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| Assignment title | **23.2 Apply and Review the use of Systems Methodology** |
| Assessor | Chris Livesey |
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| Date issued | w/c 25/11/2019 |
| Final deadline | w/c 16/12/2019 |
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| Qualification suite covered | BTEC L3 National Extended Diploma in Computing |
| Units covered | Unit 23: Systems Methodology |
| Learning aims covered | Learning aim B: Apply systems methodology tools and techniques to identify and solve a computing problem  Learning aim C: Review a solution to a computing problem |
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| Scenario | You have been hired as a software developer for a company called Retro Gaming. Retro Gaming specialise in the developing electronic versions of retro style games such as board games.  Your manager has provided you with a retro game scenario that you have been asked to develop using systems methodology. You manager would like you to make use of systems methodology and the relevant documentation so that other developers can continue with the work in future, if necessary. |
| |  |  |  | | --- | --- | --- | | Pass | Merit | Distinction | | P3:  Define a problem statement for an identified scenario. | M2:  Justify the choice of systems methodology tools and techniques used to provide a solution to a computing problem. | D2  Evaluate the process of applying a systems methodology to a computing problem in order to develop a proposed solution. | | P4:  Develop a solution to a computing problem, using appropriate systems methodologies. | | P5:  Review the solution to a computing problem, considering feedback from others and identifying possible improvements. | M3:  Assess potential improvements to the solution in relation to the problem statement. | D3  Demonstrate individual responsibility and effective self-management in the application and review of systems methodologies to identify and develop a solution to a problem. | | |
| Task 1 (P3/M2) | **Task 1: Define the project**  Identify the purpose and definition of the problem/project  **Areas to Cover:**   * **Introduction**   **Describe** the purpose of the project  (What is the scenario? What have you been asked to do? What is the purpose of the game?)   * **Initial Problem Statement**   **Define** a problem statement for the project  (You can refine/update this later after analysis/investigation if you need to)  **Explain** whether this is suitable – what do you need to do before you can confidently produce an appropriate Problem statement?   * **Chosen Methodology, tools and techniques**   1. **Choose** a methodology, **describe** how you will use it to complete the project and **justify why** it is appropriate/suitable   (why have you chosen it? Why is it suitable for the project?).   * **Task List**   1. Create a task list including the tools and techniques that will be used   (you will need to include planning e.g. using Microsoft Planner as a planning tool)   * + - **Identify** the tasks for your project and **describe** the tools and techniques that you will use at each stage of your chosen methodology and **justify** your choices * **Problem Statement**   **Define** a problem statement for the project   * + - A detailed statement     - A list of requirements/objectives       * If you have chosen a traditional methodology this must be a complete list of objectives       * If you have chosen an agile methodology this will be the initial list for the first prototype   **Explain** why this is suitable to continue with the development of the project |
| Task 2  (P4) | **Task 2: Apply systems methodology to develop the project solution**  Follow the structure of the methodology that you have chosen to develop your project. You must document each of the stages  **Areas to Cover:**   * Project Plan: before you begin you should create a plan for the project. This must be updated as you go along to track your progress * Provide Evidence of Development – this will be different depending on which methodology has been chosen but must show the process of following the systems life cycle stages * Update your project plan (e.g. Microsoft Planner) as you go along providing evidence after each stage of your chosen development methodology |
| Task 3  (P5/M3) | **Task 3: Review of the Final Solution**  Review the solution to a computing problem, considering feedback from others and identifying possible improvements.  **Areas to Cover:**   * **User Testing/Feedback**   **Describe** the purpose of the user testing and **justify** the reasons for your choice of feedback method:   1. **What** is the purpose of the testing? 2. **How** are you going to obtain user testing feedback? **Justify** **Why** you have chosen this method? (Questionnaire, Interview etc) 3. Provide evidence of user testing/feedback    * Example evidence for a questionnaire:      1. Create a questionnaire e.g. using Microsoft Forms   (you need at least 10 questions (probably more) that cover the project definition, objectives and usability. You need to have at least one question that will provide possible improvements – Print screen the form into your assignment)   * + 1. Ask a minimum of 5 people to test your program, share the questionnaire with them and ask them to complete it     2. Include an overview of the results in your assignment * **Project Review**  1. Strengths    * **Identify**, **Describe** and **justify** at least 5 strengths of your solution/program (Things that work well – where possible justification should relate to your user feedback). 2. Improvements    * **Identify**, **Describe** and **justify** 3-5 possible improvements for your solution/program (where possible justification should relate to your user feedback). 3. Assess the possible improvements    * **Rank** the improvements in order of priority and **justify** this      1. Explain how you would implement each of the improvements      2. Explain the constraints for each of the improvements |
| Task 4  (D2) | **Task 4: Evaluation of Systems Methodology**  **Areas to Cover:**   * **Introduction**   **Identify** and **Describe** the methodology you used for this project  (Which model did you choose? Briefly describe it)   * **Evaluation**   The stages/process you followed will depend on the methodology that you chose. For each of the stages in the methodology you must – use headings to clearly state which stage you are evaluating   * + 1. **Identify, Describe** and **Justify** what went well at each state (2-3 points per stage)     2. **Identify, Describe** and **Justify** what could have been improved at each state (2-3 points per stage). **How** could it have been improved? * **Conclusion**  1. Was this the best methodology for the problem? (**evaluate** by explaining reasons why it was suitable and why it might not have been) 2. **Suggest** other methodologies that might have been more suitable and **explain why** 3. **Suggest** which methodology you would use if you were to do the project again? **Why**? |
| Task 5  (D3) | **Task 5: Demonstrate Individual Responsibility**   * Review your performance during the project, explaining how you have demonstrated individual responsibility   + How have you demonstrated individual responsibility at each stage of this project?     1. List each stage and explain how you demonstrated individual responsibility (use of tools, time management, research when struggling) |
| Evidence you must produce for this task | **Produce a report containing the evidence required for each of the tasks above.**  **Use the assignment document called “23.2 - Assignment – Apply and Review the use of Systems Methodology” to produce your report**  **The assignment document already contains the assignment front sheet/feedback sheet so can submitted directly to TurnItIn** |

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| **To achieve the criteria you must show that you are able to:** | **Unit** | **Criterion reference** |
| Define a problem statement for an identified scenario. | 23 | P3 |
| Develop a solution to a computing problem, using appropriate systems methodologies. | 23 | P4 |
| Review the solution to a computing problem, considering feedback from others and identifying possible improvements. | 23 | P5 |
| Justify the choice of systems methodology tools and techniques used to provide a solution to a computing problem. | 23 | M2 |
| Assess potential improvements to the solution in relation to the problem statement. | 23 | M3 |
| Evaluate the process of applying a systems methodology to a computing problem in order to develop a proposed solution. | 23 | D2 |
| Demonstrate individual responsibility and effective self-management in the application and review of systems methodologies to identify and develop a solution to a problem. | 23 | D3 |