ASSIGNEMNT BRIEF

HTU Course No: 0040201220	BTEC Unit No: K/618/7408 (Unit 7)
HTU Course Name: Software Development Lifecycles	BTEC Unit Name: Software Development Lifecycles

Assignment Brief Number: 1

Version: 1

Assessment Brief

Student Name/ID Number/Section	
HTU Course Number and Title	0040201220 - Software Development Lifecycles
BTEC Course Number and Title	K/618/7408 - Software Development Lifecycles
Academic Year	2022/2023
Assignment Author	Dr. Salem Alemaishat
Unit Tutor	Dr. Salem Alemaishat
Assignment Title	**Building a Software Utilizing a Software Development Lifecycle & Model**
Assignment Ref No.	**No. 1**
Issue Date	Dec. 18, 2022
Formative Assessment Dates:	Every week until Jan. 12, 2023
Submission Date	Feb. 1, 2023
IV Name & Date	Eng. Samer Suleiman

Submission Format

Submission for this assignment is expected to be an <u>**individual written report**</u>. This report should be:

- ☑ In a form of **a soft copies(.docx)** submitted to HTU Elearning,
- ☑ System source code (Compressed file .ZIP or .7Z). (Elearning)
- ☑ Signed Declaration form (Included)
- ☑ Written in a formal business style (headings, content page, paragraphs, subsections and illustrations as appropriate, single spacing & font size 12)
- ☑ Supported with research and referenced using the Harvard referencing system.
- ☑ An oral discussion with your assessors illustrating your assignment and answering questions

Unit Learning Outcomes

LO1 Describe different software development lifecycles

LO2 Explain the importance of a feasibility study

LO3 Undertake a software development lifecycle

L04 Discuss the suitability of software behavioral design techniques

Assignment Brief and Guidance

Scenario:

You are working as a junior systems analyst for Premier Software Solutions. Your company is specialized in software development solution for small to mid size companies. Your manager has tasked to a team that will develop a solution to one of their client (you choose the software solution).

As junior systems analyst your role is to further clarify and define the client's requirements – as such, you have been asked to create a feasibility study. Your feasibility study must be accompanied by written material that explains the software development lifecycle (SDLC) model to be used in developing your software solution. As a result of this task, you will deliver a software utilizing a software development lifecycle and model. You will also provide a report about the software you have developed.

Part 1 Report

Your report should describe two iterative and two sequential software development lifecycle models. Furthermore, you need to explain how risk is being managed in software development lifecycle and discuss using example(s) a particular lifecycle model for a specific development environment. Your will also need to assess the benefits of using the Waterfall model in a large software development project.

Your report should describe how technical solution can be compared (compare two). Next, explain the purpose of feasibility report, discuss its components and also assess the impact of different feasibility criteria on a software investigation.

Using examples, discuss the suitability of software behavioural design techniques and analyse a range of software behavioural tools and techniques (two tools and two techniques). Your report should

differentiate between a finite state machine (FSM) and an extended FSM by providing an application of use for both. Finally, justify how data-driven software can improve the reliability and effectiveness of software.

Part 2 Software

After collecting user requirements, investigation whether the software meet a business need. You should use appropriate software analysis tools/techniques to carry out a software investigation and create supporting documentation. You will also needs to analyse how software requirements can be traced throughout the software lifecycle and discuss two approaches to improving software quality. Finally, you need to evaluate the process of undertaking a systems investigation with regard to its effectiveness in improving a software quality.

In summary student must submit:
- A final report based on the requirements in Part 1 & 2:
- The software part including:
    - Feasibility study of the proposed idea.
    - Software Requirement Specification based on IEEE 830 (or any similar standard)
    - A requirements traceability matrix (RTM)
    - Software Design Specification (complimentary and detailed design)

o   Software Source Code using a programing language of your choice.
o   Software testing code using unit testing

Pass	Merit	Distinction
LO1 Describe different software development lifecycles		
P1 Describe two iterative and two sequential software lifecycle models. **P2** Explain how risk is managed in software lifecycle models.	**M1** Discuss using an example, why a particularlifecycle model is selectedfor a development environment.	**D1** Assess the merits of applying the Waterfall lifecycle model to a large software development project.
LO2 Explain the importance of a feasibility study		
P3 Explain the purpose of a feasibility report. **P4** Describe how technical solutions can be compared.	**M2** Discuss the components of a feasibilityreport.	**D2** Assess the impact of different feasibility criteria on a software investigation.
LO3 Undertake a software development lifecycle		
P5 Undertake a software investigation to meet a business need. **P6** Use appropriate software analysis tools/techniques to carry out a software investigationand create supporting documentation.	**M3** Analyse how software requirements can be traced throughout the software lifecycle. **M4** Discuss two approaches to improvingsoftware quality.	**D3** Evaluate the process of undertaking a systems investigation with regard to its effectiveness in improving a software quality.
LO4 Discuss the suitability of software behavioraldesign techniques		

P7 Discuss, using examples,the suitability of software behavioral design techniques.	M5 Analyse a range of software behavioral toolsand techniques. M6 Differentiate betweena finite state machine (FSM) and an extended FSM, providing an application of use for both.	D4 Present justifications of how data-driven software can improve the reliability and effectiveness of software.

STUDENT ASSESSMENT SUBMISSION AND DECLARATION

When submitting evidence for assessment, each student must sign a declaration confirming that the work is their own.

Student name:		Assessor name: Dr. Salem Alemaishat	
Issue date: Dec.18, 2022	**Submission date:** Feb. 1, 2023		**Submitted on:**
Programme: Computing			
HTU Course Title: Software Development Lifecycles **BTEC Course Title:** Software Development Lifecycles			
HTU Course Code : 0040201220		**BTEC Course Code:** K/618/7408	
Assignment number and title: Building a Software Utilizing a Software Development Lifecycle & Model			

Plagiarism:

Plagiarism is a particular form of cheating. Plagiarism must be avoided at all costs and students who break the rules, however innocently, may be penalised. It is your responsibility to ensure that you understand **correct referencing practices**. As a university level student, you are expected to use appropriate references throughout and keep carefully detailed notes of all your sources of materials for material you have used in your work, including any material downloaded from the Internet. Please consult the relevant unit lecturer or your course tutor if you need any further advice.

Student declaration

I certify that the assignment submission is entirely my own work and I fully understand the consequences of plagiarism. I understand that making a false declaration is a form of malpractice.

Student signature: **Date:**