

Preserving Digital Arabic Text Integrity Using Blockchain Technology

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Abstract : With the massive development of technology today, the Arabic language has gained a prominent position among the languages most used for writing articles, expressing opinions, and also for citing in many websites, defying its growing sensitivity in terms of structure, language skills, diacritics, writing methods, etc. In the context of the spread of the Arabic language, the Holy Quran represents the most prevalent Arabic text today in many applications and websites for citation purposes or for the reading and learning rituals. The Quranic verses / surahs are published quickly and without cost, which may cause great concern to ensure the safety of the content from tampering and alteration. To protect the content of texts from distortion, it is necessary to refer to the original database and conduct a comparison process to extract the percentage of distortion. The disadvantage of this method is that it takes time, in addition to the lack of any guarantee on the integrity of the database itself as it belongs to one central party. Blockchain technology today represents the best way to maintain immutable content. Blockchain is a distributed database that stores information in blocks linked to each other through encryption, where the modification of each block can be easily known. To exploit these advantages, we seek in this paper to justify the use of this technique in preserving the integrity of Arabic texts sensitive to change by building a decentralized framework to authenticate and verify the integrity of the digital Quranic verses/surahs spread on websites.

Keywords : arabic text, authentication, blockchain, integrity, quran, verification

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