
Land Ledger

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Problem Statement

Traditional land record systems are plagued by numerous challenges, including a lack of **transparency** and public oversight, making it difficult to **verify the authenticity** of ownership. These centralized systems are vulnerable to **fraud, corruption, and forged documents**, often enabled by manual registration processes.

Additionally, stakeholders face limited accessibility to up-to-date records due to the **absence of digital integration**, while **inconsistent and incomplete documentation leads to frequent disputes and legal challenges**.

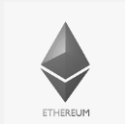
Our Solution

- The system is a decentralized platform leveraging blockchain.
- Records property transactions immutably on a blockchain .
- Provides a user-friendly application for property buyers, sellers, and local government officials to:
 - Manage property transactions.
 - Verify ownership.
 - Facilitate secure ownership transfers.

System Design



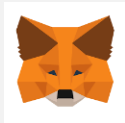
Smart Contracts: Design and implement smart contracts in Solidity.



Blockchain Network: Use Ethereum or a local blockchain network tailored for low-cost, high-speed transactions .



User Interface: Develop a React-based web interface.



Integration: Connect the front end to the blockchain via Metamask and Truffle Suite.

Tools and platform



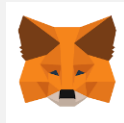
Frontend: JavaScript, Flask, CSS



Blockchain: Ganache, Solidity



Backend: MongoDB



Additional Tools: Metamask browser extension, Truffle Suite



App Features

1. Property Listing:

- Allows users to list properties with detailed information and supporting documents.

2. Property Selling:

- Enables property owners to sell their properties securely and efficiently.

3. Bidding on Properties:

- Facilitates a transparent bidding process for buyers to compete for desired properties.

4. Secure and Immutable Records:

- Blockchain technology ensures that all property records are tamper-proof and secure.

5. User-Friendly Interface:

- Simple and intuitive React-based interface tailored for all user types (government, buyers, and sellers).

Future Work

1.Cloud Hosting:

- Migrate the application to a scalable and secure cloud hosting platform.

2.UI/UX Design Update:

- Continuously refine the user interface and experience for better usability and visual appeal.

3.User and Property Document Storage:

- Integrate a cloud server or database for efficient storage and retrieval of user and property-related documents.

4.Adoption by NADRA/Federal Land Commission:

- Collaborate with national authorities like NADRA and the Federal Land Commission to ensure widespread adoption and compliance.

Thank you

Any Questions?

