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| **Qualification** | Pearson BTEC Level 5 Higher National Diploma in Computing | | | |
| **Unit No. and Title** | Unit 45: Emerging Technologies | | | |
| **Assessor Name** | Mina Katti | | **Issue Date** | 4th March 2019 |
| **Internal Verifier** | Amaninder Singh | | **IV Date** |  |
| **Assignment Title** | Unit 45: Emerging Technologies | | | |
| **Submission Deadline** | 24th May 2019, 23:55 hours | | | |
| **Learning Aims/Outcomes** | | **Vocational Scenario (Context/Background)** | | |
| **Learning Outcomes**  By the end of this unit students will be able to:  LO1. Assess what Emerging Technologies are necessary and appropriate when designing software applications for the future.  LO2. Research state-of-the-art Emerging Technologies and choose one you believe will have significant impact in the future.  LO3. Discuss the current state and future impact of your chosen Emerging Technology.  LO4. Evaluate the political, economic and social factors which play a role in the competition between Emerging Technologies and their success or failure in the future. | | https://moderndiplomacy.eu/wp-content/uploads/2017/06/4368af055a663c3d5ebaa2b17340ebbc.jpgYou are working as a Junior Consultant for ACME Consultancy Ltd. The firm has been specialising in software development until now. This year they have decided to branch out into IoT, VR/AR and other relevant technologies as many of their clients are asking for support and advice on implementing these emerging technologies in their respective businesses. They have decide to inform all of the team about this new strategic direction that team will be heading towards in the near future also provide the team with some training towards it. You have been delegated to prepare an initial presentation on range emerging technologies and also carry out research and present your finding to the senior partners. | | |

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| **Task 1 – Introduction to Emerging Technologies** | |
| Prepare a presentation to an overview of these emerging technologies whilst providing relevant information such as its   * format (role, purpose and terminology), * characteristics (how they can be used, how they differ from current technology and converge with them) and * Current trends and its history.   Explore the advantages and disadvantages of these technologies. [P1, P2, M4]] | |
| **Checklist of evidence required/ Submission Format(s)** | Presentation with notes and Harvard referencing |
| **Learning Aims/Outcomes: Assessment Criteria** | **L01:** P1, P2, M4 |

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| **Task 2 – Research and** | |
| Chose a specific emerging technology that you would like to discuss [P3]. Investigate how it will affect the status quo of an industry, end user group and the current state of technology development. [M1]  Conduct a research on your chosen technology to review how it influences a specific industry or/and user group and political, economic and social factors [P4].  Also through examples discuss how your chosen emerging technology can converge with existing technologies or even replace them. [M5]  Contrast and Evaluate and Critique the benefits, features, advantages and disadvantages of this Emerging Technology [P6, M3, D3]  Organise your research and findings and develop the report in a suitable ‘research format’ and evaluate it [P5, P7, M6]. In addition, organise your research suitable for presentation in PowerPoint format to demonstrate your findings to the senior partners at the consultancy, to gather feedback from the team and be able answer any questions [M7] | |
| **Checklist of evidence required/ Submission Format(s)** | * Presentation with notes and Harvard referencing * suitably structured research report with referencing |
| **Learning Aims/Outcomes: Assessment Criteria** | **L01:** P3, P4, P5, P6, P7, M1, M3, M5, M6, M7, D3 |

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| **Task 3 – Impact on Software Development** | |
| As the team has very strong software development background, this change will seem like service and consumer-technology driven and you may face certain resistance during your presentation. In readiness to answer any and all questions, review various forms of Emerging Technologies by researching its history and current trends whilst focusing on their relevance to software development and computing [M2]  Evaluate Emerging Technologies and justify their use when designing software applications for the future. [ D1]  Also defend your choice of Emerging Technology in relation to your belief it will have the most impact on software application design and development in the future. [D2]  The above evaluation and defence argument can form part of your research report in task 2. | |
| **Checklist of evidence required/ Submission Format(s)** | Part of research report in task 2 |
| **Learning Aims/Outcomes: Assessment Criteria** | **L01:** M2, D1, D2 |

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| **Assessment Criteria** | | | |
| **Learning Aims/Outcomes** | **Pass** | **Merit** | **Distinction** |
| **LO1** Assess what Emerging Technologies are necessary and appropriate when designing software applications for the future | **P1** Assess formats, characteristics and trends of Emerging Technologies.  **P2** Explore the advantages and disadvantages of Emerging Technology. | **M1** Evaluate the ability of Emerging Technology to disrupt the status quo throughout industries, markets, user adoption and established practices.  **M2** Review various forms of Emerging Technologies, focusing on their relevance to software development and computing. | **D1** Evaluate Emerging  Technologies and justify their use when designing software applications for the future. |
| **LO2** Research state-of-the-art Emerging Technologies and choose one you believe will have significant impact in the future | **P3** Select a specific Emerging Technology.  **P4** Review a specific industry and end user group that will be the most influenced by this Emerging Technology. | **M3** Evaluate the benefits, features, advantages and disadvantages of this Emerging Technology.  **M4** Show how Emerging Technologies can converge with existing technologies or replace them. | **D2** Defend your choice of Emerging Technology in relation to your belief it will have the most impact on software application design and development in the future. |
| **LO3** Discuss the current state and future impact of your chosen Emerging Technology | **P5** Organise your research and findings.  **P6** Contrast the benefits, features, advantages and disadvantages of your chosen Emerging Technology. | **M5** Relate how your chosen Emerging Technologies can converge with existing technologies or replace them.  **M6** Develop a report of your research and findings. |
| **LO4** Evaluate the political, economic and social factors which play a role in the competition between Emerging Technologies and their success or failure in the future | **P7** Evaluate your report findings and research. | **M7** Arrange a presentation to demonstrate your findings, gather feedback and answer questions. | **D3** Critique the benefits, features, advantages and disadvantages of your chosen Emerging Technology. |

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| **Sources of information to support you with this assignment** |
| **Textbooks**  Camarinha-Matos, L.M., Tschammer, V. and Afsarmanesh, H., 2004. On emerging technologies for VO. In *Collaborative Networked Organizations* (pp. 207-224). Springer, Boston, MA.  Chinnery, G.M., 2006. Emerging technologies. Going to the mall: mobile assisted language learning. *Language learning & technology*, *10*(1), pp.9-16.  Christensen, C. (2015) *The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail (Management of Innovation and Change).* Harvard Business Review Press.  Damian, D. and Moitra, D., 2006. Guest editors' introduction: Global software development: How far have we come?. *IEEE software*, *23*(5), pp.17-19.  Kamel Boulos, M.N. and Wheeler, S., 2007. The emerging Web 2.0 social software: an enabling suite of sociable technologies in health and health care education 1. *Health Information & Libraries Journal*, *24*(1), pp.2-23.  Masters, B. (2014) *From Zero to One: Notes on Startups, or How to Build the Future*. Virgin Digital.  Sandler, R. ed., 2016. *Ethics and emerging technologies*. Springer.  Jonas, H., 2014. Technology and responsibility: reflections on the new tasks of ethics. In *Ethics and Emerging Technologies* (pp. 37-47). Palgrave Macmillan, London.  Schwab, K. (2016) *The Fourth Industrial Revolution.* World Economic Forum. |