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| **BTEC Level 3 Certificate and Diploma in ICT Systems and Principles**  |
| **Assessment Title: Paint calculator project**  |
| Assessor: Bob Higgie | Student: | Course code:  |
| Unit Number: 51 | Unit Title: Software Design Fundamentals | Assessment Code: U51.03 |
| Hand out Date :15/02/17 | Hand in date: 17/02/17 | Date handed in: |

**Individual Target:**

1.2

Describe the application and limits of programming paradigms procedural, object oriented and event driven and the available supporting tools and environments (eg case tools, IDEs)

1.3

Explain sequence, selection and iteration as used in computer programming

1.4

Explain abstraction of data and code and the use of predefined data and code in computer programming

1.5

Explain the importance of the readability and understandability of code and how these can be improved by naming, comments and layout

1.6

Describe how the following factors contribute to the quality of code: efficiency, reliability, robustness, usability, portability and maintainability

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| **Actual Grade** | **Grading criteria**  | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 |  |  |  |  |  |  |  |  |  |  |  |  |
| **Achieved?** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Please note that the grade that you have been awarded is subject to confirmation by the awarding body.

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| **Scenario**The client has accepted your design and now wants you to implement the program and demonstrate it working. **Task 1 (Criteria 1.2)**Using examples (code snippets from your program or those done in class) give reasons why the features of procedural, batch, object oriented and event driven programming and their IDEs influenced your choice of which to use. Demonstrate the operation of the program (witness statement) to show how your choices have resulted in the program meeting requirements.**Task 2 (Criteria 1.3 and 1.4)**Using examples (code snippets from your program) demonstrate (witness statement) how you have used sequence, iteration and selection. Also, submit code snippets appropriately labelled.**Task 3 (Criteria 1.5 and 1.6)**Explain what is required to produce a high-quality software product and how code may be improved using considerations like efficiency, reliability, robustness of a program, usability, portability and maintainability. Illustrate this task with examples from your program. Submit annotated examples from your program that improve the readability of code, highlighting naming, comments and layout. |

**What to hand in:**

Task One **–** A completed witness statement and annotated code snippets

Task Two – A completed witness statement and annotated code snippets

Task Three –Annotated code snippets

The witness statement signed by the assessor will be emailed to you for inclusion in your submission.

**How to hand in your assessment**

This assessment must be uploaded onto the VLE by the hand in date on the front of the assignment brief.

If you have a valid reason why you will not be able to hand in the work on time (up to 3 days later), you will need to fill out and hand in an AE1. If you need to ask for a longer extension you will need to fill out and hand in an AE to your Head of School at least two days before the assessment deadline.

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| **Student declaration:**By uploading my work to the VLE I declare that:* I have read the Assignment Submission Procedure.
* I agree that this is my own work or my own work and that of other members of my group. It has not been copied (plagiarised) from any other source e.g. the internet, a book, another student or group of students.
* I know that I may FAIL this assignment if my Head of School proves that this is not my own work.
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For staff use only.

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| **Internal Verification** | This assessment has been verified and form IV8 completed: | IV name: | IV signature: | Date: |