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Decision-Making in Agile Software Development Teams: Solving the Optimal Timing Problem

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Agile methods are a recent but widely diffused innovation in Information Systems development (ISD). Agile methods call for the creation of organic, flexible and empowered teams who work in active and close collaboration with customers over a series of rapid development iterations. Agile methods can deliver productivity and quality gains by improving task prioritisation, design flexibility, and communication and coordination within and across teams. However, teams must overcome a range of obstacles if these advantages are to be realised. In particular, decision-making in agile settings is challenging, decentralised and pluralistic, frequent and short-term, dynamically complex (decisions are highly inter-related), time and resource constrained, often unstructured, and minimally documented. As such, there have been repeated calls for research on decision making in agile settings.

Partnering closely with industry partner companies, our proposed study builds upon the findings of a set of pioneering studies on agile decision making carried out at NUI Galway (cf. Drury et al., 2011a, 2011b, 2012; see also Maurer and Zannier, 2007) that suggest the need to focus future research efforts on decision making processes in agile teams. It is also informed by the results of a preliminary focus group (carried out in December, 2011), which identified temporal problems as one of the main barriers to success in agile software development. In particular, this study addresses the following research question: how can agile teams optimise the timing of decision-making tasks?

The study employs a sequential mixed methods approach to answer this question. The first phase of the study is designed to generate a rich understanding of the temporal dimensions of decision-making processes in agile teams. This component of the study will include, for example, an analysis of the speed at which individual decisions are made in agile teams, the overall tempo or velocity of decision making processes in agile teams, and coordination or timing issues in decision making in agile teams. The second component of the study is a quantitative, survey-based investigation of relationship(s) between the temporal dimensions of decision making and decision quality in agile settings.

We anticipate that the study will contribute to research on agile methods by presenting much-needed empirical data on how decisions are actually made in agile settings. At the same time, its findings will be of significance to the broader field of decision support, as they will identify best practices for supporting decentralised decision-making in dynamic contexts. Perhaps most crucially from the perspective of this conference, its findings will be
immediately applicable to agile practitioners wishing to improve team performance by optimising decision-making processes.

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