

Sector Infocomm Technology Software and Applications			WORK FOR INFOCOMM TECHNOLOGY MAP – SOFTWARE ENGINEER			
Soltware Engineering Soltware Engineer Soltware Engineer The Software Engineer leads important projects and possesses capability to make breakthroughs in design, development, testing, debugging and implementing software applications or specialised utility programs in support of and user's needs on platforms. Holfship plans and coordinates regular updates and recommends improvements to existing applications. He identifies and resolves issues which have organisation wide and tong-term impact. He identifies security risks, creates requirements to capture security issues, and performs initial threat modelling to ensure coding standards mosts security requirements. He develops and maintains the software configuration management plan and oversees the building, verification and implementation of software releases. He provides guidance and technical support to the quality testing teams. He works in a team setting and is proficient in programming languages required by the organisation. He is amiliar with software development tools and standards, as well as the relevant software platforms on which the solution is deployed on. The Software Engineer is imaginative and creative in exploring a range of application designs and solutions. He is able to engage and support others in the team, readily put forth his ideas in a clear and compelling manner. Critical Work Functions Key Tasks Validate user requirements and design specifications Formulate software requirements pecifications Recommend approaches that balance security, stability, and performance needs Provide technical guidance on proposed solutions and alternatives Design software components and modules Determine design alternatives and perform trade-off analysis Create multiple views of the software system and design high-level organisation of a software system and design particular trade-off analysis Lead static analysis tasks to evaluate design quality Develop and use simulation and prototypes to evaluate software design quality Asset in the selection	Sector	Infocomm Technology				
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Oversee software testing Design software test plan and criteria for regression testing			Leads code reviews and inspections			
			Identify stakeholders participating in testing activities			
Design the test environment and test case scenarios		Oversee software testing Design software test plan and criteria for regression testing	Design software test plan and criteria for regression testing			
			Design the test environment and test case scenarios			



	_			SKILLS future SG	AUTHORITY
		Specify	test cases for the	e selected testing technique	
		Analyse	e defect arrival ra	te and failure intensity data	
		Identify	security risks and	d create requirements to capture	security issues
		Perform	n initial threat mod	delling	
	Oversee security provisions	Model t	hreats and assoc	siated risks of new and modified s	ystems
	in software	Identify	the attack surfac	e of new and modified systems	
		Establish project coding standards to avoid security vulnerabilities			
		Review	and approve coo	ling standards to avoid security v	ulnerabilities
		Develop	and maintain th	e SCM plan	
		Assist in	n specifying the S	SCM measures to be used	
	Procure SCM tools				
	Manage software management configuration	nanagement configuration Develop and tailor tools for generating SCM audit repor	for generating SCM audit reports		
	(SCM) Maintain mechanisms fo	n mechanisms fo	r recording and reporting SCM information		
		Oversee the building, verification and implementation of software releases			
		Ensure	the execution an	d documentation of approved cha	anges
	Technical Skills and	Compet	encies	Generic Skills and Con	npetencies
	Applications Development		Level 4	Computational Thinking	Intermediate
	Applications Integration		Level 4	Problem Solving	Intermediate
	Applications Support and Enhancement		Level 3	Lifelong Learning	Intermediate
	Budgeting		Level 3	Communication	Basic
	Business Environment Analysis		Level 3	Teamwork	Intermediate
	Business Needs Analysis		Level 3		
	Business Negotiation		Level 3		
	Business Requirements Mappir	ng	Level 3		
Skills and	Business Risk Management		Level 3		
Competencies	Change Management		Level 3		
	Configuration Tracking		Level 3		
	Data Design		Level 3		
	Database Administration		Level 4		
	Emerging Technology Synthesis	S	Level 4		
	Performance Management		Level 4		
	Problem Management		Level 3		
	Product Management Level 4				
	Project Management		Level 4		
	Quality Standards		Level 4		
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	Software Configuration	Level 3	
	Software Design	Level 4	
	Software Testing	Level 3	
	Solution Architecture	Level 4	
	Stakeholder Management	Level 3	
	System Integration	Level 3	
	Test Planning	Level 3	
	User Interface Design	Level 4	
Programme	For a list of Training Programmes available for the ICT sector, please visit: www.skillsfuture.sg/skills-		
Listing	framework/ict		

The information contained in this document serves as a guide.