



Australian Government

Department of Education, Employment and Workplace Relations

ICAA5141C Design and develop dynamic websites to meet technical requirements

Release: 1

ICAA5141C Design and develop dynamic websites to meet technical requirements

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	<p>This unit defines the competency required to produce a plan that analyses specified technical requirements and then designs, builds and tests a dynamic website so that it meets those technical requirements.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.</p>
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Application of the Unit

Application of the unit	
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Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Prerequisite units		
	ICAA4142C	Design a website to meet technical requirements

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

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.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan the design process	1.1. Produce a plan to analyse the <i>technical requirements</i> 1.2. Plan and document a process to design, build and test the dynamic website so that it meets those <i>technical requirements</i> , and <i>web development standards</i> which allow for iterative development
2. Analyse the technical requirements	2.1. Determine and document the purpose, expectations and functionality of the website 2.2. Determine and document appropriate dynamic methodologies 2.3. Determine and document the <i>architecture requirements</i> for the website 2.4. Determine and document the <i>hardware</i> and <i>software</i> required to design the website 2.5. Determine the <i>requirements for documentation</i> 2.6. Determine and document appropriate design methodologies, such as utilising software engineering life cycle models
3. Design the website	3.1. Produce a hierarchy of the website showing how it will be navigated 3.2. Design the <i>client</i> side, with consideration to appropriate design concepts and specific <i>requirements</i> of dynamic methodologies 3.3. Design the <i>server</i> side, considering the specific <i>requirements</i> of the dynamic methodologies, such as scripting and <i>database</i> selection 3.4. Design approved associated script program 3.5. Document the design process
4. Develop the website to the specified design	4.1. Produce the <i>client</i> and <i>server</i> sides 4.2. Produce the graphics and associated sound, animation or video 4.3. Produce associated script program
5. Test the website	5.1. Test the website against the <i>technical requirements</i> and record results 5.2. Test the website on-line against <i>technical requirements</i> and with representative <i>user</i> and record results 5.3. Complete the technical <i>documentation</i>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Website analysis
- HTML
- Scripting
- Information architecture
- Use of site design software and hardware
- User analysis
- Integrating on-line processes
- Ensuring site usability
- Confirming accessibility of website design

Required knowledge

- Website architecture
- Business process design
- Linkage between processes
- Customer and business liaison
- E-business sites and corporate strategy
- Implications of technology connectivity
- Stateless programming
- Copyright and intellectual property
- National Privacy Principle Guidelines
- The Commonwealth Privacy Act 1988 as amended by the Privacy Amendment (Private Sector) Act 2000
- National Privacy Principles
- Documenting technical specifications
- Electronic Commerce Modelling Language
- Australian Computer Society Code of Ethics

Evidence Guide

EVIDENCE GUIDE	
<p>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.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • Assessment must confirm the ability to identify the technical environment and human computer interface and select appropriate tools and procedures in order to develop an effective dynamic website. An effective site takes into account current and future technical needs. <p>To demonstrate competency in this unit the following resources will be needed:</p> <ul style="list-style-type: none"> • Web servers • E-business website • Site server • Site server software • Analysis software • Requirements documentation • Customer relationship model
Context of and specific resources for assessment	<p>The breadth, depth and complexity covering planning and initiation of alternative approaches to skills or knowledge applications across a broad range of technical and/or management requirements, evaluation and coordination would be characteristic.</p> <p>The demonstration of competency may also require self-directed application of knowledge and skills, with substantial depth in some areas where judgement is required in planning and selecting appropriate equipment, services and techniques for self and others.</p> <p>Assessment must ensure:</p> <ul style="list-style-type: none"> • Applications involve participation in development of strategic initiatives as well as personal responsibility and autonomy in performing complex technical operations or organising others. It may include participation in teams including teams concerned

EVIDENCE GUIDE	
	with planning and evaluation functions. Group or team coordination may also be involved.
Method of assessment	<p>The purpose of this unit is to define the standard of performance to be achieved in the workplace. In undertaking training and assessment activities related to this unit, consideration should be given to the implementation of appropriate diversity and accessibility practices in order to accommodate people who may have special needs. Additional guidance on these and related matters is provided in ICA05 Section 1.</p> <ul style="list-style-type: none"> • Competency in this unit should to be assessed using summative assessment to ensure consistency of performance in a range of contexts. This unit can be assessed either in the workplace or in a simulated environment. However, simulated activities must closely reflect the workplace to enable full demonstration of competency. • Assessment will usually include observation of real or simulated work processes and procedures and/or performance in a project context as well as questioning on underpinning knowledge and skills. The questioning of team members, supervisors, subordinates, peers and clients where appropriate may provide valuable input to the assessment process.
Guidance information for assessment	<p>The interdependence of units for assessment purposes may vary with the particular project or scenario. Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended</p> <p>An individual demonstrating this competency would be able to:</p> <ul style="list-style-type: none"> • Demonstrate understanding of a broad knowledge base incorporating theoretical concepts, with substantial depth in some areas • Analyse and plan approaches to technical problems or management requirements • Transfer and apply theoretical concepts and/or technical or creative skills to a range of situations • Evaluate information, using it to forecast for planning or research purposes

EVIDENCE GUIDE

	<ul style="list-style-type: none"> • Take responsibility for own outputs in relation to broad quantity and quality parameters • Take some responsibility for the achievement of group outcomes • Maintain knowledge of industry products and services
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Range Statement**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.

Technical requirements may be in reference to:	<ul style="list-style-type: none"> • business • system • platform • application • database • network • people in the organisation
Architecture requirements may include but are not limited to:	<ul style="list-style-type: none"> • Operating system: Novell NetWare 5 or above or any operating system that has multi-user ability, Linux, Mac OS, Windows 2000 or above • Database software: Oracle, Sybase, Microsoft SQL server, Ingres, DB2, Informix, mSQL, MySQL, SQL server • Configuration: small memory model, large memory model, requests per second
Hardware may include but is not limited to:	<ul style="list-style-type: none"> • workstations • personal computers • modems and other connectivity devices • networks • DSL modems • remote sites • servers

RANGE STATEMENT	
Software may include but is not limited to:	<ul style="list-style-type: none"> • commercial, in-house, packaged or customised software
Requirements may be in reference to:	<ul style="list-style-type: none"> • business • system • platform • application • network • people in the organisation
Documentation may follow:	<ul style="list-style-type: none"> • ISO/IEC/AS standards • audit trails • naming standards • version control • project management templates • report writing principles
Client may include but is not limited to:	<ul style="list-style-type: none"> • internal departments • external organisations • individual people • employees
Server may include:	<ul style="list-style-type: none"> • Application/web servers • BEA Weblogic servers • IBM VisualAge and WebSphere • Novell NDS servers • Email servers • File and print servers • FTP servers • Firewall servers • Proxy/cache servers
Database may include but is not limited to:	<ul style="list-style-type: none"> • relational databases, object-relational databases, proprietary databases and commercial off the shelf (COTS) database packages
User may include:	<ul style="list-style-type: none"> • a person within a department • a department within the organisation • a third party
Web development standards	<ul style="list-style-type: none"> • Web Content Accessibility Guidelines 1.0 (WCAG) • Authoring Tool Accessibility Guidelines 1.0 (ATAG) • User Agent Accessibility Guidelines 1.0

RANGE STATEMENT

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Unit Sector(s)

Unit sector	Analyse and Design
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Co-requisite units

Co-requisite units	

Competency field

Competency field	
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