Blockchain for IOT-based Healthcare: Background, Consensus, Platforms and Use Cases

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Abstract: *The area of e-healthcare is one of the most popular areas where Internet of Things (IoT) and blockchain technologies are being exploited extensively. IoT in healthcare allows for the collection of real-time sensory data through patients' devices. The collected IoT data undergo centralized computation, processing, and storage. However, this centralization can cause a number of problems such as acting as a single point of failure, mistrusts, data manipulations and tamperings, privacy invasions among others. For instance, blockchain can solve these serious issues by offering decentralized computation and storage for IoT data. Consequently, using both IoT and blockchain technologies integration can be an appropriate solution when building decentralized e-healthcare systems based on the principles of IoT technology especially block chain. In this article we first discuss briefly what Blockchain is all about then go ahead to study the leading consensus algorithms used in the field of health care using Blockchain. Then get an overview on which platform works best with E-Healthcare Systems that are built on IoT. In conclusion there will be few use cases provided methodologically showing how main peculiarities between IoT and Blockchain could be used to support health care services and ecosystems. And also we introduce a Data Flow Architecture named IOB Health which combines Internet-of-Things with Blockchain for storing accessing managing healthcare records Accordingly it is possible to note that combination of IoT with BCDN is expected to result into some unique innovation in medical practice.*

Keywords: Basics of Blockchain and IOT For e-Healthcare, IOT and Blockchain for e-Healthcare.