

Blockchain Platform Configuration for MyData Operator in Digital and Connected Health

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Abstract : The integration of digital technology with existing healthcare processes has been painfully slow, a huge gap exists between the fields of strictly regulated official medical care and the quickly moving field of health and wellness technology. We claim that the promises of preventive healthcare can only be fulfilled when this gap is closed - health care and self-care becomes seamless continuum "correct information, in the correct hands, at the correct time allowing individuals and professionals to make better decisions" what we call connected health approach. Currently, the issues related to security, privacy, consumer consent and data sharing are hindering the implementation of this new paradigm of healthcare. This could be solved by following MyData principles stating that: Individuals should have the right and practical means to manage their data and privacy. MyData infrastructure enables decentralized management of personal data, improves interoperability, makes it easier for companies to comply with tightening data protection regulations, and allows individuals to change service providers without proprietary data lock-ins. This paper tackles today's unprecedented challenges of enabling and stimulating multiple healthcare data providers and stakeholders to have more active participation in the digital health ecosystem. First, the paper systematically proposes the MyData approach for healthcare and preventive health data ecosystem. In this research, the work is targeted for health and wellness ecosystems. Each ecosystem consists of key actors, such as 1) individual (citizen or professional controlling/using the services) i.e. data subject, 2) services providing personal data (e.g. startups providing data collection apps or data collection devices), 3) health and wellness services utilizing aforementioned data and 4) services authorizing the access to this data under individual's provided explicit consent. Second, the research extends the existing four archetypes of orchestrator-driven healthcare data business models for the healthcare industry and proposes the fifth type of healthcare data model, the MyData Blockchain Platform. This new architecture is developed by the Action Design Research approach, which is a prominent research methodology in the information system domain. The key novelty of the paper is to expand the health data value chain architecture and design from centralization and pseudo-decentralization to full decentralization, enabled by blockchain, thus the MyData blockchain platform. The study not only broadens the healthcare informatics literature but also contributes to the theoretical development of digital healthcare and blockchain research domains with a systemic approach.

Keywords : blockchain, health data, platform, action design

Conference Title : ICHSEHM 2020 : International Conference on Healthcare Systems Engineering and Healthcare Management

Conference Location : Bali, Indonesia

Conference Dates : October 22-23, 2020