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A framework for choosing appropriate requirement prioritization approach

in Agile Software Development

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Software is an essential part of many innovations be it a mobile phone or an airplane. Typically, agile developers produce software in short cycles of 2-4 weeks duration with the customer as an active member of the team (van Waardenburg & van Vliet, 2013). Often, software developers use agile development methodologies such as Scrum, Scrum/XP Hybrid, Scrumban, Kanban, Iterative Development, Lean Startup, and Extreme Programming (VersionOne, 2019). Given that there will always be more development requirements for software than there is time and budget to achieve, various approaches are used to decide which requirements to include. Choosing the right approach is important as the wrong method can waste resources and cause customer dissatisfaction (Soni, 2014). Hence the need to accurately prioritize software development requirements.

In the Information Systems literature, some prominent requirements prioritization approaches such as AHP, QFD, the planning game, binary search tree, and $100 technique exist. However, there is limited knowledge on determining an appropriate approach for specific agile methodologies. So far, the extant literature (e.g., Achimugu, Selamat, Ibrahim & Mahrin, 2014) has only highlighted the limitations of existing prioritization approaches without explicating their suitability for specific agile methodologies. Thus, there is a need for a framework that provides guidelines in the choice of an appropriate prioritization approach for agile methodologies. As a response to the limitation, this study will first analyze the literature on requirements prioritization approaches and agile software methodologies to determine their characteristics and limitations. Second, the study will develop a framework that explicates appropriate requirements prioritization approaches for specific agile methodologies. This study will make a significant contribution to research and practice in the following ways. First, developing a framework for choosing an approach. Second, identifying currently reported limitations. Finally, the study will provide future research directions for agile requirements prioritization.

References

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