Powered by StreamPay

INTELLIGENT SMART LOCKS

BLOCKCHAIN-POWERED SMART LOCKS

To control access to a physical location.

StreamDevices

BLOCKCHAIN OF THINGS

PRESENTATION. v0.1

IOT AND BLOCKCHAIN FOR SMART LOCK

SMART LOCK SYSTEMS

A Stream door lock system is a device or mechanism that is used to secure a door and prevent unauthorized access. There are many different types of door lock systems available, including traditional mechanical locks, electronic locks, and smart locks.

Traditional mechanical locks use keys to open the lock, while electronic locks use a code, card, key fob, or biometric data such as fingerprints or facial recognition to open the lock. Stream smart locks are a type of electronic lock that can be controlled and accessed remotely using a smartphone, tablet, or other connected device.

Our door lock systems can also be integrated with other security systems, such as surveillance cameras and alarm systems, to provide an added layer of security. Additionally, some door lock systems can be managed and controlled remotely, allowing for greater flexibility and convenience.

A Blockchain-Powered

SMART LOCKS

A blockchain-based system for smart door locks to provide the convenience of remote access control management, while security and privacy for both hosts and guests are not compromised. Moreover, to surpass current locks' functionalities, this research proposes a feature that enables the guests to cease the hosts' access to the lock, during their stay. This feature also guarantees to the guest that no one will be able to change that access rule without their explicit approval. By using a blockchain like Solana or Ethereum as the foundation of the StreamLock system and utilizing APIs such as Infura or Alchemy to connect the IoT infrastructure to the blockchain network, the proposed solution is able to alleviate the demand for hardware on the equipment and make it more feasible to use resource-constrained IoT devices.

The use of a blockchain foundation allows for secure, decentralized and tamper-proof storage and transfer of information, and it's especially useful for the smart lock system, which needs to verify the ownership of NFTs and authorize access accordingly. The use of Infura or Alchemy API allows for an easy and efficient connection of the IoT devices to the blockchain network and perform the necessary transactions, without the need for the devices to maintain a full node. This way, you can use the smart lock system on devices with limited resources and still ensure secure and efficient communication with the blockchain.

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BLOCKCHAIN DOOR LOCK ACCESS

NFT SMART LOCKS

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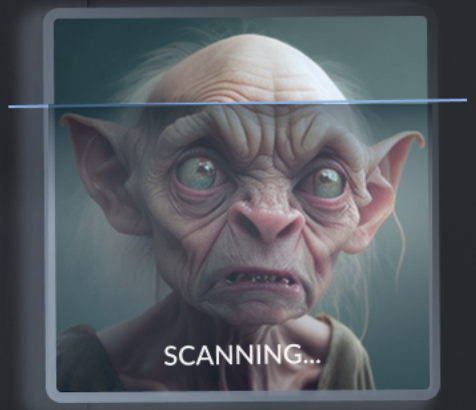
Using a Stream Locks, StreamPay mobile wallet application or Card for door access linked to the temporary ownership of an NFT in a smart contract. The device will check ownership of an NFT associated with a StreamWallet card and authorize access if owned. This system uses a combination of an NFT (non-fungible token), a smart contract, and a StreamWallet card to control access to a physical location.

The NFT represents temporary ownership of the location, and the smart contract is used to check if the person attempting to access the location is the current owner of the NFT. If they are, the StreamWallet card is authorized to open the door.



WEB3 SMART LOCK SYSTEM

StreamLock is a Web3 smart lock system that only allows specific NFT holders, or token holders access to locked content.

HOW DOES IT WORK?

StreamLock is a web3-based smart lock system that utilizes the Solana blockchain and NFTs (non-fungible tokens) to control access to locked physical spaces. It authenticates users by confirming their ownership of a specific NFT through the StreamPay web3 wallet app, which is connected to the Solana blockchain. This allows the Stream smart lock to only grant access to those individuals who hold the corresponding NFT.

The system has the potential to be used in a variety of spaces, such as co-working offices, event venues, and other exclusive locations where only NFT holders will have access, using their tickets or membership cards. This smart lock system not only allows for secure keyless entries but also allows for the creation of unique digital assets that can be used for exclusive access to physical spaces. The use of Web3 technology and blockchain is a stepping stone for creating a bridge between the digital and physical worlds and allows for new possibilities for access control, authentication, and exclusive experiences.

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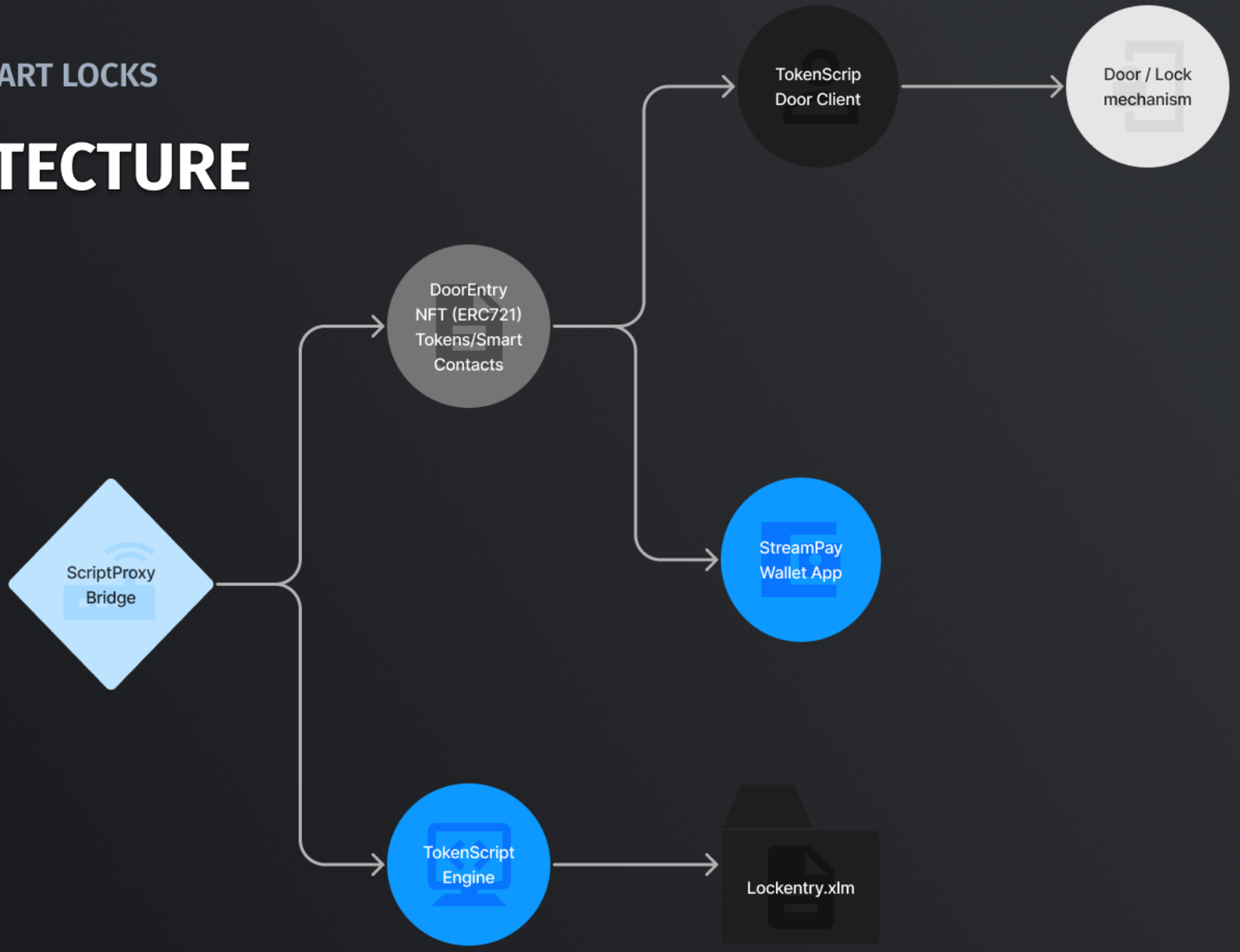
IOT AND BLOCKCHAIN FOR SMART LOCKS

SYSTEM ARCHITECTURE



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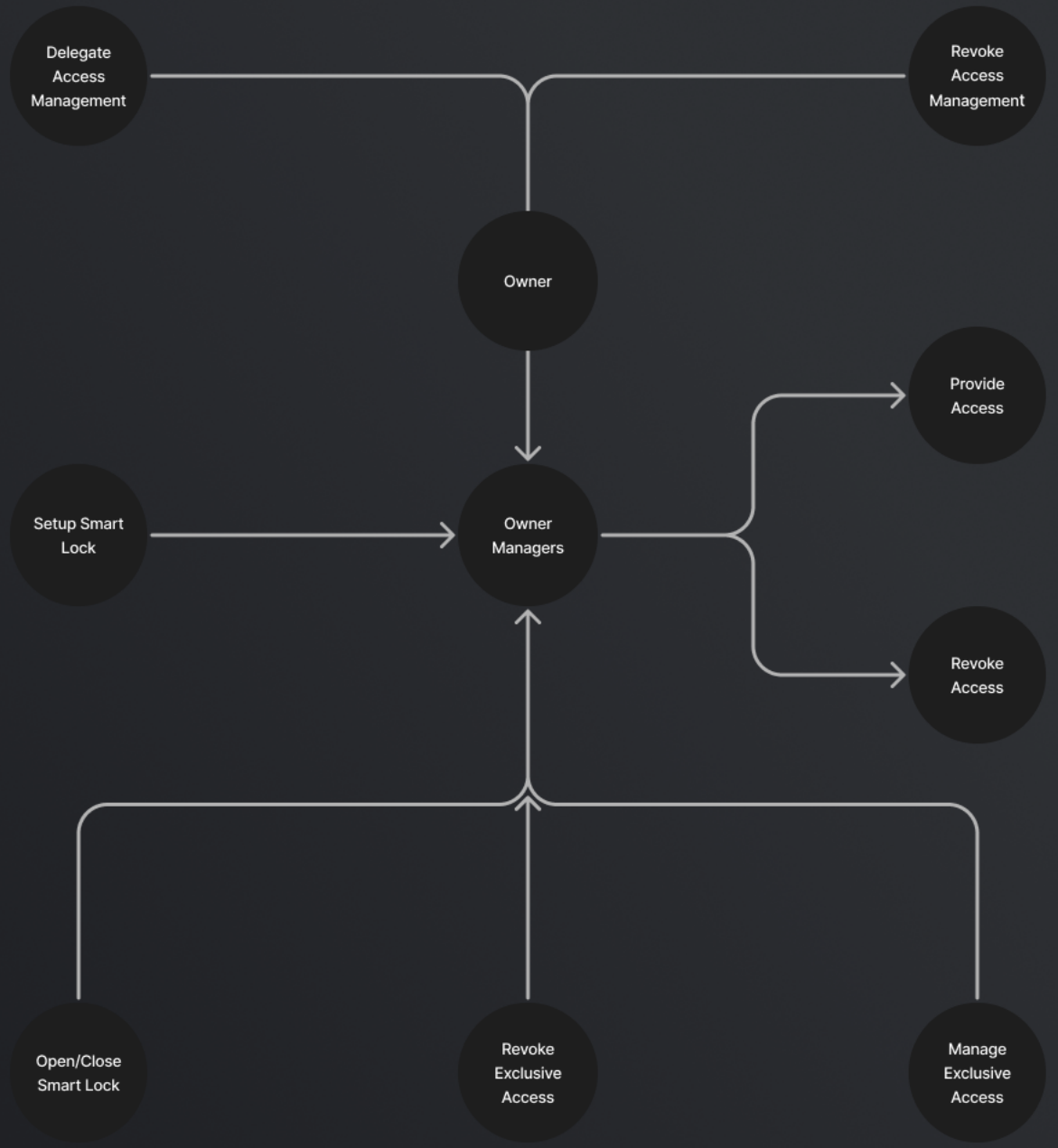
IOT AND BLOCKCHAIN FOR SMART LOCKS

USE CASE DIAGRAM



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APPLICATION

NFT SMART LOCK

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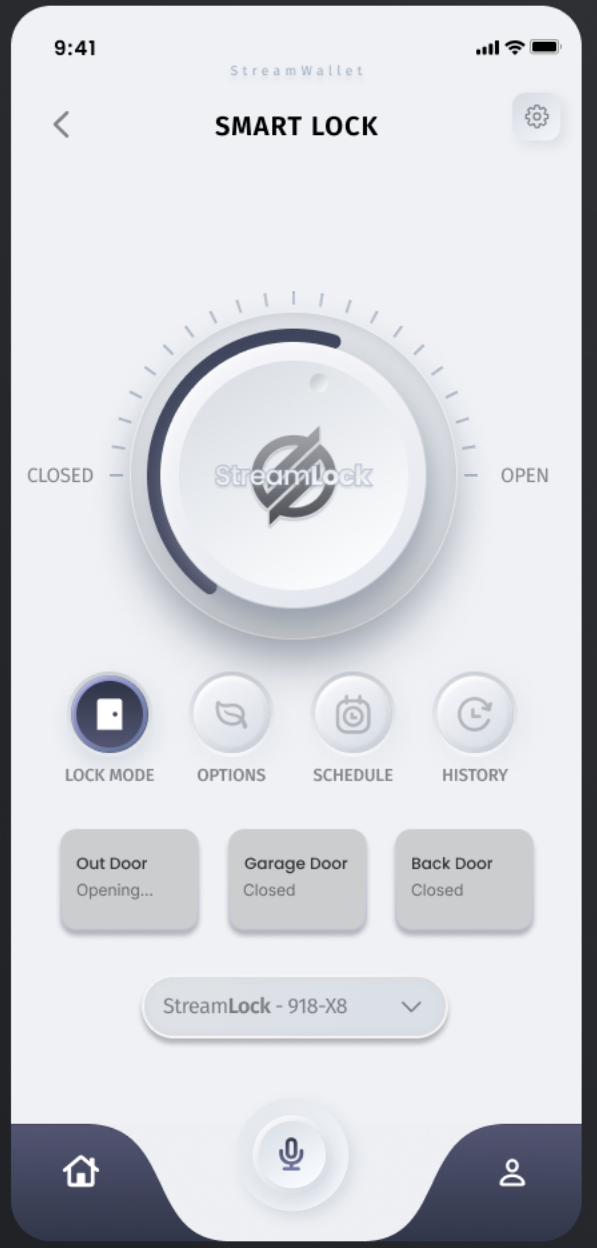

PRODUCT DESCRIPTION AND USE CASES

SMART LOCKS FEATURES

StreamDevices offers advanced and secure fingerprint door locks that use 3D nanometer semiconductor readers for precise fingerprint recognition. These locks are difficult to copy and provide immediate recognition. They have multiple functions such as card (Mifare), keypad, face recognition, fingerprint, and mechanical key access to meet different needs. They also have security features such as scramble function, encryption, and anti-clone technology.

StreamDevices smart locks are made of high-quality materials such as titanium alloy, stainless steel, and PVD coating to ensure durability and design appeal. They also pay attention to structure and programming to ensure their locks are secure and have anti-theft and anti-tesla coil attack features. Additionally, the locks have Wi-Fi or Bluetooth functions for remote control and monitoring, which is useful for residential or short-term rental properties like AirBnb.

StreamDevices is aware that people may have concerns about privacy when it comes to fingerprint door locks for home, being a leading enterprise of smart door lock system in Finland, they are committed to ensuring the security and privacy of their customers. They use the highest standard of technology and materials to ensure their products are both safe and secure

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PRODUCT

SMART LOCK

Model: Fingerprint Smart Lock 918-X8

FEATURE & PARAMETER

Applicable Card: Encrypted Mifare 1

Material: Titanium Alloy

Opening Ways: Fingerprint, Password, Cards, Android Phone, Mechanical Key

Battery: 2 lithium batteries, 18 months in normal state

Indication: Screen, Light, Sound

Deadbolt Indication: Blue and red light when touch key card

Unlocking record for trail: Yes

Low voltage warning: Yes

Passage mode for meeting room: No

Static consumption: 12uA

Dynamic consumption: 300mA

Humidity: 20%-80%

Working temperature: -10°C-60°C

Mortise: K2, K7

SUMMARY

- The system uses NFT as a temporary ownership for a physical location
- StreamPay Smart contract is used to check if the person attempting to access the location is the current owner of the NFT
- If the person is the owner of the NFT, then the Stream**Wallet** card is authorized to open the door by the Stream**Lock** device.

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