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| 72DPIHE3Assessment Task Notification Assignment | | | | 72DPIHE372DPIHE372DPIHE3 |
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| **Course: Software, Design and Development** | | | | |
| Task Topic: Develop a software solution  Task Type: Major project | | Year: 12 | | |
|  | Assessment Task No: 3 | | Date: 21st June 2022 | |
|  | Weighting: 40% | |  | |

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| **Outcomes assessed** |
| H3.1 identifies and evaluates legal, social and ethical issues in a number of contexts  H4.2 applies appropriate development methods to solve software problems  H4.3 applies a modular approach to implement well structured software solutions and evaluates  their effectiveness  H5.1 applies project management techniques to maximise the productivity of the software  development  H5.2 creates and justifies the need for the various types of documentation required for a software  solution  H5.3 selects and applies appropriate software to facilitate the design and development of software  solutions  H6.3 uses and describes a collaborative approach during the software development cycle  H6.4 develops and evaluates effective user interfaces, in consultation with appropriate people |

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| **Task description** |
| You have recently successfully developed a free game for Steam's Green Light Project. Big Software Corp, a huge multinational that makes online arcade games and utility software company, has contracted you to make a new arcade game or utility software.  Big Software Corp has asked you to research, design and develop a simple arcade game or utility software. Below are examples of arcade games and utility software:   * Tic Tac Toe * Wifi analyser * Memory game * Naughts and crosses * File manager * Blackjack   **Note:** additional game types or utility software may be approved with your teacher’s permission.  The task is divided into FIVE parts. Each part must be completed successfully to attain an overall result.  Refer to PART A, PART B, PART C, PART D and PART E below for more information on how to complete this assessment task. |

| **Task instructions** |
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| Using a Google document or Word document create the following sections:   * A cover page with the name of your consultancy company * A Table of Contents * 5 sections:  1. Part A – Project proposal 2. Part B – Program design 3. Part C – Commented code 4. Part D – Project work evidence (a link of your blog) 5. Part E – TAS showcase video (a link of your video)   The task is divided into FIVE phases. Each phase must be completed successfully to attain an overall result.  **PART A – PROJECT PORPOSAL - 10 Marks**  **Problem statement** **/2**  Identify the needs the functionality needs of the client and the boundaries of the program.  **Issues relevant to program /3**  Evaluate ONE social or ethical consideration in developing this program.  **Interface design /3**  Using a design tool develop a mock interface for your program's main interface. Your team needs to ensure that you consider the needs of the intended audience and address any ergonomic and design issues.  **Quality assurance criteria /2**  Describe the criteria the program needs to meet.  (Outcomes assessed H3.1, H5.1, H5.2, H5.3 and H6.4)  **PART B – PROGRAM DESIGN - 30 Marks**  **Feasibility Study /10**  Conduct a feasibility study on the on the feasibility of your project, the report must contain the following sections:   * **Define the problem:** you can copy and paste this from your problem definition statement * **Economic feasibility:** assess the economic feasibility of the program * **Technical feasibility:** assess whether the program can be technically created. * **Operational feasibility:** assess whether you can operationally design, create and maintain the program * **Scheduling feasibility:** assess whether there will be any scheduling issues in creating the program * **Recommendation:** recommend whether your team can develop the program   **Gantt Chart /5**  Construct a Gantt chart that outlines the tasks that need to be completed in order to design the program.  **Algorithm /15**  Using Pseudocode develop an algorithm that demonstrates the logic of proposed application.  (Outcomes assessed H4.2, H.3, H5.1, H5.2, H5.3 and H6.3)  **PART C – COMMENTED CODE – (40 Marks)**  You are to develop the program using Visual Basic or another language approved by your teacher. The code needs to be well commented. It is strongly recommended that you develop the program in Visual Basic.  **Note:** you must also submit a copy of your code  (Outcomes assessed H4.2, H5.3 and H6.4)  **Part D - PROJECT WORK EVIDENCE - (10 Marks)**  You will be required to keep evidence that they are working on the project. The project evidence will be recorded within a project log/blog with the following requirements:   * Include a weekly individual project plan (Gantt chart) * Include a weekly summary of work completed: current assigned tasks; the challenges faced; challenges overcome; general feeling about the task * GitHub should be used to illustrate development progress for the development stage, which can be submitted alongside the above documentation.   **Note:** throughout the project, your class teacher will monitor your progress.  (Outcomes assessed H4.3, H5.1, H5.2 and H6.3)  **PART E – TAS SHOWCASE VIDEO – (10 Marks)**  You will be given a 2 minutes slot within a video showcase to demonstrate your program. The video must be formatted in 1080p, 30 frames per second, AVI format.  (Outcomes assessed H5.2 and H5.3) |

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| **Submission** |
| Submit the web page via Direct Message. |

**SOFTWARE, DESIGN AND DEVELOPMENT ASSESSMENT 3 CRITERIA AND FEEDBACK**

Using a Google or Word document with the following sections:

* A cover page with the name of your consultancy company
* A Table of Contents
* 5 sections:

1. Part A – Project proposal
2. Part B – Program design
3. Part C – Commented code
4. Part D – Project work evidence (a link of your blog)
5. Part E – TAS showcase video (a link of your video)

**Part A – PROJECT PROPOSAL (10 marks)**

(Outcomes assessed H3.1, H5.1, H5.2, H5.3 and H6.4)

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| **A1.1: PROBLEM STATEMENT** | | |
| **Mark** | **Mark Description** | |
| 2 | * Identify the functionality, compatibility and performance needs of the client * Identify the system boundaries | |
| 1 | * Identifies elements of the client's needs | |
| **MARK** | |  |

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| **A1.2: ISSUES RELEVANT TO THE PROGRAM** | | |
| **Mark** | **Mark Description** | |
| 3 | * Evaluate ONE social or ethical issue relating to producing the program * Full marks will be awarded to responses that are properly researched and provide a real world example | |
| 2 | * Describes ONE social or ethical issue relating to producing the program | |
| 1 | * Identifies elements of ONE social or ethical issue | |
| **MARK** | |  |

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| **A1.3: INTERFACE DESIGN** | | |
| **Mark** | **Mark Description** | |
| 3 | * The user interface is considerate of the intended audience needs * The interface size, data fields and screen elements have been identified and are consistent * The interface design meets current common design standards (e.g. uses radio buttons appropriately) | |
| 2 | * The user interface is mostly considerate of the intended audience needs. There may be one or two design flaws. * The interface size, data fields and screen elements have been identified * The interface design mostly meets current common design standards. There may be ONE or TWO design issues. | |
| 1 | * Elements of the interface size, data fields and screen elements have been identified * The interface design meets at least ONE common design standard | |
| **MARK** | |  |

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| **A1.4: QUALITY ASSURANCE CRITERIA** | | |
| **Mark** | **Mark Description** | |
| 2 | * Describe a range of relevant criteria on which the quality of the product will be judged on | |
| 1 | * Identifies a range of relevant criteria on which the quality of the product will be judged on | |
| **MARK** | |  |

**Part B – FEASIBILITY STUDY AND GANTT CHART (30 marks)**

(Outcomes assessed H4.2, H.3, H5.1, H5.2, H5.3 and H6.3)

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| **B1: FEASIBILITY STUDY** | | |
| **Mark** | **Mark Description** | |
| 9-10 | * Analyses the problem the team are planning a solution for * Critically analyses the economic, technical, operational and scheduling feasibility of the proposed solution * Comprehensively provides a recommendation to the problem | |
| 7-8 | * Examines the problem the team are planning a solution for * Analyses the economic, technical, operational and scheduling feasibility of the proposed solution * Provides a recommendation to the problem | |
| 5-6 | * Outlines the problem the team are planning a solution for * Examines the economic, technical, operational and scheduling feasibility of the proposed solution * Provides a recommendation to the problem | |
| 3-4 | * Defines the problem the team are planning a solution for * Outlines the economic, technical, operational and scheduling feasibility of the proposed solution * Comprehensively provides a recommendation to the problem | |
| 1-2 | * Lists elements of the problem the team are planning a solution for * Lists elements of the economic, technical, operational and scheduling feasibility for the proposed solution * Provides a recommendation to the problem with assistance | |
| **MARK** | |  |

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| **B2: PROJECT PLAN** | | |
| **Mark** | **Mark Description** | |
| 4-5 | * The Gantt chart that demonstrates the tasks that need be completed, with each identified, the measurement of time and the duration of each of the tasks as outlined in the question. A complete response must also show the dependence of the tasks for achieving the minimum time frame. | |
| 3 | * The Gantt chart that demonstrates the tasks that need be completed, with each identified, the measurement of time and the duration of each of the tasks as outlined in the question. | |
| 1-2 | * A diagram that indicates some tasks to be completed or a time frame. | |
| **MARK** | |  |

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| **B3: ALGORITHM** | | |
| **Mark** | **Mark Description** | |
| 13-15 | * The algorithm uses the correct syntax * The algorithm is composed of modules and sub routines (at least THREE sub routines) * The algorithm must have a beginning and end * The algorithm identifies the necessary inputs, processes and outputs * The logic within the algorithm is of sound design * Full marks will be awarded to algorithms that are efficient and minimise redundancy (e.g. uses the correct control and data structures) | |
| 10-12 | * The algorithm uses the flow chart symbols. There may be one or two errors. * The algorithm is composed of modules and sub routines * The algorithm identifies the necessary inputs, processes and outputs. There may be ONE or TWO errors. * The logic within the algorithm is mostly sound. There may be one or two errors. | |
| 7-9 | * The algorithm uses the correct flow chart symbols. There may be a few errors. * The algorithm identifies inputs, processes and outputs. * The logic within the algorithm is flawed yet still works | |
| 4-6 | * The algorithm uses elements of the flowchart symbols * The algorithm identifies inputs, processes and outputs. * The logic within the algorithm is flawed | |
| 1-3 | * The algorithm uses elements of the flow chart symbols * The logic within the algorithm is flawed | |
| **MARK** | |  |

**Part C – COMMENTED CODE (40 Marks)**

(Outcomes assessed H4.2, H5.3 and H6.4)

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| **COMMENTED CODE** | | |
| **Mark** | **Mark Description** | |
| 40-32 | * The program makes good use of good programming practices (refer to the subject syllabus for more information) * The program uses the chosen language effectively * The program comments are detailed and consistent * The program is of sound logic * The program can be compiled without any errors | |
| 24-31 | * The program makes good use of good programming practices (refer to the subject syllabus for more information) * The program comments are detailed * The program is mostly of sound logic (there may be one or two errors) * The program can be compiled without any errors | |
| 16-23 | * The program makes use of at least ONE programming practice * The program comments are detailed * The program is mostly of sound logic (there may be many errors) * The program can be compiled without any errors | |
| 8-15 | * The program makes use of at least ONE programming practice * The program contains comments * The program contains elements of logic | |
| 1-7 | * The program contains comments * The program contains elements of logic | |
| **MARK** | |  |

**Part D – PROJECT WORK EVIDENCE (10 MARKS)**

(Outcomes assessed H4.3, H5.1, H5.2 and H6.3)

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| **PROJECT WORK EVIDENCE** | | |
| **Mark** | **Mark Description** | |
| 9-10 | * Evidence of work in and out of class * Sufficient project log entries * Detailed and accurate entries that detail the processes to complete the current assigned tasks; the challenges faced; challenges overcome; general feeling about the task * The Gantt chart evolves with the project * Regular GitHub commits throughout the project | |
| 7-8 | * Sufficient project log entries * Detailed entries that detail the processes to complete the current assigned tasks; the challenges faced; challenges overcome; general feeling about the task | |
| 5-6 | * Sufficient project log entries * Entries lack detail in processes to complete the current assigned tasks; the challenges faced; challenges overcome; general feeling about the task | |
| 3-4 | * Brief entries * Sections submitted at irregular intervals | |
| 1-2 | * Limited brief entries * Few sections submitted at irregular intervals | |
| **MARK** | |  |

**Part E – TAS SHOWCASE VIDEO (10 MARKS)**

(Outcomes assessed H5.2 and H5.3)

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| **TAS SHOWCASE VIDEO** | | |
| **Mark** | **Mark Description** | |
| 8-10 | * The video is at least 2 minutes long and is in the suitable format (1080p, 30 frames per second and is an .AVI file) * Full marks will be awarded for videos that are creative use of post-production techniques | |
| 5-7 | * The video is at least 2 minutes long and is in the suitable format (1080p, 30 frames per second and is an .AVI file). There may be ONE or TWO design errors or omissions. | |
| 1-4 | * The video is at least 2 minutes long and is an .AVI file. | |
| **MARK** | |  |

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| **Marker Feedback** |
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| **Part A (/10)** |  |
| **Part B (/30)** |  |
| **Part C (/40)** |  |
| **Part D (/10)** |  |
| **Part E (/10)** |  |
| **TOTAL (/100)** |  |