

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

TSC Category	Game Programming and Quality Assurance					
TSC Title	Game Porting					
TSC Description	Convert games from one platform to another to broaden audience reach					
TSC Proficiency Description	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		MED-GDP-2012-1.1	MED-GDP-3012-1.1	MED-GDP-4012-1.1	MED-GDP-5012-1.1	
		Support the technical implementation of porting processes through re-development of high-level game and interface programs that cannot be directly ported to the target platform	Execute the technical implementation of porting processes by developing programming to implement the game on the hardware of target platform	Define the technical goals of porting the game to the target platform and lead the technical development of game porting	Drive the decision-making for porting game to different platforms and define the technical roadmap for the porting processes	
Knowledge		<ul style="list-style-type: none"> High-level programming languages for implementing the game code Platform-specific game development kits Game engines, features and functionalities Testing and debugging techniques 	<ul style="list-style-type: none"> Hardware, architecture, graphics Application programming interfaces (APIs), controllers and other technical aspects of target platforms Differences in processing, memory management, storage and other hardware capabilities between original and target platforms that would impact the game performance Platform-specific game development kits Platform-compatible game engines, middleware and libraries High-level programming languages for implementing the game code Low-level programming languages for interaction with the platform hardware 	<ul style="list-style-type: none"> Hardware, architecture, graphics, APIs, controllers and other technical aspects of target platforms Desirable technical goals and specifications for game on target platform Availability of source code, compatible game engines and open-source tools involved the original development of the game Typical engineering and architecture issues in porting Resolution methods and approaches of architecture issues in porting Platform-compatible game engines, middleware and libraries Certification requirements for new platforms 	<ul style="list-style-type: none"> Size of target audience, monetisation potential and projected revenues from the target platforms End-to-end game development processes Technical feasibility of game porting Costs, effort and timelines involved in porting Cost-benefit analysis and return on investment (ROI) analysis 	

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			<ul style="list-style-type: none"> • Typical performance issues and resolution methods in porting, especially for the target platform 			
Abilities		<ul style="list-style-type: none"> • Interpret technical briefs to understand own role in the porting process • Identify aspects of high-level game codes that cannot be ported or require modification for the target platforms • Write high-level programming codes for games, sound and interfaces that cannot be ported • Write code using hardware-specific application Programming Interfaces (APIs) to re-map input controllers to suit target platform • Liaise with artists to recreate or modify assets that may not be technically compatible with target platforms • Liaise with quality assurance teams for the testing of the modified game codes • Debug game codes to fix errors in the functionalities of the game codes 	<ul style="list-style-type: none"> • Analyse technical briefs to understand the technical scope of the porting process • Determine reusable components and components which require modifications or re-development • Select the tools and middleware required for porting specific aspects for games • Liaise with tools development team for the creation of tools and middleware for porting • Separate hardware-linked calls including graphic calls and the core game codes • Write programmes in low-level programming languages for games to interact with the hardware of the target platforms • Obtain feedback from quality assurance and testing to identify performance drops in games as a result of porting • Refine games and hardware codes to suit the required technical specifications 	<ul style="list-style-type: none"> • Define the technical goals of the porting process based on understanding of games and target platforms • Analyse game features to understand the ease of porting of specific aspects of the games • Liaise with design, visual graphics, programming and production teams to decide which features of the game to implement on the target platforms and which to be discarded or replaced • Develop technical briefs to communicate the scope of the porting process to the development teams • Decide between using source code or pre-built libraries for specific modules depending on the inter-operability between the existing and new platforms for the modules • Guide the creation of tools such as middleware to support the game porting process • Resolve complex engineering or architectural problems pertaining to the porting processes 	<ul style="list-style-type: none"> • Establish the costs of game porting for comparison against the monetisation potential of games on the target platforms • Ideate on various budgetary aspects including cost benefits analysis to decide on porting the game to the target platforms • Liaise with design, visual graphics, programming and production teams to define the development roadmaps for porting games to the target platforms • Provide input to the concept submissions for the approval process for each target platform for porting • Drive the certification processes for each platform for which the games have to be ported 	

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				<ul style="list-style-type: none"> • Oversee the quality assurance and gameplay testing of games to understand if they meet the technical specifications • Ensure adherence to certification requirements for the target platforms 		
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