

DIMO

Digital Motion in Sports, Fitness and Well-being

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SURVEYS IN A MOBILE CONTEXT: MOBILE DIARY

CONDUCTING UNOBSERVED SURVEYS IS AN IMPORTANT PREREQUISITE FOR THE USER-CENTERED DEVELOPMENT OF INNOVATIONS IN THE COMET K-PROJECT «DIMO». IN ORDER TO BE ABLE TO CONDUCT RELIABLE INDIVIDUAL SURVEYS IN THE FIELD, SALZBURG RESEARCH DEVELOPED A "MOBILE DIARY" SOFTWARE FRAMEWORK IN COOPERATION WITH THE SPORTS PSYCHOLOGY WORKING GROUP OF THE UNIVERSITY OF SALZBURG.

For user-centered innovation development, it is often necessary for subjects in field studies to complete questionnaires on their own. However, such unsupervised surveys pose some challenges - especially if they take place at different locations, regularly and in short intervals. The requirements for survey tools in this context are manifold. Surveys should be completed by many users multiple times a day over long durations (several months), with the ability to skip questions and record different types of scales (nominal, ordinal, metric).

Existing solutions and services come with limitations: many are only available online and mostly designed for a one-time survey. None can yet meet all requirements at the same time. Therefore, a questionnaire framework and an app based on SurveyKit for Android were developed in the COMET project Digital Motion.

This software was used in the "Running Intensity and Vitality" study for women aged 18 to 30 as part of the COMET project. Scientific basis of this study is the construct of subjective vitality. Subjective vitality is seen as an indicator of well-being and health and is

SUCCESS STORY



defined as the conscious experience of being full of energy and alive. It reflects psychological experience, which is expressed in the perception of physical energy and activation (Ryan & Frederick, 1997; Smith, 2006). A validated 3-4 item scale is used to assess subjective vitality (Buchner, Finkenzeller, Amesberger, Würth, 2021. Manuscript in preparation).

The study required the study participants to keep a virtual vitality and menstruation diary over a period of at least 100 days. During this period, the participants provided information on various parameters several times a day (in the morning, at noon, and in the evening). The app automatically reminds the participants to complete the questionnaires at the correct time. Questions vary according to the time of day: general questions about the day are asked in the evening, while questions

about sleep patterns are asked in the morning. Some of the questions were very personal due to the topic of the study, so it is possible for the participants to skip these questions at any time. The study "Running Intensity and Vitality" ran from August 2020 to December 2020 with 30 participants.

With this solution, surveys that are conducted individually and unsupervised in the everyday life of the test persons can be implemented quickly. A flexible frontend (app) and reliable backend for retrieving the collected data enables an uncomplicated setup. Depending on the requirements and questions, the application can be customized. The simultaneous recording of movement parameters and psychophysiological parameters via additional sensors also enables the link from "Motion to Emotion" via the Ambulatory Assessment method.

Project coordination

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Project partner

Abios (AT), Adidas (DE), Amer Sports (FI), Atomic (AT), Bärenhof (AT), Digital Elektronik (AT), EPFL: Institute of Bioengineering (CH), Red Bull Mediahouse (AT), Region Schladming-Dachstein (AT), SCIO (AT), Salzburg Research Forschungsgesellschaft (AT), SUUNTO (FI), Textilveredelung Grabher (AT), Universität Salzburg: Center for HCI (AT), Universität Salzburg: IFFB Sport und Bewegungswissenschaft (AT)

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