

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

TSC Category	Game Programming and Quality Assurance					
TSC Title	Game Artificial Intelligence Development					
TSC Description	Design and develop heuristic algorithms, programming logic and code to implement Artificial Intelligence features in games					
TSC Proficiency Description	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		MED-GDP-2007-1.1	MED-GDP-3007-1.1	MED-GDP-4007-1.1	MED-GDP-5007-1.1	
		Conceive specific Artificial Intelligence (AI) behaviours and write code to implement them	Develop programs to implement Artificial Intelligence (AI) in games and optimise existing AI systems for better game performance	Lead the design and development of the Artificial Intelligence (AI) algorithms and programs for game development	Define the technical goals for the design and implementation of Artificial Intelligence (AI) systems for game development	
Knowledge		<ul style="list-style-type: none"> Principles and concepts of AI for game development High-level programming languages Scripting languages used in AI programming Guidelines and conventions for documentation of programming 	<ul style="list-style-type: none"> Principles and concepts of AI and applications to games Heuristic algorithms for AI implementation Features and applications of standard AI engines/programs High level programming languages Scripting languages used in AI programming 	<ul style="list-style-type: none"> General principles, theories, concepts of AI and machine learning Techniques for implementing AI in games Aspects of games impacted by AI Design of heuristic algorithms for game AI AI capabilities and limitations of standard game engines Hardware and software capabilities, features and bottlenecks, for AI systems 	<ul style="list-style-type: none"> General principles, theories, concepts of and machine learning Trends in AI and its applications in games Industry standards in technologies used in AI development for games AI capabilities and limitations of standard game engines Hardware and software capabilities, features and bottlenecks, for AI systems 	
Abilities		<ul style="list-style-type: none"> Determine specific behaviours for AI characters based on AI functions and capabilities developed by the team Write code to implement specific behaviours for AI characters Debug own code to achieve required functionalities 	<ul style="list-style-type: none"> Write code to implement AI algorithms Test own code for achievement of required functionality Debug code for errors based on self-testing and Quality Assurance (QA) feedback Review code developed by junior programmers Maintain AI systems for implementation in game development 	<ul style="list-style-type: none"> Analyse technical briefs, gameplay complexity and complexity of behaviour of non-player characters to understand the AI requirements of projects Establish the scope of the development of AI systems for the game and/or engines to achieve the established technical goals 	<ul style="list-style-type: none"> Drive research to understand the current technologies in AI that can be applied in games Establish the technical goals for the AI capabilities to be achieved Ideate AI features and functionalities for various aspects of the game Review the technical design blueprints for AI 	

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		<ul style="list-style-type: none"> • Support the quality assurance and testing processes for own code • Refine code based on inputs provided during testing and review • Maintain updated documentation for AI programming 	<ul style="list-style-type: none"> • Liaise with design and programming teams to enhance and expand on AI features • Optimise the performance of existing AI features based on feedback from QA and gameplay testing • Maintain documentation for AI programs as per established guidelines and conventions 	<ul style="list-style-type: none"> • Design the technical blueprint for AI systems to be developed in terms of its capabilities and interactions with target hardware • Ideate the AI rules, features and functionalities for various aspects of the game • Design heuristic algorithms for the implementation of AI in games • Oversee the creation of prototypes and simulations to be developed in AI systems • Review code written by the programming team to suggest optimisations • Oversee the performance testing of prototypes and finalised AI system • Liaise with programming team to support the implementation of AI system games 	<p>system to suggest modifications in consideration of the technical goals</p> <ul style="list-style-type: none"> • Establish guidelines and conventions for the documentation of AI programs and prototypes • Review AI programs to propose refinements on the basis of functionalities, performance and hardware implementation 	
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