

應用區塊鏈技術實現整合照護之細粒度資料分享需求論文摘要

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摘要

醫療與照護資訊之整合有助於提升醫療品質、增進人民福祉，但現下環境缺乏一套完善的整合系統供民眾進行資訊的授權與共享，由於共享醫療資訊牽涉到民眾隱私權等敏感的問題，因此整合系統必須具保密的特性來保護民眾的安全。本研究利用區塊鏈防竄改與共享帳本的特性實現具備細粒度的授權系統，細粒度意即民眾可以控制病歷資料的授權範圍與對象，提升對資料的自主權；為了節省區塊鏈的儲存成本，本研究設計出資料分散式儲存，搭配區塊鏈內之中央索引架構，利用智能合約實現自動化授權，目標為實現新型態的區塊鏈身份辨識與自主授權之服務。

關鍵詞：區塊鏈、智能合約、數位憑證、醫療資訊授權、細粒度

Abstract

The integration of medical information and long-term care can help improve medical quality and enhance people's well-being. However, the current environment lacks a comprehensive and integrated system for people to authorize and share medical information. Because sharing medical information will involve people's privacy rights and other sensitive

issues, so the integrated system must have confidentiality features to make sure the safety of the people. This research uses the characteristics of blockchain anti-tampering and shared ledger to achieve a fine-grained authorization system. Fine-grained means that the public can control the scope of their medical records to enhance the autonomy of the data. In order to save the cost of storage in blockchain, this research design an architecture with data decentralized storage and the central index within the blockchain. Using smart contract to achieve automated authorization, the goal is to achieve a new type of identification as well as independent authorization services on blockchain.

Keywords: Blockchain, smart contracts, digital credentials, medical information authorization, fine-grained