



Cairo University - Faculty of
Engineering
Computer Engineering Department



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A Graduation Project Report Submitted to
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in Partial Fulfillment of the requirements of the degree
of
Bachelor of Science in Computer Engineering.

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Part I

Introduction

0.1 Introduction

This chapter is to introduce your project, justify the need for it and explain the steps you follow to achieve it. The main outcomes from the project should be clearly stated. The organization of the document should finally be given

In this space, before the first section, write a general introduction to the project

0.1.1 Motivation and Justification

In this section, you have to answer the most basic question “why your project is needed?”. As such, you have to clarify the problem that is addressed by your project. The significance of this problem, and hence the justification of your project, should be given in details. The usefulness and uses of your project should be also emphasized

0.1.2 Project Objectives and Problem Definition

In this section, you have to clearly state and explain the objectives of your project. Of course, all your objectives should be combined to solve the problem you mentioned in Section 1.1. and end by a formal definition of your problem.

0.1.3 Project Outcomes

In this section, you have to clearly state and explain the outcomes resulted from your project, such as hardware platforms, software packages ... etc.

0.1.4 Document Organization

In this section, you have to give the organization of the report and a quick description of the following chapters.

Part II

Market Survey

0.2 Market Survey

Market Survey goes here, I think it should be called Market VISIBILITY study.

In this chapter, you survey the related market to your project. Other similar tools/platforms should be discussed. The drawbacks within them, which justify the need of you project, should be given.

In this space, before the first section, write an introductory paragraph on the project market

0.2.1 Targeted Customers

In this section, mention who are the intended customers of your project and explain how these customers benefit from it

0.2.2 Market Survey

In this section, list the competitive products to your work. Similar commercial tools/platforms should be mentioned and discussed. Write a subsection for everyone of them and explain its pros and cons in that subsection

Competitive Project 1

Explain and discuss each competitive project

Competitive Project 2

Explain and discuss each competitive project

0.2.3 Business Case and Financial Analysis

In this section you describe the success of establishing a company to sell your product (or service)

Two Aspects must be addressed Business Case: Based on Market survey above you should anticipate how many products you will sell over the next 5 years and how will you set your price to counter the competition.

Financial Analysis: Based on the business case we must anticipate The Capex (Capital Expenditure): These are one-time spending that you pay for development and buying things for the company The Opex (Operational Expenses): These are recurring payments for salaries and marketing and ... etc. Then you create what we call a cash flow table (on an excel sheet). In this sheet you put down your monthly capex and opex on a set of rows and your revenue (money you get back from selling product/services) on another set of rows. The difference between both sums is your profit before tax. It is likely that this difference is negative at beginning until your sales increase and counter the expenses. From this cash flow analysis you find the date of the break even point which is the date at which all the money you get back equals the money you spent. From that date onward you will be making true profit.

Part III

Literature Survey

0.3 Literature Survey

This chapter consists of two parts. In part one, give any necessary engineering and non-engineering backgrounds that you see important for the complete understanding of your project. These backgrounds include, but are not limited to, facts, theory, formulas, algorithms and techniques. In other words, any pivotal knowledge to your project should be given, discussed, and properly defined. In part two give a short literature review of the latest publications related to your project within past three years if applicable. Specially in this chapter, avoid lengthy unrelated discussion. More important, copy-and-paste should never be used. You have to write everything with your style and wording.

In this space, before the first section, write an introductory paragraph to describe the topics and organization of the chapter

0.3.1 Background on Topic 1

Give this section a title related to the topic you cover and then write the related information as explained above.

0.3.2 Background on Topic 2

Similar to the previous section, give this section a title related to the topic you cover and then write the related information as explained above. Just choose the most two important topics however you make sure to cover all necessary facts, theory, formulas, algorithms and techniques.

0.3.3 Comparative Study of Previous Work

In this section give a comparative, classified short literature review of the latest publications the latest publications related to your project within past three years if applicable

0.3.4 Implemented Approach

Conclude this chapter by this section stating the approach chosen from those reviewed, but more important your justification why you chose this approach along with any modifications added to the approach. Notice, you may be implementing several techniques however you must illustrate the general framework for your approach.

Part IV

System Design and Architecture

0.4 System Design and Architecture

This chapter represents the main body of your project. It should describe the project in full details. This chapter should answer the questions: “what has been done?” and “how it has been done?”. As such, the steps you went through to realize the project should be highlighted and properly discussed. Your scientific approaches and methodologies should be clarified. The discussion should adopt a logical flow starting from the whole block diagram, to coarse modules, and finally to fine modules. While writing this chapter, try to give as much details as possible, such that an interested reader could easily replicate your work and improve it.

In this space, before the first section, write an introductory paragraph on how you design and build your project

0.4.1 Overview and Assumptions

In this section, introduce how you design your system and develop its underlying architecture. Any employed assumptions should be clearly enumerated and justified.

0.4.2 System Architecture

The architecture of your system should be given in this section. This architecture should be first represented as a block diagram (subsection 5.2.1), which clarifies different project modules and the connections between them. You may add more subsections to properly explain your design. If possible, flowcharts are better included to ensure that the big picture and the interaction between different modules are very clear to the reader. Thereafter, each module should have a separate subsequent section to clearly describe and discuss it.

0.4.3 Block Diagram

Draw the block diagram of your architecture and generally discuss its modules. After reading this subsection, interested audience should have understood the big picture of your system design and architecture. The interaction between modules should also be conveyed in this subsection

0.4.4 Module 1

Each module within your architecture should have a distinct section to explain the design of the module itself. Again, give as much details as possible, so that the reader could easily understand how the module is designed and what are the constraints that affect its design?

Functional Description

Modular Decomposition

Design Constraints

Other Description of Module 1

Part V

System Testing and Verification

0.5 System Testing and Verification

In this chapter, you have to explain all the steps you carried out to ensure that project outcomes are realized correctly. Your testing setup, strategy and environment should therefore be described. Your efforts for unit testing as well as integrated system testing should be given. Finally, the results from different testing scenarios should be highlighted and discussed.

In this space, before the first section, write an introductory paragraph on how you test and verify the correct operation of your system

0.5.1 Testing Setup

0.5.2 Testing Plan and Strategy

Module Testing

Integreation Testing

0.5.3 Testing Schedule

0.5.4 Comparative Results to Previous Work

Part VI

Conclusions and Future Work

0.6 Conclusions and Future Work

This chapter should summarize the whole project, its features and limitations. Moreover, you should give directions for future work.

In this space, before the first section, write an introductory paragraph for the chapter.

0.6.1 Faced Challenges

0.6.2 Gained Experience

0.6.3 Conclusions

0.6.4 Future Work

Part VII

Appendix A: Development Platforms and Tools

0.7 Appendix A: Development Platforms and Tools

This appendix explains used tools, platforms, and hardware kits. Any ready-made module should be mentioned and discussed in this appendix. The appendix is divided into two main sections; one for the hardware and the other is for software. Within each section, you could add as much subsections as needed, according to the number of tools and platforms that you use in your project.

In this space, before the first section, write an introductory paragraph to the appendix

0.7.1 Hardware Platforms

0.7.2 Software Tools

Part VIII

Appendix B: Use Cases

0.8 Appendix B: Use Cases

Part IX

Appendix C: User Guide

0.9 Appendix C: User Guide

Prepare a user guide for your project. Ensure that the guide is clear, detailed and easy for an ordinary customer to use your project. Employ figures and charts as needed to facilitate the use of your guide

Part X

Appendix D: Code Documentation

0.10 Appendix D: Code Documentation

Your code or parts of the code you feel necessary could be included here (optional) however for one copy of this report an attached CD with all of the code is a must. Remember you will deliver three copies of this report.

Part XI

Appendix E: Feasibility Study

0.11 Appendix E: Feasibility Study