



On the Block

Ethereum Smart Contract and Decentralized Application for Rental Contracts

Group 5

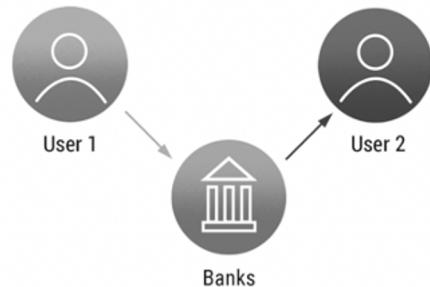
Katie Bramlett, Claire Furtick, Genevieve Flynn, & Ada Kilic

Get **SMART** with your rental contracts.

Real-world rental contracts often go through a third party intermediary to exchange payment from the tenant to the landlord, which leaves room for error with safety, security, and fairness.

Landlords and tenants should be guaranteed **a quick, safe, and fair contract.**

Traditional Transactions



Smart Contract



Introducing **On the Block**

The **SMART** way to make your rental payments.



On the Block, our Ethereum-based decentralized application, is a streamlined payment portal which can be used to set up timely, recurring rental payments.

On the Block Features



Start New Rental Contracts



Check Existing Rental Contracts



Get Easy Notifications and Alerts

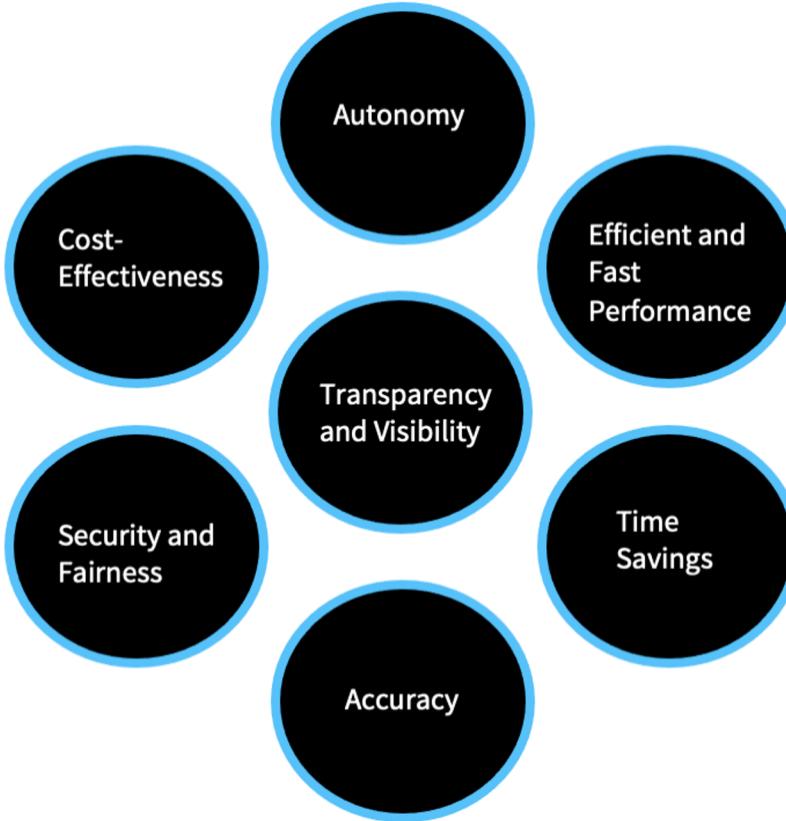


Set Up Timely Recurring Payments



Terminate Existing Contracts

Why is Smart Contract Technology a Better Solution for Rental Contracts?



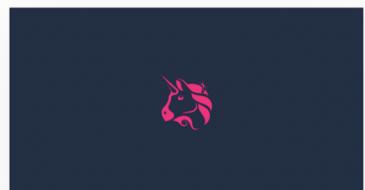
The Growing Demand for Smart Contracts

The **global Smart Contracts market size** is projected to reach **USD 345.4 Million by 2026**, from USD 106.7 Million in 2019, at a **CAGR¹ of 18.1%** during the forecast period 2021-2026.

The rising popularity of Blockchain technology is fueling the demand for the Smart Contracts Market.

Editors' choices 

A few dapps the ethereum.org team are loving right now. Explore more dapps below.



Uniswap

Swap your tokens with ease. A community favourite that allows you to trade tokens with folks across the network.

FINANCE



Dark Forest

Play against others to conquer planets and try out bleeding-edge Ethereum scaling/privacy technology. Maybe one for those already familiar with Ethereum.

GAMING



On the Block

A streamlined payment portal for all of your rental contract needs.

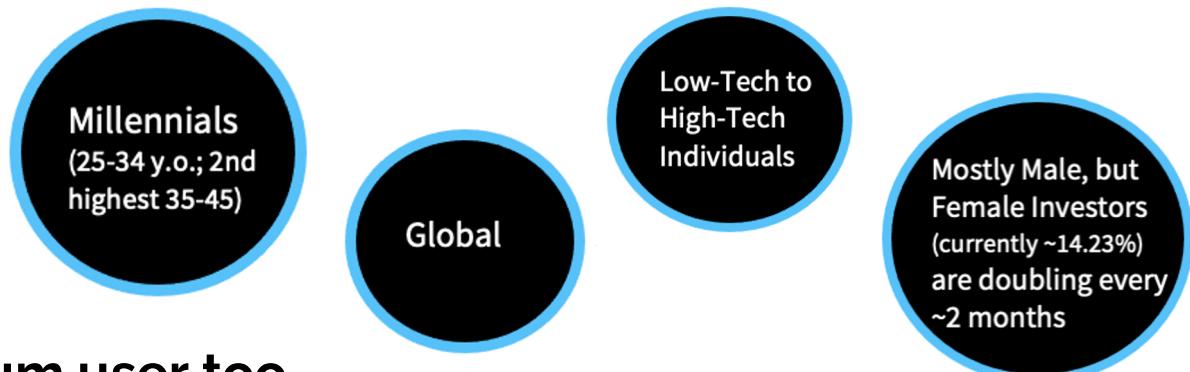
FINANCE

from PRNewswire)

On the Block's Target Users

Users of, or those interested in setting up, **Ethereum** and looking to rent

Today's typical cryptocurrency user



You can be an Ethereum user too.

Quick and Easy Access

Download an Ethereum wallet, get some ETH (\$), and try our **On the Block** dApp today!

Work Cited

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Backup Slides: “The How”

Introducing On the Block

The **SMART** way to pay your monthly rental payments.



Front End: Decentralized Application (dApp)

Back End: Ethereum Smart Contract

On the Block, our Ethereum decentralized application, allows users to easily interact with a smart contract to set up timely, recurring monthly payments. By utilizing blockchain technology, specifically an Ethereum-based application, we are alleviating the tedious and complicated process of paying rent to a landlord.

An Overview of Smart Contract Technology

Blockchain

A **blockchain** is essentially a **digital ledger of transactions** that is duplicated and distributed across the entire network of computer systems on the blockchain.

Ethereum

Ethereum is an open-source, public, blockchain-based, smart contract-based, decentralized and distributed computing system.

Smart Contracts

A **smart contract** is simply a program that runs on the Ethereum blockchain.

Explore dapps

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A Brief Overview of Blockchain Technology

Blockchain is a system of recording information in a way that makes it difficult or impossible to change, hack, or cheat the system.

A **blockchain** is essentially a **digital ledger of transactions** that is duplicated and distributed across the entire network of computer systems on the blockchain. Each block in the chain contains a number of transactions, and every time a new transaction occurs on the blockchain, a record of that transaction is added to every participant's ledger.

This means if one block in one chain was changed, it would be immediately apparent it had been tampered with. If hackers wanted to corrupt a blockchain system, they would have to change every block in the chain, across all of the distributed versions of the chain.

What is Ethereum?

Ethereum is an open-source, public, blockchain-based, smart contract-based, decentralized and distributed computing system that establishes a P2P¹ network that securely executes and verifies application code, called smart contracts. The native cryptocurrency token on the Ethereum network is Ether (ETH).

Smart contracts allow participants to transact with each other *without a trusted central authority*. Transaction records are immutable, verifiable, and securely distributed across the network, giving participants full ownership and visibility into transaction data.

Blockchains such as Bitcoin and **Ethereum** are constantly and continually growing as blocks are being added to the chain, which significantly adds to the security of the ledger.

It is the **world's programmable blockchain**.

Smart Contracts and dApps

A **smart contract** is simply a program that runs on the Ethereum blockchain. It's a collection of code (its functions) and data (its state) that resides at a specific address on the Ethereum blockchain.

If you consider **Smart Contracts as back-end APIs** running in the Blockchain, **Decentralized Applications (dApps)** are the front-end or UX. They represent the visible layer connecting users or other applications with the Smart Contracts running in the Blockchain.

INCLUDE PICTURES OF DAPP HERE !?!?

Benefits of Smart Contracts

TRADITIONAL CONTRACT

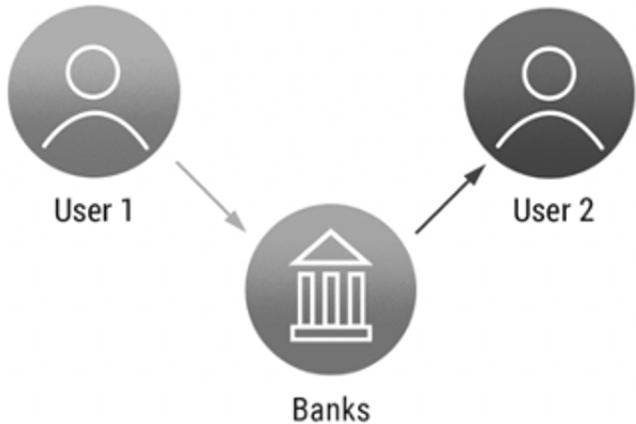


SMART CONTRACT



How Do Smart Contracts Work?

Traditional Transactions



Smart Contract



The Growing Demand for Smart Contracts

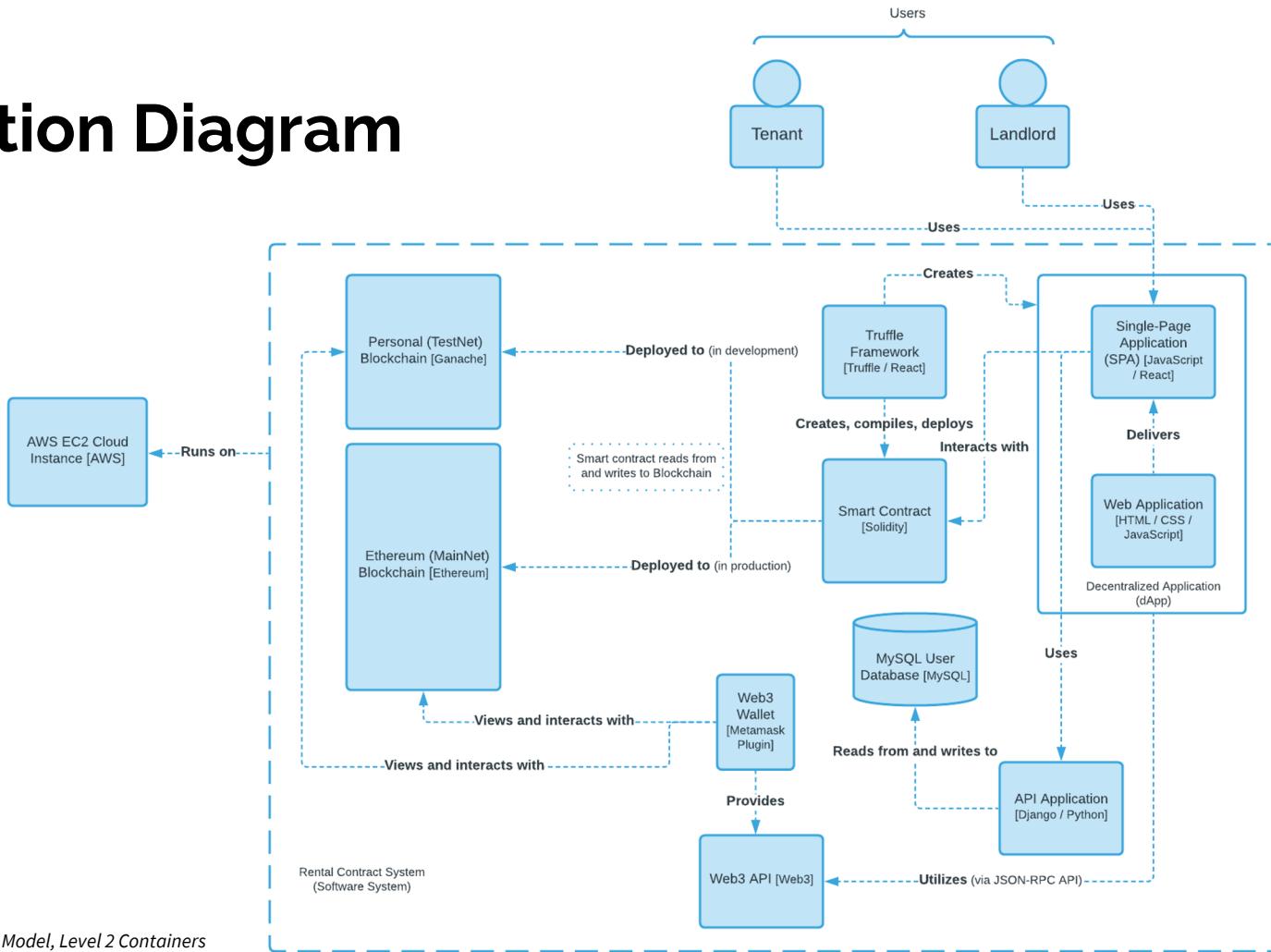
The **global Smart Contracts market size** is projected to reach **USD 345.4 Million by 2026**, from USD 106.7 Million in 2019, at a **CAGR¹ of 18.1%** during the forecast period 2021-2026.

Major factors driving the growth of smart contract market size are increasing adoption of various applications in industries such as supply chain, banking, government, insurance, and **real estate**.

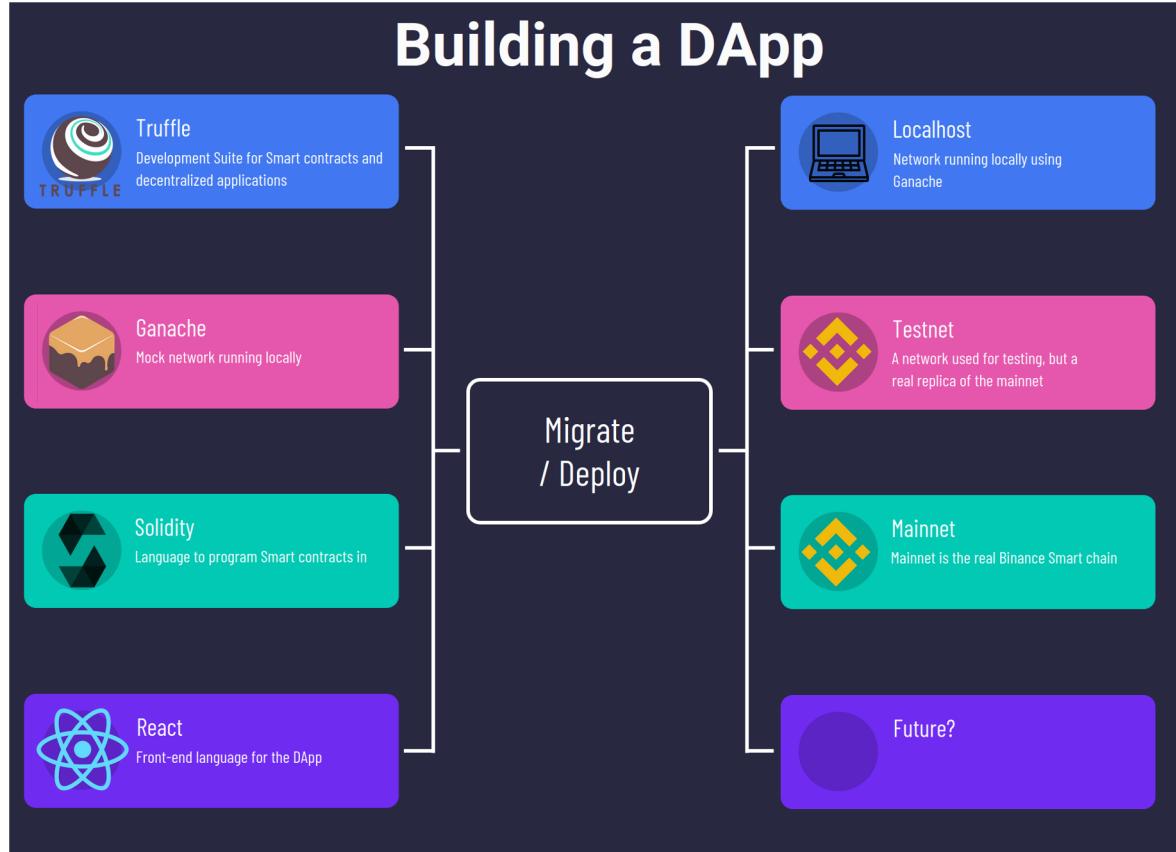
Furthermore, the rising popularity of Blockchain technology is fueling the demand for the Smart Contracts Market.

(From PRNewsWire)

Solution Diagram



dApp Development



Smart Contract Development

Prototypes

A dark-themed login interface. At the top center is a large white rectangular area containing the word "LOGIN" in bold white capital letters. Below it are two input fields: "username" and "password", each with a thin horizontal line below it. At the bottom is a blue-outlined oval button labeled "Login".

A dark-themed interface titled "ON THE BLOCK" at the top center. The main title "New Contract" is displayed prominently. The form consists of several text inputs with labels:

- "This contract confirms that the tenant" followed by a blue-outlined input field labeled "Tenant Name".
- "will pay the landlord" followed by a blue-outlined input field labeled "Landlord Name".
- "amount of" followed by a blue-outlined input field labeled "Amount (in US dollars)".
- "repeating every" followed by a blue-outlined input field labeled "Frequency of payment".
- "and this payment will occur a total number of" followed by a blue-outlined input field labeled "Total # of payments".

At the bottom are two blue-outlined input fields: "Landlord's Account Number" and "Tenant's Account Number".