**Pearson**



**Higher Nationals in**

**Computing**

PEARSON SET ASSIGNMENT

UNIT 6: Managing a Successful Computing Project

Issue 1

Higher National Certificate/Diploma in

Computing

Assignment Brief

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| Student Name/ID Number |  |
| **Unit Number and Title** | **20: Advanced Programming** |
| Academic Year |  |
| Unit Tutor |  |
| **Assignment Title** | **UML Documentation** |
| **Issue Date** |  |
| Submission Date |  |
| IV Name & Date |  |

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| **Submission Format** |
| 1. A complete PDF document including the requested all the areas 2. Log Book 3. Performance Review Document |



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| **Unit Learning Outcomes** |
| **LO1** Establish project aims, objectives and timeframes based on the chosen theme  **LO2** Conduct small-scale research, information gathering and data collection to generate knowledge to support the project.  **LO3** Present the project and communicate appropriate recommendations based on meaningful conclusions drawn from the evidence findings and/ or analysis  **LO4** Reflect on the value gained from conducting the project and its usefulness to support sustainable organizational performance |
| **Assignment Brief and Guidance** |
| **“Asia Development**” is a large software development company in Sri Lanka. They are developing different software programs and ERP system based on the industry requirements. They are using DSDM and agile technology for software development. At a given time they are running with multiple projects. The head of the development more concern about the security in application development phase. You are working as a project manager for new requested Banking Project. Before starting the new project Your CEO ask you to do a research about **“How to reduce vulnerabilities in a system during development.”** He ask you to do this as a project and produce you findings because the findings are very important to guide all the programmers and other staff interested parties of the project.  As technology advances, application environments become more complex and application development security becomes more challenging. Applications, systems, and networks are constantly under various security attacks such as malicious code or denial of service. Some of the challenges from the application development security point of view include Viruses, Trojan horses, Logic bombs, Worms, Agents, and Applets.  Applications can contain security vulnerabilities that may be introduced by software engineers either intentionally or carelessly.  Software, environmental, and hardware controls are required although they cannot prevent problems created from poor programming practice. Using limit and sequence checks to validate users’ input will improve the quality of data. Even though programmers may follow best practices, an application can still fail due to unpredictable conditions and therefore should handle unexpected failures successfully by first logging all the information it can capture in preparation for auditing. As security increases, so does the relative cost and administrative overhead.  Applications are typically developed using high-level programming languages which in themselves can have security implications. The core activities essential to the software development process to produce secure applications and systems include: conceptual definition, functional requirements, control specification, design review, code review and walk-through, system test review, and maintenance and change management.  Building secure software is not only the responsibility of a software engineer but also the responsibility of the stakeholders which include: management, project managers, business analysts, quality assurance managers, technical architects, security specialists, application owners, and developers.  You should complete the project by concentrating the followings:   * Establish aims and objectives for the project. * Produce an appropriate project Plan including the scheduling * Include the relevant actions to achieve the to meet the objectives * Conduct the small scale research about the given topic by applying quantitative and qualitative research method * Evaluate the different research methodologies * Analyse and evaluate the research and data using appropriate tools and techniques * Justify your recommendations and draw a valid conclusion. * Critically evaluate the value of the project management process, use of quality research to meet stated objectives, support own learning and performance. * Complete a performance review to address the following: * Success of the project * Usefulness in support organizational performance * Own learning performance   Guidance for Students  You should read this information before starting on your project. You should refer to these instructions as you complete work for this unit.   * Read the brief and think about what the project brief is asking. * Research what the project brief is asking. How can you approach the problem, opportunity, hypothesis and requirements being posed? * Apply a range of secondary research sources to plan/scope and support the project and its findings. Secondary research sources may include textbooks, journal articles, newspapers and magazine articles (not factual accounts). * Develop your project plan based on the deliverables of the project, the constraints of the project and the assumptions made. * Conduct your project according to your stated project plan and meet with your tutor to receive a sign-off at each stage of the project process. * Primary research sources may include original first-hand accounts, legal and historical documents, results of experiments and market research data collection. Apply both qualitative and quantitative research methods to evaluate data collected from primary research. * Keep notes of your progress throughout the project in your **logbook**. This is an important record of your work and must be used to record the development of your ideas and your progress through the project. The logbook should include:   + A record of what you did, when and what you were thinking.   + A record of where things went wrong and what you did to overcome any unexpected results. * You will be asked to reflect on the success of your project and your own performance in a **personal** **performance review** at the end of the project. This is a written reflection of around **500 words**. * Set out below is an example of a project brief. Your centre will set the topic for the brief based on a theme released by Pearson every year in the first week of June. * You must complete the project in order to complete your work for this unit. |
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Templates for Evidence Collection

The logbook template and performance review questions are examples of what can be used, but tutors can devise or use other appropriate resources if they wish to do so.

Project Logbook Template



**Name:**

**Project title:**

**Date:**

**Update on weekly research/tasks achieved**

**Points to consider:**

What have you completed?

Did you fulfil task requirements?

Are you on track and within deadlines set?

Did you need to make any changes to your project management plan?

**Any risks and/or issues identified?**

**Points to consider:**

Did you identify risks/issues with a lack of skills required for undertaking research/tasks?

Did you identify any additional risks/issues that have an impact on the project management plan?

**Problems encountered**

**Points to consider:**

What barriers did you face?

How did you overcome them?

**New ideas and change of project direction**

**What have I learnt about myself this week?**

**Points to consider:**

How did I feel when I had to deal with tasks/problems?

Did I find it useful to complete the tasks?

How well have I performed? What did I contribute?

What can I improve on next week?

How might this learning apply in the future?

**Tasks planned for next week**

**Points to consider:**

Which tasks are priority?

Have you set aside sufficient time for completion?

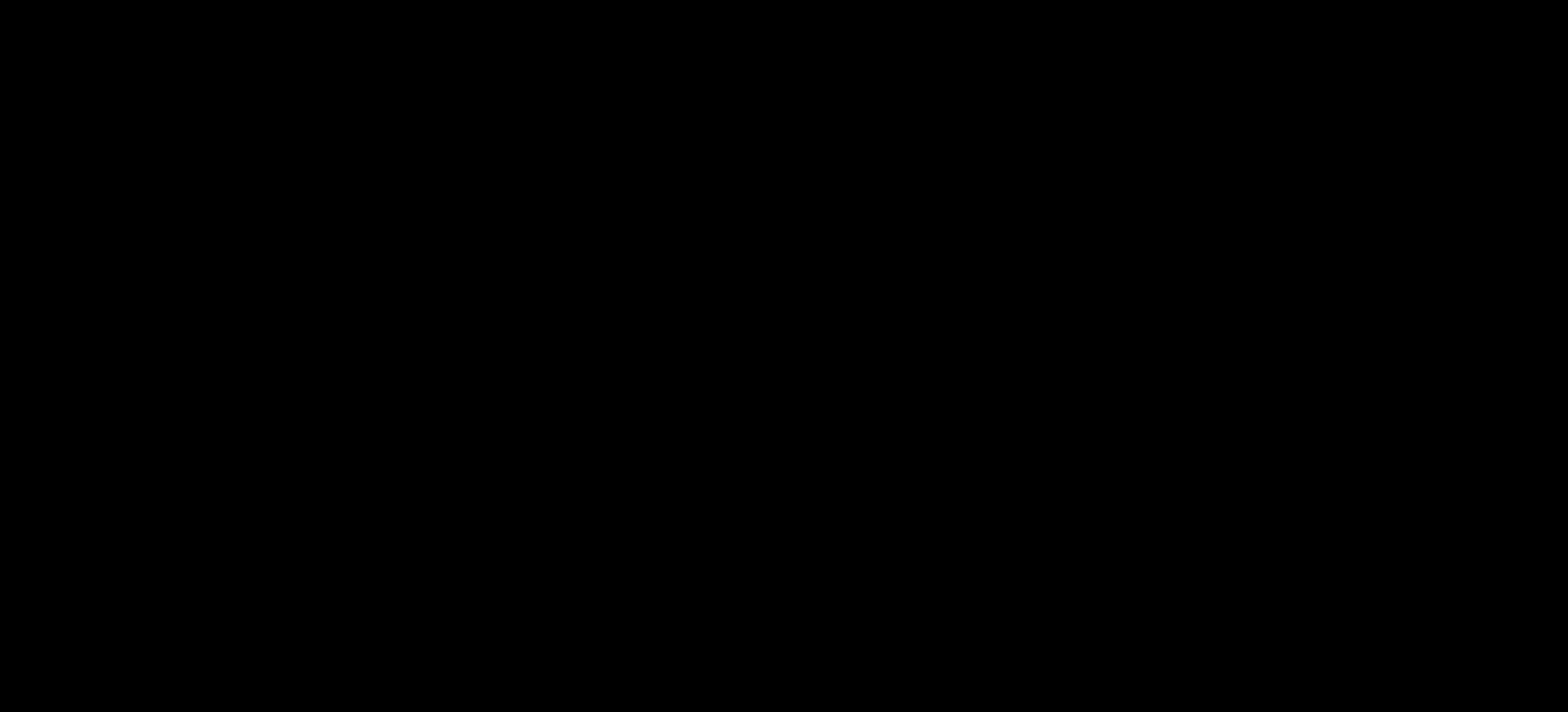
**Project plan status to date (on, ahead, behind)**

**Supervisor comments to address**

Performance Review Template

**Performance Review**

* What was the project supposed to accomplish?
* Did the project succeed in its aims? How do you know? Specifically, outline any evaluation and assessment undertaken.
* What things do you think worked well and why? Evaluate all aspects of the project (e.g. initial inception, project activities and project outcomes) from a range of perspectives.
* What problems emerged during the project and how were they tackled? Was there timely identification of issues and resolution during the project process?
* What did you learn from undertaking the project?
* How would you rate your performance as project manager?
* What strengths and weaknesses of your performance did you identify?
* How will this inform and support your continuous professional development?



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| **Pass** | **Merit** | **Distinction** |
| **LO1** Establish project aims, objectives and timeframes based on the chosen theme. | | **LO1 & 2**  **D1** Critically evaluate the project management process and appropriate research methodologies applied. |
| **P1** Devise project aims and objectives for a chosen scenario.  **P2** Produce a project management plan that covers aspects of cost, scope, time, quality, communication, risk and resources.  **P3** Produce a work breakdown structure and a Gantt Chart to provide timeframes and stages for completion. | **M1** Produce a comprehensive project management plan, milestone schedule and project schedule for monitoring and completing the aims and objectives of the project. |
| **LO2** Conduct small-scale research, information gathering and data collection to generate knowledge to support the project. | |
| **P4** Carry out small-scale research by applying qualitative and quantitative research methods appropriate for meeting project aims and objectives. | **M2** Evaluate the accuracy and reliability of different research methods applied. |
| **LO3** Present the project and communicate appropriate recommendations based on meaningful conclusions drawn from the evidence findings and/or analysis. | | **LO3 & 4**  **D2** Critically evaluate and reflect on the project outcomes, the decision-making process and changes or developments of the initial project management plan to support justification of recommendations and learning during the project. |
| **P5** Analyse research and data using appropriate tools and techniques.  **P6** Communicate appropriate recommendations as a result of research and data analysis to draw valid and meaningful conclusions. | **M3** Evaluate the selection of appropriate tools and techniques for accuracy and authenticity to support and justify recommendations. |
| **LO4** Reflect on the value gained from conducting the project and its usefulness to support sustainable organisational performance. | |
| **P7** Reflect on the value of undertaking the research to meet stated objectives and own learning and performance. | **M4** Evaluate the value of the project management process and use of quality research to meet stated objectives and support own learning and performance. |

Assessment Criteria

