

Trustworthy Software Development – practical view of security processes through MVP methodology

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Abstract—With the popularization of 5G, one of its characteristics supports a large amount of IoT devices and a lot of open sources will be introduced. Therefore, trustworthiness has become more important for users and developers. According to IBM Systems Sciences Institute, we understand that taking software security into consideration in the early stages of development will save 99% cost. Therefore, security by design can not only save development costs but also improve the overall security of the software.

In this paper, we mainly focus on the trustworthiness aspect in the software development process based on ISO/IEC/IEEE E15288, NIST800-160, DoD Enterprise DevSecOps Reference, and A Guide to the Project Management Body of Knowledge (PMBOK Guide) - Seventh Edition and the Standard for Project Management concept. A trustworthiness framework will be proposed to make software more reliable and trustworthy for users and allows enterprises and developers to control and test the trustworthiness of production. After that, the analysis of software security is provided. This platform will provide the guidance for industries easier to use and apply to their product..

Keyword—Security by Design, trustworthiness, vulnerability, security development lifecycle, National Vulnerability Database, National Institute of Standards and Technology (NIST), Open Web Application Security Project (OWASP), DevSecOps, V Model



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