**EEE521 Final Year Project Report**

**School of Computing, Engineering, & Intelligent Systems**

**[Your name] [Your student number]**

**BSc Hons / BEng Hons [Your course]**(e.g. Computer Science, Computer Science (Software Systems Development), Information Technologies, Artificial Intelligence)

**[Your project title]**

**Supervisor [Your Supervisor]**

**Second Marker [Your second Marker]**

**[Date]**



Revised: September 2022

Plagiarism Statement

I declare that this is all my own work and does not contain unreferenced material copied from any other source. I have read the University’s policy on plagiarism and understand the definition of plagiarism. If it is shown that material has been plagiarised, or I have otherwise attempted to obtain an unfair advantage for myself or others, I understand that I may face sanctions in accordance with the policies and procedures of the University. A mark of zero may be awarded and the reason for that mark will be recorded on my file.

I confirm that the Originality Score provided by TurnItIn for this report is \_\_\_\_\_\_\_\_.

[your signature]

Acknowledgements

Thanks to anyone who contributed directly or indirectly to the project, in any way.

Contents

[1 Background 2](#_Toc116298557)

[1.1 Problem Statement 2](#_Toc116298558)

[1.2 Aim and objectives 2](#_Toc116298559)

[1.3 Summary of the report 2](#_Toc116298560)

[2 Research & Analysis 3](#_Toc116298561)

[2.1 Literature Review 3](#_Toc116298562)

[2.2 Investigatory Process 3](#_Toc116298563)

[2.3 Requirements Specification 3](#_Toc116298564)

[2.4 Project Management 4](#_Toc116298565)

[3 Design 5](#_Toc116298566)

[3.1 Design Rationale 5](#_Toc116298567)

[3.2 Modelling 5](#_Toc116298568)

[4 Summary 7](#_Toc116298569)

[5 References 7](#_Toc116298570)

[6 Appendices 7](#_Toc116298571)

[6.1 Appendix A Analysis Models 7](#_Toc116298572)

[6.2 Appendix B Design Models 7](#_Toc116298573)

[6.3 Appendix C Code 7](#_Toc116298574)

[6.4 Appendix D Test Suite 7](#_Toc116298575)

[6.5 Appendix E Questionnaire/Survey Results 7](#_Toc116298576)

Abstract

The final abstract is a short overview of the completed project. Typically, it has three parts: (i) a summary of the problem that has been tackled; (ii) a summary of the solution developed; and (iii) a summary of the work completed. It normally appears on a page by itself.

It is recommended that you try to produce an initial abstract at the beginning of the project to provide a focus for the work to be completed. The initial abstract may then be updated at the end of the project to reflect the actual work completed.

Length: ~300 words

# Background

The background section should set the scene for the dissertation and outline to the reader your motivation for undertaking the work. This section should include but not be limited to:

* Your rationale for undertaking the project. What is the problem or research question(s) you are attempting to address?
* Why is the topic worth investigating?
* Describe nature and purpose of your project.

## Problem Statement

This should be a short succinct and factual definition of the problem, followed by an outline of the proposed solution.

## Aim and objectives

It is important that your project has a clear aim and a solid set of objectives.

The aim defines your overall intention in the project and sets out what you hope to achieve. It’s what you want to know - the point of doing the project. The aim often begins with “To...” and describes what you are trying to achieve.

Objectives, on the other hand, should be specific statements that refer to the goals or steps that will be taken to achieve the project aims. They should be specific, measurable, and achievable.

## Summary of the report

The chapter should conclude with a summary of the remainder of the report, briefly outlining the main contributions, conclusions, or findings (typically 400~500 words).

Length: ~2-3 pages

# Research & Analysis

The Analysis Chapter documents your work in determining a formal set of requirements to be used in delivering a suitable solution to the problem being tackled.

## Literature Review

This section should include an in-depth investigation of the context and literature around the problem. The review should give the reader the historical context of how others have solved the problem and should lead to a ‘state of the art’ position. A good literature review will include a critical and insightful analysis of the most significant (and latest) research and best practice within the field of study. Literature sources should be cited appropriately using the IEEE or Harvard Referencing style. When summarising the work of others, do not ‘copy and paste’. Instead, you should paraphrase the work of others, outlining the contributions of their work and the implications of this for your own dissertation.

It may also include, where appropriate, an investigation of existing products/systems, tools/platforms/technologies.

## Investigatory Process

Following the literature review you will enter the investigative phase of the project. The nature of this investigation may vary from project to project, but it will typically involve consideration of the material from the literature review to identify where there are strengths and weaknesses and the use of additional techniques such questionnaires, interviewing stakeholders, researching relevant background material and optional solutions, to ultimately provide some indication as what type of solution is required.

If appropriate you may include a summary of any ideas that were investigated but subsequently dropped, to illustrate the problem-solving process involved.

## Requirements Specification

The investigation of the problem and its potential solution will led to the identification of a set of functional and non-functional system requirements, which should be presented, using whatever descriptive techniques are appropriate for the type of system and type of requirements involved. For example, functional requirements might be documented as user stories, use cases and use case descriptions.

## Project Management

On establishing the requirements, you should draw up a suitable project plan to formalise the different phases required in delivering a successful project. A Risk Analysis should also be considered when establishing the different phases required. Note: A suitable development methodology for the project should also be identified and reason provided for its use.

Length: ~10 pages

# Design

Design covers the user interface, software architecture, data definitions, algorithms, and other high-level descriptions of the system you are proposing to create. Ideally, a good system design document is one that can be passed to someone else to implement.

## Design Rationale

It is expected that during the design phase various options will have been considered before any final decision was taken. It is important to summarise these options and justify the rationale for each decision presented.

## Modelling

You are encouraged to use descriptions and models suitable for your own circumstances. For example,

* Develop an Architectural Design for your proposed system.
* If you are using a database, you will need to describe the design schema, including details of any normalisation involved. You may also want to include an entity-relationship diagram
* If appropriate include a class diagram, identifying your main classes, their interactions, and their purpose
* For some processing it may be necessary to make use of complex algorithms, which should be described and illustrated appropriately (e.g., using sequence diagrams)
* In describing how the user will interact with your system you may want to present a block diagram identifying key parts of the user interface in addition to showing screen shots. If you considered UI/UX guidelines, you should explain how these influenced your design
* For data science projects, describe the dataset that will be used. The dataset must be publicly available and considered a benchmark in its field. The hyperlink to the dataset must also be provided.
* For projects related to artificial intelligence or machine learning (data science), you will need to describe details on the model (e.g. Neural Network models, Regression models, etc) design and (hyper-)parameter selection approaches for optimisation to meet the requirements of the problem statement.

Length: ~8 pages

# Summary

The summary chapter, like the Introduction, should be stand-alone, allowing the reader to understand, at a high-level, what the project aims to do and the plan for how that will be achieved.

Chapter Length: ~ 500 Words

# References

Present the references used in the report in Harvard format.

# Appendices

The appendices are an opportunity to provide secondary material in support of the description in the body of the report. In principle, the reader need not look at the appendices and no specific marks are awarded for this section.

**Delete as appropriate**. This is a sample of the type of content to include in the appendices:

## Appendix A Analysis Models

e.g., SSM models, detailed use cases

## Appendix B Design Models

e.g., database schema, neural network architecture

## Appendix C Code

Code you specifically developed through the project

## Appendix D Test Suite

Full set of tests applied to the software

## Appendix E Questionnaire/Survey Results

Results of questionnaires/surveys used to evaluate the software and/or identify requirements