3. Conclusion

Administrative information systems in South Korea were established after the enactment of the E-Government Act in 2001, and the e-Government Support Project was promoted. This document proposes a method for verifying the integrity of administrative datasets. When administrative information systems were first created, there was no blockchain technology and therefore this system was not set. For different types of DBMS, a method for checking integrity should be offered in a consistent and unified manner. It is best to adopt a mirror system method with a small amount of integrity information and metadata such as hash values for real datasets.

With the advent of blockchain technologies and the creation of an administrative information system in the future, it must be designed to store data sets on the blockchain. The transaction of creating, reading, updating and deleting in the database should not reflect the actual data by blocking with the blockchain through a smart contract, but should put the end goal in the direction where the actual data itself is stored in the blockchain.

4. Literature

1. ISO 15489-1. Information and documentation-records management part 1. In Concepts and Principles; ISO: Geneva, Swiss, 2016; pp. 4–6

2. Jung, C.-S. The Theory of Electronic Government, 1st ed.; Seoul Economic Management Publishing Company: Seoul, Korea, 2007; pp. 99–128

3. Lemieux, V.L. A typology of blockchain recordkeeping solutions and some reflections on their implications for the future of archival preservation. In Proceedings of the 2017 IEEE International Conference on Big Data, Boston, MA, USA, 11–14 December 2017; pp. 2271–2278. [CrossRef]

4. National Archives of Korea. Technical Specification for Long-Term Preservation Format ver. 2.1. Standard; NAK 31:2017(v2.1); NAK: Daejeon, Korea, 2017

5. Wang, H.; Yang, D. Research and Development of Blockchain Recordkeeping at the National Archives of Korea. Computers 2021, 10, 90. https:// doi.org/10.3390/computers10080090

6. https://www.guru99.com/blockchain-tutorial.html#1

[1] https://www.guru99.com/blockchain-tutorial.html#1
[2] Wang, H.; Yang, D. Research and Development of Blockchain Record-keeping at the National Archives of Korea. Computers 2021, 10, 90. https:// doi.org/10.3390/computers10080090
[3] Research and development and developments in science
[4] An open source blockchain platform and collaborative approach to distributed ledgers. By developing standards and a comprehensive blockchain framework, Hyperledger has received support from organizations including Cisco, American Express and IBM. https://www.hyperledger.org/
[5] Wang, H.; Yang, D. Research and Development of Blockchain Recordkeeping at the National Archives of Korea. Computers 2021, 10, 90. https:// doi.org/10.3390/computers10080090
[6] Jung, C.-S. The Theory of Electronic Government, 1st ed.; Seoul Economic Management Publishing Company: Seoul, Korea, 2007; pp. 99–128.
[7] Binary sequence, bit stream. A sequence of bytes.
[8] National Archives of Korea. Technical Specification for Long-Term Preservation Format ver. 2.1. Standard; NAK 31:2017(v2.1); NAK: Daejeon, Korea, 2017.
[9] The so-called audit trail. A series of computer event records for an operating system, application, or user activities. It is an analysis of managerial, operational and technical control.
[10] National Archives of Korea. Technical Specification for Long-Term Preservation Format ver. 2.1. Standard; NAK 31:2017(v2.1); NAK: Daejeon, Korea, 2017.
[11] Records Management Standard.
[12] ISO 15489-1. Information and documentation-records management part 1. In Concepts and Principles; ISO: Geneva, Swiss, 2016; pp. 4–6.
[13] Lemieux, V.L. A typology of blockchain recordkeeping solutions and some reflections on their implications for the future of archival preservation. In Proceedings of the 2017 IEEE International Conference on Big Data, Boston, MA, USA, 11–14 December 2017; pp. 2271–2278. [CrossRef]
[14] Lemieux, V.L. A typology of blockchain recordkeeping solutions and some reflections on their implications for the future of archival preservation. In Proceedings of the 2017 IEEE International Conference on Big Data, Boston, MA, USA, 11–14 December 2017; pp. 2271–2278. [CrossRef]
[15] NAK-DLT. Available online: https://github.com/Hosung-wang/NAK-DLT (accessed on 12 July 2021).
[16] An enterprise blockchain platform where only identified users can participate in the network.
[17] LOOPCHAIN. Available online: https://www.iconloop.com/en/loopchain (accessed on 21 July 2021).
[18] Prototype for Verifying Integrity of Dataset using Blockchain. Available online: https://github.com/likeba/VID (accessed on 21 July 2021).