

Modernizing and Revolutionizing Land Record Management with Blockchain

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Abstract: *In the modern era, access to land records has become essential, enabling individuals to verify land ownership for both personal and business purposes. In India, managing land records has proven to be a formidable challenge given the country's vast population. The current system has suffered from incomplete registries, which, in turn, has facilitated fraudulent activities. Moreover, the existing government system is plagued by inconsistencies and involves numerous intermediaries with access to the records, raising concerns about unauthorized alterations.*

With the increasing acceptance of blockchain technology, the government is actively exploring its implementation to address these issues. In a world moving towards Web 3.0, integrating land records into a blockchain offers significant advantages, primarily through enhanced transparency. This approach ensures that citizens have unhindered access to land records, complete with visual representations on maps, promoting greater inclusivity and accountability.

Keywords: Smart Contracts, POS, Blockchain, SHA-256

REFERENCES

- [1]. Krishnapriya S, Greeshma Sarath, "Securing Land Registration using Blockchain" 2020 Third International Conference on Computing and Network Communications, 2020, Vol 171, pp. 1708-1715
- [2]. R. C. Suganthe, N. Shanthi, R.S. Latha, K. Gowtham, S. Deepak Kumar, R. Elango "Blockchain enabled Digitization of Land Registration" 2021 International Conference on Computer Communication and Informatics (ICCCI), 2021, pp. 1-5
- [3]. M. A. Majumdar, M. Monim and M. M. Shahriyer "Blockchain based Land Registry with Delegated Proof of Stake (DPoS) Consensus in Bangladesh" 2020 IEEE Region 10 Symposium (TENSYP), 2020, pp. 1756-1759.
- [4]. Goran Sladi, Branko Milosavljevi, Siniša Nikoli, Dubravka Sladi and Aleksandra Radulovic (2021). "A blockchain solution for securing real property transactions: A case study for Serbia". ISPRS International Journal of Geo- Information. <https://doi.org/10.3390/ijgi10010035>.
- [5]. Nidhi Gupta, Manik Lal Das and Sukumar Nandi "LandLedger: Blockchain-powered Land Property Administration System" 2019 IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS), 2019.
- [6]. Ameya Thosar, Mayur Harne, Ashutosh Sarode, Dr. Parminder Kaur "Land Registry Management using Blockchain" 2020 International Conference on Smart Innovations in Design, Environment, Management, Planning and Computing (ICSIDEMPC), 2020.
- [7]. Md Sakibul Islam, Fahmid Shahriar Iqbal, Muhaimenul Islam "A Novel Framework for Implementation of Land Registration and Ownership Management via Blockchain in Bangladesh" 2020 IEEE Region 10 Symposium (TENSYP) 2020.
- [8]. Xinle Yang, Yang Chen, Xiaohu Chen "Effective scheme against 51% Attack on Proof-of-Work Blockchain with History Weighted Information" 2019 IEEE International Conference on Blockchain 2019.

- [9]. L. W. D. C. Jayabodhi, Chathura Rajapakse, J. M. D. Senanayake “Minimization of fraudulent activities in land authentication through Blockchain-based system” 2020 International Research Conference on Smart Computing and Systems Engineering (SCSE) 2020.
- [10]. Meghali Nandi, Rajat Kanti Bhattacharjee, Amrit Jha “A secured land registration framework on Blockchain” 2020 Third ISEA Conference on Security and Privacy (ISEA-ISAP) 2020.
- [11]. Sai Apurva Gollapalli, Gayatri Krishnamoorthy, Neha Shivaji Jagtap, Rizwana Shaikh "Land Registration System Using Block-chain" (2020) International Conference on Smart Innovations in Design, Environment, Management, Planning and Computing (ICSIDEMPC)
- [12]. Arif Furkan Mendi, Kadir Kaan Sakaklı, Alper Çabuk (2020) 4th International Symposium on Multidisciplinary Studies and Innovative Technologies (ISMSIT)
- [13]. Disha Shinde, Snehal Padekar, Siddharth Raut, Abdul Wasay, S. S. Sambhare "Land Registry Using Blockchain - A Survey of existing systems and proposing a feasible solution" (2019) 5th International Conference On Computing, Communication, Control And Automation (ICCUBEA)
- [14]. Rizwan Khan, Shadab Ansari, Saksham Sachdeva and Sneha Jain "Blockchain based land registry system using Ethereum Blockchain" JOURNAL OF XI AN UNIVERSITY OF ARCHITECTURE & TECHNOLOGY (2020)