



**Australian Government**

# **ICTPRG416 Manage a software component re-use library**

**Release: 1**

# ICTPRG416 Manage a software component re-use library

## Modification History

| Release   | Comments                                                                                                     |
|-----------|--------------------------------------------------------------------------------------------------------------|
| Release 1 | This version first released with ICT Information and Communications Technology Training Package Version 1.0. |

## Application

This unit describes the skills and knowledge required to store, document and maintain information and communications technology (ICT) components for reuse.

It applies to individuals in a software development area who are required to manage a library that contains reusable code.

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                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Elements describe the essential outcomes.</i> | <i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>                                                                                                                                                                                                                                                                                                                                 |
| 1. Specify the components for re-use library     | 1.1 Determine component suitability for reuse by checking its quality, and uses<br>1.2 Review the size and complexity of re-use components for generalisation, and remove project-specific refinements<br>1.3 Evaluate the components, including patterns, clusters and frameworks, and break them down into smaller components for greater flexibility or use<br>1.4 Review the components for duplication, and remove the duplicates |
| 2. Document the re-use                           | 2.1 Document the components internally and externally, to ensure                                                                                                                                                                                                                                                                                                                                                                       |

| ELEMENT                         | PERFORMANCE CRITERIA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| library                         | <p>efficient retrieval</p> <p>2.2 Document public constants, data structures, component interfaces and limitations</p> <p>2.3 Document the possible relationships between data structures or objects</p> <p>2.4 Provide an example code, demonstrating the use of components within the documentation</p> <p>2.5 Document the development environment configuration</p> <p>2.6 Provide simple test programs to prove the functionality of the library</p>                                                                                                                                                                                                                                      |
| 3. Set up the library structure | <p>3.1 Classify data structures or objects in a consistent and logical manner</p> <p>3.2 Ensure that the library has a logical structure so that the user is aware of the library contents, and can understand the logic of how the functionality may be used by another developer</p> <p>3.3 Develop the structure in such a manner that it avoids redundancy within the library</p> <p>3.4 Configure the development environment to automate the build of re-use components, and the library</p> <p>3.5 Take action to ensure that interfaces to the library components are consistent and abstracted</p> <p>3.6 Add, update, and remove re-use components, as development is undertaken</p> |

## Foundation Skills

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

| Skill   | Performance Criteria   | Description                                                                                                                                                                                                                                    |
|---------|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reading | 1.1-1.4, 3.2           | <ul style="list-style-type: none"> <li>Critically analyses documentation from a variety of sources and records, and consolidates information</li> </ul>                                                                                        |
| Writing | 2.1-2.6, 3.3, 3.4, 3.6 | <ul style="list-style-type: none"> <li>Communicates complex relationships between ideas and information, matching the style of writing to the purpose and audience</li> <li>Displays a knowledge of structure and layout, employing</li> </ul> |

|                   |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   |                  | appropriate vocabulary, grammatical structure and conventions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Get the work done | 1.1-1.4, 3.1-3.6 | <ul style="list-style-type: none"> <li>Sequences and schedules complex activities, monitors implementation, and manages relevant communication in producing a logical structure for the component library</li> <li>Uses systematic, analytical processes in complex, non-routine situations, setting goals, gathering relevant information and identifying, and evaluating, options against the agreed criteria when determining the suitability of components</li> <li>Applies formal problem-solving processes when tackling an unfamiliar problem, breaking complex issues into manageable parts, and identifying, and evaluating, several options for action</li> <li>Uses a systematic process to identify possible solutions to a difficult problem</li> <li>Understands the key principles and concepts underpinning the design, and operation, of digital systems and tools</li> </ul> |

## Unit Mapping Information

| Code and title<br>current<br>version                             | Code and title<br>previous<br>version                             | Comments                                                    | Equivalence<br>status |
|------------------------------------------------------------------|-------------------------------------------------------------------|-------------------------------------------------------------|-----------------------|
| ICTPRG416<br>Manage a<br>software<br>component<br>re-use library | ICAPRG416A<br>Manage a<br>software<br>component<br>re-use library | Updated to<br>meet<br>Standards for<br>Training<br>Packages | Equivalent<br>unit    |

## Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2>