



Australian Government

ICTPRG536 Design application architecture

Release: 1

ICTPRG536 Design application architecture

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 design the structure of software or systems components, and how they interact.

It applies to those who work as software architects, developers, designers, software engineers or programmers, and responsible for designing, and building, solution architecture.

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. Gather and confirm architecture requirements	1.1 Gather broad architectural requirements from required personnel 1.2 Establish and document architectural requirements
2. Design layered architecture	2.1 Separate areas of concern into logical layers according to architectural requirements 2.2 Determine cross-cutting concerns according to architectural requirements 2.3 Define system into components according to architectural requirements 2.4 Identify responsibilities of each component 2.5 Identify required interconnections between components
3. Plan a strategy to re-use	3.1 Determine and document a strategy for communicating with

ELEMENT	PERFORMANCE CRITERIA
components	external systems according to organisational policies and procedures 3.2 Interact with existing legacy components according to strategy
4. Design for globalisation and localisation	4.1 Determine and document culture specific information according to organisational requirements 4.2 Determine and document database design features according to architectural requirements 4.3 Select and document required user interface according to organisational requirements 4.4 Develop software product for specific country and worldwide distribution

Foundation Skills

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

SKILL	DESCRIPTION
Oral communication	Articulates requirements and responsibilities distinctively, using effective communication techniques and industry standard technical language intended for audience and environment
Reading	Interprets complex technical, and non-technical, information from a range of sources
Writing	Prepares technical workplace documents detailing processes and outcomes that fulfil the expectations of different stakeholders
Teamwork	Identifies, and explores, the differences between a diverse range of people and cultures in a programming context
Planning and organising	Takes responsibility for planning, sequencing, and prioritising tasks in order to achieve the required outcomes
Problem solving	- Uses a range of digital tools and sophisticated techniques, to meet the desired outcomes - 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

Unit Mapping Information

Supersedes and is equivalent to ICTPRG506 Design application architecture.

Links

Companion Volume Implementation Guide is found on VETNet -

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

Assessment Requirements for ICTPRG536 Design application architecture

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Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- design application architecture with at least five layered applications
- configure applications and adapt to at least two different locations.

In the course of the above, the candidate must:

- adapt a software product to a target market
- document processes and outcomes.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- principles of database design that may apply to designing application architecture
- industry standard software development methodologies
- object-oriented programming and its role in application architecture
- software development life cycle relevant to designing application architecture.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- both functional and non-functional requirements
- tools to design software architecture
- specific information for target market and audience.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

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