A supporting tool for requirements change management in distributed agile development

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Abstract

Software development industry has witnessed the growth of the agile movement and approaches. Applying the agile approaches and practices
in the distributed environment will lead to gain a lot of benefits such as reduced costs, higher efficiency and better customization, on the other
hand it will face many challenges for example working in different time zones, requirements changes, personal selection and knowledge
management. In order to gain these benefits, it should address the challenges that will face the agile approaches in a distributed environment.
One of the main challenges is managing the requirements changes during the process of distributed agile software development. Only few
researches published in the literature, addressed the problem of requirements changes during the development process in distributed agile
development. Most of the published researches in this context are based on industrial experiences which increases the need for combining the
industry with academia within this area. In this paper an approach to manage requirements changes in distributed agile development is
introduced. This suggested approach works to fill the gap between the industry and research in distributed agile development by combining the
industrial practice and academic technique. This approach is based on a proposed feature model called a features tree. The approach is associated
with a supporting software tool that helps to manage the requirement changes in distributed agile development. The supporting tool is tested and
evaluated in real environments by software development professionals using an exhaustive set of criteria, and the results are promising.