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| Student Name |  | | | | Student Number | |  | |
| Unit Code/s & Name/s | ICTPRG527 Apply intermediate object-oriented language skills. ICTPRG501 Apply advanced object-oriented language skills. | | | | | | | |
| Assessment Type | Portfolio of Evidence | | | | | | | |
| Assessment Name | Written Assignment  Programming Assignment | | | | Assessment Task No. | | AT1 | |
| Assessment Due Date |  | | | | Date submitted | |  | |
| **Assessor Feedback:**  **Student provided with feedback** *(check box when completed)* | | | | | | | | |
| **Attempt 1** | | Satisfactory | | Unsatisfactory | | Date | | / / |
| **Attempt 2** | | Satisfactory | | Unsatisfactory | | Date | | / / |
| Assessor Name |  | | Assessor Signature | | |  | | |
| Note to assessor: Please record below any reasonable adjustment that has occurred during this assessment e.g. written assessment given orally. | | | | | | | | |
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| Assessment criteria / benchmarks  **The evidence submitted demonstrates that the student satisfactorily:** | Attempt 1 | | Attempt 2 | |
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| 1. Create and sent an email to the Project Manager to obtain the **program specifications, programming guidelines** and gather other requirements and review the document in preparation for the development of the project. |  |  |  |  |
| 1. Prepared a technical report for the development of the applications that includes the following:   Explanation of mechanism use for inter-process communication  Explanation of Interface in OO programming and how to apply it for multiple inheritances  Explanation of design patterns concept in the Java framework |  |  |  |  |
| 1. Built and tested a **simple client application** using **Java** **architectural framework** based on the supplied program specifications and gathered requirements and making use of the following:   Write **codes following** the **standards** and **conventions** **outlined** in the **programming guidelines** with **block** **comments** to user-defined methods  **GUI components** such as web forms, buttons, labels, data grids etc.  Create **Help files** using **GUI components**  Subscribe to or consume the web service to **establish** **communication** and **data transfer** |  |  |  |  |
| 1. Built and tested a simple server application based on the supplied program specifications and gathered requirements to **implement remote procedure call (RPC)** based on **multiple** **inheritances** using **Java** **architectural framework** and making use of the following:   Write **codes following** the **standards** and **conventions** **outlined** in the **programming guidelines** with **block** **comments** to user-defined methods  Developed operation contracts to handle database operations  Developed data contracts to allow transfer of data  Nested classes |  |  |  |  |
| 1. Demonstrated programming skills by developing application with the following features:   **Drag and drop**  **2-D graphics** |  |  |  |  |
| 1. Used **debugging tools** including **trace** and **watches** to debug code to ensure syntax and logic errors are identified and complies with program specification and document errors in the Defect Log |  |  |  |  |
| 1. Create and prepared **test data** to **confirm code meets design** **specifications** |  |  |  |  |
| 1. Performed the test and prepared a **test summary report** and included in the technical report |  |  |  |  |
| 1. **Presented** the **technical report** to the project manager for **sign-off** |  |  |  |  |
| **Evidence of the student having demonstrating consistent performance:** |  |  |  |  |
| Develop client-server applications using an object-oriented language |  |  |  |  |
| Produce a graphical user interface (GUI) |  |  |  |  |
| Build, debug and test the applications |  |  |  |  |
| Produce documentation for the applications |  |  |  |  |
| Uses logical structure and layout, vocabulary, grammar and text conventions suited to the audience. |  |  |  |  |

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| 1. Built the application based on the student’s interpretation of the program specifications and gathered requirements:   Created two project files of different class packages  Persisted binary files objects in the form of .Exe  Created macros to automate repetitive programming actions and program building. |  |  |  |  |
| 1. Developed the Classes based on the student’s interpretation of the program specifications and gathered requirements:   Used error trapping techniques to trap logical errors and actioned as necessary  Used methods and method overloading to retrieve, insert, update, or delete data stored in the database and maintaining transactional integrity  Used of methods to manipulate database schema or structure  Wrote code following coding standards and naming conventions outlined in the programming guidelines |  |  |  |  |
| 1. Developed the GUI application on the student’s interpretation of the program specifications and gathered requirements:   Sorted and searched the internal storage Application Settings (Properties->Settings) to implement user preferences or settings on start-up  Used GUI components  GUI components responded to user’s actions  Used error trapping techniques to trap logical errors and actioned as necessary  Used a class with multiple inheritance  Wrote code following coding standards and naming conventions outlined in the programming guidelines |  |  |  |  |
| 1. Used debugging tools to detect logical and coding errors and corrections applied to comply with program specifications.   Used traces and watches to examine variables value and capture log of syntax and logic errors  Outlined solutions applied  Created a technical report  Screenshots and steps included in the technical report |  |  |  |  |
| 1. Created and prepared test data to confirm code meets design specifications |  |  |  |  |
| 1. Performed testing using prepared test data and compared against program specifications   Documented test results  Analysed results  Prepared a test summary report |  |  |  |  |
| 1. Included a section in the technical report to indicate how the program documentations will be maintained using suitable vocabulary and structure for the intended audience. |  |  |  |  |
| 1. Presented the software installation plan to the project manager for sign-off |  |  |  |  |
| **Evidence of the student having demonstrating consistent performance:** |  |  |  |  |
| * The requirements document or object-oriented design structures |  |  |  |  |
| * Programming languages that support object-oriented development |  |  |  |  |
| * The database management system (DBMS) |  |  |  |  |
| * The appropriate learning and assessment support |  |  |  |  |
| **The student has demonstrated competency in:** |  |  |  |  |
| Task skills - performing every task in the assessment at an appropriate skill level |  |  |  |  |

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| Task management skills - managing the various tasks in this assessment at an appropriate skill level, and within a working environment that replicates a workplace appropriate for software development. |  |  |  |  |
| Contingency management skills - managing issues that arise at an appropriate skill level, particularly in debugging the application, and within a working environment that replicates a workplace appropriate for software development. As well as, identifying technical or conceptual issues, and analysing these issues to resolve them. |  |  |  |  |
| Job role environment skills – operating and interacting appropriately and effectively within a working environment that replicates a workplace appropriate for software development. |  |  |  |  |
| Note: These checklist items are based on additional Critical Evidence, Required Skill and Required Knowledge not explicitly stated elsewhere in the assignment requirements checklists. |  |  |  |  |