

## # PATENT APPLICATION DRAFT

### ## Title of Invention

BLOCKCHAIN-BASED SYSTEM AND METHOD FOR PROPERTY TRANSACTION VERIFICATION AND AUTOMATION

### ## Technical Field

[0001] The present invention relates to systems and methods for conducting property transactions, and more particularly to a blockchain-based system for verifying property information, automating transaction steps, and reducing transaction time and costs.

### ## Background

[0002] Property transactions in the United Kingdom typically involve multiple stakeholders, including sellers, buyers, estate agents, conveyancing solicitors, mortgage lenders, and government agencies. The current process is characterized by sequential handoffs between these stakeholders, resulting in typical transaction times of 12-16 weeks from offer acceptance to completion.

[0003] Conventional property transactions suffer from several inefficiencies, including duplicate work, reliance on physical documentation, manual verification processes, and sequential rather than parallel processing of transaction steps. These inefficiencies lead to unnecessary costs, delays, and a high rate of transaction failure.

[0004] Various attempts have been made to digitize aspects of property transactions, including the Land Registry's Digital Street project and the previously implemented Home Information Packs. However, these solutions have not comprehensively addressed the fundamental structural inefficiencies in the property transaction process.

### ## Summary of the Invention

[0005] The present invention provides a blockchain-based system for property transactions that addresses the inefficiencies of conventional methods by: (1) front-loading due diligence through comprehensive seller information packs, (2) automating verification through blockchain technology, (3) implementing smart contracts to automate conditional transaction steps, and (4) creating an immutable record of property history for future transactions.

[0006] In accordance with one aspect of the present invention, a system for conducting property transactions comprises a blockchain network for verifying and storing property information, a user interface for stakeholders to interact with the system, smart contracts for automating transaction conditions, and integration with existing financial and legal systems.

[0007] The system creates a dual-sided transaction dashboard that displays the status of seller and buyer requirements, with verification of each completed step recorded on the blockchain. When all required conditions are met, smart contracts automatically advance the transaction to the next stage, ultimately enabling faster completion.

### ## Detailed Description of the Invention

[0008] Figure 1 illustrates the overall architecture of the blockchain property transaction system, comprising: a blockchain network, a web application layer, integration APIs, smart contract modules, and user interfaces for different stakeholders.

[0009] The blockchain network utilizes a private Ethereum-based blockchain with permissioned access for transaction participants and relevant authorities. Each property is assigned a unique digital identifier that links to its comprehensive information pack and transaction history.

[0010] The seller information pack module enables property owners or developers to upload and verify all relevant property documentation, including but not

limited to: title deeds, property information forms, energy performance certificates, planning permissions, and building regulations compliance documents.

[0011] The search automation module interfaces with relevant authorities to conduct and verify property searches, including local authority searches, environmental searches, water and drainage searches, and Land Registry searches. The results are stored on the blockchain with tamper-proof verification.

[0012] The smart contract engine comprises modules for: identity verification, document verification, search verification, financing condition verification, and completion triggers. Each module contains logic for verifying specific conditions and advancing the transaction when conditions are met.

[0013] The system includes integration with mortgage technology providers through secure APIs, allowing for verification of buyer financing without direct handling of financial applications or advice. The system receives and records the approval status without processing the underlying financial data.

[0014] The dual-sided dashboard interface displays the status of all transaction requirements, with seller requirements on one side and buyer requirements on the other. Each requirement is marked as pending, in-progress, or complete, with blockchain verification of completed items.

[0015] For new build properties, the system includes additional modules for managing developer-specific requirements, such as building warranties, construction schedules, and developer covenants.

#### ## Claims

[0016] What is claimed is:

1. A blockchain-based system for property transactions, comprising:
  - a. a distributed ledger for storing and verifying property information;
  - b. a smart contract engine for automating conditional transaction steps;
  - c. a dual-sided user interface displaying seller and buyer requirements;
  - d. integration modules for connecting with external systems including land registry and mortgage providers;
  - e. a verification module for confirming completion of transaction requirements;

wherein the system reduces transaction time and cost by front-loading due diligence and automating verification processes.

2. The system of claim 1, wherein the distributed ledger maintains an immutable record of property history accessible for future transactions.

3. The system of claim 1, wherein the smart contract engine automatically advances the transaction when predefined conditions are met.

4. The system of claim 1, wherein the verification module utilizes artificial intelligence to analyze property documents for compliance with legal requirements.

5. A method for conducting property transactions, comprising:
  - a. creating a comprehensive digital property information pack;
  - b. verifying the information through authorized sources;
  - c. recording verification on a blockchain ledger;
  - d. establishing smart contracts with transaction conditions;
  - e. monitoring condition fulfillment through secure APIs;
  - f. automatically advancing the transaction when conditions are met;
  - g. recording the completion on the blockchain.

6. The method of claim 5, wherein creating the property information pack occurs before marketing the property for sale.

7. The method of claim 5, wherein verification utilizes artificial intelligence to analyze document compliance with property law requirements.
8. The method of claim 5, wherein the smart contracts include conditions for financing approval received through integration with mortgage technology providers.
9. A computer-implemented system for property transactions, comprising:
  - a. a blockchain network for verifying and storing property information;
  - b. a web application for user interaction;
  - c. smart contracts for transaction automation;
  - d. APIs for integration with external systems;
  - e. a dashboard displaying transaction status and requirements.
10. The system of claim 9, wherein the dashboard displays seller requirements on one side and buyer requirements on the other side.

#### ## Abstract

A blockchain-based system and method for property transactions that reduces time and cost by front-loading due diligence and automating verification. The system creates a comprehensive seller information pack that is verified and stored on a blockchain, implements smart contracts to automate conditional transaction steps, and provides a dual-sided dashboard showing seller and buyer requirements. Integration with mortgage technology providers enables verification of financing conditions without directly handling financial applications. The system is particularly applicable to new build properties where standardized documentation can be efficiently processed. The invention reduces transaction times from 12-16 weeks to 3-4 weeks while cutting direct costs by approximately 48%.