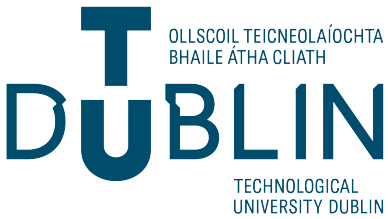
Remove this page



Project Title:

Subtitle if required

XXX Authors Full Name XXX

Department of Informatics,
School of Informatics and Engineering,
Technological University Dublin - Blanchardstown Campus

A thesis submitted to Technological University Dublin - Blanchardstown Campus
in fulfilment of the requirements for the degree of

XXX Correct programme title here. XXX

Principal supervisor:
XXX Supervisors name here. XXX
Technological University of Dublin - Blanchardstown Campus, Dublin, Ireland

XXX Submission date here. XXX

This thesis is dedicated to .....

Acknowledgements

When composing the Acknowledgements section of your thesis, bear in mind that you must include two key components:

- Firstly, you should acknowledge any technical assistance you received during your research - in the laboratory or elsewhere. An example of such an acknowledgement is: Thanks are due to J. Smith for assistance with DNS data gathering and data analysis and to A. Smith for valuable discussion. Additionally, the source of any special material, cultures or equipment should be acknowledged.
- Secondly, use the Acknowledgements to refer to any external funding or financial assistance, such as fellowships, grants or contracts, which you have received during your postgraduate studies.

In general, be courteous and precise with the wording of your Acknowledgements. Say Thank you to those who have helped you in your postgraduate research to show that you value the advice and support of your friends and colleagues.

Abstract

An Abstract provides a summary of the thesis. The University Guidelines for Research Degree Programmes stipulates that an Abstract of no more than 300 words is required when submitting your thesis. A useful way to plan your Abstract is to think of it as a condensed version of the thesis in its entirety. It should provide a summary of the main sections of the thesis: the Introduction, Materials and Methods, Results and Discussion. An effective Abstract should allow readers to understand the basic content of a thesis quickly and precisely, so that they can judge whether it is relevant to their own research interests and, therefore, worthwhile reading the thesis itself. Pointing out the novelty of the work is important in this regard.

It is normal practice to present the Abstract as a single paragraph. In terms of organization, a useful plan to follow is:

- clarify the main objectives and scope of the research
- describe the methods employed
- provide a brief summary of the results
- outline the key conclusions

Use the past tense when composing your Abstract you are writing about what has been done. Do not include tables or graphs in the Abstract; also, references to literature should not be included. Make sure that your Abstract does not contain any information that is not included in your thesis. Accuracy and precision are crucial to the success of an Abstract.

Contents

List of Tables

List of Figures

List of Acronyms

DNS Domain name system.

EDA Exploratory data analysis.

List of Abbreviations

B.Y.O.D Bring your own device.

D.I.Y. Do it yourself.

List of Symbols

π the numerical value of the ratio of the circumference of a circle to its diameter (approximately 3.14159).

Chapter 1

Introduction

1.1 Using citations

This section will outline the use of the **cite** and **citep** commands. Before can use the citation commands you will need to compile a bibliography file using one of a number of tools such as RefWorks[1], PaperPile[2] or Mendeley[3]. Once you have compiled your bibliography file and exported it as a **.bib** file, you should include this file in your LaTeX document by including the following line in your **thesis.tex** file.

```
\bibliography{References/Bibliography}
```

Listing 1.1: Including your bibliography file

Using the code in Listing 1.1 will ensure that LaTeX will look for a file called **Bibliography.bib** in a sub folder called **References**. You will find this command included towards the end of the **thesis.tex** source file.

Note: the footnote superscripts for RefWorks, PaperPile and Mendelay were created with the following LaTeX code:

```
RefWorks\footnote{\url{https://www.refworks.com}},
PaperPile\footnote{\url{https://www.paperpile.com}} or
Mendeley\footnote{\url{https://www.mendeley.com}}
```

Listing 1.2: Using the **footnote** command

[1] https://www.refworks.com
[2] https://www.paperpile.com
[3] https://www.mendeley.com

1.1.1 Cite command

The **cite** command inserts the author(s) name and parenthesis's the year of publication. The **cite** command takes the key-value of .bib file entry for the particular citation that you want to include. The following LaTeX code demonstrates the use of the **cite** command.

```
\cite{Lampson1973-kx} can be attributed with introducing the term...
```

Listing 1.3: Using the **cite** command

The LaTeX code in Listing 1.3 produces the following output:

> Lampson [1973] can be attributed with introducing the term "covert channel" in his work entitled "Note on the confinement problem".

1.1.2 Citep command

The **citep** command parenthesis's both the author(s) name and year of publication. The **citep** command takes the key-value of .bib file entry for the particular citation that you want to include. The following LaTeX code demonstrates the usage of the **citep** command.

```
The term covert channel \citep{Lampson1973-kx} is used to describe...
```

Listing 1.4: Using the **citep** command

The LaTeX code ion Listing 1.4 produces the following output:

> The term covert channel [Lampson, 1973] is used to describe the embedding of a hidden message in a carrier channel that will not raise suspicion.

1.1.3 Citing multiple authors

If you need to include multiple publications in the same citation, you can specify multiple citation keys in a commented list using the **cite** or **citep** command. The following LaTeX snippet shows how to do this.

```
...DNS can be used as a covert channel \citep{Born2010-do,Aiello2012-sg}.
```

Listing 1.5: Citing multiple authors

Using the LaTeX code in Listing 1.5 will produce the following output:

It is widely accepted that the DNS can be used as a covert channel [Aiello et al., 2012; Born, 2010].

1.2 Including graphical figures

We can include graphics using the following LaTeXcode. Note the size of the image can be varied by changing 0.5 proportion in the width clause.

```
\begin{figure}[!ht]
\centering
\includegraphics[width=0.5\textwidth]{./images/DGR_4QDUIAAEnsE.jpg}
\caption{Using 0.6 divided by textwidth.}
\label{fig:writing-your-thesis}
\end{figure}
```

Listing 1.6: Including a graphical figure

Using the LaTeX code in Listing 1.6 will produce the following output:

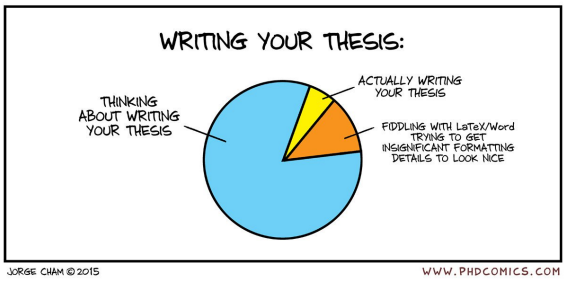


Figure 1.1: Using 0.5 divided by textwidth.

Changing the 0.5 proportion in the LaTeX code above to 0.3 results in the following:

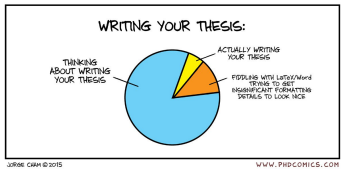


Figure 1.2: Using 0.3 divided by textwidth.

1.3 Using tables

We can include tabular data using the following LaTeX code:

```
\begin{table}[!ht]
\begin{center}
\caption{Write the caption for your table here.}
\label{table:first-table}
\begin{tabular}{p{2cm} p{2cm} p{2cm} p{2cm} p{2cm}}
\hline
\\[-1em]
& A& B& C& D\\
\hline
Mean&    22&      22&     23&     28\\
Min&      2&       2&      4&      2\\
Max&     250&     248&     251&   251\\
\hline
\end{tabular}
\end{center}
\end{table}
```

Listing 1.7: Formatting tabular data

The LaTeX code in Listing 1.7 produces the following output:

Table 1.1: Write the caption for your table here.

	A	B	C	D
Mean	22	22	23	28
Min	2	2	4	2
Max	250	248	251	251

NOTE: Presenting tabular data in LaTeX is a bit of an art form. It can be very frustrating at times but stick with it as the end result always looks better for it.

1.4 Using lists

This section will outline how to use enumerations with various different styles.

1.4.1 List of objectives

We can use enumerated lists for our objectives. Note the use of labels so we can refer to specific objectives from anywhere in the document.

```
\begin{enumerate}[label=\emph{Ob\arabic{enumi}}., ref=\emph{Ob\arabic{enumi
    }}]
\item Objective. \label{Ob:1}
\item Objective. \label{Ob:2}
\item Objective. \label{Ob:3}
\end{enumerate}
```

Listing 1.8: Objectives enumeration

The LaTeXcode in Listing 1.8 produces the following output:

Ob1. Objective.

Ob2. Objective.

Ob3. Objective.

1.4.2 List of research questions

We can use enumerated lists for our research questions. **Note**: the use of labels so we can refer to specific research questions from anywhere in the document.

```
\begin{enumerate}[label=\emph{Q\arabic{enumi}}., ref=\emph{Q\arabic{enumi}}]
\item Question?\label{Q:1} \\
\textit{This thesis will also address the following secondary research
    questions:}
\item Question? \label{Q:2}
\item Question? \label{Q:3}
\end{enumerate}
```

Listing 1.9: Question enumeration

The LaTeXcode in Listing 1.9 produces the following output:

Q1. Question?

This thesis will also address the following secondary research questions:

Q2. Question?

Q3. Question?

1.4.3 Using a numbered list

We can use a straight forward numbered list as follows:

```
\begin{enumerate}
\item First Item
\item Second Item
\item Third Item
\end{enumerate}
```

Listing 1.10: Question enumeration

The LaTeX code in Listing 1.10 produces the following output:

1. First Item
2. Second Item
3. Third Item

1.4.4 Using a bullet list

We can use a straight forward bullet list as follows:

```
\begin{itemize}
\item First Item
\item Second Item
\item Third Item
\end{itemize}
```

Listing 1.11: Itemised listing

The LaTeX code in Listing 1.11 produces the following output:

- First Item
- Second Item
- Third Item

Chapter 2

Background concepts and terminology

2.1 Introduction

Always include a section introduction. What is the purpose of this chapter?

2.2 First section

First section here.

2.3 Summary

It's only manners to have a summary section. Remind the reader what you have covered.

Chapter 3

Literature Review

3.1 Introduction

A well-written, comprehensive literature review should provide examiners with evidence that a research student has made the required effort to master his or her field of knowledge. A successful literature review should have two essential features: firstly, it should evaluate the relevant literature, rather than merely cite it; secondly, it should relate the material under review to the actual thesis itself.

3.2 First section

First section here.

3.3 Summary

It's only manners to have a summary section. Remind the reader what you have covered. This section should also highlight key findings and gaps in the research that support your project objectives and research questions.

Chapter 4

Methodology

4.1 Introduction

Always include a section introduction. What is the purpose of this chapter?

4.2 First section

First section here.

4.3 Summary

It's only manners to have a summary section. Remind the reader what you have covered.

Chapter 5

Results

5.1 Introduction

Always include a section introduction. What is the purpose of this chapter? NOTE: this chapter could be split in two. A separate chapter for Results and one for Analysis. This will really depend on this structure of your thesis. Consult with your project supervisor.

5.2 First section

First section here.

5.3 Summary

It's only manners to have a summary section. Remind the reader what you have covered.

Chapter 6

Conclusion

6.1 Introduction

Always include a section introduction. What is the purpose of this chapter?

6.2 First section

First section here.

6.3 Future work

Outline future work.

6.4 Conclusion

It's only manners to have a summary section. Remind the reader what you have covered.

References

Aiello, M., A. Merlo, and G. Papaleo (2012, August). Performance assessment and analysis of DNS tunneling tools. *Logic journal of the IGPL / Interest Group in Pure and Applied Logics 21*(4), 592–602. 3

Born, K. (2010). Psudp: A passive approach to network-wide covert communication. *Black Hat USA*. 3

Lampson, B. W. (1973). A Note on the Confinement Problem. *Communications of the ACM 16*(10), 613–615. 2

Appendix A

What should go into an appendix

A.1 Introduction

An Appendix is not an essential component of a thesis; however, it is a useful section in which to include material that is relevant to the main body of your thesis but not suitable for inclusion in it. Therefore, we can view an Appendix as a set of related items to the main body of a thesis. For example, Appendices may include:

- tables that are too detailed for presentation in text
- large groups of illustrations
- technical notes on methodology
- forms used in collecting materials/data
- copies of relevant documents
- illustrative materials such as figures.

To organise your Appendices correctly, you must place materials of different categories in separate Appendices. When there are numerous Appendices, each is given a number or a letter: Appendix 1 or Appendix A. Also, a clear title should be provided for each section of the Appendices. Check with your supervisor which is preferable in your case. The page numbers used in the Appendices are separate from those of the main thesis.

Appendix B

Abstracts from Publications Emanating from this Study

B.1 Peer-reviewed journals

B.2 Conference papers

B.3 Talks and presentations

Appendix C

Code listings

C.1 Java main()

```
public static void main(String args[]){
  System.out.println("Hello world!");
}
```

Listing C.1: Java main()

C.2 Python function

```
def addition(val1, val2):
  return val1 + val2
```

Listing C.2: Python function