



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **ICAGAM406A Create visual design components for interactive games**

**Release: 1**

## ICAGAM406A Create visual design components for interactive games

### 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 create visual design components for games and interactive media using industry standard authoring tools.

### Application of the Unit

This unit applies to concept artists, game designers, games programmers, animators and other personnel working in the game development industry.

### 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

<b>Element</b>	<b>Performance Criteria</b>
<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. Identify commonly used visual design components for games and interactive media	<p>1.1 Obtain project <i>brief and documents</i></p> <p>1.2 Identify features of visual design components for games and interactive media</p> <p>1.3 Discuss <i>design considerations</i> for designing an interactive visual design component</p>
2. Identify graphics software packages used for visual design	<p>2.1 Identify and review the range of industry standard <i>graphics software</i> available</p> <p>2.2 Assess the software related to visual design component requirements</p> <p>2.3 Discuss <i>technical specifications</i> for rendering and editing processes</p> <p>2.4 Select graphics software package</p>
3. Use graphics software	<p>3.1 Run graphics software and become familiar with the interface</p> <p>3.2 Create new files and organise a file structure</p> <p>3.3 Learn required tools and features used to create visual design components</p>
4. Create visual design components for a game and interactive media	<p>4.1 Design a basic <i>graphical user interface</i> (GUI) for a game and interactive media</p> <p>4.2 Consider the interaction processes of GUI elements</p> <p>4.3 Document the design and necessary programming requirements needed to implement the GUI</p> <p>4.4 Use graphics software to create visual design components to be used for the GUI</p>
5. Evaluate implementation	<p>5.1 Demonstrate implementation to relevant <i>personnel</i></p> <p>5.2 Evaluate the usability of design components</p> <p>5.3 Reflect on possible changes to improve the visual design and interactivity of components</p>

## Required Skills and Knowledge

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

### Required skills

- analytical skills to:
  - analyse documentation and images to inform implementation of visual design components
  - interpret briefs, work instructions, and technical and conceptual information
- communication skills to:
  - check and confirm design requirements
  - communicate clearly using speech and text
  - communicate complex designs in a structured format drawn from industry standards, styles and techniques
  - communicate technical requirements related to graphics requirements and basic code development
  - translate design requirements into specifications
- initiative and enterprise skills to exercise a high level of creative ingenuity in game design and innovation
- literacy and numeracy skills to develop game design and technical design documents
- planning and organisational skills to:
  - appropriately refer decisions to a higher project authority for review and endorsement
  - establish clear roles and goals to achieve required game development outcomes
- problem-solving skills to recognise and address potential quality issues and problems at design development stage
- research skills to undertake practical technical desktop research into visual design components for games and interactive media
- technology skills to use correct file formats.

### Required knowledge

- basic programming techniques
- human resources required in the process of creating visual design components and the technology requirements
- technical constraints that hardware imposes on software development, graphics requirements, code development and creative visual design
- techniques for applying concept development skills
- techniques for applying concept visualisation skills.

## 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.*

<b>Overview of assessment</b>	
<b>Critical aspects for assessment and evidence required to demonstrate competency in this unit</b>	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> <li>• demonstrate original and innovative approaches to the creative development of a GUI</li> <li>• implement game development and production strategies</li> <li>• maintain integrity of the design brief</li> <li>• develop concept art and design specifications for splash screens, start screens and game field screens consistent with a design brief</li> <li>• develop technical specifications for visual design components and overall usability</li> <li>• implement a working GUI with basic functionalities.</li> </ul>
<b>Context of and specific resources for assessment</b>	<p>Assessment must ensure access to:</p> <ul style="list-style-type: none"> <li>• computer hardware, software, games engines and file storage</li> <li>• internet access for research purposes</li> <li>• copyright and intellectual property legislation</li> <li>• OHS legislation and enterprise policy</li> <li>• appropriate learning and assessment support when required</li> <li>• modified equipment for people with special needs.</li> </ul>
<b>Method of assessment</b>	<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"> <li>• evaluation of work samples or simulated workplace experiences</li> <li>• evaluation of design brief detailing interface design components</li> <li>• review of production of visual design components</li> <li>• evaluation of working GUI with basic functionalities.</li> </ul>
<b>Guidance information for assessment</b>	<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</p>

	<p>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>
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## 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.*

<p><b><i>Brief and documents</i></b> may include:</p>	<ul style="list-style-type: none"> <li>• concept drawings</li> <li>• designer's notes</li> <li>• development environment description</li> <li>• game design document</li> <li>• game-play designs</li> <li>• help notes</li> <li>• information design</li> <li>• operating manual</li> <li>• storyboard</li> <li>• style and design principles</li> <li>• style and medium</li> <li>• target market information</li> <li>• technical design and review process.</li> </ul>
<p><b><i>Design considerations</i></b> may include:</p>	<ul style="list-style-type: none"> <li>• aesthetics</li> <li>• cultural context</li> <li>• genre</li> <li>• resource limitations and constraints</li> <li>• target market.</li> </ul>
<p><b><i>Graphics software</i></b> may include:</p>	<ul style="list-style-type: none"> <li>• 3-D paint</li> <li>• Fireworks</li> <li>• Illustrator</li> <li>• Mudbox</li> <li>• Photoshop</li> <li>• Z Brush.</li> </ul>
<p><b><i>Technical specifications</i></b> may include:</p>	<ul style="list-style-type: none"> <li>• backup procedures</li> <li>• delivery platform</li> <li>• disk or memory space</li> <li>• format for final product</li> <li>• navigation design</li> <li>• pixel size</li> <li>• polygon count</li> <li>• source code and game assets archiving</li> <li>• target market.</li> </ul>



<p><b>Graphical user interface</b> elements may include:</p>	<ul style="list-style-type: none"> <li>• buttons and button clicks</li> <li>• command acknowledgements</li> <li>• edit boxes</li> <li>• file saving and loading</li> <li>• icons</li> <li>• list boxes</li> <li>• markers</li> <li>• menus</li> <li>• options and settings</li> <li>• picture boxes</li> <li>• pointers</li> <li>• radio buttons</li> <li>• scroll bars</li> <li>• shell</li> <li>• splash screens</li> <li>• text boxes</li> <li>• window opening</li> <li>• Windows.</li> </ul>
<p><b>Personnel</b> may include:</p>	<ul style="list-style-type: none"> <li>• animators</li> <li>• concept artists</li> <li>• game-play designers</li> <li>• graphic designers</li> <li>• instructional designers</li> <li>• modellers</li> <li>• motion capture technicians</li> <li>• other specialist staff</li> <li>• other technical staff</li> <li>• producers</li> <li>• programmers</li> <li>• project manager</li> <li>• sound engineers</li> <li>• team members</li> <li>• technical director</li> <li>• writers.</li> </ul>

## Unit Sector(s)

Game development