

Using Process Mining in Agile Software Development Methodologies: A Systematic Mapping Study

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Abstract

The structure and the way in which organizations manage their projects have evolved. Agile software development has emerged as an alternative to manage projects management processes more efficiently. Process mining allows the analysis of project historical information and proposing improvements for agile processes. A systematic mapping study (SMS) was conducted to classify the proposed approaches in agile development methodologies that uses process mining. A total of 502 studies were identified, and finally 6 studies were selected and analyzed according to distinct aspects. Conference proceedings is the most common venue. There is a concentration of approaches published that comes from Asia and Europe. Disco tool is the most frequently used tool. Meanwhile, the process discovery being the most relevant process mining type used by researchers in this research area. There are two evaluation methods reported as being used: case study and running example, where Scrum is the most frequently methodology used. To the best of our knowledge, this is the first research that has been conducted to generate a SMS in this research area.

Keywords

Data mining, Software, Agile software development, Tools, Systematics, Business, Databases.