Australian Government

ICTPRG549 Apply intermediate object-oriented language skills

Release: 2

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Modification History

Release	Comments
Release 1	This version first released with ICT Information and Communications Technology Training Package Version 6.0.

Application

This unit describes the skills and knowledge required to undertake intermediate level programming tasks using an object-oriented programming language.

It applies to software developers in a variety of fields who are required to produce programs in object-oriented languages.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Programming and software development

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Build applications	1.1 Determine and document program requirements according to object-orientated programming specifications
	1.2 Divide multiple source-code files into logical units and packages and collect data in internal storage
	1.3 Implement internal data-sorting and searching facilities according to object-orientated programming specifications
	1.4 Employ integrated-development environment facilities and make files to automate program building
	1.5 Use facilities in specific language for persisting objects to binary files and confirm program stability
2. Write interactive database programs	2.1 Design, document and implement programs that connect to the required database according to program specifications
	2.2 Design, document and implement programs that use language

ELEMENT	PERFORMANCE CRITERIA
	facilities according to program specifications
	2.3 Design, document and implement programs that use language facilities to manipulate database structure
	2.4 Write programs that deliver transactional integrity according to program requirements
3. Write graphical user interface	3.1 Employ graphical user interface (GUI) framework according to language requirements
	3.2 Use standard GUI components according to object-orientated programming specifications
	3.3 Respond to user and program-generated events and according to program requirements
4. Debug and test application	4.1 Examine variables and trace running code
	4.2 Detect logical and coding errors according to program requirements
	4.3 Examine variable contents during execution and detect and correct errors
	4.4 Design and document limited tests of code
	4.5 Test and document produced code and determine compliance with the program specification

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

SKILL	DESCRIPTION
Learning	• Monitors outcomes of decisions and results and identifies key concepts and principles that may be adaptable in the future
Oral communication	• Articulates information and requirements, using effective communication techniques and industry standard technical language intended for audience and environment
Reading	• Analyses and interprets technical documents
Writing	• Accurately records and completes documentation according to organisational formats and procedures • Writes and edits code and technical data in a logical manner using required syntax
Planning and organising	• Creates, and selects, a required application that meets the set requirements

SKILL	DESCRIPTION
Problem solving	• Identifies technical or conceptual issues, and applies analytical processes, to resolve these issues • Uses analytical and lateral thinking to review current practices, and to develop new or improved software or systems
Self-management	• Uses systematic processes, setting goals, gathering required information and identifying and evaluating options against agreed criteria
Technology	• Uses a range of digitally based technologies to access, extract, and share relevant information in order to achieve the required outcomes

Unit Mapping Information

Supersedes and is equivalent to ICTPRG527 Apply intermediate object-oriented language skills.

Links

Companion Volume Implementation Guide is found on VETNet -
https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2