Document Management System

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| **Student Name:** |  |
| **Student Number:** |  |
| **Unit Title:** | Programming in Java |
| **Lecturer:** | Darren Pascall |
| **Group:** | September Start 2014/15 |
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| **Final Submission:** | 16th January 2015 |
| **IV Name & Date:** |  |

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| Unit Learning Outcomes |
| **LO1:** Understand the principles of programming in Java |
| **LO2:** Be able to design Java solutions |
| **LO3:** Be able to implement Java solutions |
| **LO4:** be able to test and document Java solutions |

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| Assessment Summary |
| You have just left university and have joined a secondary school as a Lead Systems Architect.  **You first project is to create a document management system that allows for the storage of documents in PDF format.**  Your first task is to create the PDF documents that will be stored in system. The first set of documents will cover the Java programming language and will be used a reference material for teachers who will be teaching Java to GCSE and A-Level students. **You will receive a separate document with document title and a summary of what each document should contain.**  Your second task is to collate all those PDF documents together into a document system that allows the user to **see what documents are available, open documents and delete documents.** There should be a simple menu system. You must add the documents to the system to demonstrate its effectiveness. You should use a suitable design methodology and produce all relevant documentation. |

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| Submission Format |
| I have created shared folders for you in Google drive. You need to upload all the relevant documents that are required. You must send an email to confirm uploading before the submission dates, failure to do so will count as a late submission. |
| Tasks |
| Task One:Document Creation ***This task relates to assessment criteria 1.1 and 1.2*** Summary There is a need for the creation of reference material for Java for 14 – 19 year old students. Each document should be a maximum of three pages and have at least one example. DocumentsIntroduction to Java This document should include:   * A brief history of Java * A description of the key features of Java e.g. class-based, object-oriented, compiled into byte code, etc. * The reasons for choosing Java as a language for building applications for desktops and web * A brief description of the software and specifications that make up the Java platform * A description of the Java environment within NetBeans  Object Oriented Programming This document should include:   * Definitions of object oriented terms and examples for each. Consider: * Classes * Encapsulation * Methods * Polymorphism * Inheritance * Abstraction  Arrays This document should include:   * Definition of an 1D and 2D array * Examples of both type of arrays being used  Iteration This document should include:   * Description of the different types of iteration structures * Examples of each type  Selection This document should include:   * Description of the different types of selection structures * Examples of each type  Conditional and logical statements This document should include:   * A breakdown of conditional and logical statements including how to construct them and how they are evaluated  Variables, Data Types and Assignment Statements This document should include:   * A description of the different data types and how to declare them in Java * How to assign values to variables in Java * An appropriate naming convention for Java variable, classes, objects and methods * How variables are used within a class and how they can be accessed  Input Statements and Output Statements This document should include:   * How to obtain input into java applications * How to produce output from java applications |

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| Task TwoSystem Creation This task relates to assessment criteria 2.1, 2.2, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 4.2, 4.3, 4.4 and 4.5. Summary There is a need for the creation of a document management system. The files can be stored on disk and then retrieved when necessary. The system requires a **very simple menu system** that **allows users to select a document based on title**. The document can then open in its default application.  Each document stored should have some basic information attached to it, namely:   * Document ID * Title * Date Uploaded * Uploaded By * Summary * File Name   The system should contain the Java reference documents as a pre-requisite. This will demonstrate the usefulness of the system.  Your design must include:   * Specification – This document should be no more than 2 pages, so ensure that you are succinct.   + Brief Description   + Inputs   + Outputs   + Basic Algorithm   + Interface Design   + Modules   + Data   + File Structures   + Constraints   + Timescale * System Design   + Use Case Diagram   + Detailed Algorithm for each module   + Data Dictionary   + Class Diagrams   Your program code must be object-oriented and modularised. This means you must include:   * Class Definitions with attributes and methods (use inheritance and polymorphism if relevant) * A main class that is the controller for the system * Relevant data types * Arrays and files * Relevant selection and iteration statements   Your testing must include   * Test Plan * Test Report * User Questionnaires * Questionnaire Analysis * Recommendations * Maintenance and Support Guidance – (How to fix problems and how to get support if guidance does not help)  Necessary Documentation  * 1. Specification – **2.1, 2.2**   2. System Design – **2.2**   3. Fully Annotated Source Code – **3.1, 3.2, 3.3, 3.4, 3.5**   4. Full Alpha Testing Documentation – Test Plan, Test Report - **4.1, 4.2**   5. Full Beta Testing Documentation – Questionnaire Analysis, Recommendations - **4.3**   6. User Guide – **4.4**   7. Maintenance and Support - **4.5** |

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| GRADING CRITERIA |
| This assessment task gives you the following grading opportunities: |
| Grade Criteria at a Pass: |
| **1.1** discuss the principles, characteristics and features of programming in Java |
| **1.2** critically evaluate the environmental flexibility of programming in Java |
| **2.1** design a Java programming solution to a given problem |
| **2.2** explain the components and data and file structures required to implement a given design |
| **3.1** implement a Java programming solution based on a prepared design |
| **3.2** define relationships between objects to implement design requirements |
| **3.3** implement object behaviours using control structures to meet the design algorithms |
| **3.4** identify and implement opportunities for error handling and reporting |
| **3.5** make effective use of an Integrated Development Environment (IDE) including code and screen templates |
| **4.1** critically review and test a Java programming solution |
| **4.2** analyse actual test results against expected results to identify discrepancies |
| **4.3** evaluate independent feedback on a developed Java program solution and make recommendations for improvements |
| **4.4** create user documentation for the developed Java program solution |
| **4.5** create technical documentation for the support and maintenance of a Java program solution. |

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| Grade Criteria at a Merit | |
| ***In addition to the above Pass Criteria:*** | |
| Descriptor | How achieved |
| Identify and apply strategies to find appropriate solutions | *The specification shows that you have considered a variety of options and selected an appropriate one based on its merits* |
| Select/design and apply appropriate methods/ techniques | *Object modelling has been demonstrated with effective use of UML or an alternative modelling technique* |
| Present and communicate appropriate findings | *The reference and technical documentation is professional in appearance and is appropriate for its audience.* |
| Grade Criteria at a Distinction | |
| ***In addition to the above Merit criteria:*** | |
| Descriptor | How achieved |
| Use critical reflection to evaluate own work and justify valid conclusions | *Your beta testing includes recommendations that are relevant, realistic and connected to original requirements* |
| Take responsibility for managing and organising activities | *You have demonstrated that you are capable of completing a sizeable project within a limited period and have used a framework to guide you in project completion.* |
| Demonstrate convergent/lateral/creative thinking | *You have managed to complete the document management system, it meets the requirements, and have provided reference material that is useful, effective and well written.* |

# Plagiarism

Plagiarism is a particular form of cheating. Plagiarism must be avoided at all costs and students who break the rules, however innocently, will be penalised. You must keep a careful record of all sources you use, including all internet material. It is your responsibility to ensure that you understand correct referencing practices. These are referred to in the Handbook. Please consult the relevant unit lecturer or your course tutor if you need any further advice. As a university level student, you are expected to use appropriate references and keep carefully detailed notes of all your sources of materials, including any material downloaded from the Internet.

# Student Declaration

I certify that the contents of my assignment will be entirely my own work and understand fully the consequences of plagiarism:

# Signature: ……………………………………………………………