**Assignment Cover Sheet**

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| **Qualification** | | **Module Number and Title** | |
| HD in Computing and Software Engineering /Network Technology and Cyber Security | | CSE 4002  Fundamentals in Programming | |
| **Student Name & No.** | | **Assessor** | |
|  | |  | |
| **Hand over date** | | | **Submission Date** |
|  | | |  |
| **Assessment type** | **Duration/Length of**  **Assessment Type** | | **Weighting of Assessment** |
| **Coursework** | Report and Software Submission  (3000 words) | | 100% |

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| **Learner declaration** | |
| I, ………………………………………….<name of the student and registration number>, certify that the work submitted for this assignment is my own and research sources are fully acknowledged. | |
| |  |  |  |  | | --- | --- | --- | --- | | **Marks Awarded** | | | | | First assessor | |  | | | IV marks | |  | | | Agreed grade | |  | | | Signature of the assessor |  | Date |  | |

**Feedback Form**

**International College of Business & Technology**

**Module :** CSE 4002

**Student :**

**Assessor :**

**Assignment** **:** Book management system for GENIUS BOOKS

**Strong features of your work:**

**Areas for improvement:**

**Marks Awarded:**

**Course Work and Practical Assessment**

This assignment is worth 100% of the overall assessment for this module.

**Learning outcomes covered**

LO1. Explain structured programming concepts

LO2. Design a basic structured computer program

LO3. Developed a modularized computer programme for a prepared design

LO4. Compile software testing and documentation

**Scenario**

**GENIUS BOOKS** is a famous bookshop in the city and the company management wants to create an application to manage their main processes.

Create an error free, effective one with user friendly interfaces (GUI/Console), appropriate messages, outputs and menu driven application using C++ programming language. Students can use appropriate data structures and text files to store information.

**Main requirements are.**

* View available book Details.
* Add/Update/Delete book details.
* Manage Sales details.

**Other requirements are.**

* User login.
* Logout.
* Exit.
* View Company Details.

**Carefully investigate the given scenario and provide the proposed solution.**

**Attach softcopy of error free program with your documentation.**

**Keep all the backups**

**TASKS**

**Task 01 – Programming methodology (LO1) -Report**

Describe importance of programming and basic structured programming concepts. (i.e., sequence structure, selection structure and repetition structure). Use flow charts or C++ code samples to demonstrate logical examples for above 3 structures. Describe modularization concept and explain advantages of modularization*.* ***(10 marks)***

**Task 02 - System Design (LO2) -Report**

Identify the requirements of the system to be implemented and **produce detailed System Requirement Specification (SRS). Design flow charts** according to the SRS.

* Use appropriate modularization to reduce the complexity of the design*.* ***(20 marks)***

**Task 03 – System Implementation (LO3) - Software submission**

Implement a functional C++ program to meet the requirements given in the specification, by following the design created above. ***(40 marks)***

**Task 04 - System Testing and Documentation (LO4) -Report**

Produce proper testing documentation including test plan, test cases and test results. Conduct user acceptance testing and provide feedback with sample questionnaires used.

* Proper **standard documentation** need to be followed throughout the report and language need to be used accordingly. ***(30 marks)***

**Assessment Criteria**

**Task 01 –** Programming Methodology **(LO1)**

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| **This submission will be assessed as follows**  **Criteria** | **Total marks Allocated** | **Marks obtained by the student for the answer provided** |
| **Out of 10** |
| **Excellent** Understanding   * Outstanding/Excellent answer given with strong discussion providing appropriate examples * Excellent knowledge in basic programming methodology * Evidence of Research and proper use of referencing | 8-10 |  |
| **Good** Understanding   * Comprehensive answer given with very good understanding providing appropriate examples * Good knowledge in basic programming methodology | 6-7 |  |
| **Satisfactory** Understanding   * A satisfactory answer with a demonstration of basic understanding of the programming methodology * Very basic answer with limited examples | 4-5 |  |
| **Poor** Understanding   * lack of understanding about basic programming concepts * Task is not attempted or attempted with an insufficient, incomplete answer | 0-3 |  |

**Task 02 -** System Design **(LO2)**

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| **This submission will be assessed as follows**  **Criteria** | **Total marks Allocated** | **Marks obtained by the student for the answer provided** |
| **Out of 20** |
| **Excellent** Design   * Excellent SRS given in detail * Highly **detailed** diagram * **Use of modularization** concepts clearly visible * **Excellent use of symbols** * **Clarity and Reduce complexity** of the design * Backed by relevant assumptions | 15-20 |  |
| **Good** Design   * Detail **SRS** including functional and non-functional requirements, data and file structure requirements * **Flow charts** following standard notations in flow charting **and pseudo codes** using proper structured English * **Accurate use** of selection repetition structures * **Logical** and continuous flow of instructions along the design | 13-14 |  |
| **Satisfactory** Design   * Basic **SRS** including functional requirements * **Clear identification** and **application** of symbols in flow charts * Average level design diagrams given | 9-12 |  |
| **Poor** Design   * Evidence of lack of understanding systems requirement specification * Poor use of design tools and symbols * Design diagrams with invalid flows, incomplete diagrams with logical errors | 0-8 |  |

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| **Task 03** – System Implementation (LO3) | | |
| **This submission will be assessed as follows**  **Criteria** | **Total marks Allocated** | **Marks obtained by the student for the answer provided** |
| **Out of 40** |
| **Excellent** implementation   * Excellent use of **control structures** with improved coding efficiency * Use **file handling** techniques for storage and backup requirements * **Excellent Modularization** with **effective data passing** between developed modules. * Appropriate **arrays, structs(records)** used * Easy navigation between modules, **accuracy, creativity and completeness** of the system | 29-40 |  |
| **Good** implementation   * Use of **Comments** to improve code readability * good use of **control structures** with proper understanding * **Modularize** according to the given design. * Use of input validations, onscreen help options and User friendliness of the system | 25-28 |  |
| **Satisfactory** implementation   * **Operational system** according to the requirements of the scenario * Average use of **data types** and **operators** * Average use of **control structures** (selection and repetition) | 17-24 |  |
| **Poor** implementation   * Poor implementation with syntax errors * Lack of knowledge of the language basics used * Cannot fulfill basic system requirements | 0-16 |  |

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| **Task 04** - System Testing and Documentation (LO4) | | |
| **This submission will be assessed as follows**  **Criteria** | **Total marks Allocated** | **Marks obtained by the student for the answer provided** |
| **Out of 30** |
| **Excellent** Documentation   * Excellent Test documentation with detail **test plan** and **test cases** * Acceptance test with proper questionnaire samples.Well analyzed user feedback which supports recommendations. * **Testing conclusion** with critical review and future recommendations * Appropriate use of language and Standard report format followed * Proper use of Referencing | 22-30 |  |
| **Good** Documentation   * Detailed **Test Plan** * Appropriate **Test Cases** * Acceptance test with **User feedback** and test **conclusion** * Good documentation | 19-21 |  |
| **Satisfactory** Documentation   * Basic **Test Plan** * Average **Test Cases** * Average documentation | 13-18 |  |
| **Poor** Documentation   * Lack of test plan, poor test cases * No proper evidence of testing * Poor report formatting | 0-12 |  |
|  | | |
| **Total Marks** | **100** |  |

**Submission Guidelines**

* Submission format Report
* Paper Size: A4
* Words: 3000 words
* Printing Margins: LHS; RHS: 1 Inch
* Header and Footer: 1 Inch
* Basic Font Size: 12
* Line Spacing: 1.5
* Font Style: Times New Roman
* **Referencing should be done strictly using Harvard system**

**Final Grading criteria :**

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| Marks | Final Grade |
| >=70 | Distinction |
| 69-55 | Merit |
| 54-40 | Pass |
| <40 | Fail |