

An Agile, Intelligent and Scalable Framework for Global Software Development

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Abstract : Global Software Development (GSD) is becoming a common norm in software industry, despite of the fact that global distribution of the teams presents special issues for effective communication and coordination of the teams. Now trends are changing and project management for distributed teams is no longer in a limbo. GSD can be effectively established using agile and project managers can use different agile techniques/tools for solving the problems associated with distributed teams. Agile methodologies like scrum and XP have been successfully used with distributed teams. We have employed exploratory research method to analyze different recent studies related to challenges of GSD and their proposed solutions. In our study, we had deep insight in six commonly faced challenges: communication and coordination, temporal differences, cultural differences, knowledge sharing/group awareness, speed and communication tools. We have established that each of these challenges cannot be neglected for distributed teams of any kind. They are interlinked and as an aggregated whole can cause the failure of projects. In this paper we have focused on creating a scalable framework for detecting and overcoming these commonly faced challenges. In the proposed solution, our objective is to suggest agile techniques/tools relevant to a particular problem faced by the organizations related to the management of distributed teams. We focused mainly on scrum and XP techniques/tools because they are widely accepted and used in the industry. Our solution identifies the problem and suggests an appropriate technique/tool to help solve the problem based on globally shared knowledgebase. We can establish a cause and effect relationship using a fishbone diagram based on the inputs provided for issues commonly faced by organizations. Based on the identified cause, suitable tool is suggested, our framework suggests a suitable tool. Hence, a scalable, extensible, self-learning, intelligent framework proposed will help implement and assess GSD to achieve maximum out of it. Globally shared knowledgebase will help new organizations to easily adapt best practices set forth by the practicing organizations.

Keywords : agile project management, agile tools/techniques, distributed teams, global software development

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