Tasks and challenges in prototype development with novel technology - an empirical study

This paper presents a thematic analysis of 138 monthly reports from a joint industrial and academic project where multiple prototypes were developed based on the same technology. The analysis was based on tasks and challenges described in the reports by project managers over a period of three years. 17 task themes and 9 challenge themes were identified. It was found that test, implementation, and project management were prominent tasks. Familiarization with the technology was found to a very little degree, which was in opposition to literature. The main challenge was found to be system development. It was found that the predominant tasks and challenges are distributed over long periods of time, rather than in chunks linked to a specific development phase.

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