6COSC023W – Final Project Report

Inventory and Stock Management System

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This report is submitted in partial fulfillment of the requirements for the

BSc (Hons) Computer Science degree

BEng Software Engineering degree

at the University of Westminster.

School of Computer Science & Engineering

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# Document Scope

# The purpose of this document is to describe and reflect on the processes that took place for developing the Final Project. Discuss any ethical issues associated with your project and describe the methodology that was adopted to develop its design, implementation and testing.

# All chapter word counts in this document are approximate and are not intended to be prescriptive.

# Declaration

This report has been prepared based on my own work. Where other published and unpublished source materials have been used, these have been acknowledged in references.

Word Count:

Student Name:

Date of Submission:

# Abstract

*500 words*

Summarise here the problem statement and the project aim(s). Provide a brief description of the methodology followed, main results, your conclusions and observations.

# Acknowledgements

Thank those you who helped you build your project and supported you during its development, if you wish to here.

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# List of figures

Provide a list of figures, linking figure numbers to page numbers. If you can, hyperlink the page numbers/figures.

# 1. Introduction

Introduce the project, include the problem statement, project aim(s) and objectives.

## 1.1 Problem statement

*500* words

Give some background on the problem you intend to solve and the need for the software/application. Use references to support your statements when possible, illustrations, diagrams and figures, if needed.

## 1.2 Aims and Objectives

*300 words*

The aim(s) describe, in a few sentences, the overarching purpose(s)/intention(s) of the software/application. What is the point of developing the software/application, what you wish to achieve?

Objectives describe with some detail the individual steps you will take to fulfil the project aim(s).

# 2. Background

Include a literature survey in the topic, discuss existing similar or relevant applications to yours and the result of a review of tools and techniques that are used to tackle projects similar to yours.

## 2.1 Literature survey

*800* *words*

Describe initial results of a literature survey on a selected research topic or application area related to your project subject. Use relevant books, published research articles as well as Internet content for the purpose. Make use of in-text references to indicate your sources.

## 2.2 Review of projects / applications

*800 words*

Describe your background research on existing projects/software/applications, tools/frameworks/methods/algorithms/techniques relevant to your project, their advantages, and disadvantages. Use illustrations, diagrams, screenshots for the purpose.

You may produce a Table of Features in this section, comparing the main features of the above projects/software/applications and the one you developed.

A comparison table may also be provided to distinguish the key characteristics of features/methods/algorithms/techniques relevant to your project.

## 2.3 Review of tools frameworks and techniques

*500* words

Describe results of a survey on relevant tools/frameworks that can be used to develop applications such as the one you built for your project, such as programming languages and environments, libraries. List their advantages and disadvantages. Use illustrations, diagrams, screen-shots for the purpose.

# 3. Legal, social and ethical issues

*200 words*

Consider any legal, ethical, social, professional and security issues associated with your research and the software/application you are building and/or the data you are collecting/analysing.

# 4. Methodology

Describe the life cycle stages of the project, methodology, and development techniques you followed in the design and implementation of your project.

As examples: Gantt chart for life cycle, Waterfall or Agile for development methodology. Use an appropriate methodology for the project and list the key steps and milestones.

Discuss the implementation of your project and your consideration for UX, UI. Describe your testing methodology and give adequate examples, e.g., unit testing for typical client-server applications, white box for algorithmic and mission critical code etc. Discuss why your chosen methodology is suitable for the project.

Please note that even if you are using Agile methodology, you will still need to provide a high-level waterfall plan with key milestones, with any agile iterations also detailed in this report.

*700 Words*

# 5. Design

Describe your final software structure using diagrams where necessary.

*700 Words*

Discuss in some detail (if relevant) issues relating to:

* User Interface
* Infrastructure
* Functionality
* Algorithm development
* Content creation
* Other

Discuss how these address the project requirements.

Use appropriate design methods for your project and extend your design to include implementation details that were not included in your Project Specification Design and Prototype (PSPD) report. e.g. make use of UML such as class diagrams, sequence/activity/state diagrams for complex algorithms and workflows, use UI design methodology and heuristics for predominately UX based projects. If you intend to develop an app/software/dashboard, you may have to use/create ERD, flowcharting, storyboarding, prototyping. It is up to you to use the appropriate design that best describes your implementation.

# 6. Tools and implementation

## 6.1 Tools

*300 words*

Describe the tools (programming environments & languages, frameworks, and libraries,) you used for the development of your application. Justify your choices with references to your use cases or list of requirements.

State existing skills development and any new skills you employed for building your project.

## 6.2 Implementation

*2200 words*

Explain implementation of main code by use case. Include pseudocode or snippets of any novel code. Highlight any code that is adopted/adapted and give the original sources. Make references to your design documentation where appropriate.

# 7. Testing

Create sufficient test cases to determine that the applications satisfy the requirements and works correctly.

## 7.1 Test coverage

*800 words*

Discuss black box and/or white box testing against the requirements. Include specific test cases labelled by the relevant requirements.

## 7.2 Test methodology

*700 words*

Describe how the output was tested and why. Discuss how you obtained and used feedback, using expert or/and non-expert users.

# 8. Conclusions and reflections

*1000 words*

Provide critical reflections on ALL aspects of the project lifecycle. Include conclusions on the resulting application, research, and findings. Reflect on each aspect of your project life cycle. Critically evaluate how effectively your results meet your stated objectives. Reflect on strengths and weaknesses of your implementation, discuss the acquisition of any new knowledge and skills and consider further work.

# 9. References

Include a list of cited in your text items (books, papers, websites, etc.). Use Harvard style for the purpose, or any other preferred standard referencing style.

# 10. Bibliography

Include here a list of general reading items (books, papers, websites, etc.). List the items in alphabetical order, using Harvard style to describe them.

# Appendix I

Provide additional material, if appropriate, in separate appendices.

Use one Appendix to provide a link to an on-line video demo of the project.

Do not include the entire code in print as an appendix.