WHITEPAPER

Artiquity Capsule Builder™

Toward a Meta-Creative Protocol for Artist-Centric Generative Intelligence

Powered by Trinity Graph Architecture

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CONFIDENTIAL

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Executive Summary

In the age of artificial intelligence and posthuman creativity, artists confront a paradox: their work is more accessible and reproducible than ever before, yet their authorship, ethos, and intent are increasingly subsumed by algorithmic appropriation. Traditional AI training pipelines flatten complex artistic identities into decontextualized styles, reducing creators to statistical distributions. To address this existential challenge, we propose the **Artiquity Capsule Builder™** — a human-in-the-loop system for constructing high-fidelity artist capsules that encode not only visual style but the full intellectual, material, and cultural logic of an artist's practice.

At the heart of this initiative is the **Artist MCP (Meta-Creative Protocol) Server**, a secure and modular deployment architecture that allows artists (or their estates) to monetize, license, and ethically govern the use of their generative signature. The protocol ensures that generative models reflect not just *what* the artist made, but *why* and *how* they made it — enabling new revenue streams that are philosophically consistent with the artist's legacy.

This system is built upon **Trinity Graph Architecture** — a sophisticated semantic framework that integrates three interconnected graph structures: Knowledge Graphs for encoding artistic ontology, Social Graphs for mapping influence networks and audience resonance, and Generative Graphs for driving autonomous creative production. This tripartite architecture enables what no existing system achieves: the capacity to encode, deploy, and monetize artist identity capsules with full ethical integrity and semantic fidelity.

Key Innovations

1. **Trinity-Powered Semantic Encoding:** A 225-term ontological vocabulary capturing artistic identity across eight fundamental dimensions (synchronicity, felicity, authenticity, propensity, fragility, serendipity, familiarity, nostalgia)
2. **CHIP Metadata Framework:** Contextual, Historical, Intentional, and Procedural annotation at macro, meso, and micro levels
3. **Estate-Sanctioned Governance:** Consent-first protocols aligned with CARE and OCAP indigenous data sovereignty principles
4. **Interoperable Standards:** Built on CIDOC-CRM and Linked Art ontologies with C2PA provenance tracking
5. **Monetization Infrastructure:** Smart contract licensing with tiered API access and automated royalty distribution

1. Introduction

Generative AI has democratized creation, but often at the cost of individual authorship and cultural nuance. When LAION-5B trained Stable Diffusion on 5.85 billion image-text pairs scraped from the internet, it absorbed centuries of artistic innovation into weight matrices that recognize no provenance, respect no intent, and compensate no creator. The result is a technology that can produce images "in the style of" any artist while simultaneously erasing the contextual, historical, and philosophical dimensions that make that style meaningful.

The **Artiquity Capsule Builder™** inverts this paradigm. Rather than flattening artistic identity into decontextualized feature vectors, it privileges deep contextuality, art-historical rigor, and intentional semantics. The system constructs **Artist Capsules** — structured representations of artistic oeuvres, ethos, techniques, and cultural positioning — which can be deployed via the MCP Server as creative agents, generative models, or scholarly artifacts.

1.1 The Problem Space

Current approaches to AI art generation suffer from three fundamental deficiencies:

- **Semantic Poverty:** Models encode visual patterns without understanding the conceptual, cultural, or philosophical dimensions that give those patterns meaning.
- **Ethical Vacancy:** Training proceeds without consent, compensation, or consideration of how artists would want their work used.
- **Temporal Flattening:** The evolution of an artist's practice over time — their development, experiments, crises, and breakthroughs — collapses into a single statistical distribution.

1.2 The Trinity Solution

Trinity Graph Architecture addresses these deficiencies through a tripartite structure that mirrors the complexity of artistic identity itself:

- **Knowledge Graph:** Encodes the artist's conceptual universe — their influences, techniques, materials, themes, and the relationships between them.
- **Social Graph:** Maps the artist's position within cultural networks — their influences, contemporaries, critics, collectors, and the audiences who resonate with their work.
- **Generative Graph:** Drives the production of new works that maintain fidelity to the artist's ethos while enabling legitimate creative extension.

2. Prior Art and Industry Precedents

The Artiquity Capsule Builder emerges from a rich landscape of existing standards, institutional experiments, and ethical frameworks. Understanding this context is essential for positioning the system within the broader ecosystem of cultural AI.

2.1 Museum-Led Artist Identity Systems

The **Dalí Museum** in St. Petersburg, Florida represents the most sophisticated institutional approach to encoding artist identity in AI. Their "Dalí Lives" installation (2019-present) uses GAN technology trained on hundreds of archival interviews to create an interactive deepfake simulation, developed with explicit approval from the Gala-Salvador Dalí Foundation. The museum expanded this with "Ask Dalí" (2024), a GPT-4 powered chatbot trained on writings, interviews, and voice recordings that has answered over 30,000 visitor questions. Their "Giraffes on Horseback Salad" project (2025) uses Google Veo 2 to generate film from Dalí's unmade 1937 screenplay — demonstrating posthumous creative completion with estate authorization.

MoMA acquired Refik Anadol's "Unsupervised—Machine Hallucinations" as its first generative AI artwork in 2023. The piece uses StyleGAN trained on 380,000 images representing 180,000+ artworks from MoMA's collection, creating what curators describe as a reinterpretation of 200 years of modern art history. These projects share a common architecture: *estate or institutional approval, training on authenticated archival material, and human-in-the-loop curation*.

2.2 Licensed Training and Compensation Models

Major stock platforms have converged on a model of licensed training data with contributor compensation. **Getty Images' Generative AI** (launched September 2023) trains exclusively on its creative library, offering indemnification starting at $50,000 per generated image with uncapped protection for standard licenses. Contributors receive annual revenue share allocated pro-rata based on files included in training.

Adobe Firefly trains on Adobe Stock images, openly licensed content, and public domain works, with a contributor bonus program. **Shutterstock** established a 20% corporate royalty rate contributor fund for data licensing revenue. The **Fairly Trained** certification (founded January 2024) requires that no copyrighted work be used without license, with certified companies including BRIA AI, Boomy, and Soundful.

2.3 Consent Infrastructure

Spawning AI's tools have created consent infrastructure at scale. Their Have I Been Trained search tool covers the LAION-5B dataset (5.85 billion image-text pairs), while their Do Not Train Registry has recorded over **1 billion opt-outs**. The ai.txt protocol functions like robots.txt for AI training permissions. Stability AI committed to honor opt-outs for Stable Diffusion v3.

The **C2PA standard** (Coalition for Content Provenance and Authenticity) has achieved 5,000+ member organizations implementing cryptographically signed

provenance metadata that tracks publisher, device, editing steps, and AI involvement.

2.4 Semantic Web Standards for Cultural Heritage

CIDOC-CRM (ISO 21127:2023) provides the foundational ontology for cultural heritage documentation, comprising 82 classes and 263 properties with extensions for digital provenance (CRMdig), spatial-temporal data (CRMgeo), and archaeological contexts. The standard's event-based paradigm models entities as stateful objects changed by creation, destruction, and modification events.

Linked Art, approaching version 1.0, provides a JSON-LD application profile of CIDOC-CRM specifically designed for art museum data. Developed through the American Art Collaborative with Mellon/IMLS funding, it has been adopted by Yale Center for British Art, Getty Research Institute, Smithsonian American Art Museum, and the PHAROS consortium.

The **Getty Vocabularies** constitute authoritative controlled vocabulary infrastructure. The Art & Architecture Thesaurus (AAT) contains approximately 34,000 concepts and 131,000 terms. The Union List of Artist Names (ULAN) includes 127,000+ records with 375,000 names.

3. Trinity Graph Architecture

Trinity Graph Architecture represents a novel approach to semantic modeling that transcends traditional knowledge representation. By integrating three complementary graph structures — Knowledge, Social, and Generative — the architecture captures the full dimensionality of complex domains like artistic identity.

3.1 Theoretical Foundation

The Trinity framework emerges from the recognition that *meaning is relational*. An artist's identity cannot be reduced to a list of features or a single embedding vector. It exists in the relationships between concepts, between people, and between creative acts over time. Trinity captures these relationships through three interconnected layers:

Knowledge Graph Layer

The Knowledge Graph encodes the artist's conceptual universe using a 225-term ontological vocabulary organized into semantic clusters. Each term is positioned within a morphological framework based on Latin suffixes (-ity, -ness, -tion, etc.) that capture different modalities of meaning:

- **States and Qualities (-ity):** authenticity, felicity, fragility, propensity
- **Processes and Actions (-tion):** creation, perception, transformation, interpretation
- **Relationships (-ship):** craftsmanship, authorship, viewership, ownership
- **Temporal Dimensions (-ness):** timelessness, contemporariness, newness, ancientness

Social Graph Layer

The Social Graph maps influence networks, audience segments, and cultural positioning. For artistic identity, this includes:

- **Influence Topology:** Who influenced the artist? Whom did they influence? What movements did they participate in or react against?
- **Reception History:** How has critical and popular reception evolved over time?
- **Audience Resonance:** Which demographic and psychographic segments connect most deeply with this artist's work, and why?

Generative Graph Layer

The Generative Graph drives autonomous creative production while maintaining fidelity to the artist's ethos. It operates through:

- **Constraint Propagation:** Ethical and aesthetic constraints flow from the Knowledge Graph to limit generation possibilities
- **Resonance Optimization:** Social Graph signals guide generation toward outputs that would resonate with appropriate audiences
- **Temporal Coherence:** Generated works are positioned within the artist's developmental trajectory, not flattened into a single style

3.2 The Eight Trinity Fundamentals

Trinity Graph Architecture employs eight fundamental dimensions for analyzing resonance between creative works and audiences. These fundamentals — derived from morphological analysis of aesthetic experience — form the basis for computing "resonance scores" that quantify how deeply a work connects with specific audience segments:

Fundamental	Definition	Application to Art
Synchronicity	Meaningful coincidence; alignment of internal and external events	How works resonate with cultural moments
Felicity	Aptness of expression; successful achievement of intended effect	Technical mastery and expressive success
Authenticity	Genuine correspondence between expression and intent	Artistic integrity and voice consistency
Propensity	Natural inclination; tendency toward particular choices	Recurring themes, motifs, and approaches
Fragility	Susceptibility to change; delicate or ephemeral qualities	Vulnerability in subject matter or materials
Serendipity	Fortunate discovery; happy accidents in creation	Role of chance in the creative process
Familiarity	Quality of being known; recognition and accessibility	Audience connection and recognizability
Nostalgia	Longing for the past; evocation of memory	Temporal references and emotional resonance

Each artist capsule is annotated across all eight fundamentals, enabling nuanced resonance analysis that goes far beyond simple style matching.

4. System Architecture

4.1 The Artiquity Capsule Builder

The Capsule Builder is a hybrid analytical system that ingests an artist's complete body of work, extracts structured metadata using the CHIP framework, performs deep multimodal training conditioned on Trinity Graph embeddings, and outputs a generative artist capsule.

Core Functions

- **Encode artist's ethos, not just style:** Capture the metaphysical, ethical, and aesthetic logic underlying visual choices
- **Preserve authorial intent and interpretive plurality:** Maintain space for multiple valid interpretations while respecting documented intent
- **Support ethical generative applications with oversight:** Enable creative extension while preventing misuse
- **Serve as scholarly, curatorial, and monetizable infrastructure:** Support multiple use cases from academic research to commercial licensing

4.2 Artist MCP Server

The Meta-Creative Protocol Server is a secure deployment and monetization platform for artist capsules. It provides programmable access, licensing tiers, and generative constraints based on capsule parameters.

Key Functions

- **API-based access:** RESTful and GraphQL endpoints for integration into AI art tools, digital exhibitions, and education platforms
- **Licensing controls:** Granular permissions for personal, educational, and commercial use
- **Royalty distribution:** Automated revenue sharing via smart contracts
- **Ethical safeguards:** Constraint engine preventing decontextualized or inappropriate use

5. Capsule Creation Pipeline

5.1 Oeuvre Ingestion Engine (OIE)

The OIE handles comprehensive acquisition of artistic materials:

- **Visual Works:** High-resolution acquisition of all documented artworks with provenance metadata
- **Textual Materials:** Artist writings, interviews, correspondence, exhibition catalogs, and critical reception
- **Studio Documentation:** Process videos, work-in-progress images, tool and material inventories
- **Contextual Records:** Exhibition histories, sales records, institutional acquisitions

5.2 CHIP Metadata Framework

Each artwork is annotated using the CHIP framework at macro (oeuvre), meso (period/series), and micro (individual work) levels:

Dimension	Description	Example Annotations
C: Contextual	Era, geography, political and social context	*Post-war Paris; Cold War anxiety; Civil Rights era*
H: Historical	Movements, critical reception, artistic lineage	*Abstract Expressionism; Greenberg criticism; Pollock influence*
I: Intentional	Artist's stated and inferred purpose	*"Exploring the tension between order and chaos"*
P: Procedural	Tools, materials, methods, techniques	*Oil on canvas; palette knife; wet-on-wet technique*

5.3 Multimodal Embedding Layer

The system employs state-of-the-art multimodal architectures conditioned on CHIP metadata and Trinity Graph embeddings:

- **CLIP:** Vision-language alignment using contrastive learning on 400M+ image-text pairs, fine-tuned with CultureCLIP for cultural heritage contexts
- **BLIP-2:** Caption generation and multimodal pre-training with CHIP-conditioned prompts
- **Flamingo:** Few-shot reasoning for contextual inference across the artist's oeuvre
- **SAM (Segment Anything Model):** Region isolation for motif-level analysis
- **DenseCap:** High-resolution tagging of complex compositions

5.4 Hierarchical Embedding Strategy

- **Bi-level encoding:** Separate but linked embeddings for visual syntax and symbolic content
- **Temporal modeling:** Tracks style and intention evolution across the artist's career using attention mechanisms over chronologically-ordered embeddings
- **Influence graphs:** Maps cultural and intellectual interdependencies using Social Graph traversal

6. Human-in-the-Loop System

Automated systems alone cannot capture the full complexity of artistic meaning. The Artiquity Capsule Builder integrates human expertise at critical junctures to ensure interpretive fidelity and ethical alignment.

6.1 Expert Curation Interface (ECI)

The ECI provides art historians, curators, and estate representatives with tools to:

- Validate automatically generated embeddings and metadata against scholarly consensus
- Flag interpretive disputes for resolution through established art-historical methodologies
- Annotate works with contextual information not available in primary sources
- Review and approve generated outputs before deployment

6.2 Prompt Injection and Override

Human experts maintain interpretive authority through:

- **Narrative seeding:** Experts provide prompts that establish interpretive frameworks for the capsule
- **Stylistic emphasis:** Weight adjustments to highlight particular periods, themes, or techniques
- **Constraint specification:** Explicit rules about what the capsule should never produce
- **Override capability:** Human judgment supersedes algorithmic outputs in cases of conflict

7. Capsule Output Structure

Each completed Artist Capsule comprises five integrated components that together constitute a comprehensive generative identity:

7.1 Core Ethos Signature

The Core Ethos Signature encodes the metaphysical, ethical, and aesthetic logic underlying the artist's practice. This is not a style vector but a semantic structure that captures:

- Foundational beliefs about art's purpose and meaning
- Ethical commitments that constrain acceptable uses
- Aesthetic principles that guide formal choices
- Trinity Graph embeddings across all eight fundamentals

7.2 Aesthetic DNA Vector

The Aesthetic DNA Vector captures visual style, medium preferences, and formal language through high-dimensional embeddings derived from the multimodal training pipeline.

7.3 Material Matrix

Technical metadata per medium including tools, substrates, pigments, processes, and the physical properties that distinguish the artist's work.

7.4 Temporal Drift Map

A structured representation of how the artist's practice evolved over time, enabling generation that is appropriate to specific periods rather than collapsing all periods into one.

7.5 Ethical Constraint Engine

Hard and soft constraints that limit inappropriate or reductive use, including:

- Prohibited content categories
- Required attribution formats
- Context requirements for deployment
- Anti-commodification rules preventing style reduction or memeification

8. Artist MCP Server Specification

8.1 Technical Architecture

The MCP Server implements Model Context Protocol standards for seamless integration with AI assistants and creative tools. Key components include:

- **API Gateway:** RESTful and GraphQL endpoints with OAuth 2.0 authentication
- **Capsule Registry:** Distributed storage of capsule components with content-addressed hashing
- **Constraint Engine:** Real-time evaluation of generation requests against capsule constraints
- **Audit Logger:** Immutable record of all capsule access and generation events
- **Licensing Module:** Smart contract integration for automated royalty distribution

8.2 Monetization Layers

The MCP Server supports multiple revenue streams:

Tiered API Licensing

1. **Non-profit Tier:** Reduced or waived fees for registered non-profits and educational institutions
2. **Academic Tier:** Research-oriented access with publication requirements and data sharing agreements
3. **Commercial Tier:** Full access with usage-based pricing and revenue sharing
4. **Enterprise Tier:** Custom integrations, dedicated support, and negotiated licensing terms

Revenue Distribution

Smart contracts automatically distribute revenue according to capsule-specific agreements, typically:

- Artist/Estate: 60-80%
- Platform Operations: 10-20%
- Expert Curators: 5-15%
- Archive/Preservation Fund: 5%

9. Governance and Ethical Framework

The Artiquity system implements governance principles derived from indigenous data sovereignty frameworks — specifically CARE and OCAP — adapted for artistic legacy preservation.

9.1 CARE-Aligned Principles

The CARE Principles for Indigenous Data Governance (Collective Benefit, Authority to Control, Responsibility, Ethics) provide a framework that addresses power differentials between data subjects and data users:

1. **Collective Benefit:** Capsule ecosystems are designed to benefit artists, their communities, and the cultural heritage they represent
2. **Authority to Control:** Artists or their designated representatives maintain ultimate authority over capsule deployment and modification
3. **Responsibility:** The system supports inclusive and relevant applications that serve legitimate artistic and scholarly purposes
4. **Ethics:** All operations respect the artist's values, cultural context, and expressed wishes

9.2 Consent-First Protocols

No capsule is created without explicit authorization from the artist or their estate. The consent process includes:

- Comprehensive disclosure of system capabilities and limitations
- Review of proposed use cases and licensing tiers
- Negotiation of constraint parameters and prohibited uses
- Ongoing consent renewal and modification rights

9.3 Posthumous Governance

For deceased artists, governance authority transfers according to a defined hierarchy:

- **Explicit designation:** If the artist designated a digital legacy steward, that party holds authority
- **Estate representatives:** Legally authorized estate managers can grant consent
- **Institutional custodians:** Museums or archives with significant holdings may be designated as governance partners
- **Advisory councils:** For contested or complex cases, interdisciplinary panels provide guidance

9.4 Cultural Sensitivity Engine

Automated systems flag potentially problematic uses for human review, including:

- Requests that may decontextualize culturally significant imagery
- Commercial applications that conflict with the artist's documented values
- Uses that could contribute to harmful stereotypes or misrepresentations

- Requests from parties with documented histories of artistic exploitation

10. Use Cases and Applications

10.1 Generative Art Platforms

Capsule-integrated generation produces works that embody the artist's ethos, not just their visual style. A capsule-powered tool could generate new works "in dialogue with" an artist's practice, maintaining philosophical consistency while enabling legitimate creative extension.

10.2 Museums and Archives

Institutions can deploy capsules for interactive exhibitions, virtual retrospectives, and educational programming. Visitors might explore "what if" scenarios ("What if this artist had worked in a different medium?") grounded in authentic artistic logic.

10.3 Art Education

Students can engage with immersive simulations of artistic development, understanding not just what artists made but how their practice evolved in response to technical, cultural, and personal factors.

10.4 Cultural Preservation

For marginalized or underrepresented artists, capsules can preserve and ethically reanimate voices that might otherwise be lost to history, ensuring their contributions remain accessible to future generations.

10.5 Creative Studios

Commercial entities can ethically license techniques from artist capsules, with clear attribution, appropriate compensation, and constraints ensuring the artist's legacy is honored.

11. Legal Landscape and Compliance

11.1 Current Legal Context

The legal landscape for AI and artistic IP remains unsettled. The UK Getty v. Stability AI ruling (November 2025) dismissed copyright claims, finding that AI model weights do not constitute "infringing copies" of training data. However, the US Andersen v. Stability AI case proceeds toward trial, with the court ruling it is plausible that models contain "compressed copies" of training data.

The Artiquity system is designed to transcend these debates by operating entirely within a consent-based framework. By training only on licensed materials with explicit authorization, the system avoids the legal uncertainties that plague models trained on scraped data.

11.2 Provenance and Attribution

All capsule outputs are tagged with C2PA-compliant Content Credentials that document:

- Source capsule identification
- Generation parameters and constraints applied
- Licensing tier and permitted uses
- Attribution requirements

11.3 International Compliance

The system is designed for compliance with emerging AI regulations including the EU AI Act, with provisions for:

- Transparency requirements for generative AI outputs
- Data protection and privacy compliance (GDPR)
- Personality rights and posthumous image protection
- California AB 1836/AB 2602 compliance for digital replicas

12. Conclusion

The Artiquity Capsule Builder™ and Artist MCP Server represent a paradigm shift in how we preserve, interpret, and extend artistic legacies in the age of artificial intelligence. By fusing critical theory with computational rigor and ethical deployment, this system not only protects the artist's identity but transforms it into a living, generative, and monetizable archive — grounded in history, propelled by technology, and governed by intent.

The integration of **Trinity Graph Architecture** provides the semantic infrastructure that distinguishes Artiquity from existing approaches. By encoding artistic identity across three interconnected graph layers — Knowledge, Social, and Generative — and analyzing resonance through eight fundamental dimensions, the system achieves what no prior technology has accomplished: the capacity to represent not just what an artist made, but why and how they made it.

Built on established standards (CIDOC-CRM, Linked Art, C2PA) and aligned with emerging ethical frameworks (CARE, OCAP), the Artiquity system is designed for interoperability, compliance, and long-term sustainability. It offers artists and estates a path forward that neither rejects generative AI nor surrenders to its extractive tendencies — but rather harnesses its potential while preserving the values that make artistic creation meaningful.

The future of creative AI need not be a choice between technological capability and ethical integrity. With Artiquity, we demonstrate that these goals are not merely compatible but mutually reinforcing. The system we propose honors the past while enabling the future — ensuring that the artists who shaped our visual culture continue to shape it, on their own terms, in perpetuity.

Appendix A: Trinity Graph Vocabulary (Selected Terms)

The following represents a selection from the 225-term Trinity ontological vocabulary, organized by semantic cluster:

Cluster	Selected Terms
Aesthetic States	authenticity, felicity, sublimity, harmony, elegance, intensity
Temporal Qualities	timelessness, ephemerality, nostalgia, contemporariness, perpetuity
Creative Processes	inspiration, iteration, experimentation, refinement, completion
Material Properties	texture, luminosity, density, transparency, patina
Social Relations	influence, mentorship, rivalry, collaboration, patronage
Cultural Position	avant-garde, tradition, subversion, canonicity, marginality
Reception Dynamics	recognition, misunderstanding, controversy, acclaim, obscurity
Ethical Dimensions	integrity, responsibility, transgression, appropriation, homage

Appendix B: Technical Specifications

B.1 API Endpoints

```
POST /capsules/{id}/generate
GET /capsules/{id}/metadata
GET /capsules/{id}/resonance?audience={segment}
POST /capsules/{id}/validate
GET /capsules/{id}/audit-log
```

B.2 Data Formats

- **Capsule Metadata:** JSON-LD conformant with Linked Art 1.0 specification
- **Trinity Embeddings:** NumPy arrays (768-dimensional for visual, 512-dimensional for semantic)
- **Provenance Records:** C2PA-compliant JUMBF containers
- **Licensing Terms:** Creative Commons-compatible machine-readable licenses

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