

## Introduction to IT Architectures and Implementations in Healthcare Environments Minitrack

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The minitrack on IT Architectures and Implementation in Healthcare Environments has attracted a variety of papers, but we selected only three. They focus on a variety of issues of IT implementations and architectures in healthcare. We are introduced a domain specific modelling language for IoT created in healthcare domain and a new term Software as a Medical Device (SaMD), which may have impact on new technology applications for supporting healthcare monitoring, healthcare service delivery and regulatory requirements in modern healthcare. The third paper gives a software architecture for continuous drug repurposing, which spans drug chemical compounds, their biological targets, particularly unintentional targets, and drug therapeutic effects.

The paper entitled “Health in the Era of the Internet of Things: A Domain-Specific Modelling Language” introduces a domain specific modelling language SHML for IoT. The authors offer a systematic set of artefact based on a design-science-research oriented multi-paper study. They analyzed more than 6000 publications on the development and modelling of information systems in the form of a smart-health domain-specific modelling language. Their SHML can serve both as a tool for the analysis of existing and as a conceptual tool for the development of new information systems. The authors emphasize that we should in future focus on the development of an independent modelling tool for academia and industry, including virtual reality. They also expect a first prototypical implementation of the language for the Microsoft HoloLens 2.

The paper entitled Software as a Medical Device (SaMD): Useful or Useless Term? introduces a new field of software as a medical device “SaMD”, by highlighting that there is no clear boundary as to what is or is not SaMD, and thus no clear definition of SaMD exists. Therefore the purpose of the study

is to identify SaMD concepts through a Scoping Review to establish the boundaries of SaMD. It may have significant impact on new technology applications, aimed at supporting healthcare monitoring, healthcare service delivery and regulatory requirements for including SaMD in modern healthcare.

The paper entitled “Software Architectures and Efficient Data Sharing for Promoting Continuous Drug Repurposing” proposes the layered and component based software architectural style enables data sharing and accessibility of computational software components across Biomedical Science problem domains for the purpose of supporting continuous drug repurposing. The proposed model exploits the semantic available between drug chemical compounds, their biological targets, particularly unintentional targets and drug therapeutic effects. A full scale implementation of the software architecture and data sharing across the spectrum of biomedical research and disciplines, would require some changes in the way therapeutic drugs are discovered, tested and approved.