DESIGN OF A DISTRIBUTED AGILE DEVELOPMENT SYSTEM FOR INDIAN SOFTWARE INDUSTRY

Abstract

In recent years, distributed development and agile methodologies have been proposed as two possible solutions to the software crisis that is afflicting the business worldwide. Some of the principles and practices of agile software development, e.g. pair programming, onsite customer, daily scrum meeting etc, would appear to present some difficulties for distributed agile development. The recognition of these potential problems and incompatibilities has bothered researchers and practitioners almost from the beginning of the agile movement. In fact, it is this kind of thinking which has led to the comment that ‘distributed agile may in fact be an oxymoron representing two opposing and incompatible approaches’. On the other hand if these can be made to work together, can represent the ‘best of both worlds’, with the promise of increased efficiencies and better business-IT alignment, it is this combination of problems and opportunities which makes distributed agile an interesting topic of research. As mentioned in agile manifesto, principles and practices of agile emphasise on tacit knowledge sharing and restrict use of explicit knowledge. In the era of globalisation almost every organisation works in distributed setting which cannot rely solely on tacit knowledge. Therefore knowledge sharing is a critical task for these organisations. The present research work is a pivotal step in the field of agile software development methodologies and seeks to find ways to overcome the problems associated with agile software development in distributed environment through the use of an Information radiator, which can support collaboration, technical information sharing, and project management for distributed agile teams. The findings of the KM Assessment survey can be used by the software engineering organisations in getting insights into the current state of knowledge management practices in software engineering organisations working with agile methodologies. The survey of the knowledge sharing in distributed environment can act as milestones for planning and implementation of the agile in distributed setting. An extended conceptual model of distributed agile development has been explained in this study. This model explains the

1 www.agilemanifesto.com
management of the project when agile practices are applied in distributed settings. Also the management of documentation produced in the project has been explained in the model. The model used for implementing agile in distributed environment tries to mitigate the ill-effects caused by distribution while applying agile practices. Knowledge management support provided by the tool (Agile Information Radiator) helps in the maintenance of documentation and knowledge in order to survive in volatile and knowledge based economy. As modelling framework in software engineering enables better communication and comparative analysis of empirical research findings, the present work contributes in the field of modelling in software engineering based on empirical investigations in the industry.

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Term introduced in the late 1960s to explain the impact of quick increases in computer power and the complexity of the problems. As the programs became more complex more programmers were used to manage the complexity, but it didn’t work, still results were: late delivery of software, software not meeting the intended needs, and many errors were detected after product delivery, which led to complicatedness in maintaining software.