A Secure Online Authentication Platform using Blockchain Technology for Educational Documents

Kevin Banza
Software Expert, Cyprus International University, Nicosia, Mersin 10, Turkey

Fatma Tansu Hocanın*
Computer Engineering Department, Cyprus International University, Nicosia, Mersin 10, Turkey

Abstract:

A blockchain is a public and distributed ledger that keeps different transactions and other events in it. Records on the blockchain are verified by a majority of nodes, and data are linked to each other, making the information safe and secure. Fake documents can now be created with very advanced techniques and sophisticated tools by the issuers to make their work look legit. Authentication of documents has always been complicated and time-consuming, as it is necessary to contact the document issuer. Using blockchain technology, a diploma authentication system called Diploma-Checker has been proposed. This platform simplifies the diploma-checking process by providing a method to check a diploma using a numeric file. It supplements the existing physical checking process, which can be long and time-consuming. Diploma-Checker keeps a unique, irrefutable, and unchangeable trace (hash) of the diploma numeric version in the blockchain, so anyone with the hash code can be able to check the validity of a diploma. Diploma-Checker has three different types of users: the educational institution that deploys diplomas in the platform, the student who owns the diplomas, and other users who can check whether the diploma is authentic or not. Using blockchain technology, the proposed system enables fast, secure and trustable diploma authentication for educational institutions.

Keywords:

Blockchain-based Solution, Cryptocurrency, Educational Document, Document Authentication, Smart Contract.