GRADUATION PROJECT HANDBOOK

FOR

BACHELOR OF SCIENCE IN NETWORK ENGINEERING AND SECURITY

AND

BACHELOR OF SCIENCE IN SOFTWARE ENGINEERING

COLLEGE OF ENGINEERING AND ARCHITECTURE

September 2023

Table of Contents

1. The Structure of the Graduation Project

The structure of the Graduation Project is based on 3 essential components which are preface, chapters breakdown, and supplement.

1.1 Preface

This section consists of the following:-

- Title Page
- Abstract
- Acknowledgment
- Table of Contents
- List of Figures
- List of Tables
- List of Abbreviations

1.2 Chapters breakdown

The chapters' breakdown depends on the candidates' discussion with their respective supervisors and can be used as a guideline. Graduation project has 2 phases:

Graduation Project 1, students are required to submit first three chapters along with a detailed project plan that encompasses timelines, Gantt charts, and other relevant details.

Graduation Project 2, students are required to submit a complete report that includes all chapters

1.2.1 Network Engineering and Security

CHAPTER 1: INTRODUCTION

       Background of the Study
       Problem Statement
       Objectives of the Study, Research Questions and/or Hypothesis
       Scope of the Study
       Significance of the Study
       Limitations of the Study
       Organization of the Senior Project

CHAPTER 2: LITERATURE REVIEW
<Prepare an organized review of related and relevant literature. Your review must include recent findings in the area.>

CHAPTER 3: METHODOLOGY

<Describe the exact steps that will be undertaken to address the hypotheses and/or research questions. The usual sub-sections may vary depending on whether the research is quantitative based or qualitative based.>

<The following sub-sections may be relevant in a quantitative study:>

> Development of Hypotheses
> Selections of Measures
> Sampling Design
> Data Collection Procedure
> Data Analysis Technique
> Flow Charts

<The sub-sections for a qualitative study might vary, depending on the actual research method used.>

CHAPTER 4: IMPLEMENTATION AND TESTING

This chapter should provide an exhaustive explanation of the implementation stage of your project.

<Explain the methods, tools, and techniques used to develop the project. What kind of software, hardware, and testing methodologies implemented? Explain core functionalities in a narrative format.
Explain how the proposed hardware/approach has been evaluated and compared at runtime with the original specifications. The Accuracy, Performance, and Scalability of the proposed implementation must be critically analyzed and should solve identified problem statement>.

CHAPTER 5: DATA ANALYSIS AND FINDINGS OR RESULTS

<The following sub-sections may be relevant in a quantitative study:>

> Summary Statistics
> Analyses of Measures
> Testing of Hypothesis
> Summary of Research Result

<The subsections for a qualitative study will be slightly different, depending on the actual research method used. Nevertheless, clearly written and documented analysis, the use of tables and graphs,

and careful consideration of the order and logic of the presentation serve as the foundation of quality research, regardless of the type of research>.

CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

Summary and Conclusion
Suggestions for Future Research
Implications (indicate what group, theory, organization, discipline might be able to benefit from your research).

1.2.2 Software Engineering

CHAPTER 1: INTRODUCTION

Background of the Study
Problem Statement
Objectives of the Study, Research Questions and/or Hypothesis
Scope of the Study
Significance of the Study
Limitations of the Study
Organization of the Senior Project

CHAPTER 2: LITERATURE REVIEW

<Prepare an organized review of related and relevant literature. Your review must include recent findings in the area.>

CHAPTER 3: SYSTEM ANALYSIS AND DESIGN

<Describe the Give a clear description of your software design using sufficient diagrams/subsections from those mentioned below.>

<The following sub-sections may be relevant in a quantitative study:>

Functional Requirements
Non-Functional Requirements
System use-cases
Interaction Diagrams
Error handling. What should the system do if an error is encountered?
Class Diagram
System Architecture
Database Design
User Interface Prototype

Algorithms
<The sub-sections for a qualitative study might vary, depending on the actual research method used.>

CHAPTER 4: IMPLEMENTATION AND TESTING

This chapter should provide an exhaustive explanation of the implementation stage of your project.

<Explain the methods, tools, and techniques used to develop the software. What kind of software and testing methodologies implemented? Explain core functionalities in a narrative format that includes controlled libraries, templates, code walkthroughs etc.
Explain how the proposed software has been evaluated and compared at runtime with the original specifications. The Accuracy, Performance, and Scalability of the proposed software must be critically analyzed and should solve identified problem statement>.

CHAPTER 5: DATA ANALYSIS AND FINDINGS OR RESULTS

<The following sub-sections may be relevant in a quantitative study:>

Summary Statistics
Analyses of Measures
Testing of Hypothesis
Summary of Research Result

<The subsections for a qualitative study will be slightly different; depending on the actual research method used. Nevertheless, clearly written and documented analysis, the use of tables and graphs, and careful consideration of the order and logic of the presentation serve as the foundation of quality research, regardless of the type of research>.

CHAPTER 6 : CONCLUSION AND RECOMMENDATIONS

Summary and Conclusion
Suggestions for Future Research
Implications (indicate what group, theory, organization, discipline might be able to benefit from your research).

1.3 Supplement

Specific items that were not included in the text's main body should be put in this Supplementary section. Typically, this section includes:-

Bibliography

- Studies referred to in the text in the form of quotations and citations.
- Appendices (divided into Appendix 1, 2, 3, etc.)
- Research instruments (eg: questionnaires or computer programmes)
- Additional illustration of data sources and raw data which are too long to be placed into the text.

2. General Format for Writing the Graduation Project

2.1 Language

The language for the dissertation is English.

2.2 Printing and Duplicating

The dissertation should be printed on high quality A4 paper (21.0cm x 29.7cm: 80 gm/m2). The final report must be typed and duplicated by offset printing or good quality photocopying. A quality laser jet or ink-jet printer should be used for the printing. All copies must be clean and neat to ensure high readability.

2.3 Binding

The first submission of the three (3) copies of the manuscript for evaluation purposes (upon approval from supervisor(s) should be in temporary comb binding.

Final submission of the three (3) copies of the manuscripts (upon approval from supervisor(s) **must be** in permanent hardcover binding. The colour of the cover must be black. Please refer to Appendix 1, Appendix 2 and Appendix 3 for examples of the cover page, title page and spine, respectively.

2.4 Formatting

2.4.1 Font type and size

Candidates **must** use *Times New Roman* font. No other font types are acceptable.
Font Size:

- For text use 12-point font.
- For tables and figures, use 10-point font.
- For footnotes, use 10-point font.

Please type in **bold** for headings and subheadings. **Headings** should be typed in all **upper case letters** while **sub-headings** are to be typed in **upper and lower case letters.**

2.4.2 Line spacing

The dissertation should be typed on one side of the page. The text should be double-spaced throughout, with single-spacing for exceptional circumstances only:

      i. Abstract
      ii. Explanatory footnotes
      iii. Appendices
      iv. Long headings or subheadings
      v. Long captions to tables, figures, or plates
      vi. Bibliography
      vii. Tables
      viii. Quotations

2.4.3 Margins and justification

Set the justification to "full" and the margins to the following measurements:

   Top : 1"   Left : 1.5"
   Bottom : 1"   Right : 1"

2.4.4 Pagination

The following plan of page numbering **has been standardized** and **must be observed**. All page numbers should be centered at the bottom of the page.
     i. Title page: This page should not be numbered though it is counted as page number (i).
     ii. Preliminary pages: Preliminary pages include all the sections that precede the text. They are arranged and numbered using small Roman numerals (ii, iii, iv and so on.).
     iii. Text pages: Use Arabic numerals (1, 2, 3 and so on). Page one should be the first page of *Chapter One*.
     iv. Supplementary pages: No pagination.
No hyphens, periods, underlining or other marks should appear before, after or under the page number.

2.4.5 Use of Footnotes

Footnotes must **NOT** be used for citing references. They should be used only for useful extensions and excursions of information in the body of the text. Footnotes should be numbered consecutively with superscript numerals. Footnotes should be in single spacing, using font size 10-point.

2.4.6 References

- Use APA referencing style.
- References: Always start your reference list on a new page.
- Margins – 1" top: 1" right: 1.5" left: 1" bottom.
- **Page title** - The word **References** should appear centered at the top of the page. If you have only 1 citation the title should be **Reference**.
- **Line Spacing** - Double space between each line.
- **Alignment** - The first line of each entry should align with the left margin. All subsequent lines should be indented 5 spaces or set a hanging indent at 1/2 inch.
- **Order of entries** - Alphabetical order by author. If there is no author use the title of the document. If you have more than one entry by the same author, then arrange by year beginning with the earliest publication.

Appendix 1 Example of cover page

ETHICAL ELEMENTS AND WEB DESIGN: EXAMINATION OF SELECTED SAUDI ARABIAN WEBSTORES

BY

MOHAMMAD AHMAD MUSTAFA

Supervised By: Dr…………………….

AL YAMAMAH UNIVERSITY

December 2023

Appendix 2 Example of title page

<div align="center">

Ethical Elements and Web Design:
Examination of Selected Saudi Arabian Webstores

By

Mohammad Ahmad Mustafa

A Graduation Project submitted in partial fulfillment of the
requirements for the degree of
Bachelor of Science in Software Engineering

Supervised By: Dr……………………

College of Engineering and Architecture
Al Yamamah University
Kingdom of Saudi Arabia

December 2023

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