Mobile App Driven by Linked Data for Power Supply Information

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This study explores the approaches to building high usability of consumer-oriented product matching Linked Data mobile applications. A commercial product matching mobile application use case was designed, implemented and evaluated through an iterative process in support of this study. This dissertation also presents the potential challenges in consumption of Linked Data and user interface design on mobile devices, and proposed a possible solution to overcome these challenges. It also addressed the lack of research on Linked Data mobile application usability.

The evaluation consisted of a combined experimental investigations and comparative investigations. The usability of the mobile app was measured by applying a set of standard usability metrics such as effectiveness, efficiency, user satisfaction and so on. The results of experiments indicated that it is possible for a consumer-oriented and product matching Linked Data mobile application to achieve high usability. The analysis of the results also showed the importance of the user feedback to improve the usability during the mobile application design.

The main contribution of this study is to provide a proposed approach on the design of a high usability Linked Data mobile application, which could support the decision making for future applications. This was done by comparing the technical approach between multiple Linked Data mobile applications and identifying which design patterns can improve the usability of the product matching Linked Data mobile application. The experimental results from a series of usability experiments have shown that the proposed approach can enable product matching Linked Data mobile applications to achieve high usability. The future work of this study will expend to the experiments to a large amount of participants.