Assessment Task Notification

Year Level: 10

Subject: Information & Software Technology (IST)

TITLE and Nature of Task: Software Development and Programming

Date of Issue of Assessment Notice: 9 June 2017

Date for Submission: 1 August 2017

Weighting of Task: 25%

Outcomes to be Assessed:
5.1.1 Selects and justifies the application of appropriate software programs to a range of tasks
5.2.1 Describes and applies problem-solving processes when creating solutions
5.2.2 Designs, produces and evaluates appropriate solutions to a range of challenging problems
5.2.3 Critically analyses decision-making processes in a range of information and software solutions

Part 1 Programming code 5.2.1, 5.2.2

Design and produce a website application with html/css/javascript/jQuery to be used by primary age students to learn and reinforce mathematical skills in addition, subtraction, multiplication and division.

- The application will ask the user for their name
- The user will be able to select the type of questions they would like to answer or there may be a setting to produce random questions - an option to select the type of question to be answered (+,-,*,/,Random)
- The user will be able to select the number of questions they would like to answer from 10 -100
- The code will produce random addition and subtraction questions and answers using numbers between 0 – 100
- The code to produce random multiplication and division questions and answers using numbers between 1 – 12
- There may be a graphical interactive component to help maintain interest.
- A timer may be used to track how long it takes to answer the question to give bonus marks
- The questions will be answered by typing an answer into a text box
- The application will tell the user each time they get an answer correct or incorrect and show the score
- There should be an easy to read display of the question
- There should be a menu for exit, help and about the author
- Use of good design principles
- Use of intrinsic documentation (using useful variable/file names)
- Use of internal documentation (comments made in the source code)

<u>Part 1</u> - The functioning application should be submitted through canvas.

<u>Part 2</u> - **Documentation**

1. <u>Defining and analysing the problem 5.1.1</u>:
   - Identify the need for the solution or problem
   - Describe factors that impact on problem solving. Include time, technical, operational, financial and ethical factors
2. <u>Designing possible solutions 5.2.2, 5.2.3</u>:
   - IPO Table for the program
   - Research and evaluation of an existing solution e.g. Maths Circus
   - Draw up at least two different storyboards. Evaluate your design ideas.
   - Am algorithm flowchart for the subtraction and division modules
   - Pseudocode for the addition and multiplication modules
3. <u>Producing solutions 5.1.1</u>:
   - Written report of testing and evaluation.
   - Test the site on more than one browser. Check content for accuracy (facts, spelling, and grammar) and test all links
4. <u>Final Evaluation 5.2.3:</u>
   - Clearly state how the design criterion has been met
   - Comment on functionality and quality
   - An explanation of how the program and boundaries were tested and how errors were corrected
   - Arrange to ask for feedback from your peers or target market and document responses
5. <u>Project management 5.2.3</u>:
   Time management – schedule of tasks to be completed: Gantt Chart
   - Present a sequential breakdown of individual tasks showing the relationship between tasks and the time taken for each task.
   - The duration of tasks are shown as horizontal bars
   - Labelled axes (Y-axis for tasks and X-axis for time)
   - A time scale shown, including dates
   - Includes milestones

   Logbook entries completed showing all four components:
   - Date
   - Description of the progress made since the last entry
   - Descriptions of stumbling blocks or issues encountered and how they were managed
   - Reflective comments
   - The first logbook entry should contain the backup strategies
   - Critically analyse your decision making process

Part 2 - Documentation should be presented in a Portfolio format as a hard copy in a display folder.

IMPORTANT INFORMATION FOR ALL STUDENTS

- ***If a student is ill on the day this assessment task is scheduled, they MUST provide a doctor's certificate on the day of their return to school. The School must be notified by phone at the <u>beginning</u> of the day of the task if a student is absent.***

- ***This assessment must be given to the class teacher or Head of Department by 4pm on the due date. Tasks handed in after this time will be regarded as late, and will attract a penalty.***

- ***A computer malfunction is not an acceptable excuse for non-submission of an assignment.***

- ***Electronic dictionaries are <u>not</u> to be used in tests.***

- **PLAGIARISM :** ***Please read the section on Malpractice in the Assessment Handbook. Assessment tasks containing plagiarised material may be awarded zero marks.***

- **REFERENCING :** ***All work must be referenced appropriately using the Harvard referencing system.***

Year 10 IST Assessment Task Marking Guidelines
Software Development and Programming

Name _____

Marking Criteria	Marks And Grades	Mark and Grade Gained
• demonstrates extensive knowledge and understanding of, and skills in, selecting and justifying the application of appropriate software programs to a range of tasks • is a critical thinker who insightfully and creatively describes and applies problem-solving processes when creating solutions • independently designs, produces and evaluates appropriate solutions to a range of challenging problems • independently and critically analyses decision-making processes in a range of information and software solutions • independently and logically communicates, using appropriate documentation, complex ideas and solutions to a variety of audiences	**90-100** **A**	
• demonstrates thorough knowledge and understanding of, and skills in, selecting and justifying the application of appropriate software programs to a range of tasks • confidently applies problem-solving and decision-making processes when designing, producing and evaluating solutions for a range of challenging situations • designs, produces and evaluates appropriate solutions to a range of challenging problems • critically analyses decision-making processes in a range of information and software solutions • coherently communicates, using appropriate documentation, complex ideas and solutions to a variety of audiences	**75-89** **B**	
• demonstrates sound knowledge and understanding of, and skills in, selecting and justifying the application of appropriate software programs to a range of tasks • applies problem-solving and decision-making processes when designing, producing and evaluating solutions for a range of situations • designs and produces appropriate solutions to a range of challenging problems • analyses decision-making processes in a range of information and software solutions • communicates, using appropriate documentation, complex ideas and solutions to a variety of audiences	**55-74** **C**	
• demonstrates basic knowledge and understanding of, and skills in, selecting and using the application of appropriate software programs to a limited range of tasks • applies basic problem-solving processes when creating solutions • designs and produces basic solutions for familiar situations • applies elementary problem-solving or decision-making processes when designing, and producing solutions for some familiar situations. • with support, communicates, using limited documentation, ideas and solutions to an audience.	**< 55** **D**	

Feedback _____

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