VASARI

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Abstract

Reinventing NFT technology use case for contemporary art collectors and galleries. Help capture the story of your art piece and its journey through time.

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Executive Summary

Vasari is a platform designed to leverage blockchain technology to address key challenges in the contemporary art world. Unlike existing blockchain solutions, **Vasari** is crafted with a deep sensitivity towards the nuances of art and the artists behind it. By focusing on enhancing the intrinsic value of art beyond mere monetary transactions, **Vasari** aims to create a lasting ecosystem for galleries, collectors, and buyers.

Key Challenges in Contemporary Art

Imagine a physical artwork displayed in a gallery, engaging with notable art critics and the public through various exhibitions. Each interaction adds depth to the artwork's story and significance. Unfortunately, when the artwork is sold, there is no system to capture and transfer these enriching details in a comprehensive format to its new owner. This absence leads to a missed opportunity for new owners to fully appreciate the artwork's journey and legacy.

1. **Pre-Acquisition History**: Lack of a comprehensive system to document an artwork's provenance before its first collector.
2. **Digital Verification**: Difficulty in creating digital certificates of authenticity.
3. **Collector Credibility**: Existing digital solutions are tied to specific sales platforms, with no acquisition-agnostic system to support all methods of acquiring art.
4. **Data Portability**: No reliable method to transfer an artwork's documented history to new owners.

The Solution - Vasari Certificate

Our vision is **not** to act as a marketplace or intermediary between seller and buyer but to enhance the intrinsic value of art beyond monetary transactions. The **Vasari Certificate** is a unique digital identity for each art piece, serving as the core of the **Vasari Ecosystem**. Value of **Vasari Certificate** comes from its digital signatures from recognized gallery or artist itself.

What **Vasari Ecosystem** offers:

1. **Digital Identity**: Acts as a digital asset complementing physical artworks.
2. **Signature**: Allows galleries, artists, and collectors to attach digital signatures to the **Vasari Certificate**, ensuring the artwork's authenticity and adding layers of credibility from multiple authoritative sources.
3. **Journal**: Records significant events in the artwork's journey.
4. **Non-Tradable and Non-Speculative Asset**: This solution is not designed for trading or market speculation. Instead, it increases the value of the artwork itself by documenting interesting events and nuances.

What is unique about Vasari Certificate

The following features set **Vasari Certificate** apart from existing blockchain solutions, designed specifically for use in the art world.

1. **Custom Metadata**: Personalized configurations to represent artwork details accurately.
2. **Wallet Support**: Seamless transactions via blockchain wallets.
3. **NFT Technology with Metaplex Core**: Utilizes Solana blockchain and newest Metaplex Core NFT implementation.

4. **Privacy Settings**: Robust controls to designate certain metadata fields as private.
5. **Field-Based Signatures**: Allows authorities to issue certificates for select metadata fields.
6. **Multiple Signature Support**: Enables multiple authoritative signatures for enriched provenance.

Business Model

Vasari Ecosystem offers a free creation of certificates, monetizing only the signing event by recognized authorities, ensuring trust and authenticity without incurring costs for the basic use of the platform. This model makes the creation accessible to everyone while ensuring that only verified authorities provide signatures, enhancing the value and credibility of the certificates.

Value Proposition

- **Galleries**: Preserve and add value to their extensive work in digital format, enhancing the ownership experience for future collectors.
- **Collectors**: Gain verified authenticity and comprehensive documentation, ensuring trust and increasing market appeal.

Expansion Opportunities

The lightweight and self-sustainable ***Vasari Certificate*** opens numerous opportunities for expansion, including customization options for collectors, specialized platforms for large customers, and potential entry into the antiques market.

Founder's Vision

Vasari was founded by a software architect with extensive experience in both technology and the art world. ***Vasari*** is uniquely positioned to bridge the gap between these domains, ensuring the platform's success and integrity.

In summary, ***Vasari ecosystem*** is poised to revolutionize the contemporary art world by providing a robust, blockchain-based solution that enhances the value, authenticity, and historical continuity of art pieces.

Challenges of Contemporary Art in Digital Age

The key challenges of contemporary art are described more in detail in this chapter. These challenges mostly come from times before digital era was so common. It solves problem with capturing artwork's story, lack of digital verification methods, verifying collector's credibility and transferability of artwork's documented history. These challenges solve significant problem of contemporary art with capturing of all enriching details.

The Key Challenges of contemporary art are:

1. ***Pre-Acquisition History:*** No comprehensive system exists to document an artwork's life and provenance before its first collector, limiting new owner's understanding of its origins and early history.

2. **Digital Verification:** Galleries and artists lack easy methods to create digital certificates of authenticity, crucial for verifying authenticity and maintaining historical continuity.
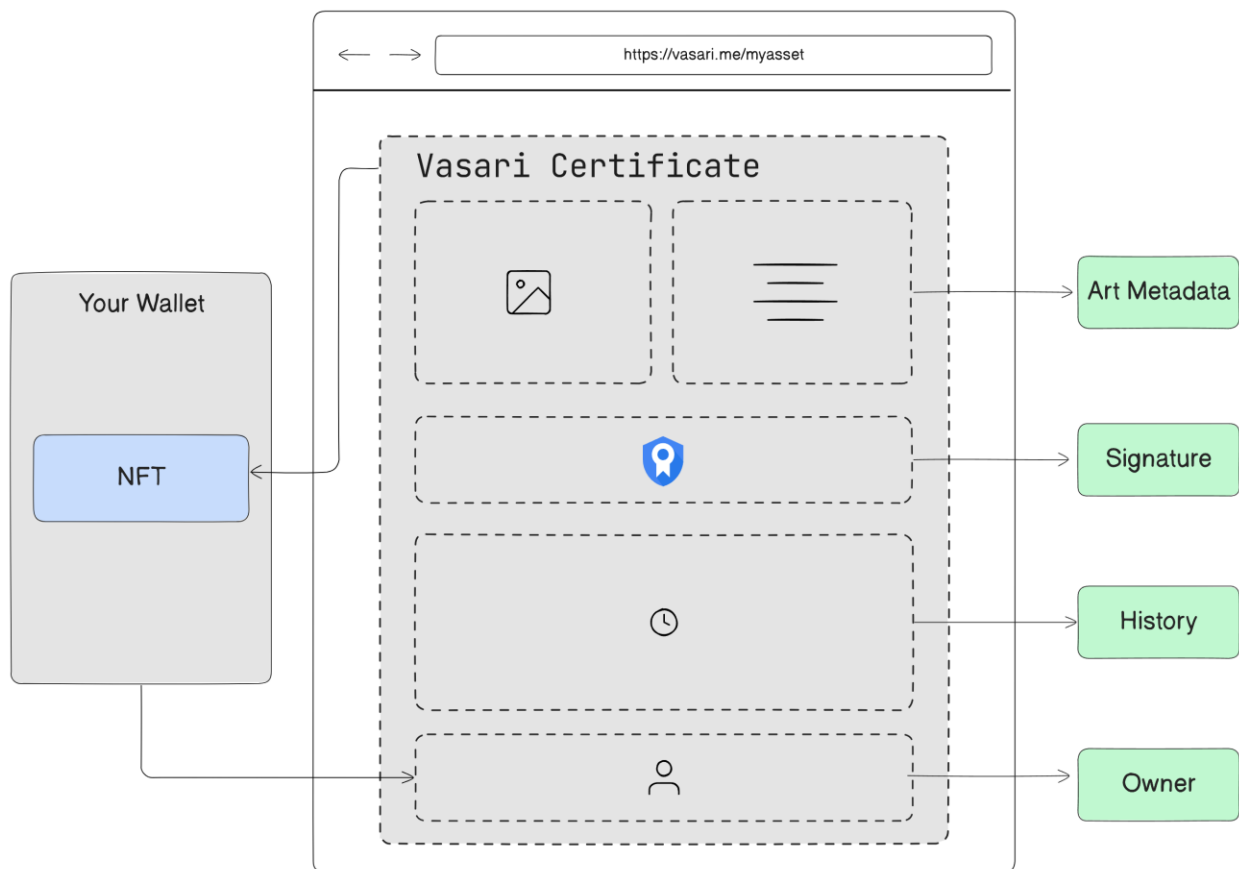
3. **Collector Credibility:** Prestige in the art world is built through physical interactions. Existing digital platforms are limited to pieces purchased through them, lacking a broader system to encompass all acquisition methods and replicate physical prestige digitally.

4. **Post-Acquisition History:** Collectors can't document and add new chapters to an artwork's history, such as notable displays or interpretations, missing an opportunity to enrich its evolving narrative.

5. **Data Portability:** There's no reliable method to transfer an artwork's documented history to subsequent owners, necessitating a streamlined system to ensure a continuous, enriched narrative.

Solution Overview

Vasari platform aims to create a lasting ecosystem of useful products and services for contemporary art galleries, buyers and collectors.

Vasari Certificate

Vasari Certificate is at the core of the **Vasari Ecosystem**. It represents a unique digital identity to each art piece. Every information in the **Vasari Certificate** can be independently signed by galleries, artists, and collectors to ensure its accuracy. This is distinct from existing attempts to existing solutions which mainly aimed to create a new speculative asset. Aim of **Vasari Certificate** is to create a lightweight digital asset that enhances the existing art piece presentation and identity and collector sense of ownership.

What Vasari Certificate Is

Digital Identity of an art piece: **Vasari Certificate** acts as a digital asset that complements the ownership of physical artworks in the digital realm. It enables modern engagement with art, adding a new dimension to ownership that extends beyond physical possession.

History Ledger: **Vasari Certificate** serves as a ledger to record significant events in the artwork's journey. This can include events such as the first exhibition, media appearances, and other relevant information. It allows the current owner to capture and preserve interesting details about their art.

What Vasari Certificate Is Not

Not a Tradable Copy: *Vasari Certificate* is not intended as a digital copy of the artwork in NFT (non-fungible token) format. Vasari uses NFT technology to leverage the existing NFT infrastructure, but its primary focus is on enhancing and verifying the physical artwork's identity and provenance, rather than promoting the trading of these NFTs as standalone assets.

Not a Speculative Asset: Unlike other digital solutions that create new speculative assets, *Vasari Certificate's* primary goal is to preserve the true essence of each art piece, reinforcing its cultural and historical value without prompting speculation. This approach sets Vasari apart from other digital art platforms in the blockchain world by focusing on authenticity and enhancement rather than speculation.

Vasari Certificate Lifecycle

Vasari Certificate assets undergo the following key events:

1. **Setting Up a Vasari Certificate**: Galleries begin by cataloging an artwork in the Vasari system. This initial record captures all essential information, establishing the digital identity of the artwork.
2. **Updates**: Throughout the artwork's time with the gallery, the *Vasari Certificate* can be used to document significant events and details, enriching the artwork's history.
3. **Signing**: To unlock the full potential of *Vasari Certificate*, it must be digitally signed. This can occur at any point during the asset's lifetime, ideally before its first transfer. Signatures from recognized authorities are what impart value to the *Vasari Certificate*. Multiple signatures from different authorities can be added over time.
4. **Transferring Ownership**: *Vasari Certificates* can be transferred at any time to any new owner by blockchain as any other NFT. The current owner has full control and ownership of the asset.
5. **Owner Updates**: Once acquired by a collector, the new owner assumes responsibility for further enriching the artwork's history with additional records, signatures and important details.

Vasari Certificate Features

1. The following features described in detail set *Vasari Certificate* apart from existing blockchain solutions.**Custom Metadata**: Each *Vasari Certificate* allows for personalized metadata configurations, supporting text and image fields. This flexibility ensures that the specific details and nuances of each art piece are accurately represented and preserved. Collectors can tailor the information displayed, ensuring both relevance and completeness.

2. **Wallet Support**: The integration of *Vasari Certificate* with blockchain wallets facilitates seamless transactions.

3. **NFT Technology with Metaplex Core**: Leveraging the robust infrastructure of Metaplex Core on the Solana blockchain, *Vasari Certificates* utilize NFTs to maintain a comprehensive and traceable history of each *Vasari Certificate.*

4. **Privacy Settings on a Field Basis**: *Vasari Certificate* provides robust privacy controls, enabling owners to designate certain metadata fields as private. This feature caters to the privacy needs of users who may wish to conceal specific details about their art pieces from the public view, thereby controlling how much information is accessible.

5. **Field-Based Signatures**: This unique feature allows authorities, such as galleries or artists, to issue certificates for select metadata fields. For example, a gallery might choose to certify only the primary image and title of an art piece, thus verifying key aspects of the artwork while maintaining flexibility in the certification process.

6. **Multiple Signature Support**: *Vasari Certificate* supports the issuance of multiple signatures for a single *Vasari Certificate*. This means that an art piece can be signed by multiple authoritative entities, such as both the gallery and the artist, simultaneously. This multi-signature approach enriches the credibility and authenticated value of each piece, providing a richer provenance and ensuring greater confidence for collectors.

Vasari Certificate Metadata

One of the most crucial components of *Vasari Certificate* is its metadata, which provides detailed information about the artwork. *Vasari Certificate* currently supports both text and image field types, allowing users to specify any number of fields to describe their artwork comprehensively. This can include a frontal image of the artwork, an image of the base or easel, dimensions, technique and other relevant details. Recognizing that each artwork requires different data to be registered, *Vasari Certificate* is designed to accommodate these varied requirements.

Each metadata field in *Vasari Certificate* can have its own privacy settings. Users can choose which fields are private and which are public, offering flexibility in how information is shared. *Vasari Certificate* can work with all data set to private, a valid and expected use case, especially for collectors who prefer to keep their possessions private. Users have the freedom to change these privacy settings at any time, ensuring they have control over their data.

Digital Signature

The intrinsic value of *Vasari Certificate* comes from its signatures, which is digital signature by a recognized gallery or artist. This signature not only authenticates the *Vasari Certificate* but also enhances its appeal to the owner. It is easy to imagine that collector would be proud to display *Vasari Certificate* of his art piece signed directly by the author and the prestigious gallery.

Business Model

Currently, most solutions focus on taking a commission from transactions when artwork is sold and providing additional services to customers as an afterthought. However, this method has a significant drawback: galleries and artists rarely rely on a single channel to sell their art. Consequently, one piece might be sold through an online platform, while another is sold by a gallery, leading to a disparate range of additional services tied to each artwork, even if they originate from the same artist. This limits the nature and range of possible services.

Vasari aims to disrupt the market by offering services independent of transaction methods, providing a more cohesive and focus approach to services that enhance the fine art ownership experience. This positions the Vasari ecosystem in a unique way in the market.

Value Proposition

Galleries

Successful galleries invest significant effort into the presentation, curation, exhibitions and digital marketing of their art pieces. With the *Vasari Certificate*, they can now capture this investment in a digital format, creating a valuable product that can be passed on to new owners. This not only preserves the gallery's extensive work but also adds substantial value to the artwork, enhancing the ownership experience for future collectors.

Collectors

The *Vasari Certificate* offers collectors verified authenticity and comprehensive documentation, ensuring trust and confidence in their investments. It simplifies ownership transfer, preserving the rich history and increasing market appeal. Collectors often invest in exhibitions and the certificate allows them to document these events, further enhancing the artwork's value.

Target Market

Primary Market is galleries focusing on contemporary art. New generation of collectors are used to digital interaction and galleries offering *Vasari Certificate* will offer new ways to interact with their collections online.

Revenue Model

Vasari will allow the creation of *Vasari Certificates* for free, making the process accessible to everyone, including galleries, artists, collectors and more. The platform will only monetize the event of signing the *Vasari Certificate*.

The signature on a *Vasari Certificate* is intended to be performed by a recognized authority, whose endorsement signifies a certain level of trust and authenticity. This ensures that the *Vasari Certificate* not only records the digital identity of the artwork but also carries the credibility of authoritative validation.

By incurring costs only on the event of signing, there are two significant implications. First, the creation of a *Vasari Certificate* is accessible to everyone at no cost. Second, signatures will only be provided by parties that can justify the expense, either monetarily or through other means.
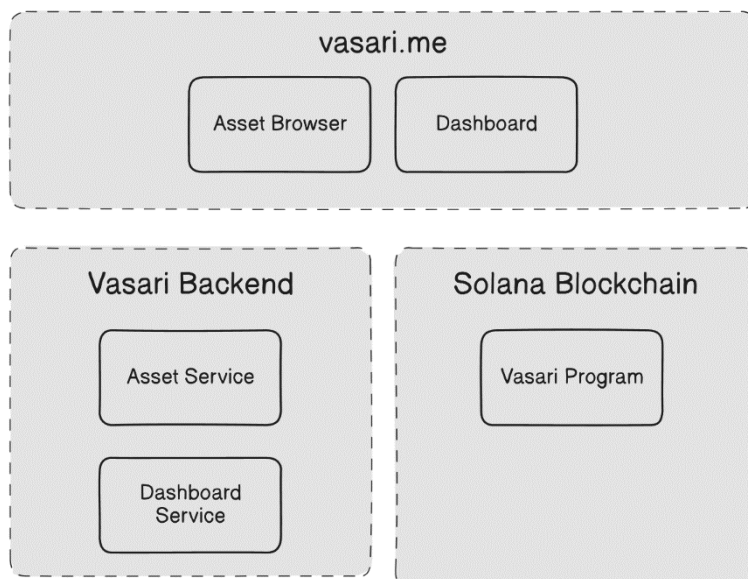
Expansion Opportunities

The Vasari Certificate is a very lightweight core product that is self-sustainable and easy to adopt. Once **Vasari Certificate** gains a foothold in the market, numerous new opportunities for expansion become possible. For example, we could offer customization options for collectors to present their collections, develop specialized platforms for large customers or even expand into the antiques market.

Technical Architecture

Following section assumes basic understanding of web development, blockchain, Solana, Solana Program, Token Program, PDA (Program Derived Address) and Metaplex Core Program.

Platform Architecture

Current Architecture consists of following components.

Main Access Point: The *Vasari.me* website serves as the primary access point for the Vasari ecosystem, featuring two distinct sections: the Asset Browser and the Dashboard.

Asset Browser Section: This section is dedicated to presenting **Vasari Certificates**. Each certificate has its own page, where users can view information about the artwork that the owner has set as public. These pages are accessible to the public.

Dashboard Section: This section is designed for users who wish to use the ecosystem more extensively. After logging in, users have a private space to manage their portfolios privately before transferring assets to customers. The focus is on providing a smooth experience for customers, such as galleries, to manage large collections of artworks efficiently.
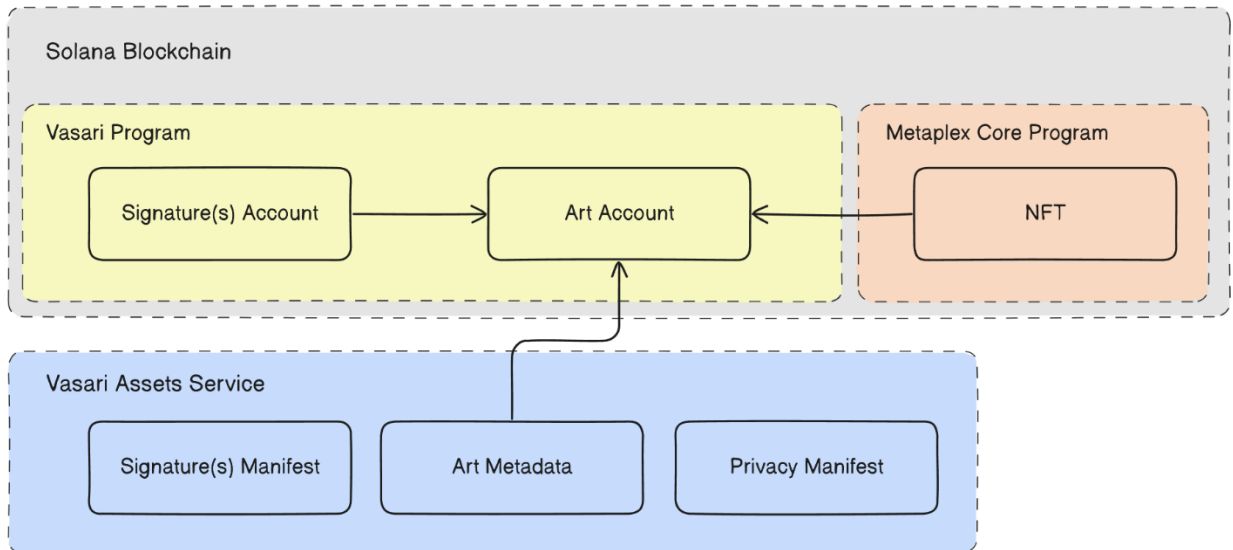
Assets Service: API (Application Programming Interface) providing a backbone to **Vasari Certificate** metadata. This API contains all the metadata.

Dashboard Service: Dedicated backend API for dashboard section of the website.

Vasari Program: Solana Program to interface with a Solana blockchain.

Architecture of Vasari Certificate

Each **Vasari Certificate** instance comprises three blockchain accounts and three JSON (JavaScript Object Notation) files located in the Asset Service. The following diagram illustrates the location of each resource. Subsequent sections of this document will explore the **Vasari** Program resources and accounts, followed by an in-depth look at the Asset Service and its metadata resources.
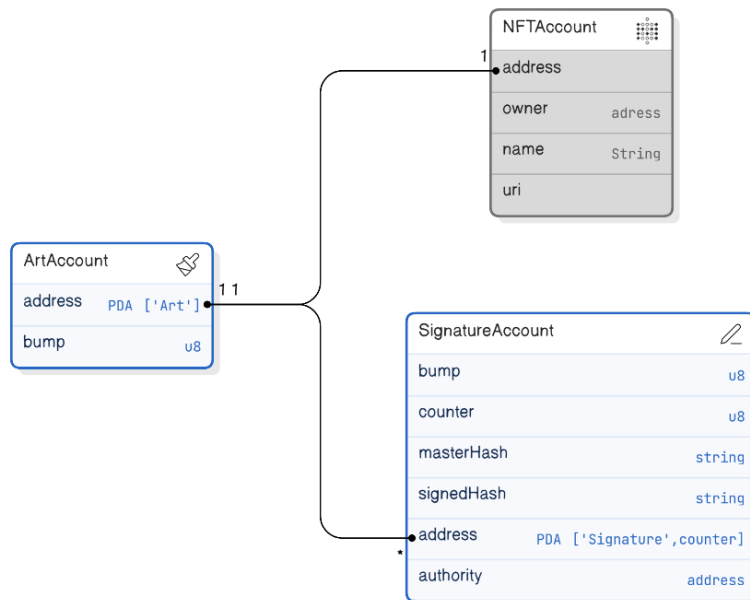
Vasari Blockchain Program

Vasari Program is Solana program that sits at the heart of the **Vasari Ecosystem**. Its main purpose is to interact with Solana blockchain. There are two main sections. Assets and Authority. Asset section is responsible for manipulating with the accounts directly associated with **Vasari Certificate**. Authority section is about managing the identity of users that represents possible Authorities used for signing the **Vasari Certificate**.

Accounts Overview

There are 3 types of accounts responsible for maintaining state on the Solana blockchain.

1. Art account: Intentionally a lightweight account. Address of this account is PDA derived from a string 'Art' and public key of the NFT. Existence of this account together with NFT account is most basic form of *Vasari Certificate*.

Vasari Certificate Accounts

2. NFT account: Account registered by Metaplex Core program. This Account enable **Vasari Certificate** to leverage all the NFT functionality and existing infrastructure and define ownership for the rest of the accounts.
3. Signature account: Each Art account can have multiple signature accounts associated. Address for Signature Account is PDA derived from 'Signature' string, Art account address and finally by counter unsigned 8-bit number. Signature Account contains fields that stores 3 crucial information for validation of the metadata.
   a. Master Hash
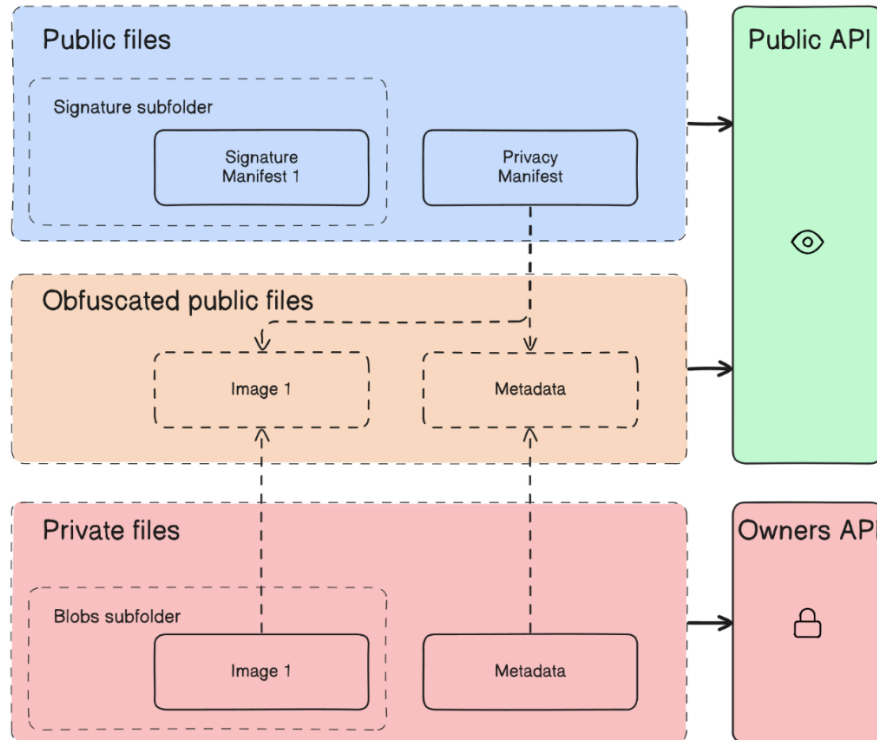   b. Signed Hash
   c. Authority

Authority Accounts

These accounts are responsible to track different users acting as signing authorities in the **Vasari Ecosystem**. Detail description is outside of the scope of this whitepaper.

Asset Service

To fully support **Vasari Certificate** intended use case. Following describes Assets Service API and its components. Currently there is two sets of endpoints that can be described as Public API and Owners API. Owners API requires a user to authorize before accessing its resources.
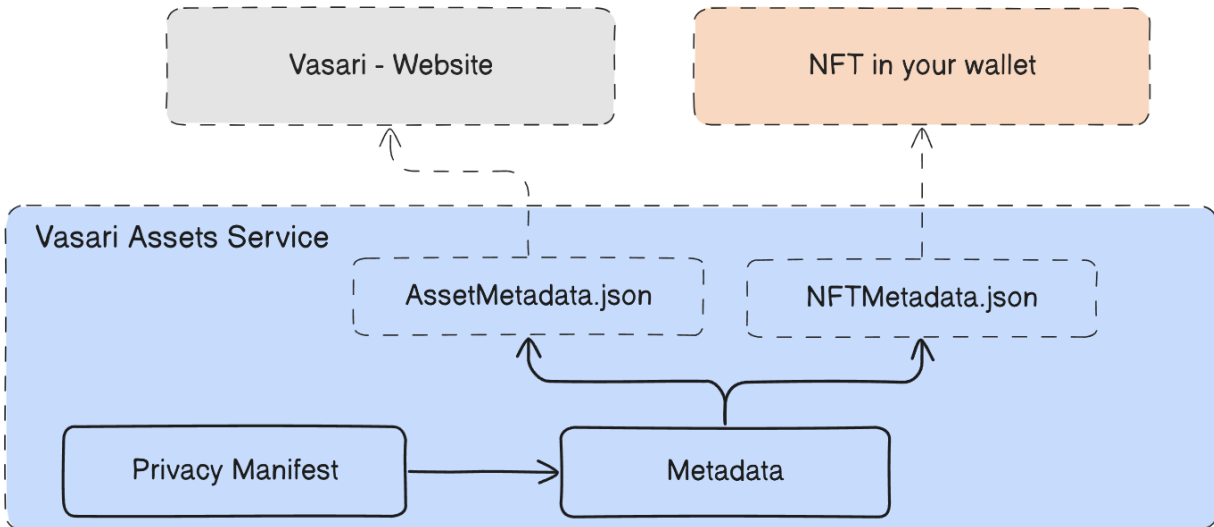
Vasari Certificate Metadata Components

Following is the list of components representing **Vasari Certificate** metadata. Depending on the nature of the file, only limited access is allowed for public API endpoints. Obfuscated access in this case means that if file is requested only version that satisfies privacy settings is returned.

File	Public API – Access	Owners API – Access
/metadata.json	Obfuscated	Full
/privacy.json	Full	Full
/Signatures/manifest1.json	Full	Full
/blobs/image1.png	Obfuscated	Full

When *metadata* is request by public API endpoint, each field of the file is checked against privacy settings of the **Vasari Certificate**. If field is set as private, information is this field is omitted in the result. When image is requested and is set as private, placeholder image is returned instead of the original.

Metaplex Core Metadata

The NFT standard in its current form is limited in supporting the detailed and customizable metadata that **Vasari Certificate** requires. To address this limitation, **Vasari Certificate** extends the NFT metadata implementation. This extension allows **Vasari Certificate** to operate as a fully featured NFT asset, providing users with greater flexibility. Metadata for the NFTs are extracted from custom user fields and respect the privacy settings set by users. This means that users can control which data is visible on their NFT asset in the wallet, maintaining the privacy of sensitive information while still benefiting from the transparency and security of blockchain technology and existing infrastructure.

Digital Signature

Technical purpose of the Signature is to verify that data Authority signed was not altered.

To enable flexible and openly verifiable certification functionality for **Vasari Certificate**, data about the signature needs to be stored both on blockchain and off chain. Signature Account on blockchain and Signature manifest file on assets API.

- Signature Manifest (JSON Document - Off chain)
- Signature Account (Solana Account – On chain)

Signing process

During signing process authority select which fields should be part of the signature. Example of this can be Image, Title and Artist Name. Value for each of this fields is Hashed by sha256 algorithm and added to the Signature Manifest JSON file. MasterHash value is calculated by hashing hashes in ordered fashion determined alphabetically based on field name (see picture below in chapter Signature validation).

Metadata Field Name	Data Hash
Title	HashValue1
Primary Image	HashValue2
Artist Name	HashValue3
	MasterHash

After Manifest JSON file is ready, blockchain operation remains which will create Signature Account by the authority. This account stores few vital information to allow backwards data integrity validation.
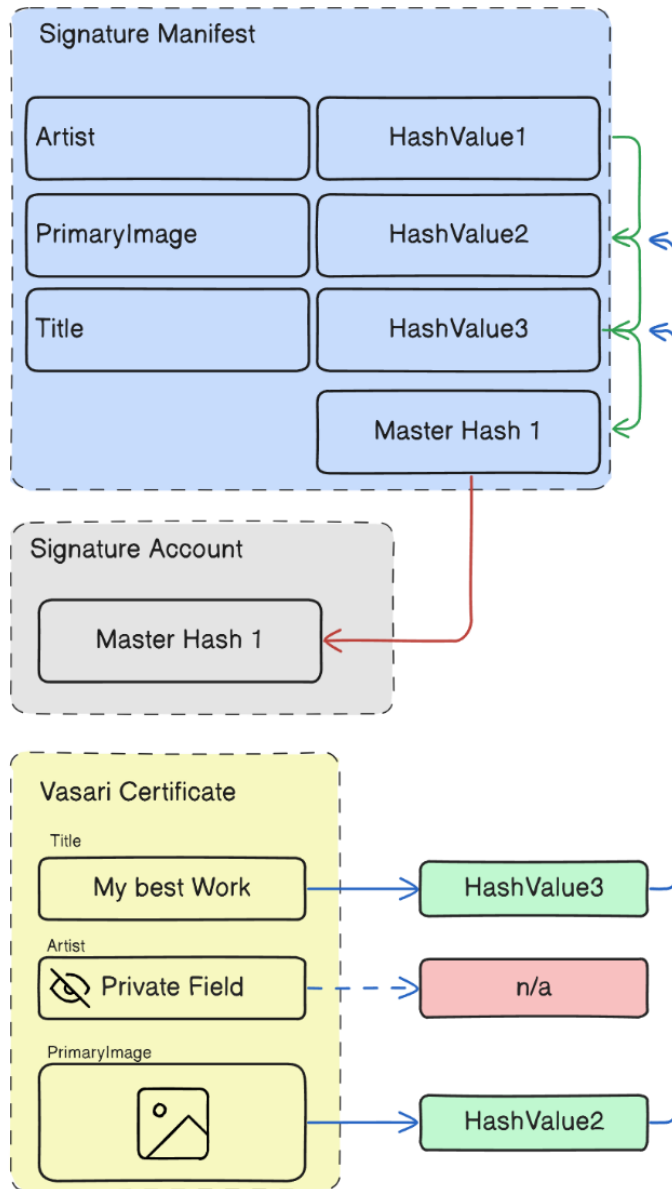
Name	Value Type
Art Account Identifier	Account Adress
Authority Identifier	Account Adress
Master Hash	String
Signed Master Hash	String

Authority will create a unique **Vasari** Program Account on Solana blockchain that will store same Master Hash value as manifest. Storing this value on blockchain serves as data integrity check for manifest file without a need to store each data field hash on blockchain a thus keeping the cost down. Signature account on blockchain cannot be altered.

Signature Validation

Validation is designed to be possible outside of the platform itself. Process relies on basic cryptography hashing functions that are available on all platforms. Following are steps required to verify the displayed content. Minimal data is stored on the blockchain to minimize the costs.

1. **Verify Integrity of Certificate Manifest**: First step requires recreating master hash value presented in the manifest. To do so we need to create a hash from list of values containing individual hash values. If our calculated value matches the Master hash from the manifest. We can continue to next step.

2. **Check blockchain record**: We compare master hash value from manifest to a value in Blockchain Signature account. If this step is successful, we can assume that individual hash values in manifest are intact.

3. **Validating individual field**: Final step is to assess the validity individual public fields presented. We take string value of the field and hash it again. If our resulting hash matches that on the manifest for given field, we can assume that the value of the field presented to a user is the same that the authority sign.

Meet the Founder

Jakub Mezey, Founder and CEO

[Jakub Mezey | LinkedIn](#)

As the founder and driving force behind *Vasari*, I bring a unique blend of expertise and passion for both technology and art. With 15 years of experience as a Software Architect for a Fortune 500 company, I have a deep understanding of developing innovative digital solutions. Additionally, as a co-owner of a gallery with a 10-year tradition, I possess extensive knowledge of the art world and its nuances. My dual background enables me to bridge the gap between art and technology, ensuring the success and integrity of the *Vasari*.

Tokenomics

The Vasari platform operates on Solana's blockchain for all core functionalities, leveraging its speed, low transaction fees, and scalability. Vasari does not introduce any utility tokens to complicate transactions or interactions within the ecosystem. Instead, the focus is on simplicity and efficiency.

Vasari Token (VAS)

- **Purpose**: The Vasari token (VAS) is designed exclusively for redistributing a portion of the platform's profits to investors. It will not have any utility or function within the operational activities of the platform.

- **Distribution**: VAS tokens will be distributed periodically based on the profits generated from verified signatures.

- **Governance**: VAS tokens do not grant governance rights. All decisions will remain centralized with the management team to ensure the platform remains aligned with its vision.