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Blockchain-Based Platform for Consent Management of Personal Data Processing in the IoT Ecosystem

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Title:	A Blockchain-Based Platform for Consent Management of Personal Data Processing in the IoT Ecosystem
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Abstract:	<p>In the Internet of Things (IoT) ecosystem, the volume of data generated by devices in the user's environment is continually increasing and becoming of particular value. In such an environment the average user is bound to face considerable difficulties in understanding the size and scope of his/her collected data. However, the provisions of the European General Data Protection Regulation (GDPR) require data subjects to be able to control their personal data, be informed, and consent to its processing in an intelligible manner. This paper proposes ADVOCATE platform, a user-centric solution that allows data subjects to easily manage consents regarding access to their personal data in the IoT ecosystem. The proposed platform also assists data controllers to meet GDPR requirements, such as informing data subjects in a transparent and unambiguous manner about the data they will manage, the processing purposes, and periods. The integrity of personal data processing consents and the immutable versioning control of them are protected by a blockchain infrastructure. Finally, the paper provides a prototype implementation of the proposed platform that supports the main consents management functionality.</p>