

**SKILLS FRAMEWORK FOR MEDIA
TECHNICAL SKILLS & COMPETENCIES (TSC) REFERENCE DOCUMENT**

TSC Category	Game Programming and Quality Assurance					
TSC Title	Tools Development					
TSC Description	Design and develop software tools to perform specialised functions that aid and ease various game development processes					
TSC Proficiency Description	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		MED-GDP-2017-1.1	MED-GDP-3017-1.1	MED-GDP-4017-1.1	MED-GDP-5017-1.1	
		Write programs to develop elements or sub-functions of tools to support tools development and assist game development processes	Develop new tools and customise existing tools required to implement and align game production workflows and meet specific project needs	Lead the development of tools by defining the technical requirements to implement and integrate game development project workflows	Define the organisation's tools roadmap for game development and drive the development and adoption of tools to improve game development processes	
Knowledge		<ul style="list-style-type: none"> Principles and concepts linear algebra, trigonometry and vector mathematics as applicable to game development Standard high-level programming languages Standard scripting languages Established guidelines and conventions for tools documentation 	<ul style="list-style-type: none"> Principles, concepts and applications of asset pipelines Principles and concepts linear algebra, trigonometry and vector mathematics applicable to game development Game engine features and functionalities Standard high-level programming languages Standard scripting languages Expected quality standards for tools performance and programming code 	<ul style="list-style-type: none"> Vision and purpose of the game development project Technical goals of the game development project Game development processes Principles, concepts and applications of asset pipelines Industry standards and technologies used in asset pipelines Features, functionalities, capabilities and limitations of tools used in asset creation for games 	<ul style="list-style-type: none"> Organisation's vision for technical development Genres, types and technical complexities of games developed by the organisation Principles and concepts of asset pipelines, production workflows and production optimisation Typical functional challenges in the organisation's game development projects Industry standards in game development and tools and technologies for game development 	
Abilities		<ul style="list-style-type: none"> Interpret high-level tool design documents to understand broad functionalities to be achieved from the tool Create low-level designs to detail the technical specifications 	<ul style="list-style-type: none"> Analyse technical scope of tools requirements to understand the scope of programming required Identify programming languages and approaches to be adopted based on the 	<ul style="list-style-type: none"> Liaise with designers, artists and programmers to understand pipeline design and align expectations regarding tools requirements to 	<ul style="list-style-type: none"> Evaluate the organisation's technical development processes to understand the requirements for tools and process optimisation Define the organisation's tools roadmap with consideration for industry 	

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		<p>of the tools to be developed</p> <ul style="list-style-type: none"> • Present low-level tool design documents to the programming lead for review and refinement • Write programs to implement specific tool functionalities and features • Test and debug own code • Maintain tools to meet project requirements • Provide first-level support to the development teams in the development of tools • Create and maintain updated documentation for developed tools 	<p>tool requirements and specifications</p> <ul style="list-style-type: none"> • Develop the high-level design blueprint for the tools to be created for game development • Write programs to implement end-to-end tool functionalities • Test code to identify and identify errors and performance issues • Integrate code written by junior programmers to implement required functionality • Create tool guides to communicate the features of the developed tools to the development teams • Train development teams in the features and functionalities of the tools and their integration within the production pipelines • Support game development teams with regards to the development of tools 	<p>implement asset pipelines</p> <ul style="list-style-type: none"> • Define the technical scope of specific tools to be developed to meet the project requirements • Establish guidelines for quality of code in terms of functionalities, modularity, portability and maintainability • Review developed tools for functionality and efficiency and suggest modifications where required • Resolve complex architectural or engineering challenges in tool development or implementation within asset pipelines • Liaise with asset production teams to drive the adoption and efficient utilisation of tools within production workflows 	<p>standards in game development</p> <ul style="list-style-type: none"> • Liaise with technical leads to articulate standard tools requirements across the organisation's current and future development projects • Drive the updating of existing tools to meet current and future requirements • Drive the design and development of new tools to meet new current and future requirements • Approve tools for adoption based on achievement of functional requirements • Redefine production workflows and pipelines based on integration of new and/or modified tools 	
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