

Princess Sumaya University for Technology

Department of Data Science

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**Research Title  
Subtitle (if any)**

**Prepared By:**

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**Supervised By:**

Supervisor’s Name

Research Submitted in partial fulfillment for the degree of Bachelor of Science in Computer Science

Semester-Year

**Declaration of Originality**

This document has been written entirely by the undersigned team members of the research. The source of every quoted text is clearly cited and there is no ambiguity in where the quoted text begins and ends. The source of any illustration, image or table that is not the work of the team members is also clearly cited. We are aware that using non-original text or material or paraphrasing or modifying it without proper citation is a violation of the university’s regulations and is subject to legal actions.

Names and Signatures of team members:

**Acknowledgments**

Express your appreciation to whoever helped you during your work or even before!

**Abstract**

The abstract of the project should provide a complete outline of the research project and would normally do so in no more than 500 words of text. It tells the reader:

* WHAT the research is about (E.g. give the research problem)
* WHAT question the research is answering or what gap in previous research the present research fills
* WHY the research is done (E.g. the purpose or aims of the research)
* HOW the research is done (E.g. the methodology that was used)
* WHAT are the research findings (E.g. the results)
* SO WHAT, tells why the results are significant and what the implications are/may be?

Because its function is to provide an outline of the whole research project, its best if you finalize it after you have completed writing up the rest of your research documentation.

**List of Abbreviations**

List the abbreviations you have used in your research if there are any and what they stand for.

**UML**: Unified Modeling Language.

**JSP**: Java Server Pages.

**DLL**: Dynamic Link Library.

**CMS**: Content Management System.

**Table of Contents**

The table of contents should be automatically generated by going to: *Insert >> Index And Tables >> Table of Contents.* Choose *Classic* as the format of the table and set the number of levels to be 3.

In order for the table of contents to be generated correctly:

* Each chapter title should be formatted using the style “Chapter”.
* Each section title should be formatted using the style “Section”.
* Each subsection title should be formatted using the style “Subsection”.

The table of contents should replace all of the text that is in this page.

**Table of Figures**

The table of Figures should be automatically generated by going to: *Insert >> Index And Tables >> Table of Figures.* Choose *Classic* as the format of the table and set the tab leader to dots.

In order for the table of figures to be generated correctly, the label of each figure should be formatted using the style “Figure”.

The table of figures should replace all of the text that is in this page.

**Table of Tables**

The table of tables should be automatically generated by going to: *Insert >> Index And Tables >> Table of Figures.* Choose *Table* as the caption, *Classic* as the format of the table and set the tab leader to dots.

In order for the table of contents to be generated correctly, the label of each table should be formatted using the style “Table”.

The table of tables should replace all of the text that is in this page.

**Chapter 1   
Introduction**

**1.1 Introduction**

The purpose of an introductory chapter is to introduce your research project; however, the scope of the introduction can vary significantly according to the nature of your research project and your discipline area.

Give a general overview of the research, its importance and why you have chosen to work on it. Provide also a discussion of any scientific background that is required to understand what the research is and the motivation behind it.

**1.2 Research Motivation**

In this section explain *why you have* chosen to work on this topic of research.

**1.3 Problem Statement**

In this section, provide a precise description of the problem this research tries [to solve. In addition, it section should set the context and relate this particular issue to larger goals and objectives.

**1.4 Research Aim and Objectives**

The aim of the research is the main goal that the research hopes to achieve. Whereas, the objectives, and there are usually more than one, are the specific steps you will take to achieve your aim.

**1.5 Documentation Outline**

Describe how this documentation is structured and what will be discussed in each of the following chapters.

**Chapter 2   
Research Plan**

**2.1 Research Deliverables**

List and describe the deliverables of the research. Examples of deliverables include: reports, source code, data, etc.

**2.2 Research Tasks**

Subdivide the research into high level tasks and provide a timeline for the completion of each task.

**2.3 Cost Estimation (if any)**

Discuss any costs that are required for implementing the research. Costs may include buying hardware, software licenses, or even costs of paperwork (for example).

**Chapter 3   
Literature Review**

The purpose of the literature review is to learn more about the selected topic, narrow the scope of the study/investigation, and provide inspiration for possible solutions/ideas that can be investigated in the proposed research.

In this chapter, it is essential to establish the validity of the research by showing that the previous research in the field contains a ‘gap’ in knowledge that will be filled by your research. In identifying where a gap in knowledge exists, you are showing that the research story so far in this area is not yet complete and that your research project is going to help fill out the gap further.

Alternatively, preparing for the present research might mean highlighting the fact that there are differing perspectives on an issue that your thesis is going to explore.

Please divide this chapter into sections 3.1, 3.2 and possible subsections 3.1.x depending on the nature of your research project and topic you wish to review.

**Chapter 4   
Methodology**

This chapter tells the reader ‘how’ you carried out the research that was needed to answer your research questions. The methodology chapter functions to explain:

* WHEN the study was carried out
* WHERE the study was carried out
* WHAT materials, techniques, samples, data, approaches, theoretical frameworks were used in the study, and
* HOW the study was carried out, or
* WHAT procedures were used?

Detailed description of the methods used in the research should be provided to allow the research to be replicated by other researchers.

Please divide this chapter into sections and possible subsections depending on the nature of your research project.

**Chapter 5   
Results and Discussion**

This is the chapter in which you tell the reader what you found, or what the results of your research are. The results are normally written up using complete paragraphs but are often supported by tables and/or graphs.

This chapter will also include a discussion of the results obtained. You should also discuss the results in relation to your research question, in addition to the results of previous research in the field.

Please divide this chapter into sections and possible subsections depending on the nature of your research project.

**Chapter 6   
Conclusion and Future Work**

Summarize any results achieved in this research and discuss how you intend to extend the research in the future.

The conclusion might begin by restating

* the aims of the research
* the results of the research
* the implications of the results

Its main function, though, is to:

* make generalizations arising from the discussion of the results
* look at the implications of the findings for practice, accepted theoretical models/paradigms and indicate the overall importance of the research to the field
* make recommendations for future practice, or future research.

**References**

There are two way to cite information directly or indirectly:

- Make it a part of a sentence or

- put it in parentheses at the end of the sentence.

Direct quotation –use quotation marks around the quote and include page numbers

1. Cohen and Lotan (2014) argue that "many different kinds of abilities are essentialfor any profession" (p.151).
2. “Many different kinds of abilities are essential for any profession" (Cohen & Lotan, 2014, p.151).

Indirect quotation/paraphrasing/summarising–no quotation marks

1. Professional knowledge alone does not make someone a very capable professional (Cohen & Lotan, 2014).
2. According to Cohen and Lotan (2014), professional knowledge alone does not make someone a very capable professional.

Citations from a secondary source

1. Gould’s (1981) research “raises fundamental doubts as to whether we can continue to think of intelligence as unidimensional” (as cited in Cohen & Lotan, 2014, pp. 151-152).
2. Intelligence cannot be believed to consist of one single entity any more (Gould, 1981, as cited in Cohen & Lotan, 2014).

Here are some examples of the APA style:

**Book:** Brookes, R. (2014). *Study Guide Little Bird* (p. 5). Adelaide: State Ed.

**Journal:** Esen, E., & Collison, J. (2005). Employee development survey report. *Society For Human Resource Management*, *V*(A), 4.

**Website:** About.com Islam,. (2014). *Evils of Gossip and Backbiting in Islam*. Retrieved 12 June 2014, from http://islam.about.com/od/familycommunity/a/Gossip-Backbiting.htm

## **Appendix A** **Proofs, Lemmas, Corollary, Theorems, and Correctness of the algorithm design.**

**Appendix B   
Code Documentation**