Guidelines for Writing an Internship Report

Master of Health informatics (MHI) Program

Dalhousie University

Please note: This is also the format of the internship report.

This document is partly based on the Co-op work term report guideline and the MEC internship report guideline of the Faculty of Computer Science at Dalhousie University.
# Table of Contents

Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table of Contents</td>
<td>2</td>
</tr>
<tr>
<td>1. Introduction</td>
<td>3</td>
</tr>
<tr>
<td>2. Major Components of the Internship Report</td>
<td>3</td>
</tr>
<tr>
<td>3. Developing your Report</td>
<td>4</td>
</tr>
<tr>
<td>3.1 Research and Planning Phase</td>
<td>4</td>
</tr>
<tr>
<td>3.2 Writing Phase</td>
<td>5</td>
</tr>
<tr>
<td>4. Report Format</td>
<td>5</td>
</tr>
<tr>
<td>4.1 Preliminaries</td>
<td>5</td>
</tr>
<tr>
<td>4.2 Main Text</td>
<td>6</td>
</tr>
<tr>
<td>4.3 Reference Material</td>
<td>7</td>
</tr>
<tr>
<td>5. Evaluation</td>
<td>7</td>
</tr>
<tr>
<td>6. Suggestions for Writing Effectively</td>
<td>8</td>
</tr>
<tr>
<td>7. APPENDIX A</td>
<td>9</td>
</tr>
<tr>
<td>8. APPENDIX B</td>
<td>10</td>
</tr>
</tbody>
</table>
1. Introduction

The internship is an integral part of the Master in Health Informatics program. The internship is intended to provide MHI students with valuable insights and hands-on experience in a healthcare environment. To fulfill the academic requirements of the internship you are required to submit an internship report following the guidelines outlined in this guide.

An Internship Report for the health informatics program must include the following: (a) description of the organization for which you worked; (b) description of the work you did; (c) discussion of the relevance of your work with respect to health informatics aspects; (d) a critical analysis of a problem that you experienced whilst working within the organization and your suggestions/recommendation for a health informatics solution.

The objective of the report is to provide you a formal opportunity to demonstrate what you have done during your internship, to demonstrate your ability to relate your work to the health informatics training that you have received, and to demonstrate your ability for critical thinking in terms of problem identification and health informatics solution specification. Hence, you should prepare an internship report that clearly demonstrates the abovementioned expectations.

The goal of this guideline is to help you write a well-structured internship report. This guide attempts to explain the purpose of the internship report, it includes recommendations on the focus your report should take in order to fulfill the academic requirements associated with the internship, and it offers some suggestions on improving your writing style. It is recommended that you study and adhere to this guideline when you commence writing the internship report.

2. Major Components of the Internship Report

Your internship report has to contain four subject areas:

1. Description of the organization in which you are working. In particular, the core business of the specific department in which you performed your internship;

2. Description of your internship work—i.e. job description, your role, responsibilities, achievements, evaluations of your work (if any) and other job related details.

3. A discussion of how your internship work relates to health informatics. You are required to relate your work with the health informatics training that you have received so far. You need to document your practical experience with respect to your academic learning experience.

4. A critical analysis of some problem (you can choose the problem) that you experienced whilst working at the workplace that you regard merits a health informatics solution. You should present a proposal for a health informatics based solution to address the said problem. In your proposal, you should identify information/knowledge gaps, needs and demands within the organization and then suggest opportunities for health informatics interventions in terms of a
methodological/conceptual/technical solution. It is important that the solution proposed by you is practical in terms of the actual operational reality. You are encouraged to discuss your proposal with your co-workers to get their feedback and suggestions.

In terms of the internship report’s organization, the first two components can be brief whilst the major focus of the report should be on the third and fourth components, which are regarded as the analytical component of the report. The analytical component should relate academic knowledge to practical experience. Its purpose is to help you develop written and analytical skills; and to develop the ability to gather the right information, interpret and relate the information to theoretical concepts, and finally organize and present the analyzed information with your contributions in a clear, coherent and succinct manner.

It is important that during the internship whilst addressing the job description specified by the employer you concurrently maintain a health informatics focus to the tasks performed by you. For each task that you undertake you should be always think about how to improve it using your understanding of health informatics; you should try to critique each task that you are directly associated with and even other elements of the operational workflow (that you might not be responsible for but are in contact with) in the light of your academic health informatics training. It is useful to observe and learn how and where theory meets practice (and vice versa). Also, from a personal training perspective you should self-assess as to what do you need to learn either academically or experientially to bridge the gap between theory and practice in order to become a successful health informaticians.

3. Developing your Report

3.1 Research and Planning Phase

Starting early is the key to producing a top-notch, professional report. Last-minute efforts are reflected in a lack of research and poor quality of writing and usually result in an “unsatisfactory” grade. While you cannot write your report the first month on the job, you can begin gathering information and outlining your ideas. Once you have chosen a topic, keep a notebook to record your activities related to the report's research -- methods, observations, meetings attended. Preparation is an on-going process.

Planning is essential -- a well-laid out, logical report reflects similar thinking. Decide what you want to say and to whom and keep that in mind as you organize your thoughts. Gather together all the information you have collected and divide it into categories. You may want to put each section heading on separate pieces of paper and rearrange them until you have found a satisfactory order. Some of what you have gathered will be useful as background information in the introduction, some as support material in the appendices and some will be discarded. The information you finally decide to use becomes the basis of your outline -- an essential organizing tool in report writing. Remember that the outline can be modified in the planning stages but, once you start writing, stick closely to it so you do not stray off the topic. By the time you complete your report, the outline will have naturally evolved into your Table of Contents.
3.2 Writing Phase

Once you have gathered your information and planned an outline you can begin writing. Do not worry about fancy beginnings or profound ideas – just write! As you work, keep your audience in mind. Are they familiar with the technical terms and acronyms of your work place? Your language must be their language.

Once you have completed your first draft, put it away and give your mind a rest. When you take it out again, begin revising. Substitute accurate words for ambiguous ones; clear sentences for complicated phrasing. You may want to rewrite paragraphs or entire sections. The bottom line is to produce a smoothly written, logical report. Having someone else read your revised draft is a sure test of effective communication. A friend or colleague will tell you if what you have written is understandable. Revise a second time on the basis of this criticism. Your final version should be flawless. Your report's credibility is based as much on perfect grammar and spelling as on content.

4. Report Format

The following format guideline outlines the specific requirements of the internship report in terms of the overall structure and necessary sections which are appropriate in most circumstances. There is no strict rule on the length and specific formatting of text. You should be able to format your report in the style most appropriate for your studies. However, a typical internship reports consist of three main sections: the preliminaries, the main text and the reference material, all of which are outlined on the following pages.

4.1 Preliminaries

The preliminaries have to include
1. Title Page
2. Acknowledgement and Endorsement
3. Executive Summary
4. Table of Contents

The Title Page introduces your reader to your report by listing the following information: report title; employer's name and location; date of report; your name, student number, email address, and internship course number and year; the university name; and the "partial fulfillment" phrase. (See the sample title page, Appendix A.)

The Acknowledgement and Endorsement on the second page should contain any acknowledgement of assistance and a statement of endorsement, which states that you wrote the report yourself and that it has not already received academic credit from another institution. (See the example page, Appendix B.)
The **Executive Summary** is the most important part of your report. It summarizes the body of the report, outlining its scope, purpose, findings and analysis, highlighting the key conclusions and recommendations. The Executive Summary allows a busy manager to understand the report's significant information without reading the whole text.

Write your Executive Summary after you have written the report. It is not enough to state what you are `going to discuss’ in the report. The executive summary has to be self-contained and must state all the major points of the study. You are not required to discuss in detail how you derived the conclusions or argue about it; this is part of the main body of the text. However, you have to indicate enough details about your study so that a specialist reader has a good understanding of your contributions detailed in the report.

The **Table of Contents** lists all sections and sub-sections and uses the same numbering system as the main body of the report. The preliminaries are not listed. Remember -- ease of use is paramount.

### 4.2 Main Text

The main text has to include sections to cover the following themes:

1. Introduction
2. Description of the organization
3. Description of the work you performed at the organization
4. Discussion on how your work relates to health informatics
5. Discussion of a problem that you have analyzed and the corresponding solution.
6. Conclusions
7. Recommendations

The **Introduction** defines the subject of the report so that the reader is prepared for the text that follows. It should set the background—i.e. a clear statement of the objectives of project; relevance of the project (both in a medical and health informatics sense); and the outcome of the project. This should be followed by a clear account of your contributions and learning experience.

Items 2-5 constitute the **Body** of the report. It is here that you outline your entire internship experience. The Body of the report should therefore be divided into meaningful sections (and sub-sections) with appropriate headings. How you write the body of the report determines your ability to conceptualize, analyze, synthesize and present your overall internship experience.

**Conclusions** and recommendations are often confused but they are not the same thing. Conclusions are derived from research outlined in the main body and do not introduce new material. They may be presented in a sequence of two or three sentence paragraphs. The conclusions should specifically answer the questions raised in the introduction or conclude how the goals or objectives stated in the introduction have been met.
**Recommendations** are proposed plans of action for the future. They are suggestions following logically from the conclusions. Remember that conclusions deal with the present, recommendations with the future. Each should be presented on a separate page.

### 4.3 Reference Material

The reference material can include

1. References
2. Glossary
3. Nomenclature
4. Appendices

**References** lists all those books and journals, and if necessary web pages, to which you specifically refer in your report. Materials from other authors and diagrams that you have not drawn should be acknowledged explicitly when they are first used in your report. The references should follow a well-established and consistent style. The Libraries at Dalhousie University suggest that students that combine different subject areas, in this case medicine and computer science, use the APA style. The Libraries have a pdf document [http://www.library.dal.ca/Files/How_do_I/pdf/apa_style6.pdf](http://www.library.dal.ca/Files/How_do_I/pdf/apa_style6.pdf) at that gives examples which will be useful.

It is very unlikely that no references are needed in your report. References have to include links to any information that is coming form external sources. This includes data or any other material on which your analysis is based. Any statement you make need to be justified by a reference to the literature. You have to refer to the source of this information or back-up your statement on your own account if this is a novel observation.

The **Glossary** is only needed when you have used specialized terms, mathematical symbols or professional jargon in an extensive way. If you have used specialized terms only occasionally, it is acceptable to define it within your text. This same rule applies for the **Nomenclature**. It is only required if a large number of symbols are used throughout the report.

The **Appendix** (or appendices) provides your reader with supporting information that elaborates on, but is not essential to, the development of your theme, or any information that is necessary to justify your statements and which are too lengthy to include in the main text without interrupting the line of thought developed there. The appendices are identified by numbers or letters. Do not include appendices that have not been cited in the text.

### 5. Evaluation

A member of the health informatics executive committee, and possibly your supervisor/manager, evaluates your internship report placing equal emphasis on presentation, content and literary quality. Reports receive grades of either ‘pass’ or ‘unsatisfactory’. Unsatisfactory reports will be
returned for revision; a second such grade on the same report means a failure of the internship. Grammar and spelling errors result in an automatic "unsatisfactory".

Confidential reports are usually not accepted. It is recommended (and usually possible) to chose a topic for your report that does not conflict with confidentiality requirements. If your report contains confidential information you must contact the supervisor/manager to discuss if such material is acceptable in your internship report.

The internship report has to be submitted to the MHI executive committee allowing at least four weeks for the evaluation.

6. Suggestions for Writing Effectively

``When your thinking is in order, your imagination perking, your knowledge of the reader sure and your own purposes firm, the words will come, the sentences will build. `Take care of the sense and the words will take care of themselves.'" (Handout, Writing and Reporting Class; Brodinsky, Ben.)

The suggestions offered here will help you write a more coherent report.

Take control of your material -- do not let it control you. Each sentence should contain one thought and each paragraph a series of connected thoughts. Having a host of information does not mean using it all; do not ramble. Say what you are going to do. Do it. Support it. Conclude.

Write to inform, not to impress. Jargon and colloquialisms confuse rather than clarify.

Avoid using personal pronouns. Do not write "I worked with assembly line employees to become familiar with their work site concerns." but rather, "The author worked with assembly line workers..." Neither write “As you can see in the figure …”; instead, write “As can be seen from the figure …”.

As a master student you are expected to be concise and accurate in your statements. Verify your figures, information and facts. Check spelling and definitions in a dictionary. Search for more accurate words in a thesaurus. Be consistent in tense, person and presentation. If you quote, provide a reference; plagiarism is unacceptable.
7. APPENDIX A

Evaluation of electronic medical records for inter-departmental patient information sharing payment

by

John Dole
B00911119
xyz@cs.dal.ca

Performed at
organization’s name,
address

In partial fulfillment of the requirements of the Master of Health Informatics Program,
Dalhousie University

Report of Internship for the period September 2 – December 12, 2003

Date Submitted: January 15, 2004
8. APPENDIX B

This report has been written by me and has not received any previous academic credit at this or any other institution.

I would like to thank Ms. R. Jackson for providing the performance data used in this study, and Mr. M. Thompson for his useful suggestions on the manuscript.

(signature)

John Dole