertilité de l'apport de la théorie des sous-ensembles flous au vaste champ de la classification, qui y trouve un cadre beaucoup plus naturel que celui offert par la théorie classique des ensembles. » [Kho97]

In fact, the first “quotation” makes the reader presume that this a point of view shared by several authors rather than really a quote. Besides, the reference is associated to the last sentence rather than the whole paragraph.

As another example, the following text:

La problématique de l'intégration repose sur la standardisation de données internes à l'entreprise, mais aussi des données externes.

Si on prend l'exemple d'une entreprise on aura besoin de ses données internes et externes c'est-à-dire celles des clients et fournisseurs de cette entreprise.

Ce n'est qu'avec une bonne intégration que l'on peut offrir une vision homogène, complète et véritablement transverse de l'entreprise. Pour cela il faut que le système d'information de l'entreprise soit parfaitement structuré, maîtrisé et d'un bon niveau d'intégration. Si tel n'est pas le cas, l'entrepôt de données ne pourra pas être mis en œuvre à cause de la qualité des données qui reste mauvaise.

is not only a plagiarism but moreover a voluntary plagiarism with some kind of dissimulation:

« La problématique de l'intégration repose sur la standardisation de données internes à l'entreprise, mais aussi des données externes (provenant par exemple de clients ou de fournisseurs).

Ce n'est qu'au prix d'une intégration poussée que l'on peut offrir une vision homogène et véritablement transverse de l'entreprise. Ce[la] suppose que le système d'information de l'entreprise en amont soit bien structuré, bien maîtrisé, et bénéficie déjà d'un niveau d'intégration suffisant. Si tel n'est pas le cas, la mauvaise qualité des données peut empêcher la mise en œuvre de l'entrepôt de données. »³

In short, “copy-and-paste” operations are allowed under strict and restrictive conditions that:

- they must be perfectly identifiable;
- the original references must be provided in the bibliography or as footnotes;
- they must be short;
- they must not be numerous.

In contrast, it is possible, and even highly recommended, to *reformulate* with your own words and within the context of the report, the *ideas* that have been found in the literature. In that case, intellectual honesty is “limited” to adding the references to the sources in the text.

3. *Entrepôt de données*. Wikipedia, 3 février 2010, http://fr.wikipedia.org/wiki/Entrepôt_de_données

Violators of these rules will be prosecuted in front of the disciplinary committee of the university.

A fraud leads to the cancellation of the project, at the very least, up to the expulsion from the university as well as the prohibition to pass a public exam for five years!



Reminder

A reminder appendix can contain information that is supposed to be known by the reader but that is worth to include in the report in order to make it self-contained.

If the reminder contains only a list of short definitions, consider naming it “Glossary” instead. You can have both.

For instance, we can write down: “The average can be computed differently whether the individuals are grouped or not, their exact number known or only their frequency, i.e.:

$$— f_i = \frac{n_i}{N}.”$$

$$\mu = \frac{1}{n} \sum_{i=1}^n x_i \quad (\text{B.1})$$

$$\mu = \frac{1}{N} \sum_{i=1}^m x_i \times n_i \quad (\text{B.2})$$

$$\mu = \sum_{i=1}^m x_i \times f_i \quad (\text{B.3})$$

with:

$$— N = \sum_{i=1}^m n_i ;$$



Detailed Measures

Lengthy sub-results have to be put in appendices. In other words, too boring details should be postponed to the very last part of the reading, that is when the reader is interested enough in understanding the very details of your proposal, especially if he or she intend to reproduce your experiment. This is also true for detailed algorithms, etc.

This (these) appendix(ces) is (are) mandatory in order for the report to contain of the “proofs” of its claims, i.e., to really provide a *scientific* work.



Annotated References

It is a good idea to provide a short summary of each of the papers in the references.

For each paper or book (in rare cases a *complete and persistent* web site), you should extract the following kind of information: firstly, a short summary; then, your own analysis.

This is slightly redundant with the state-of-the-art chapter. However, notice that it lacks the overall synthesis, and it focuses on a single paper at a time. In fact, this greatly helps to achieve the state-of-the-art.

Title of a paper. Describe rapidly what problem is attacked in the paper (add the reference, e.g. [Pas71]).

Summary. The summary presents the main idea of the paper and the work conducted *by the authors* up to their conclusions.

Analysis. It is only during a second phase that you can analyse the contents of the paper, i.e., verify it (errors

are always possible in the scientific literature!), express your opinion about the advances claimed by the paper, and establish a connection with your own work.

Title of a paper. Etc.



Schedule

This appendix is *mandatory*.

Figure E.1 shows the draft schedule establish *a priori*...

Figure E.2 introduce the planning that has been build week after week during the course of the work.

Discuss differences between the drafting and the planning as well as lessons learned on the management of a research project or R&D project.

<Insert a Gantt's diagram.>

Figure E.1 – Drafting

<Insert a Gantt's diagram.>

Figure E.2 – Planning



Weekly Reports

This appendix is *mandatory*.

Weekly Report #1

From September 13, 2010 to September 18, 2010

Working time of José MARTINEZ: 2 h 30 m

Working time of Alter EGO: 3 h 45 m

Work done.

- Task 1: difficulty, simplicity; achieved, advanced up to $t\%$; etc.;
- Task 2: ...;
- Etc.

Work not yet done.

- Task 1: reasons; postponements, cancellations; etc.;
- Task 2: ...;
- Etc.

Communication with the client.

- Questions;
- Answers;

- Clarification, comprehension;
- Choices, orientations, reorientations;
- Etc.

Next week planning.

- Researches to be conducted;
- Papers to be read, understood, and analysed;
- Codes to develop;
- Etc.

Weekly Report #2

From September 20, 2010 to September 24, 2010

Working time of José MARTINEZ: 7 h 50 m

Working time of Alter EGO: 5 h 45 m

Work done.

Work not yet done.
Communication with the client.
Next week planning.

Weekly Report #3
From September 27, 2010 to October 1st, 2010

Working time of José MARTINEZ: 11 h 20 m
Working time of Alter EGO: 9 h 55 m
Work done.
Work not yet done.
Communication with the client.
Next week planning.

Weekly Report #4
From to

Working time of José MARTINEZ: 14 h 30 m
Working time of Alter EGO: 9 h 20 m
Work done.
Work not yet done.

Communication with the client.
Next week planning.

Weekly Report #5
From to

Working time of José MARTINEZ: 12 h 30 m
Working time of Alter EGO: 3 h 40 m
Work done.
Work not yet done.
Communication with the client.
Next week planning.

Weekly Report #6
From to

Working time of José MARTINEZ: 7 h 10 m
Working time of Alter EGO: 14 h 30 m
Work done.
Work not yet done.
Communication with the client.

Next week planning.

Weekly Report #7
From to

Working time of José MARTINEZ: 9 h 15 m

Working time of Alter EGO: 13 h 45 m

Work done.

Work not yet done.

Communication with the client.

Next week planning.

Weekly Report #8
From to

Working time of José MARTINEZ: 18 h 40 m

Working time of Alter EGO: 1 h 25 m

Work done.

Work not yet done.

Communication with the client.

Next week planning.

Weekly Report #9
From to

Working time of José MARTINEZ: 21 h 40 m

Working time of Alter EGO: 17 h 10 m

Work done.

Work not yet done.

Communication with the client.

Next week planning.

Weekly Report #10
From to

Working time of José MARTINEZ: 4 h 30 m

Working time of Alter EGO: 8 h 15 m

Work done.

Work not yet done.

Communication with the client.

Next week planning.

Weekly Report #11
From to

Working time of José MARTINEZ: 10 h 10 m

Working time of Alter EGO: 11 h 00 m

Work done.

Work not yet done.

Communication with the client.

Next week planning.

Weekly Report #13
From to

Working time of José MARTINEZ: 10 h 00 m

Working time of Alter EGO: 10 h 00 m

Work done.

Work not yet done.

Communication with the client.

Next week planning.

Weekly Report #12
From to

Working time of José MARTINEZ: 3 h 30 m

Working time of Alter EGO: 2 h 10 m

Work done.

Work not yet done.

Communication with the client.

Next week planning.

Weekly Report #14
From to

Working time of José MARTINEZ: 3 h 45 m

Working time of Alter EGO: 10 h 20 m

Work done.

Work not yet done.

Communication with the client.

Next week planning.

Weekly Report #15
From to

Working time of José MARTINEZ: 16 h 30 m
Working time of Alter EGO: 18 h 15 m
Work done.
Work not yet done.
Communication with the client.
Next week planning.

Weekly Report #16
From to

Working time of José MARTINEZ: 14 h 30 m
Working time of Alter EGO: 22 h 30 m
Work done.
Work not yet done.
Communication with the client.
Next week planning.

Weekly Report #17
From to

Working time of José MARTINEZ: 17 h 45 m
Working time of Alter EGO: 12 h 50 m
Work done.
Work not yet done.
Communication with the client.
Next week planning.

Weekly Report #18
From to

Working time of José MARTINEZ: 13 h 10 m
Working time of Alter EGO: 9 h 30 m
Work done.
Work not yet done.
Communication with the client.
Next week planning.

The summary table of work dedicated to the project

is *mandatory*. If you do not use the provided weekly report sheets, you must establish the summary by yourself. Otherwise, the simple command that follows in the source code (`\printweeksummary`) does all the job of generating the table along with all the hyperlinks to the weekly reports.

Table [F.1](#) summarises the rate at which the projects advances. Let us recall that the “planned minimal theoretical time” equals the time indicated in the programme plus 20% of additional time corresponding to personal work, i.e., outside the timetable. The high limit corresponds to 50% of additional personal work.

Week	Planned Time		José MARTINEZ			Alter EGO		
	low	high	weekly	Σ	%	weekly	Σ	%
	h : m	h : m	h : m	h : m		h : m	h : m	
1	10 : 00	12 : 30	2 : 30	2 : 30	25 (20)	3 : 45	3 : 45	37 (30)
2	20 : 00	25 : 00	7 : 50	10 : 20	51 (41)	5 : 45	9 : 30	47 (38)
3	30 : 00	37 : 30	11 : 20	21 : 40	72 (57)	9 : 55	19 : 25	64 (51)
4	40 : 00	50 : 00	14 : 30	36 : 10	90 (72)	9 : 20	28 : 45	71 (57)
5	50 : 00	62 : 30	12 : 30	48 : 40	97 (77)	3 : 40	32 : 25	64 (51)
6	60 : 00	75 : 00	7 : 10	55 : 50	93 (74)	14 : 30	46 : 55	78 (62)
7	70 : 00	87 : 30	9 : 15	65 : 05	92 (74)	13 : 45	60 : 40	86 (69)
8	80 : 00	100 : 00	18 : 40	83 : 45	104 (83)	1 : 25	62 : 05	77 (62)
9	90 : 00	112 : 30	21 : 40	105 : 25	117 (93)	17 : 10	79 : 15	88 (70)
10	100 : 00	125 : 00	4 : 30	109 : 55	109 (87)	8 : 15	87 : 30	87 (70)
11	110 : 00	137 : 30	10 : 10	120 : 05	109 (87)	11 : 00	98 : 30	89 (71)
12	120 : 00	150 : 00	3 : 30	123 : 35	102 (82)	2 : 10	100 : 40	83 (67)
13	130 : 00	162 : 30	10 : 00	133 : 35	102 (82)	10 : 00	110 : 40	85 (68)
14	140 : 00	175 : 00	3 : 45	137 : 20	98 (78)	10 : 20	121 : 00	86 (69)
15	150 : 00	187 : 30	16 : 30	153 : 50	102 (82)	18 : 15	139 : 15	92 (74)
16	160 : 00	200 : 00	14 : 30	168 : 20	105 (84)	22 : 30	161 : 45	101 (80)
17	170 : 00	212 : 30	17 : 45	186 : 05	109 (87)	12 : 50	174 : 35	102 (82)
18	180 : 00	225 : 00	13 : 10	199 : 15	110 (88)	9 : 30	184 : 05	102 (81)

Table F.1 – Advance of the project with respect to the planned minimal theoretical time (respectively, a high involvement)



Self-assessment

This appendix is *mandatory*.

Figure G.1 enumerates a number of important points related to the three aspects of the work:

1. report;
2. oral presentation;
3. results.

This allows to evaluation your own level of satisfaction at the end of the first part of the project, consisting of:

1. preliminary study;
2. bibliographic study;
3. general design of a solution.

You can discuss in some details these various points.

Figure G.2 provides the same kind of evaluation for the second part of the project, i.e.:

1. detailed design;
2. development;
3. receipt.

Rapport	Organisation	Plan	Equilibre			
			Coherence		x	
		Fluidité	Introductions (partielles)	x		
			Transitions		x	
			Conclusions (partielles)	x		
	Rédaction	Tableaux, figures	Numérotés			
			Légendés	x		
			Références (non "en ligne")	x		
		Orthographe	Coquilles		x	
			Fautes évitables		x	
	Rédaction	Franglais, jargon	x			
		Aisée		x		
			Absence de plagiat !			
Proposition de note haute			15,91			
Proposition de note basse			10,91			
Proposition de note du jury			13,5			
Projection	Organisation	Contenu	Plan			
			Liaisons			
			Numerotation			
			Informatif		x	
			Concis			
	Oral	Présentation	Clair			x
			Orthographe		x	
			Illustrations		x	
			Aisance		x	
			Tenue			
	Durée	Articulation, compréhension				
		Respect				
		Temps de parole équilibré				
		Pertinence		x		
		Argumentation			x	
Travail	Conception	Générale	Clarté		x	
			Niveau de détail adéquat			x
			Argumentation		x	
			Validation			
			Formalisation adéquate (algorithme)		x	
	Réalisation	Développement	Validation		x	
			"Fonctionnalités"			x
			Volume, environnement...			
			Tests (unitaires, d'intégration, fonctionnel, de performance...)			
			Livraison du paquetage			
	Recette	Complexité	Redéploiement du paquetage			
			Temps consacré			
			Résultats obtenus			
			Difficulté			
			Intrinsèque			
Annexes	Fiches d'avancement	Vis-à-vis du binôme			x	
		Régularité			x	
		Détailées				
		Prévisionnel et justifications			x	
		Effectif, erreurs, corrections		x		
Proposition de note haute			12,97			
Proposition de note basse			7,97			
Proposition de note du jury			10			
PROPOSITION DE NOTE (!)			12,33			
NOTE PROJET			10,5			

Figure G.2 – Items to be checked at the end of the phase II