Australian Government

Department of Education, Employment and Workplace Relations

ICAPRG514A Prepare for software development using rapid application development

INDUSTRY
SKILLS
COUNCILS
Creating Australia's Future

ICAPRG514A Prepare for software development using rapid application development

Modification History

Release	Comments
Release 1	This Unit first released with *ICA11 Information and Communications Technology Training Package version 1.0*

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to carry out rapid application development (RAD), in the context of preparing for software development.

Application of the Unit

This unit applies to programmers in a variety of IT areas who are required to develop software using RAD.

The selection and use of suitable RAD tools can have an impact on cost and quality of a software project and should be carefully selected and used with code projects.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement but users should confirm requirements with the relevant federal, state or territory authority.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
Elements describe the essential outcomes of a unit of competency.	*Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.*

Elements and Performance Criteria

1. Determine RAD requirements	1.1 Select and demonstrate use of the most suitable industry standard *tool set*
	1.2 Implement a prioritised plan using a series of recursive stages of build and review for delivery of the *system*
	1.3 Implement and incorporate a physical *database*
	1.4 Identify, *document* and schedule modules to be implemented by incremental development techniques
	1.5 Identify and formally allocate responsibilities to authorised user and suitably skilled builders for each module
	1.6 Plan for and document the endorsement of reviews, administration schedules and development milestones
2. Determine work metrics	2.1 Set development goals
	2.2 Seek and secure agreement on and adherence to single common notation
	2.3 Determine tools, features and techniques most appropriate to the development environment
	2.4 Facilitate, plan, develop and document version and change control methods
	2.5 Facilitate training and exposure to the user participants via RAD
3. Implement administration method	3.1 Determine and reach agreement of *stakeholders* on the specifics
	3.2 Confirm dates for milestones with stakeholders and secure with written agreement
	3.3 Inform production system parties and secure with written acknowledgment
	3.4 Administer and maintain relevant time recording and management methodologies

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to:
  - liaise with stakeholders and users, especially when seeking agreement from all parties
  - facilitate training
- literacy skills to interpret and write technical documents
- planning and organisational skills to manage risk when a prioritised plan is implemented, using a series of recursive stages of build and review for delivery of the system
- problem-solving skills to determine RAD requirements.

Required knowledge

- broad knowledge of industry-accepted prototyping tools
- detailed knowledge of:
  - client business
  - two or more programming languages
- overview knowledge of:
  - quality assurance practices
  - two or more current industry development methodologies.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the ability to: • use RAD tools and prototyping methods in order to meet client requirements • document the outcomes of the RAD.
Context of and specific resources for assessment	Assessment must ensure access to: • computer-aided software engineering tools (CASE) repository to facilitate the re-use of templates and components • CASE tools • detailed user requirements • prototyping software • requirements document, including model and scope • appropriate learning and assessment support when required • modified equipment for people with special needs.

Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:
	
	• observation of candidate participating in RAD
	• review of candidate's documentation of RAD process
	• verbal or written questioning to assess candidate's knowledge of:
	  • client business requirement
	  • RAD process.

Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, where appropriate. Assessment processes and techniques must be culturally appropriate, and suitable to the communication skill level, language, literacy and numeracy capacity of the candidate and the work being performed. Indigenous people and other people from a non-English speaking background may need additional support. In cases where practical assessment is used it should be

	combined with targeted questioning to assess required knowledge.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Tool set may include:	- bug analyser - code beautifier - compiler - integrated development environment - test harness software.
System may include:	- application service provider (ASP) - applications - databases - gateways - internet service provider (ISP) - operating system - servers.
Database may include:	- commercial off-the-shelf (COTS) database packages - object-relational databases - proprietary databases - relational databases.
Documentation may follow:	- audit trails - client training - International Organization for Standardization (ISO), International Electrotechnical Commission (IEC), and Australian Standards (AS) standards - maintaining equipment inventory - naming standards - project management templates and report writing - satisfaction reports - version control.
Stakeholders may include:	- development team - project team - sponsor - user.

Innovation and Business Skills Australia

Unit Sector(s)

Programming and software development