



Australian Government

ICTXRE403 Design mixed reality solutions

Release: 1

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Modification History

Release	Comments
Release 1	This version first released with the Information and Communications Technology Training Package Version 8.0. Newly created unit of competency to address in-demand skills needs

Application

This unit describes the skills and knowledge required to develop concepts to build immersive environments in virtual workspaces. It includes integrating mixed reality (MR) solutions to enable virtual and physical objects to interact.

The unit applies to individuals working in information and communications technology (ICT) roles who contribute to design activities required for building virtual workplaces in workplace contexts.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Extended reality

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Prepare to design MR-enabled solutions	1.1 Confirm work brief and tasks according to organisational policies and procedures 1.2 Analyse required MR solutions and technologies in consultation with required personnel 1.3 Analyse MR hardware, software and tools according to analysis 1.4 Document MR analysis findings according to organisational policies and procedures
2. Analyse MR interaction options	2.1 Analyse existing digital architecture according to work brief 2.2 Observe organisational processes requiring MR solutions

ELEMENT	PERFORMANCE CRITERIA
	according to work brief 2.3 Research and document MR and augmented reality (AR) interaction options in required format 2.4 Select and plan MR and AR interaction solution option according to work brief 2.5 Consult with required personnel and seek feedback on MR solution plan 2.6 Seek approval for MR solution plan from required personnel
3. Make recommendations	3.1 Source and review related MR case studies from required database 3.2 Analyse technological improvements set out in MR case study 3.3 Analyse MR concept considerations and required MR solution plan according to work brief 3.4 Brainstorm and document possible MR integration solution plan according to analysis 3.5 Synthesise and present MR recommendations and MR solution plan to required personnel 3.6 Seek and implement feedback from required personnel 3.7 Store MR design documentation and virtual assets in required locations

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

Skill	Description
Reading	Reviews complex texts with at times complex technical terms
Writing	Develops a broad range of materials using clear language in order to convey specialised information and requirements
Planning and organising	Uses formal processes to identify key information and issues, evaluate strategies and plan to rectify implementation issues
Problem solving	Uses formal analytical techniques to implement solutions

Unit Mapping Information

No equivalent unit. Newly created unit.

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 ICTXRE403 Design mixed reality solutions

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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 at least two mixed reality (MR) solutions with plans for a virtual workspace, using at least one of the following concepts:
 - web design-based concepts
 - application design-based concepts
 - mobile design-based concepts.

In the course of the above, the candidate must:

- securely and safely store documentation and virtual assets in required locations
- apply required organisational policies and procedures.

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:

- functions and features of neural networks and machine learning
- databases containing MR case studies
- key types and techniques of integrating VR- and AR-enabled solutions, including:
 - computer vision
 - graphical processing power
 - display technology
 - input systems
- MR-enabled solutions aligned with context considerations, including:
 - virtuality continuum and categorisation

- environmental input
- spatial sound
- location and positioning in real and virtual spaces
- functions and features of artificial intelligence-based diagnostic tools
- key methods to configure and apply MR device components using different concepts and technical guidelines, including:
 - holographic devices
 - immersive devices
- organisational formats for documentation and reports
- organisational policies and procedures and legislative requirements relating to work tasks.

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:

- MR case studies where MR solution plans need to be developed
- required technological infrastructure, including tools, hardware, software and configuration components
- opportunities for interaction with others
- work brief and organisational policies and procedures required to demonstrate the performance evidence.

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

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