



**Australian Government**

# **ICTICT433 Build graphical user interfaces**

**Release: 1**

# ICTICT433 Build graphical user interfaces

## 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, build and test a graphical user interface (GUI) to specification.

It applies to individuals employed as programmers and user interface designers in a variety of fields and provide Information and Communications Technology (ICT) support in small to medium enterprises (SMEs).

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

## Unit Sector

General ICT

## 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. Determine specification of GUI and develop GUI prototype | 1.1 Establish GUI requirements according to organisational requirements<br>1.2 Identify organisational standards applicable to GUI<br>1.3 Determine front and back-end for interfacing with GUI<br>1.4 Define required functionality of GUI<br>1.5 Determine application development language for writing GUI<br>1.6 Build prototype using tools available in determined language<br>1.7 Determine type and level of documentation required |

| ELEMENT                                             | PERFORMANCE CRITERIA                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2. Design and build GUI according to specification  | <ul style="list-style-type: none"><li>2.1 Design GUI components and incorporate required functionality</li><li>2.2 Define GUI actions and itemise UI events</li><li>2.3 Document design outcomes according to specification and organisational procedures</li><li>2.4 Build GUI using toolkit's classes or widgets, containers and other pertinent features according to specification</li></ul>                                                                                              |
| 3. Test and document GUI according to specification | <ul style="list-style-type: none"><li>3.1 Test GUI and confirm overall functionality according to requirements</li><li>3.2 Iterate GUI design and build until test results meet requirements</li><li>3.3 Document GUI user requirements according to specification and organisational procedures</li><li>3.4 Produce GUI technical documentation according to specification and organisational procedures</li><li>3.5 Obtain client sign-off according to organisational procedures</li></ul> |

## 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         | <ul style="list-style-type: none"><li>Identifies and interprets a range of online and hard copy text containing complex ICT and programming specific terminology</li><li>Interprets and comprehends a large range of syntax, diagrams, icons, symbols, text, numbers and letters required to develop a GUI</li></ul>                                            |
| Writing         | <ul style="list-style-type: none"><li>Uses spelling and grammar, plain English and specific terminology to produce documents to organisational guidelines as required by the job role</li><li>Develops GUI using programming syntax and conventions to develop GUI</li><li>Uses plain English, labels and terminology on the actual interface display</li></ul> |
| Self-management | <ul style="list-style-type: none"><li>Identifies and follows explicit protocols and meets expectations applicable to own role</li></ul>                                                                                                                                                                                                                         |

|                 |                                                                                                                                                                                                                                                                                                   |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 | <ul style="list-style-type: none"><li>• Develops plans to manage relatively complex tasks with an awareness of how they may contribute to longer term operational and strategic goals</li><li>• Takes responsibility for the outcomes of routine decisions related directly to own role</li></ul> |
| Problem-solving | <ul style="list-style-type: none"><li>• Identifies and anticipates an increasing range of familiar problems, their symptoms and causes, and implements contingency plans</li></ul>                                                                                                                |
| Technology      | <ul style="list-style-type: none"><li>• Identifies purpose, needs and limitations when selecting devices and applications for different tasks</li></ul>                                                                                                                                           |

## Unit Mapping Information

Supersedes and is equivalent to ICTICT406 Build a graphical user interface.

## 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 ICTICT433 Build graphical user interfaces

## Modification History

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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 and build a fully functional graphical user interface (GUI) according to specifications and organisational standards.

In the course of the above, the candidate must:

- demonstrate a GUI in concept and compiled form
- use applicable development tools in GUI construction
- confirm functionality of GUI on at least two different browsers and at least two different devices.

## 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:

- object oriented programming concepts applicable to building graphical user interfaces
- system properties applicable to building a graphical user interface
- application development languages and prototyping tools and features included
- application programming interface (API) features
- open-source development tools
- organisational standards and codes of practice applicable to GUI building
- key testing procedures and documentation techniques required when building graphical user interfaces
- issues relating to copyright and intellectual property, privacy and data access legislation.

## 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:

- GUI requirements documentation
- online tools available for prototyping and GUI design
- applicable organisational standards
- an integrated development environment (IDE) for determined language
- required hardware and its components
- required software, tools and licenses
- browsers and devices.

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

## Links

Companion Volume Implementation Guide is found on VETNet -

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