Tracing Requirements Interdependencies in Agile Teams

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1 Proposed Study

1.1 Background and Aim

The pressure of delivering a software product in timely manner and rapid requirement changes have driven many software organizations to adopt a solution that allows them to be more flexible in adapting to changes. Agile Methodology (AM) is a software development approach that tries to address the rigidity of traditional plan-driven methods. AM focuses on delivering working software on time through short and iterative development cycles. Changes to requirements are also accepted even at later stages of the development [1].

In AM, requirements are implemented in releases based on prioritization of financial value, cost, uncertainty, and risks [3]. However, practitioners find results from prioritization to be untrustworthy [5]. Requirements prioritization is further challenged by interdependencies between requirements [4]. Managing requirements interdependencies, which is an important aspect in incremental development [2], is a missing piece in AM [8].

The aim of this study is to explore the perception from agile teams regarding requirements interdependencies and uncover in-situ practices for handling those interdependencies. We want to study the practices that are in place from the development team point of view with ethnomethodological approaches, utilizing observations and interviews as data collection methods [6]. Through ethnomethodology we can uncover social and other aspects that can provide insights toward focused development effort improvement, as demonstrated in [7].

1.2 Expectations on Industrial Partners

We are interested in studying existing practices and techniques with respect to tracing requirements interdependencies in agile teams. The observation will be done unobtrusively during iterations at different phases of a project: close to the beginning, halfway through, and close to the end. We would also like to observe requirements related artefacts, i.e., backlogs, bulletin board, drawings on whiteboards, etc. The study also includes interviews with team members with various roles. Organization’s and team members’ names will be anonymized for confidentiality purposes.

From this study we want to uncover practices that contribute to requirements interdependencies management. By gaining this knowledge, we can identify issues pertaining to tracing interdependencies between requirements. Furthermore, we can uncover and retain ‘good practices’ that may have been overlooked in the development
team. Lastly, we want to propose an improvement initiative to support traceability of requirements interdependencies which in turn can improve requirements prioritization and release planning activities.

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References