

A GENERIC QUESTIONNAIRE FRAMEWORK SUPPORTING PSYCHOLOGICAL STUDIES WITH SMARTPHONE TECHNOLOGIES

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Many psychological studies are performed with specifically tailored “paper & pencil”-questionnaires. Such a paper-based approach usually results in a massive workload for evaluating and analyzing the collected data afterwards, e.g., to transfer data to electronic worksheets or any statistics software. To relieve researchers from such manual tasks and to improve the efficiency of data collection processes, we realized smart device applications for existing psychological questionnaires (e.g., the KINDEX, PDS, or CAPS questionnaire).

Based on these applications, we were able to demonstrate the usefulness of smart devices (e.g., smartphones or tablets) for mobile data collection in the context of psychological questionnaires. Although the implemented applications already have shown several advantages in respect to data collection and analysis, they have not been suitable for psychological studies in the large scale yet, e.g., due to the high maintenance efforts for the psychologists. More precisely, changes to a questionnaire or its structure still must be accomplished by computer scientists, since its implementation is hard-coded.

What is needed instead is an easy-to-use and self-explaining framework for creating, running, and evolving the questionnaires of psychological studies on mobile and smart devices. In this context, supporting the complete questionnaire lifecycle is essential, i.e., IT support for creating, using, evaluating, and archiving questionnaires is required to assist end-users having no programming background.

We present our generic questionnaire framework, which encompasses the following three parts: a questionnaire configurator to create the questions and questionnaires, a way of integrating mobile devices to deploy, run and log questionnaires, and a middleware enabling a secure data exchange. Finally, we discuss how smartphone technology and mobile devices can be used to suitably support psychologists in their daily work with questionnaires. As major benefit of the framework, better data quality, shorter evaluation cycles, and significant decreases in workload will result.