



Australian Government

Department of Education, Employment and Workplace Relations

ICAPRG419A Analyse software requirements

Release: 1

ICAPRG419A Analyse software requirements

Modification History

Release	Comments
Release 1	This Unit first released with <i>ICAI1 Information and Communications Technology Training Package version 1.0</i>

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to research and analyse client requirements, produce a range of options, and create a software requirements document.

Application of the Unit

This unit applies to individuals in a range of work environments who are required to perform an analysis role in formulating software requirements.

These individuals may work as database or computer developers, business analysts or project managers.

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
<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>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.</i>

Elements and Performance Criteria

1. Gather and confirm client requirements	<p>1.1 Confirm requirements and scope with the <i>client</i></p> <p>1.2 Gather information regarding requirements via <i>sources of information</i> and business processes</p> <p>1.3 Analyse client requirements to determine the <i>project scope</i> and the problem context or opportunity faced by the business</p> <p>1.4 Document client requirements, project scope, related problems and sources of information</p>
2. Analyse functional and related non-functional requirements	<p>2.1 Map business processes using modelling tools, such as <i>unified modelling language</i> (UML)</p> <p>2.2 Determine opportunities for business process efficiencies</p> <p>2.3 Document functional and related non-functional processes</p>
3. Analyse the feasibility of a project	<p>3.1 Analyse the technical <i>feasibility</i> of the project</p> <p>3.2 Analyse the operational feasibility of the project</p> <p>3.3 Determine the budget and schedule feasibility of the project</p> <p>3.4 Examine how the project will fit within the organisation</p>
4. Develop high-level system solutions	<p>4.1 Develop and document feasible <i>solutions</i> for client <i>requirements</i></p> <p>4.2 Explore and document the feasibility of each solution</p> <p>4.3 Examine alternatives against project <i>constraints</i></p> <p>4.4 Document assumptions, dependencies and required <i>resources</i></p> <p>4.5 Produce a project risk analysis</p> <p>4.6 Document future requirements</p>
5. Prepare and publish software-requirements documentation	<p>5.1 Develop <i>software-requirements document</i></p> <p>5.2 Submit software-requirements report to <i>appropriate person</i> for <i>project</i> approval</p>

Required Skills and Knowledge

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

Required skills

- analytical skills to:
 - evaluate audience needs
 - model business processes
- communication skills to:
 - determine appropriate content, formats and styles
 - question and actively listen
- literacy skills to:
 - evaluate and present information
 - write reports for business requiring in-depth analysis and evaluation of information in a defined range of areas
- numeracy skills to produce financial models for identifying, analysing and evaluating a range of solutions
- planning and organisational skills to:
 - identify target audiences
 - plan projects in relation to scope, time, cost, quality, communications and risk management
- problem-solving skills to identify viable solutions to meet client requirements
- research skills to:
 - identify, analyse and evaluate broad features of a particular business domain and best practice in system development
 - identify relevant content
- technical skills to:
 - use modelling tools
 - use word-processing software and multimedia-authoring tools.

Required knowledge

- client-business domain
- content features, such as clarity and readability
- detailed knowledge of the system's current functions
- document design and usability
- functions and features of templates and style guides
- instructional-design principles
- role of stakeholders and the degree of stakeholder involvement
- two or more current industry systems 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	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • research and analyse client requirements in order to present a range of solution options • create a software requirements document applying content format and style according to relevant organisational standards.
Context of and specific resources for assessment	<p>Assessment must ensure access to:</p> <ul style="list-style-type: none"> • specific requirements, including client and functionality • word-processing software, such as Microsoft Word • modelling software currently used in industry • appropriate learning and assessment support when required • modified equipment for people with special needs.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • review of candidate's software requirements documentation • verbal or written questioning to assess candidate's knowledge of modelling tools.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, where appropriate.</p> <p>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.</p> <p>Indigenous people and other people from a non-English speaking background may need additional support.</p> <p>In cases where practical assessment is used it should be combined with targeted questioning to assess required knowledge.</p>

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.

<i>Client</i> may include:	<ul style="list-style-type: none"> • external organisations • individuals • internal departments • internal employees.
<i>Sources of information</i> may involve:	<ul style="list-style-type: none"> • business-strategic plans • change-management plans • current systems-design plans • project-management plans.
<i>Project scope</i> may include:	<ul style="list-style-type: none"> • budget • features • hardware • policy and legal constraints • resource • software • time.
<i>Unified modelling language</i> may include:	<ul style="list-style-type: none"> • activity diagram • class diagram • use-case diagram • use-case narrative.
<i>Feasibility</i> may include:	<ul style="list-style-type: none"> • economic and schedule feasibility as well as the principal inputs and outputs • expected improvements and impacts • operational feasibility • physical requirements of each solution • revenue and cost-benefits • risks • technical feasibility.
<i>Solutions</i> may include:	<ul style="list-style-type: none"> • hardware upgrades • new system implementation • new hardware • new software • software upgrades • user training.

Requirements may be in reference to:	<ul style="list-style-type: none"> • application • business • network • organisational policies • people in the organisation • system.
Constraints may include:	<ul style="list-style-type: none"> • budget • hardware • legal • organisational policy • resources • software • time.
Resources may include:	<ul style="list-style-type: none"> • equipment • infrastructure • networks • personnel.
Software requirements document may include:	<ul style="list-style-type: none"> • brochures • help references, such as online help • operational procedures • reports • solution design • solution feasibility • system design • system functionality • system or project specifications • technical manuals • training materials and self-paced tutorials • user guides.
Appropriate person may include:	<ul style="list-style-type: none"> • authorised business representative • client • supervisor.
Project may include:	<ul style="list-style-type: none"> • business improvement process • ebusiness solution involving the total organisation or part of the organisation • projects involving a business undertaking a total organisational change • systems-only change.

Unit Sector(s)

Programming and software development