NUS Technology

Competency Metric

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Version	Change description	Changed by	Date
0.1	Creation	Chien Tran-Xuan	August 31, 2017

Competency Group	Slot	Level 1	Level 2	Level 3	Level 4	Level 5
Technical skills	*Technology*	Have a basic understanding and can discuss about concepts, terms or relevant things of one technology.	Have good knowledge of one technology, can apply it to solve problems	Have deep knowledge of one technology and can use it to solve complex problems	Be a “go-to” person of the company, be regularly asked by the company to give advice or solution for challenging and difficult technical problems	
	Work quality	Understand and follow pre-defined coding convention with few mistakes	Consistently follow best practices and GUI standards in development	Able to produce accurate and extensive code review for an existing app, or organize code review session for members in a project. Have knowledge of some common design patterns	Quickly see the coding issues in a project and able to propose long-term ideas to improve or mitigate mistakes in other projects. Have a strong knowledge of design patterns.	
	Architecture	Understand and follow the basic architecture from one of the technologies being used at the company	Have applied understanding of multiple common architectural patterns & styles	Able to propose architectural design for small to medium-sized projects which is solid, optimal and be stable in long-term	Have extensive knowledge of architectural design, able to propose solid & optimal designs for large scale projects	
	Adaption	Able to work in a simple module of a project under supervision	Able to work on different related modules of a project without frequent support	Can work comfortably on a fairly large codebase with multiple modules or complex interaction	Able to handle all technical aspects in complex projects, can give suggestion to improve the application in terms of architecture and performance	
	Knowledge acquisition	Able to read and understand a technical content based on given detailed information	Able to quickly self-learn technologies/methods being used in a project and use them at ease	Able to master a new technology quickly and distribute it to others via training, tech-talk, blog posts	Able to lead and develop a new branch of technology for business focus	
	Estimation	Able to provide estimate for a simple task with guidance	Able to study and provide estimate for individual tasks based solely on requirements	Able to provide an appropriate estimate for a whole project based on pre-defined work breakdown structure	Able to define and validate a project estimate of a complex project. Able to foresee potential issues or roadblocks, and negotiate the estimate with the clients effectively	
	Deployment/Distribution	Able to deploy the app and run necessary tools for deployment under supervision	Have good knowledge to config, deploy and monitor the app on different environments	Have vast knowledge of tools and methodologies to suggest and implement deployment strategies for complex applications	Act as primary contact for deployment/distribution related inquiries and issues. Able to develop deployment specifications and provide training for related parties	
	Non-functional requirements	Have knowledge of the non-functional requirements of the current project and the best practices on security & performance	Understand the non-functional requirements of the current project and the best practices on security & performance	Have a good understanding on compatibility, performance, scalability, maintainability, testability of a project	Have a deep understanding on the multiple aspects of non-functional requirements and know solutions for these requirements	
	Decision Making	Make appropriate decision on simple problems under supervision when necessary information is available	Make appropriate decision on simple problems in timely manner with limited support	Make appropriate decisions on difficult problems in timely manner	Make right decisions in complex situations at strategic-level, take charge of the group when necessary to make decisions	
	Insight	Capable of internal interaction through all core communications.	Exhibit good communication skills in working with team. Communicate potential issues as soon as known	Exhibit good communication skills via accurate and timely status reports as well as direct communication. Can make difficult issues easy to understand by non-technical people	Demonstrate strong written and verbal communication skills	Demonstrate excellent written and verbal communication skills in various contexts involving important members from many parties

Communication	*Documentation*	Able to write simple document as requested under close supervision	Able to write documents with limited guidance	Able to write simple to complex documents in a project such as Software Architecture Document, System Documentation	Able to write complex reports, distribute them to the team and use them to discuss with clients	
	Meeting	Effectively attend simple meetings	Lead simple internal meetings	Lead or facilitate fairly complex meetings with clients (formal reviews, workshops, requirement discussion)	Lead of facilitate complex meetings in which the most senior members from each party might join the meeting	
	Client interaction	Able to provide needed information to the supporter as requested after receiving feedback or request from clients	Able to work directly with clients using written communication, support is still needed for discussing complex topics	Able to work directly with clients using written communication without support	Able to work directly with clients via written and verbal communication to solve different issues in a project	Able to discuss with clients in a strategic level to build long-term relationship, plan the project or grow the company's business
Job knowledge	*Technical Requirement*	Receive and understand technical points of a project	Gather and validate the feasibility of technical points in a project	Authors, reviews and approves technical requirements and designs for a project	Accountable for overall design for a project, contributes to architectural decisions	
	Accountability	Be responsible for implementing part(s) of feature(s) or small module	Be responsible for several features or a small project	Be responsible for core functionalities of one or several projects	Be responsible for solving difficult technical points/problems on multiple projects	
	Processes	Understand and follow the approach adopted in a project	Have good knowledge of software development approaches. Able to discuss and suggest suitable approaches	Have strong knowledge of many development approaches, can comfortably discuss and successfully lead a project following a certain approach		
	Domain Knowledge	Understand standard terms belonging to the domain of a project on which he/she have worked	Understand terms, protocols, processes and applications in a working domain knowledge	Have good knowledge of multiple domains in several projects	Has designed and implemented several products/solutions in several domains.	
	Role	Understand the goals of the team and each team member's role within it	Be an active team member in a project, work collaboratively with others to achieve project goals	Can discuss plans and ideas with others and coordinate the working between different roles in a project	Facilitate collaboration across the organization (with different departments) to achieve a common goal	
Management	*Time management*	Track time for assigned tasks and deliver them on reasonable time	Can prioritize tasks and avoid unimportant details to complete tasks on time	Demonstrate good time-management skills in task management	Demonstrate excellent time-management skills in various contexts (planning, execution, reports, …)	
	Direction	Receive regular supervision on daily basis	Self directed, able to support other engineers	Provide guidance to a team	Provide guidance and supervision to multiple teams	