

Securing Internet of Things Devices in Healthcare industry: An Investigation into Efficient and Effective Authorization Procedures

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Abstract : Protecting patient information's confidentiality is paramount considering the widespread use of Internet of Things (IoT) gadgets in medical settings. This study's subjects are decentralized identifiers (DIDs) and verifiable credentials (VCs) in conjunction with an OAuth-based authorization framework, as they are the key to protecting IoT healthcare devices. DIDs enable autonomous authentication and trust formation between IoT devices and other entities. To authorize users and enforce access controls based on verified claims, VCs offer a secure and adaptable solution. Through the proposed method, medical facilities can improve the privacy and security of their IoT devices while streamlining access control administration. A Smart pill dispenser in a hospital setting is used to illustrate the advantages of this method. The findings demonstrate the value of DIDs, VCs, and OAuth-based delegation in protecting the IoT devices. Improved processes for authorizing and controlling access to IoT devices are possible thanks to the research findings, which also help ensure patient confidentiality in the healthcare sector.

Keywords : Iot, DID, authorization, verifiable credentials

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