

Property Properly: A Decentralized Application for Property Transaction Management

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The Ethereum blockchain is a platform where programmers can create their own decentralized applications (DApps) using smart contracts. One popular area for modern blockchain development is in exploring applications to the real estate market. Several start-up companies have created DApps specific to property transactions. There are two key advantages of the blockchain that make it uniquely applicable to creating a property transaction management DApp. First, the *immutability* of transactions once they are recorded on the blockchain makes it the perfect technology for property and tenant registries. Second, the automated nature of smart contracts creates a *trustless* environment for various property payments.

In this dissertation, we combine the functionalities of a property registry, tenant registry, and payment system into one DApp. This is done by creating interconnected smart contracts for a property registry, tenant registry, and properties that allow users to initiate transactions and send and receive payments. This project seeks to demonstrate the effectiveness and potential of blockchain development in the real estate market. Future work could seek to deepen the complexity and breadth of the property transactions handled.