

WHITEPAPER

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DOCUMENT



Smart Contract Real Estate Tokenization



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INTRODUCTION

Real estate stands as the paramount asset class globally. In recent years, the real estate sector has witnessed a surge in the adoption of digitalization and digital assets. The expanding realm of digital assets presents substantial potential for integration in the real estate industry.

Blockchain's decentralization concept has been transformative, emphasizing trust, transparency, and security. This aligns perfectly with the real estate sector's characteristics, making it conducive to the adoption of decentralization.

Smart Contracts, executed without intermediaries, have become a beacon in the real estate technology world. They offer transparency and security for parties involved in binding agreements. By eliminating intermediaries, smart contracts streamline the contractual process. Smart contracts eliminate the intermediaries from a business contract, thus the contractual process smoothly done.

Smart contracts bring trust, transparency, and data security to the real estate industry, offering numerous advantages:

- Removal of Intermediaries
- Improved Accessibility
- Low-Cost Gas Fees (Deployable on Arbitrum Blockchain)
- Enhanced Security
- Swift Transactions
- Robust Data Security

Real estate is renowned for being a safe and profitable investment. Blockchain-based services are poised to revolutionize real estate assets tokenization by eliminating intermediaries such as estate agents, lawyers, and trust agents. Now, property ownership can be fractionalized, allowing everyone to own a portion of a property.

With SecondaryDAO, anyone can invest as little as \$50 in tokenized properties with rental income opportunities. Property token holders have a say in decisions related to rental properties.

This whitepaper will illustrate the potential benefits of SecondaryDAO's property offerings in the real estate sector.



OBJECTIVE

SecondaryDAO was founded with the simple mission of making everyone a part of a fair and inclusive real estate ecosystem.

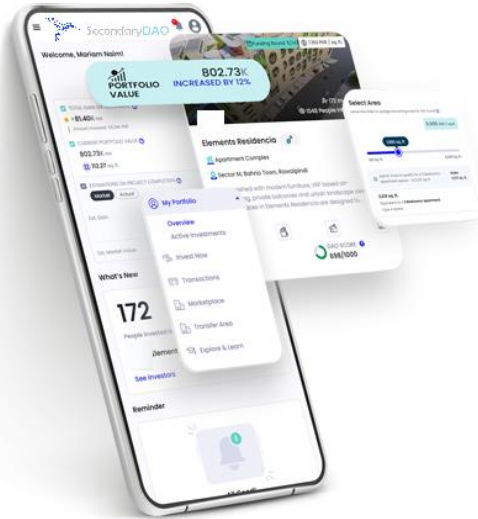
**To make real estate
accessible for everyone
by using the power of
data and technology.**

Our aim is to make real estate investment simple.

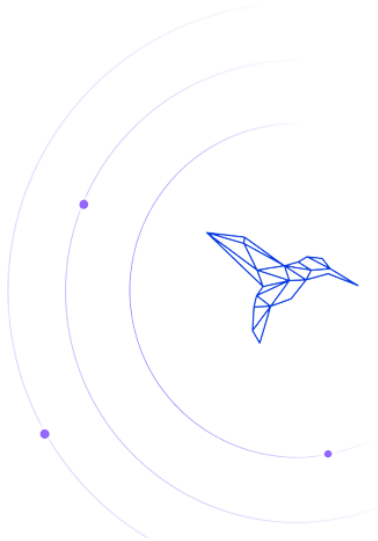
MISSION AND VISION

Our vision is an open and permissionless world where property token holders have the freedom to transact without restrictions. We aim to empower individuals to seamlessly participate in this new, improved world.

SecondaryDAO is a Decentralized Finance (DeFi) ecosystem focused on Property Tokens. These tokens represent fractions of real estate properties and can be traded anytime.



REAL ESTATE TOKENIZATION



The real estate tokenization market is currently valued at \$2.39 billion and rapidly growing. When considering the vast scale of the global real estate market, estimated to be well over \$200 trillion, it becomes evident that there is significant room for growth and expansion. SecondaryDAO specializes in the tokenization of residential properties, transforming them into fungible tokens. This innovative

approach not only capitalizes on the immense potential within the global real estate market but also enhances efficiency and fairness throughout the process of creating, acquiring, and trading property tokens.

Blockchain's attributes, including data robustness, security, trust, integrity, accessibility, and immutability, make it a powerful tool for tokenization. Asset tokenization offers greater transparency, liquidity, and accountability, along with faster and more cost-effective transactions.

Tokenization can significantly impact global trade dynamics, particularly for liquid asset classes. For instance, a \$100,000 property can be tokenized into 2,000 tokens, each priced at \$50, representing fractional ownership. In 2025, SecondaryDAO aims to tokenize 5 properties valued at \$500,000 total, yielding 10,000 tokens. This enables fractional ownership, ensuring that property ownership tokens cannot be manipulated once purchased.

Instead of making substantial investments in real estate, individuals can now acquire property tokens at an affordable price and become property owners. SecondaryDAO facilitates the infrastructure required to support the growth of property tokens, targeting 1,000 users in 2025, with 20% (200) from El Salvador, scaling to 5,063 users by 2029, maintaining a focus on local participation to align with El Salvador's economic inclusivity goals.

INITIAL PROPERTY SELLING (IPS) OFFER

To advance the properties token roadmap, SecondaryDAO conducts an Initial Property Selling (IPS) offer. During this period, property tokens are offered to the public for the first time, allowing properties to raise equity capital from investors.

Network	Arbitrum Blockchain
Total Investment \$	Initial Reserves + <i>Property Purchase Price</i> + <i>Listing fee</i>
Total Number of Property tokens	$\frac{\text{Total Investment value \$}}{\text{Property token Price (which is \$50)}}$
Initial Price	\$50 (Static price during IPS offer)
Emission rate	No further tokens will be created
Token pre-sale	Minimum 25% of all tokens (Dynamic supply)
Time Periods	Minimum 30 days (Increases according to situation)
Funding goal	Dynamic funding goal
Token Format	ERC-20 token Standard
Accepted Currency	USDT, USDC
Oracle	Chainlink (Fiat price ratio)

IPS offers involve offering property tokens to the public for the first time, enabling properties to raise equity capital. Whitelisted public investors can purchase property tokens at a fixed price of \$50 during the IPS. After the IPS ends, property tokens become available for trading on SecondaryDAO's marketplace, with prices determined using an Automated Value Model (AVM) or manual valuation when necessary.

Whitelisted Public investors buy property tokens at static price of \$50 during IPS. After the end of IPS, property tokens are available to trade. During IPS, only whitelisted public investors may buy newly launched properties.

After the end of IPS, property tokens may trade in the secondary market. In the secondary market, property tokens should trade at their Fair Market value (FMV) based on market conditions.

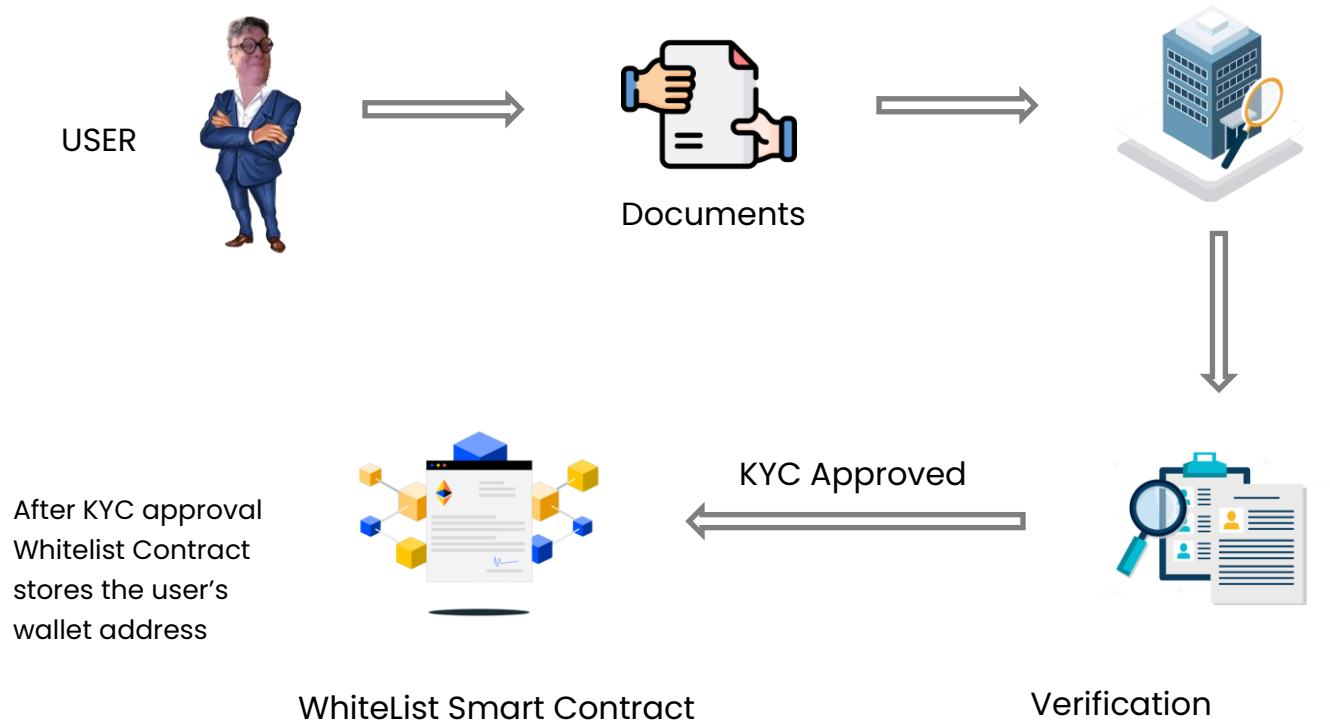
The main motivations for conducting an IPS offer include raising capital, providing liquidity to property owners and early investors, and capitalizing on a higher valuation.

KYC VERIFICATION

Know Your Customer (KYC) verification is a vital process for financial institutions. It ensures they know who they are transacting with, enhancing security, and mitigating cyber threats. Customers provide documents such as ID proof and utility bills for verification, and institutions assess the authenticity of these documents. The customers send the required documents like ID proof, utility bills information etc. to that institution to conduct the KYC verification process.

SecondaryDAO performs a KYC verification on all users or KYB on all businesses before they can purchase property tokens. We use third-party verification services, such as Berbix, to perform ID verification. SecondaryDAO collects user information, including name, address, date of birth, and citizenship, to create user accounts.

International investors typically use passports for KYC processes due to variations in the format of driver's licenses and local IDs. Once KYC is approved, the verified user's wallet address is stored in our whitelist smart contract. Only whitelisted addresses are eligible to participate in the IPS offer and trade in the secondary market.



HOW DOES THE SECONDARYDAO MARKETPLACE WORK

SecondaryDAO's marketplace facilitates the creation of vibrant digital ecosystems, allowing direct engagement between buyers and sellers without the need for intermediaries. This decentralized approach enhances efficiency and transaction speed. SecondaryDAO operates as a marketplace similar to Amazon or Alibaba, providing a platform for property owners to list and sell their properties.

Property owners submit property details to list their properties on SecondaryDAO's marketplace, where the request is reviewed based on a range of factors like occupancy status, property condition, location, rental history, and area crime conditions.



If a property is approved by SecondaryDAO, a newly formed LLC puts the property under contract. The LLC then tokenizes the property using the following calculation:

$$\text{Total Investment value \$} = \text{Initial Reserves} + \text{Property Purchase Price} + \text{Listing fee}$$

$$\text{Total token count} = \frac{\text{Total Investment value \$}}{\text{Property token Price(which is \$50)}}$$

The initial token price remains \$50 in the primary market, and investors can invest in real estate properties through LLCs that own the underlying properties. These LLCs are represented as tokens that may be traded on the smart contract. Property inspection companies assess the property's condition, and

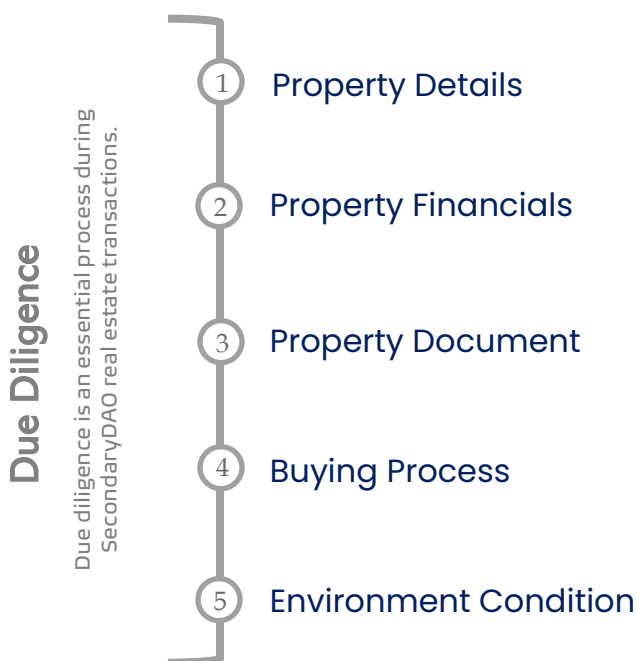
any necessary repairs are made by the property owner before closing or a credit may be provided to the LLC.

Once the LLC is formed, the property is listed on the SecondaryDAO marketplace. During the IPS offer, new investors can purchase properties in the primary market. After the IPS offer ends, property tokens become available for trading on the SecondaryDAO marketplace, with prices determined based on supply and demand.

DUE DILIGENCE ON PROPERTIES

Investing in a property entails acquiring the seller's assets and sometimes liabilities. Due diligence is crucial for investors to assess the property's income before purchase. Due diligence involves investigating the physical and financial condition of the property and its surroundings.

SecondaryDAO streamlines the due diligence process for properties before buying or selling. Here are the five steps to conducting due diligence on properties; SecondaryDAO and its associated companies will do their best to collect truthful and accurate information, but ultimately the end investor should beware:



Let us explore each step in more detail. Each property or deal may be different, but in general this information is collected and placed on the SecondaryDAO site for public review:

1. Property Details:

The details on the SecondaryDAO marketplace gives a high-level overview of the property.

- **Inspect the Property**

The inspection of the property is the physical examination of the structure, systems, and features of the property. We hire the quality inspector to perform the inspection and the quality inspector provides the detailed report of the findings. The inspection covers the roof, foundation, plumbing, electrical, heating, cooling, and safety issues. He also inspects the rental property for any signs of pests, mold, or lead paint.

- **Home Appraisal**

The third party evaluates the market value of a home based on physical attributes, the condition of the home, comparable properties located in the area, amenities, upgrades and more. When applicable, credentialed professionals help you decide if the purchase price is fair based on the appraisal.

- **Land Survey**

A Property survey locates and maps boundaries, features, and improvements on a specific parcel of land. It gives you a legal point of view of where the neighboring property begins and ends. You can easily see generally where the property bounds are located on a google map.

2. Property Financials:

In financial assessment you should assess the finances to verify the profitability, affordability, and return on investment of SecondaryDAO rental property.

In this section we break down all the financials used to evaluate each investment property.

The financial assessment is the calculation of the total investment, total returns, and annual gross rents.

Let us explore these.

- **Total investment**

The total investment value (TIV) (\$) is the sum of the underlying property asset price (\$), maintenance reserves value (\$), SecondaryDAO property listing fee (\$). To determine the total number of available tokens, total investment value is divided by 50 (\$50 which is initial property token price).

- **Underlying property asset price (Purchase price)**

The total property price in \$ which is determined by the purchase agreement or assignment and broker fee. Property Price (\$) depends on the token price which is an appreciation or depreciation according to the market. The property assets price can increase or decrease with the market.

- **Maintenance Reserves price**

For any maintenance/repairs of the property, we reserve some value which is the initial maintenance reserve's price and it is from time to time replenished via a rent reduction (retention to reserve) It is used for maintenance that is sometimes approved by a vote if greater than an earlier disclosed amount, or automatically handled by a property manager or tenant.

- **Property listing fee**

SecondaryDAO marketplace collects the Property listing fee which is approximately 6% of the property purchased price.

- i. **Internal Rate of Return (IRR)**

The IRR (Internal Rate of Return) of an investment in SecondaryDAO represents the potential return an investor could realize from a property investment, excluding external factors like economic conditions. Since cash flow can fluctuate from year to year, assessing the prospective returns of a rental property can be complex. IRR serves as a valuable tool for evaluating rental property returns within SecondaryDAO, combining Cash-on-Cash return with Projected Appreciation to provide a comprehensive measure.

$$\text{Internal Rate of Return (IRR)} = \text{Cash on Cash return} + \text{Projected Appreciation}$$

• **Projected Appreciation**

The growth in the worth of assets as time progresses is referred to as appreciation. It represents the disparity between the asset's previous, current, or anticipated future value. Within the SecondaryDAO project, appreciation is used to gauge the expected rise in asset value over a one-year period.

$$\text{Change in value} = \text{final value} - \text{initial value}$$

$$\text{Appreciation \%} = \frac{\text{Change in value}}{\text{initial investment}} \times 100$$

• **Cash on Cash return**

The cash-on-cash return is a valuable tool for real estate investors, aiding in the evaluation of business strategies for a real estate property and the potential cash payouts throughout the investment's duration. The Cash on Cash (COC) return is a rate of return ratio that computes the yearly return an investor generates from the property relative to the total cash invested within the same year. To illustrate, if someone invested \$1000 in an investment, and receives \$100 in a year, they would achieve a 10% cash on cash return.

$$\frac{\text{Pre - Tax Cash Flow}}{\text{Total Cash Invested}} = \text{Cash on Cash Return}$$

Cash flow represents the monthly income that an investor will receive after deducting property expenses from the total revenue.

$$\text{Cash Flow} = \text{Rent} - \text{Expenses}$$

• **Cap-Rate**

The Cap Rate is a metric utilized to compare different real estate investments or markets, serving as a valuable risk assessment tool, particularly for commercial properties. It quantifies the relationship between Net Operating Income (NOI) and the initial property acquisition cost (Purchase Price) of the property.

$$\text{CapRate} = \frac{\text{NOI}}{\text{Purchase Price}} \times 100\%$$

- **Annual Gross Rent:**

Annual gross rent signifies the complete rental income amassed by a property within a one-year timeframe. This encompasses all tenant rental payments received during the period, along with potential supplementary income originating from the property, such as parking fees, storage fees, or other tenant services. This value reflects the property's overall income before any actual operating expenses or property management and maintenance costs have been subtracted. Initially estimated, these figures will subsequently transition into actual amounts.

- **Property Taxes:**

Property taxes are taxes imposed by local governments on real estate properties, based on their assessed or appraised value, to fund public services and infrastructure projects. These are estimated during IPS and the actualized as they come in during the years.

- **Renter's Insurance & Landlord Insurance:**

Homeowners or renter's insurance is real estate property insurance. Losses and damage to the residence of an individual, including furnishings and other assets in the home are covered. Homeowners insurance also provides liability coverage against accidents in the home or on the property. All properties will have landlord insurance or its equivalent to ensure coverages that are applicable to minimize impact of rental income due to a loss or claim.

- **Property Management Fee:**

The managers of the properties are responsible for day-to-day operations of the property repairs and maintenance. Property owners pay these management fees to the property management company.

Property management firms are external entities responsible for overseeing property operations.

- **Annual Cash Flow:**

Annual cash flow is the amount of cash that circulates in and out of the property annually. Annual cash flow is the profit that the property makes annually.

$$\text{Annual Cash Flow} = \text{annual gross rent} - \text{Expenses}$$

- **Annual LLC Fee:**

SecondaryDAO marketplace properties are put under contract by a newly formed LLC. Each LLC property has an annual fee which is collected for the administration of said LLC.

3. Property Documents:

Within the documents section, you can access property-related documents, including details written by the seller regarding the property's condition, any legal matters, prior repairs, historical information, and potential defects that could impact your decision to buy or sell. It is essential to thoroughly examine these documents.

4. Property Buying Process:

Investors can buy the SecondaryDAO property tokens by following these steps.

- 1 **Sign-up**

Investors who want to buy property tokens must first register yourself by providing some basic information.

- 2 **KYC**

On the user's dashboard before purchasing the property tokens, users should perform a KYC/KYB check and provide their wallet address (MetaMask wallet or equivalent) for whitelisting.

- 3 **Whitelisted**

Only whitelisted user's addresses are able to buy property tokens and interact with the SecondaryDAO system.

- 4 **Initial Property Token Selling**

SecondaryDAO property tokens are available to purchase. Once purchased, tokens are transferred after the end of IPS but a user begins receiving daily rental income on the same day the user invests, as subject to the actual rental income.

- 5 **Secondary Trading**

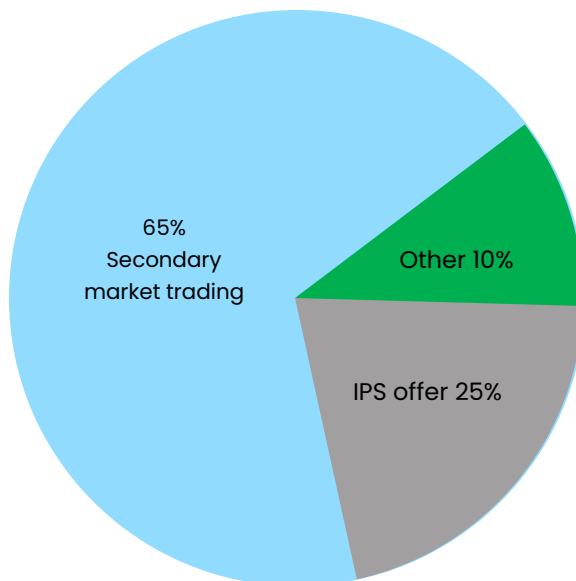
After the end of IPS, property tokens can trade on SecondaryDAO marketplace. The property token's price over time is based on fair-market-value (FMV) of the token. All the SecondaryDAO property values will be updated approximately monthly. Users can buy and sell the property tokens on the SecondaryDAO marketplace and place limit orders.

SECONDARY MARKET FOR PROPERTY TOKENS

Once a property is listed on the SecondaryDAO marketplace, property tokens can be purchased during the IPS offer. After the IPS ends and the property is funded, property tokens become tradable. All participants on SecondaryDAO are verified, and trading outside of the platform is not currently permitted.

Note: All the participants of SecondaryDAO are KYC/KYB verified. Trading is not currently allowed outside of SecondaryDAO platform.

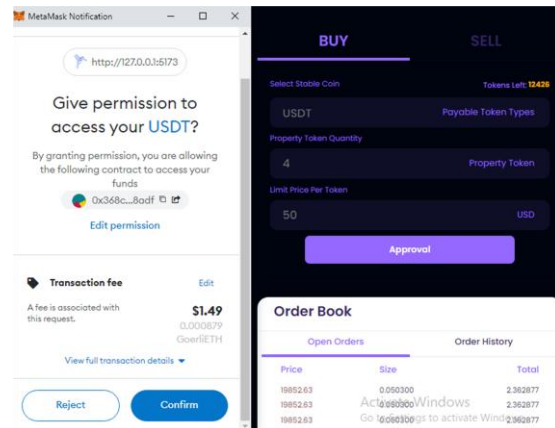
The secondary market allows investors to trade previously issued property tokens without the involvement of a third party, offering an exit opportunity for investors. Property token prices in the secondary market are dynamic, fluctuating based on supply and demand.



Property tokens market cap share

On the SecondaryDAO marketplace, all the new or upcoming property listings begin at a static price \$50 per token, but the price is dynamic in the secondary market when the property is traded. During the IPS offering period, buyers directly interact with the escrow smart contract and pay the transaction fee when placing an order.

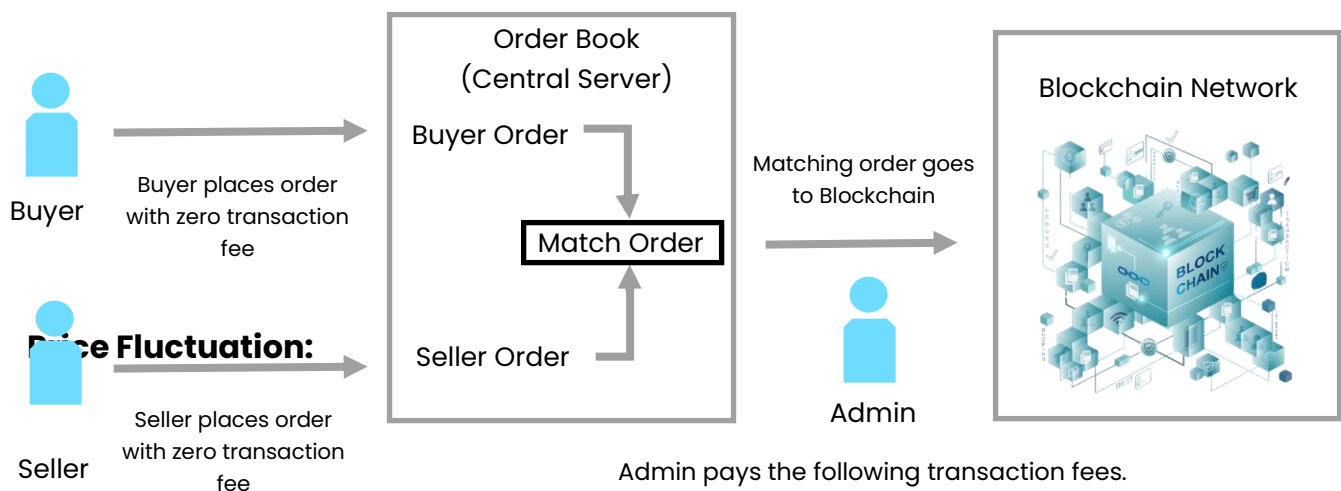
In the secondary market, SecondaryDAO provides a centralized order book menu. You can see open buy and sell orders and have the freedom to choose the price per property token for your buy and sell order. In the secondary market, all orders are limit orders and will only be executed if the orders are matched. The order book helps to better understand related supply and demand dynamics.



- A newly listed property shows a “starting price of \$50.
- When a property is being traded then it shows an estimated price based on supply and demand.

Let's discuss the sell/buy limit orders.

- Sellers and buyers place orders subject to maker and taker fees ranging from 0-3% of the transaction value (e.g., up to \$1.50 on a \$50 trade), as outlined in the platform's fee structure.



Admin pays the following transaction fees.

- Approval transaction (on the behalf of investor)
- Order place execution transaction (in the blockchain)
- Transfer from seller to buyer or vice versa

All trades on the SecondaryDAO marketplace are conducted using USDC or USDT, representing a one-to-one value with the US dollar on the EVM Blockchain. The value of buy orders can fluctuate as the price of USDC/USDT changes.

Note: Order matching and execution on the SecondaryDAO marketplace takes place on a first in first out (FIFO) basis. An order placed first is executed first.

GOVERNANCE MECHANISM

SecondaryDAO has established a Decentralized Autonomous Organization (DAO) to govern its marketplace properties. DAOs are smart contracts that enable participants to collectively make decisions. Governance within DAOs determines how property assets, including property management, rental income distribution, and asset sales, are decided.

Who can participate:

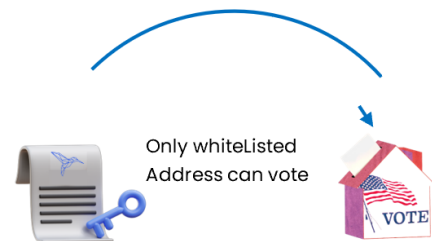
Participation in governance is limited to whitelisted addresses holding property tokens..

Voting mechanisms:

Voting mechanisms within DAOs allow whitelisted members to vote on proposals created by property managers for important decisions. Proposals pass when 51% of whitelisted property token holders vote "yes." unless otherwise disclosed.

Who can create the Proposals:

Voting (DAO) Smart Contract owners can create proposals for different properties and announce the results of voting.



TOKEN ECONOMICS

Token Design:

Token design is a critical element of any decentralized application (DApp). SecondaryDAO's token economy is based on the following key components:

- **Token Supply:**

The total number of property tokens supplied to the property smart contract can be calculated using a specific formula. It involves the sum of initial reserves, property purchase price, and listing fee divided by the property token price (\$50). The supply is fixed.

Total Investment value \$ = Initial Reserves + *Property Purchase Price* + *Listing fee*

$$\frac{\text{Total Investment value \$}}{\text{Property token Price (which is \$50)}}$$

- **Supply for IPS offer:**

Approximately 25% of the total supply of property tokens is allocated for the IPS offer.

- **Burning/Minting:**

The property token supply is fixed, calculated as Total Investment Value divided by \$50 per token, with no additional tokens minted post-IPS except in exceptional circumstances (e.g., escrow replenishment), requiring multisig Board approval and CNAD reporting. Token burning may occur to manage supply, subject to the same approvals.

- **Market Capitalization:**

Property market capitalization is calculated by multiplying the total number of property tokens by the current token price.

$$\text{Market Capitalization} = \text{Latest closing token Price} \times \text{total number of Outstanding tokens}$$

- **Beneficiaries:**

- **Primary Market**

In the primary market, it is the property owners that obtain the benefits from the sale of property tokens during IPS offer.

- **Secondary Market**

In the secondary market, it is the token holders that that benefit from the sale and purchase of property tokens.

- **Property Token Price:**

- Primary Market

- Property tokens are issued at a fixed price of \$50 and remain static during IPS offering.

- Secondary Market

- Property tokens vary according to supply and demand.

Token Monetary Policy:

Monetary Policy governs the supply and availability of property tokens in SecondaryDAO's property smart contracts. The supply of property tokens remains fixed. Supply reduction can occur through various means, including token burning, loss of private keys, and unfortunate circumstances such as the death of property token holders without sharing their private keys.

Effective management of the token supply involves monitoring token release mechanisms to avoid token price crashes. Locking up property tokens during the IPS offer for specified time periods or phases helps manage the token supply and prevent price volatility.

REFERENCES AND RESOURCES

1. <https://www.globenewswire.com/en/news-release/2023/09/04/2736647/0/en/Tokenization-Market-Size-to-Surpass-USD-9-82-Billion-by-2030-exhibiting-a-CAGR-of-19-6.html>
2. <https://docs.chain.link/data-feeds/price-feeds>
3. <https://www.housecanary.com/>
4. <https://arbiscan.io/>
5. <https://docs.soliditylang.org/en/v0.8.22/>
6. <https://ethereum.org/en/stablecoins/>



For the first time, global investors can invest in the real estate market through fractional, tokenized ownership.

About the Author

Umair Riaz (Tokenomics designer, Blockchain consultant)

Contact

Joshua Freedman



+14129513882



info@secondarydao.com



6 State RD

Suite 117

Mechanicsburg PA 17050-7957