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BOOK OF ABSTRACTS

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- Nutritional Tracking: The system calculates nutritional values, helping users to make informed dietary choices.

- Collaboration: Users can share meal plans and grocery lists with family members or housemates for collaborative management.

This tool ultimately simplifies the complexities of meal management, reduces food waste, promotes healthier eating habits, and saves time. It is particularly useful for individuals or families with specific dietary needs, busy schedules, or fitness goals.

ID: 112444

Blockchain-Enabled Internet of Things for Efficient Construction and Demolition Waste Management: A Framework for Industry 5.0

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Blockchain technology has emerged as a transformative tool in supply chain management, offering solutions for enhanced transparency, efficiency, and sustainability. This study investigates the integration of blockchain with the Internet of Things (IoT) to effectively manage construction and demolition (C & D) waste, focusing on sustainable practices.

By leveraging blockchain in reverse logistics (RL) for infrastructure and demolition waste, this research aims to improve transparency, efficiency, and traceability throughout the waste management process. Blockchain facilitates secure information sharing and real-time communication among stakeholders, fostering trust and collaboration in RL processes.

Numerous applications of blockchain provide strategic advantages to supply chain management in the construction sector. It establishes a transparent and immutable ledger, tracking the origin, composition, and movement of materials, ensuring accuracy and verifiability. Smart contracts enforce compliance with environmental and safety regulations, promoting responsible waste management practices.

In the present study, each waste item receives a digital identity through blockchain, enabling efficient sorting and

management. Tokenization incentivizes proper waste disposal, rewarding stakeholders for environmentally friendly practices. Collaborative information sharing optimizes reverse logistics, enhancing supply chain management sustainability. The proposed framework outlines a distributed application-based mechanism for Construction Demolition Waste under Industry 5.0 technology, addressing challenges of unorganized waste management and environmental pollution. By integrating blockchain-enabled IoT, this study aims to develop a secure, robust automated system, mitigating pollution impacts and ensuring sustainability in supply chain management for construction and demolition waste.

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Decentralized Migrant Laborers Management System (DMLMS)

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This project proposes a Decentralized Migrant Laborers Management System using blockchain technology to address long-standing challenges such as delayed payments, worker exploitation, and difficulties in verifying work credentials—issues that were exacerbated during the COVID-19 pandemic. By leveraging blockchain, the platform ensures transparency, security, and fairness in managing labor agreements. Smart contracts are central to this system, requiring managers to deposit funds before work commences, which are automatically released to laborers upon completion of the task. This guarantees timely and secure payments, eliminating the risks of wage delays or non-payment that often affect migrant workers.