Adaptation of Digital Twins as a methodology for management and development of Secure Software Systems

Sandhya Satyarthi[1] and Dhirendra Pandey[1]

[1]Babasaheb Bhimrao Ambedkar University School of Information Science and Technology

December 2, 2022

Abstract

System development is frequent nowadays, and maintaining an ideal degree of security and trustworthiness remains challenging. However, research shows that software developers usually lack the knowledge and skills required to design safe software systems. Such expertise ensures that, in addition to adhering to the safe software development lifecycle, the relevant security parameters are fulfilled. Engineers and developers are always concerned with monitoring, tracking, and implementing critical product requirements. However, as technology evolves, digitization brings several opportunities for more sustainable system engineering and administration. With the aid of digital twins, a dynamic digital representation of a physical system is updated and maintained to build a more detailed virtual replica of the system. For better administration and faster processing, we believe digital twins to be a superior approach to examine the enhanced output and specified structure of safe software systems and their implementation. This article discusses a methodology for designing and monitoring safe software with the use of digital twins. It also describes how it works and how it may be used to make software systems more secure.

Hosted file

`S2ppr.docx` available at https://authorea.com/users/562062/articles/609343-adaptation-of-digital-twins-as-a-methodology-for-management-and-development-of-secure-software-systems