ConText
Textile surfaces for electrical supply, information technology communication and intuitive interaction with IoT devices in the Smart Home

Motivation
The basic principle of intelligent environments is to install Internet of Things (IoT) devices where they are actually needed. Private households lack widespread low-voltage and communication connections. Therefore, IoT devices usually work with batteries and wireless technologies, making them vulnerable to interference and failure.

Goals and Approach
The aim of the project is to develop so-called Connecting Textiles. These are to form a safe, robust and electromagnetically environmentally friendly textile-based IoT infrastructure for smart wallpapers and textile surfaces in general. IoT devices such as temperature sensors can be supplied with cable-based power via these surfaces in the living area. The devices can also communicate via this and, thanks to their flexible design, enable intuitive and individual configuration of Smart Homes. The contacting of IoT devices via the surfaces is simple and intuitive. The textiles in turn enable connection to standard Smart Home protocols. Various haptic interaction patterns such as touching, stroking or stretching can be used to configure interactions and thus form the basis for intelligent interactive assistance.

Innovation and Perspectives
The innovation consists in the use of electronic textiles as a flexible, adaptable and easily configurable interaction medium for smart homes, which can be easily and conveniently integrated into living spaces and industrially produced in large quantities.

Project duration: 07/2019 – 6/2022

Partner:
• Deutsches Forschungszentrum für Künstliche Intelligenz GmbH, Berlin & Bremen (Koordinator)
• Robert Bosch GmbH, Renningen
• Deutsche Institute für Textil- und Faserforschung Denkendorf (DITF)
• Fraunhofer-Institut für Fertigungstechnik und Angewandte Materialforschung (IFAM), Bremen
• Norafin Industries (Germany) GmbH, Mildenaue
• Peppermint Holding GmbH, Berlin

The project is funded by the Federal Ministry for Education and Research within the "Research Programme on Human-Technology-Interaction: Bringing Technology to People", funding focus „Innovation and Technology Partnerships for Human-Technology Interaction: Intelligent, Networked Objects for Everyday Life“ (Grant No. FKZ 16SV8248)

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Quelle: DFKI GmbH