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| **SKILLS FRAMEWORK FOR INFOCOMM TECHNOLOGY SKILLS MAP – SOFTWARE ARCHITECT** | | | | | | |
| **Sector** | Infocomm Technology | | | | | |
| **Track** | Software and Applications | | | | | |
| **Sub-track** | Software Engineering | | | | | |
| **Occupation** | Enterprise Architect | | | | | |
| **Job Role** | **Software Architect** | | | | | |
| **Job Role Description** | The Software Architect analyses, designs and develops roadmaps and implementation plans based on a current versus future state business architecture, and reviews recommendations to software architectural standards for approval. He/She leads and facilitates the software architecture governance process based on the enterprise architecture governance structure, and manages exceptions to architectural standards at a software level. He assesses near-term needs to establish business priorities and aligns architectural requirements with IT strategy. He consults with clients and IT teams on software architecture solutions and provides recommendations on emerging technology to senior management. He oversees the development of guidelines and standards to be used in software development and integration, and formulates the conceptual and detailed architecture for the development of applications.  The Software Architect is imaginative and creative, drawing connections from diverse disciplines to develop application architectures and solutions. He enjoys the challenge of analysing, resolving complex issues and is able to interact effectively with others to gain buy-in where required. | | | | | |
| **Critical Work Functions and Key Tasks** | **Critical Work Functions** | **Key Tasks** | | | | |
| **Formulate the organisation’s architecture strategy, roadmap, standards, policies and procedures, and governance** | Lead and coordinate the domain technical and business discussions | | | | |
| Participate in ecosystem strategy development, environment analysis and opportunity identification | | | | |
| Analyse, design and develop roadmaps and implementation plans based on a current versus future state | | | | |
| Design standard configurations and patterns | | | | |
| Lead and facilitate the software architecture governance process based on the enterprise architecture governance structure | | | | |
| Manage exceptions to architectural standards at a software level | | | | |
| Review and approve recommendations to software architectural standards | | | | |
| **Develop architecture requirements and maintain oversight** | Analyse and develop software architectural requirements | | | | |
| Align architectural requirements with IT strategy | | | | |
| Assess near-term needs to establish business priorities | | | | |
| Ensure compatibility with existing solutions, infrastructure, services and strategic requirements | | | | |
| Coordinate architecture implementation and modification activities | | | | |
| Assist in post-implementation and continuous improvement efforts to enhance performance and provide increased functionality | | | | |
| Ensure conceptual completeness of the technical solution | | | | |
| **Manage quality and continuous improvement of architecture** | Analyse the current architecture to identify weaknesses and develop opportunities for improvement | | | | |
| Identify and propose variances to the architecture to accommodate project needs | | | | |
| Perform ongoing architecture quality review activities | | | | |
| **Research emerging technologies** | Consults with clients and IT teams on software architecture solutions | | | | |
| Analyses cost versus benefits, risks, impact and technology priorities | | | | |
| Provide recommendations on emerging technology to senior management | | | | |
| Develop a communication plan for software architecture | | | | |
| Lead the research and evaluation of emerging technology, industry and market trends to assist in project development | | | | |
| Identify organisational requirements for resources | | | | |
| **Manage software architecture design** | Oversee the development of guidelines and standards to be used in software development and integration | | | | |
| Formulate the conceptual and detailed architecture for the development of applications | | | | |
| Manage the software architecture governance process | | | | |
| Define transition steps and strategy from current to the future software architecture | | | | |
| Develop methods to integrate systems that interact and extend across organisational and functional lines | | | | |
| **Skills and Competencies** | **Technical Skills and Competencies** | | | **Generic Skills and Competencies** | | |
| Applications Development | | Level 5 | Communication | | Intermediate |
| Applications Integration | | Level 5 | Interpersonal Skills | | Intermediate |
| Business Environment Analysis | | Level 4 | Creative Thinking | | Intermediate |
| Business Innovation | | Level 5 | Transdisciplinary Thinking | | Advanced |
| Business Needs Analysis | | Level 5 | Computational Thinking | | Advanced |
| Business Requirements Mapping | | Level 4 |  | | |
| Business Risk Management | | Level 4 |
| Change Management | | Level 4 |
| Data Design | | Level 4 |
| Embedded Systems Interface Design | | Level 5 |
| Emerging Technology Synthesis | | Level 5 |
| Enterprise Architecture | | Level 4 |
| Infrastructure Design | | Level 4 |
| Networking | | Level 4 |
| Product Management | | Level 5 |
| Project Management | | Level 5 |
| Quality Standards | | Level 5 |
| Security Architecture | | Level 4 |
| Software Design | | Level 5 |
| Solution Architecture | | Level 4 |
| Stakeholder Management | | Level 5 |
| System Integration | | Level 5 |
| **Programme Listing** | For a list of Training Programmes available for the ICT sector, please visit: www.skillsfuture.sg/skills-framework/ict | | | | | |
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| The information contained in this document serves as a guide. | | | | | | |