

OnLITE: Online Label for Internet of Things Transparency Enhancement

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Abstract. We present an innovative interface that aims to inform potential buyers and users of Internet of Things (IoT) devices about the ways in which data are collected and handled, as required by the General Data Protection Regulation (GDPR). The interface includes different visualization forms, namely a table and Sankey diagrams, to make the actual data flows transparent to the users. It is the result of an iterative design process, which combines feedback from potential users as well as legal and usability experts.

The results of our evaluation conducted with 15 participants show that the proposed tabular layout can be correctly interpreted by our participants, and that it is sufficient to assist users in understanding what information is collected, where it is stored, for how long and for what purpose it is shared.

Besides, the proposed Sankey diagrams require more efforts to be interpreted, especially when multiple devices or data-sharing partners are involved. However, diagram interactivity and repeated exposure to the interface make its interpretation easier.

Consequently, our results lay the ground for the development of further user-centric solutions catering for transparency in IoT.

Keywords: Privacy, transparency, user-centric, usability, Internet of Things (IoT), General Data Protection Regulation (GDPR).