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Title: Towards an effective approach for architectural knowledge management considering global software development

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Abstract: Architectural design is expected to provide virtuous outcomes of quality software products by satisfying customer requirements. A foremost apprehension of the customer is to have a better quality product within a minimal time span. The evaporation of architectural knowledge causes snags for the quality of a system being developed. The research study aims to propose and validate a framework bridging the gaps in architectural knowledge management. A mixed research approach has been employed. In order to align closely with industry practices, action research has been considered as research methodology, while the evaluation has been performed using a multiple case study approach. The results show that the framework enables the architects to cope with complex designs in distributed software development environments. The developed tool enabled to shift the theory into practice by assisting in creation of system architecture, knowledge survival and support architectural evolution with changing requirements.

Keywords: knowledge management; architectural knowledge; GSD; global software development; design decision.

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