

Leveraging Hyperledger Iroha for the Issuance and Verification of Higher-Education Certificates

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Abstract : Higher Education is resisting the pull of technology, especially as this concerns the issuance and verification of degrees and certificates. It is widely known that education certificates are largely produced in paper form making them vulnerable to damage while holders of such certificates are dependent on the universities and other issuing organisations. QualiChain is an EU Horizon 2020 (H2020) research project aiming to transform and revolutionise the domain of public education and its ties with the job market by leveraging blockchain, analytics and decision support to develop a platform for the verification and sharing of education certificates. Blockchain plays an integral part in the QualiChain solution in providing a trustworthy environment to store, share and manage such accreditations. Under the context of this paper, three prominent blockchain platforms (Ethereum, Hyperledger Fabric, Hyperledger Iroha) were considered as a means of experimentation for creating a system with the basic functionalities that will be needed for trustworthy degree verification. The methodology and respective system developed and presented in this paper used Hyperledger Iroha and proved that this specific platform can be used to easily develop decentralize applications. Future papers will attempt to further experiment with other blockchain platforms and assess which has the best potential.

Keywords : blockchain, degree verification, higher education certificates, Hyperledger Iroha

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