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## Analysis on Trends of Artworks Blockchain Platform

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### Abstract

Recently, the blockchain platform is changing the art market. Changes are taking place in many areas, including artists, collectors, art investors, and auction. The platform that provides distribution history information on artworks on a blockchain basis can be used when information on the work history is suspected or needs verification, and can be used to manage the distribution history information of stolen and lost artworks and confiscated artworks by the police. Several companies currently operate these platforms, but they operate various blockchain platforms according to their contents. In this paper, we will compare and analyze features of artworks blockchain platform.

**Keywords:** Artworks, Blockchain, Platform

### 1. Introduction

Blockchain platforms are transforming the art market in a variety of fields, including artists, collectors, art investors, and auctions. Artists are increasingly creating digital artwork and registering their work on the blockchain to prove ownership. Collectors who are concerned about the authenticity of purchases can use the blockchain to track their ownership. Art investors can use blockchain technology to own or liquidate parts of their works. In the auction market, blockchain-based encryption and registration services enable you to record descriptions of tasks and prices, and to track sources when buying or selling[1].

Currently, most of the work of art is done through brokers. Transaction details are not disclosed to the outside world and are always exposed to the risk of tampering. For this reason, there are many cases where art is traded for the purpose of tax evasion.

Blockchain technology permanently stores purchases, certificates, legal and insurance documents in a trusted database. Everyone involved in the transaction can see the sales record and know who entered it. Transparency is guaranteed because it is impossible to change the information in the middle.

Blockchain technology also blocks the possibility of reproduction. When artists register their sales records on the blockchain, they can track and verify ownership. The artist can identify the replicator by tracking the purchase history when the replica occurs.

In this paper, we review artworks blockchain platforms, and compare various characteristics of artworks blockchain platforms.

## 2. Artworks Blockchain Platform

Blockchain is a small data called 'block' to be managed in a chain-based distributed data storage environment created based on P2P method. Ledger management technology based on distributed computing technology. This is basically a form of distributed data storage technology, and is a change list in which constantly changing data is recorded in all participating nodes, and is designed to be impossible to be manipulated by an operator of a distributed node. Blockchain technology is used for most cryptocurrency transactions, including Bitcoin. Since the trading process of cryptocurrency is used for decentralized electronic books, a server is operated on each computer of many users who run blockchain software, allowing free transactions between individuals without a central bank[2][3][4][5][6].

Immutable ledgers using blockchain can be applied to specific works of art to track the journey from artist to owner. This technology is a revolutionary tool for the arts world, providing a new means of exchange for exchange.

The art blockchain platform utilizes blockchain to create new business channels and make it easier for a wider audience to access the art world[7].

## 3. Review of Artworks Blockchain Platform

### 3.1 FRESCO

FRESCO is a trusted distribution platform for artists, art dealers and arts organizations. The trust token distribution mechanism is called the FRESCO protocol and allows the user to assign a FRES token to each piece that represents the potential value of the work anonymously assigned by the owner and the community. A common aspect of the platform is through FRES Cash, which allows community members to allocate their assets to other assets. In doing so, it gives credibility to the value of work beyond owner evaluation[8].

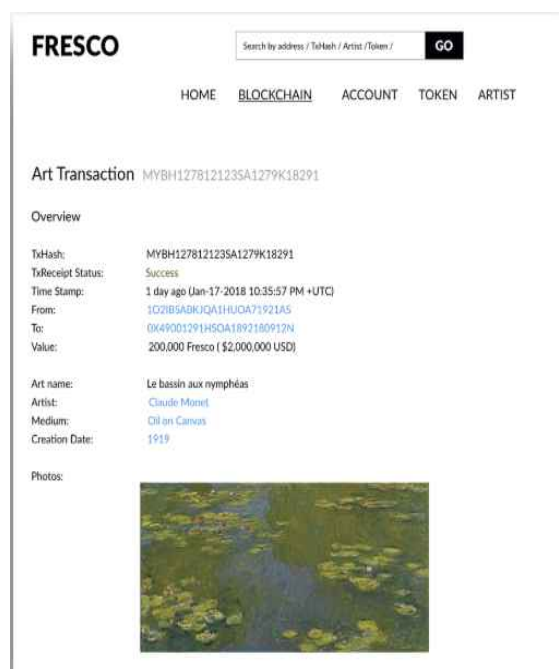


Figure 1. Art Transaction of FRESCO

Holders of the FRESCO Token will first assign FRESCO Tokens(FRES Cash) to works on the FRESCO Platform. The amount of FRES Cash is equal to the sum of the FRES Trust that can be distributed to the work. FRES Trust reflects the total value of the trust that a user of FRESCO has assigned to a work, which is publicly displayed and whose identity is anonymous. The distribution of FRES Trust can not be canceled and adds a unique trust index to the work. This reflects the comprehensive academic and market value of art work in a complex art environment. Figure 1 shows an art transaction of FRESCO.

### 3.2 Artory

The Artory Registry is a secure and digital registration of verified information and records of art and collectibles. It is already built with a blockchain integrated into the database and user interface. The Artory Registry uses blockchain ledgers to track the origin of art and other collectibles to ensure that continuity of management is assured and counterfeit. The registry provides security and anonymity for buyers and collectors. Ensure that all accurate information needed by potential customers is provided before making a purchase decision[9].

Figure 2 shows a registration card of Artory.



**Figure 2. Registration Card of Artory**

### 3.3 Verisart

Verisart is a blockchain platform that helps users create secure digital certificates for their art and collectibles. Blockchain technology can be used to bind these operations to detailed source records. Verisart aims to create tamper proof certificates for authenticity and ownership to reduce fraud and protect legitimate art exchanges. Verisart applies blockchain technology that combines transparency, anonymity, and security to protect creation and ownership records[10].

Verisart continues to provide contemporary artists a free platform where they can generate permanent certificates of authenticity. Verisart's provenance and registry services are corroborated by distributed ledger technology and museum certification standards. Using the blockchain, it aims to build a global ledger of art and collectibles and impart immediate value to artists, collectors, and insurers[11]. Figure 3 shows a certification information of Verisart.

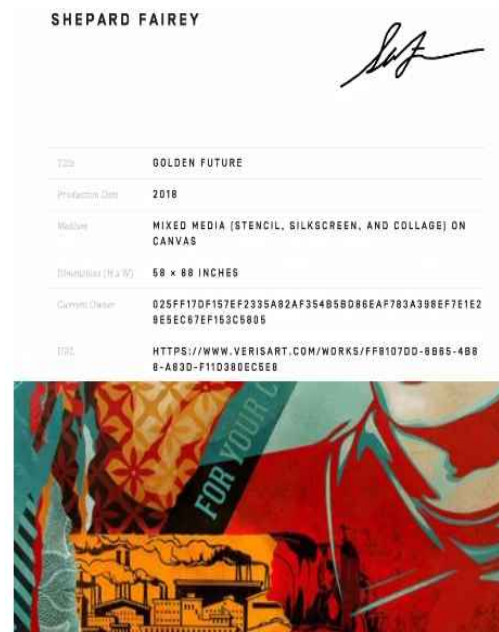


Figure 3. Certificate Information of Verisart

### 3.4 Blockchain Art Collective

Blockchain Art Collective uses blockchain to confirm the emergence, authenticity and distribution of works of art. They use blockchain technology to create a certificate of authenticity and make the data available to all parties involved. Their goal is to give arts a digital life, and they want to improve the market for artists and art buyers alike[12].

Figure 4 shows an authentication tag of blockchain art collective attached to an artwork, Figure 5 shows a screenshot of blockchain art collective app.



Figure 4. Authentication Tag of Blockchain Art Collective

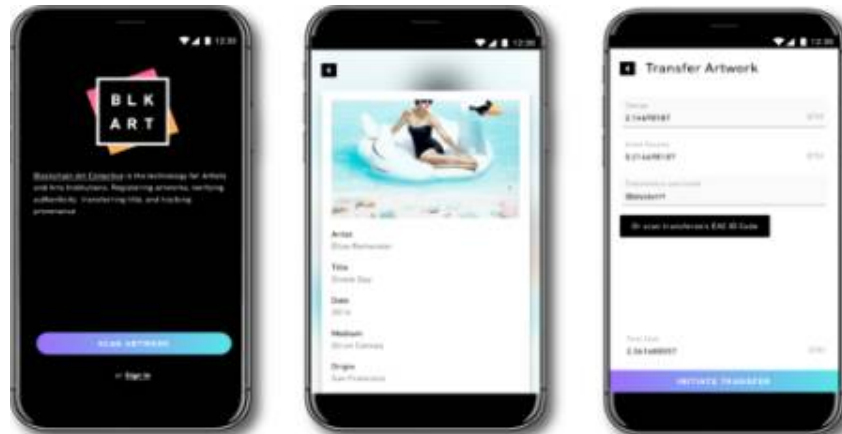


Figure 5. Screenshot of Blockchain Art Collective App

### 3.5 Ink Labs Foundation

The Ink Labs Foundation uses blockchain technology to ensure that artists can quickly protect their intellectual property and communicate seamlessly with potential customers. Their Credible Sovereign Consortium Chain is the basic blockchain network of the arts industry, while the Cultural Assets Trading Platform is responsible for the exchange of IP information as well as the work of professional art and talent scouts[13].

### 3.6 YAIR – Your Art is Reality

YAIR is creating a digital work market secured by blockchain. By tokenizing each piece and limiting the supply of tokens, it maintains the scarcity that adds value behind the subjective self and appeal of the piece itself[14]. Figure 6 shows a screenshot of YAIR app’s Sell and Buy in.

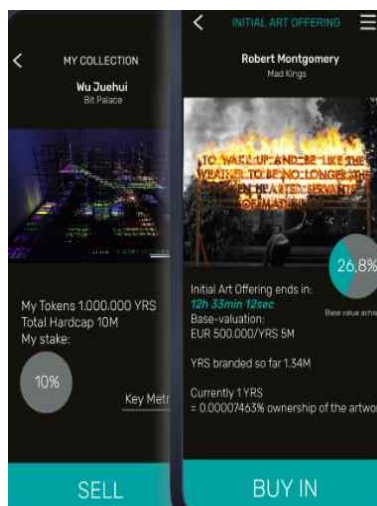


Figure 6. Sell & Buy in Screenshot of YAIR

### 3.7 DADA

Brooklyn-based DADA is a social network where art lovers connect with each other. Artists using DADA are encouraged to collaborate with others to make their productions a reality. When the work becomes a reality, the platform serves as a blockchain-based marketplace where artists can sell their work using smart contracts. The collector receives proof of ownership of the work at the time of purchase[15]. Figure 7 shows DADA's artwork information for a particular artwork.

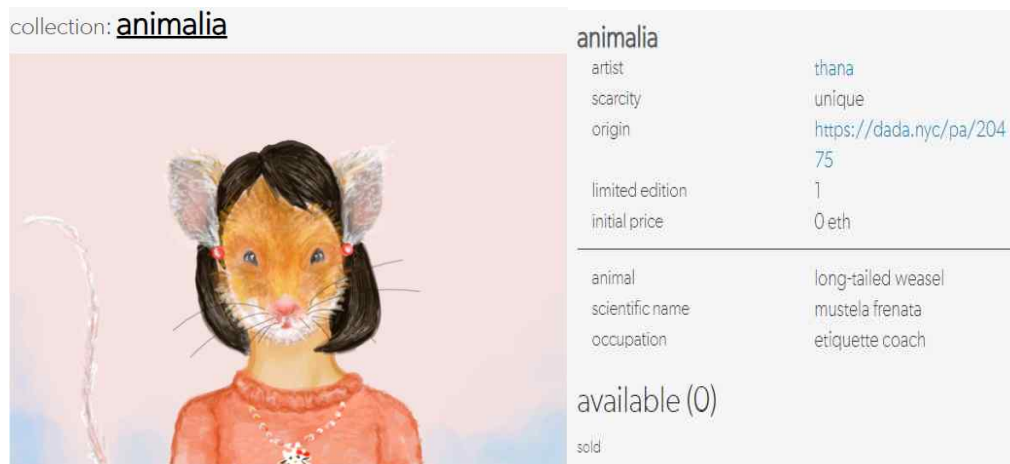


Figure 7. Artwork info. Of DADA

### 3.8 Adappcity, Inc.

Adappcity is a decentralized application development company whose goal is to identify and develop socially and economically valuable blockchain solutions. The first project is UppstArt, which is in the limelight as the first decentralized marketplace for physical art based on blockchain technology[16].

### 3.9 Maecenas

Art auction site Maecenas uses blockchain technology to create unique digital signatures that cannot be tampered with. Just as a company issues shares, it breaks a piece of art into thousands of digital signatures. Investors can own a piece of art by purchasing this signature and sell it to other investors at any time through the same system. Art rental services are also provided[17]. Figure 8 shows a screenshot of Maecenas app.

### 3.10 Scarab Experiment

Scarab is a decentralized art project that produces artwork using an algorithmic imaging process for 1,000 submitted works. It is a community-oriented blockchain project that uses the art as a medium to show the potential of the blockchain to bring people together in common[18].

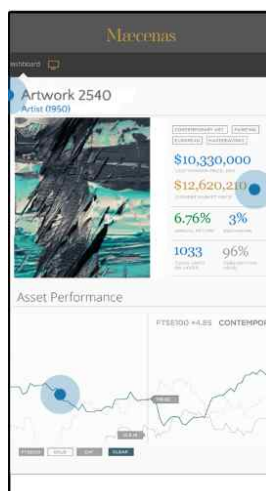


Figure 8. Screenshot of Maecenas App

#### 4. Artworks Blockchain Platform's Summary Features

In this section we will compare the features of the artworks blockchain platforms provided by FRESCO, Artory, Verisart, Blockchain Art Collective, Ink Labs Foundation, YAIR, DADA, Adappcity, Maecenas, and Scarab Experiment.

Table 1 shows the establishment year, funding plan, and category of art blockchain platforms. Most companies have recently been established, and most of the funding schemes are private/venture-backed.

Table 1. Artworks Blockchain Platform's Features

Platform Name	Founded	Funding Type	Category
FRESCO	Oct 14, 2017	ICO	Provenance & Certification
Artory	2016	Private/Venture-backed	
Verisart	Jun 1, 2015	Private	
Blockchain Art Collective	Jan 2018	Private/Venture	
Ink Labs Foundation	Nov 1, 2017	ICO	Decentralized Marketplace
YAIR – Your Art is Reality	Sep 16, 2016	Private/Venture-backed	
DADA	Apr 4, 2012	Private/Venture-backed	
Adappcity, Inc.	Dec 11, 2017	Private/Venture-backed	
Maecenas	2016	Private/Venture-backed	
Scarab Experiment	Dec 11, 2014	Crowdfunding	

FRESCO and the Ink Labs Foundation use Initial Coin Offering (ICO) as a funding method, which is a way for operators to issue blockchain-based cryptocurrencies and sell them to investors to secure funds.

Scarab Experiment use Crowdfunding, which is a way for consumers who need funds to raise funds to an unspecified mass of people through online platforms.

FRESCO, Artory, Verisart, Blockchain Art Collective provide Provenance & Certification, while Ink Labs Foundation, YAIR, DADA, Adappcity, Maecenas, and Scarab Experiment support the Decentralized Marketplace. Provenance & Certification is a way of providing the origin and certification of art, while the Decentralized Marketplace is a market structure composed of a network of various technological devices that

enable investors to create markets without a centralized location.

Table 2 shows the features of art blockchain platforms. It can be seen that some companies issue tokens and support them to trade tokens through DEX. It also supports services in the form of apps or services in BaaS.

A decentralized exchange (DEX) is a cryptocurrency exchange which operates in a decentralized way, i.e., without a central authority. Decentralized exchanges allow peer-to-peer trading of cryptocurrencies[19].

Backend-as-a-Service (BaaS) allows developers to focus on the frontend of their applications and leverage backend services without building or maintaining them[20].

**Table 2. Artworks Blockchain Platform's Feature**

Platform Name	Feature
FRESCO	FRESCO Token
Artory	Registration Card
Verisart	Digital Certificate
Blockchain Art Collective	App
Ink Labs Foundation	DApps, BaaS
YAIR – Your Art is Reality	App
Maecenas	App, Art Token, DEX: <a href="https://www.binance.org">https://www.binance.org</a>
Scarab Experiment	Scarab Token, DEX: <a href="https://wallet.counterwallet.io/">https://wallet.counterwallet.io/</a>

## 5. Conclusion

In this paper, we reviewed artworks blockchain platform, and compared various characteristics of artworks blockchain platform platforms provided by FRESCO, Artory, Verisart, Blockchain Art Collective, Ink Labs Foundation, YAIR, DADA, Adappcity, Maecenas, and Scarab Experiment.

Most companies have recently been established, and most of the funding schemes are private/venture-backed. Some artworks blockchain platform issues tokens, supports trading tokens through DEX, or supports services in the form of apps or services in BaaS.

Currently, most of the work of art is done through brokers, and the transaction details are not disclosed to the outside world and are always exposed to the risk of tampering. For this reason, there are many cases where art is traded for the purpose of tax evasion. This review will be helpful when blockchain technology is applied to art trades to solve these problems.

Further research is to create an artworks blockchain platform model. This model can be created by analyzing the process of each artworks blockchain platform, and will be the basis for standardizing and implementing the artworks blockchain platform.

As the market for art blockchain services grows, I think the review will help to activate the safe art trading market in the future.

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