FUTURE OF CONTENT MONETIZATION AND NEXT ERA OF DIGITAL INTERACTIONS

Solving for the broken link in content interactions

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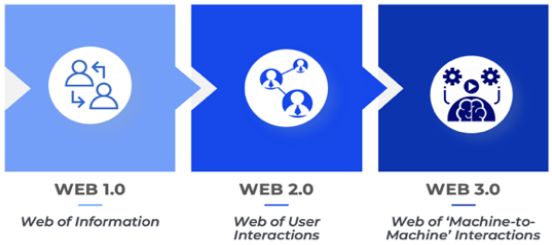
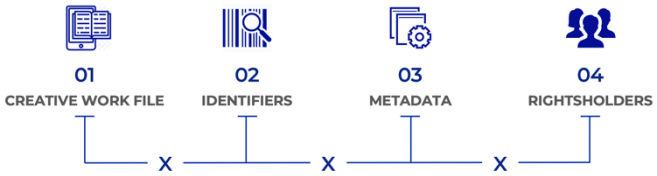
THE FUTURE OF CONTENT MONETIZATION IN THE NEXT ERA OF DIGITAL INTERACTIONS



The Web has evolved significantly from its initial version consisting primarily as a one-way source of information (Web 1.0) to the current Web that enables two-way interactions and user-generated content (Web 2.0). Today, we sit at the cusp of a third wave of transformation of the Web enabled through technologies like blockchain and artificial intelligence. The designing feature of this next wave of disruption is machine-to-machine interactions; an unprecedented level of automation designed to anticipate our every needs and desire with minimal friction. Real-world events and objects will inform and instruct digital transactions. Assets that are produced, distributed and consumed in digital form, as is the case for most creative content such as books, music and films, will be the first to bear the disruptive force of Web 3.0.



The risk is that the existing challenges created by the Web, rampant piracy and monetization by someone other than the lawful rightsowners, will become cemented in a Web 3.0 environment, further compromising the interests of creators. At the root of these challenges is the broken link between the creative work, identifiers, metadata and the creators and rightsowners. Digital files housing creative assets roam the Internet freely without the ability to connect them back to their original source making it difficult for even the most well-intentioned users to authenticate the source of the content and ensure proper authorization.

Solving the Broken Link

Three things are necessary to solve the broken link:

- Content identity: The digital file containing the creative asset must itself serve as its own identifier and be used to verify authenticity and integrity of the creative asset.
- Verified attribution: Authoritative and reliable attribution can only be achieved through a responsible and accountable governance that provides the framework for authorized attestation providers to verify attribution claims by adhering to transparent policies and rules.
- Transparency: Once verified attribution data must be available through an open, public and auditable system which is cryptographically secure, privacy respecting and machine readable.

Solving the broken link will enable rightsholders to regain control of their works in a Web 3.0 environment and allow innovative business models to emerge.

Content Identity - International Standard Content Code (ISCC)

Traditional content identifiers are manually assigned to content files. Metadata and licence terms are often loosely attached to the content and distributed in separate files making it time consuming, prone to errors and manual intervention.

The International Standard Content Code (ISCC) was purposely designed for a distributed, digital environment. Like a fingerprint, the ISCC is created from the content file itself. The ISCC can be used to automatically distinguish different versions of the same content, ensure data integrity, de-duplicate, or disambiguate content in a content repository. The most important distinguishing feature of the ISCC is that it can be created by anyone that has access to the content file. By putting the content file through an ISCC generator, the generated ISCC can then be compared with existing ISCCs in a reference database to identify identical, similar or related files.

Processing the content file with the algorithms defined by the ISCC specifications creates a unique composite code consisting of four components:

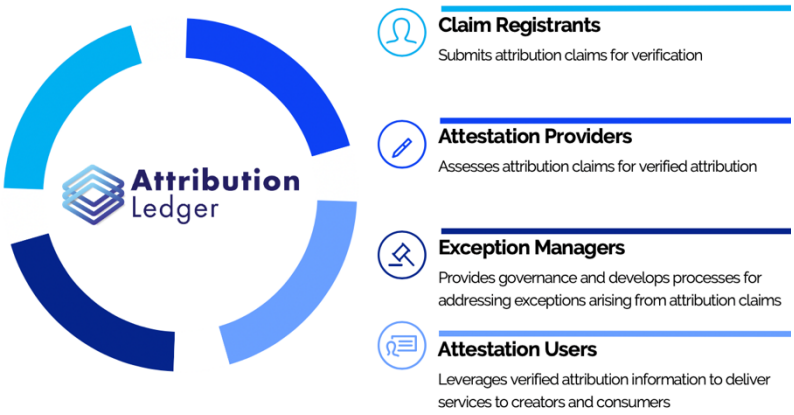
- Meta-ID: Minimal metadata about a work such as its title. Can also be extended to add editions or licensee information.
- Content-ID: Similarity preserving hash generated from the extracted content. The comparison of the content-ID components of ISCCs allows to search for identical, similar or related text, image, audio or image content.
- Data-ID: Identifies the format specific data of a media file and allows variation to account for minor edits and updates attributed to a format type i.e., the data-ID distinguish between the PDF, DOCX or WEBSITE versions of the same content.
- Instance-ID: The instance-ID is always unique to a content file. Any changes to the content file will always generate a new Instance-ID.

The International Organization for Standardization ISO has accepted the ISCC as a preliminary work item (PWI) and created the working group ISO/TC 46/SC 9/WG 18 – Digital-Content-Based Identification.

Verified Attribution – Attribution Ledger

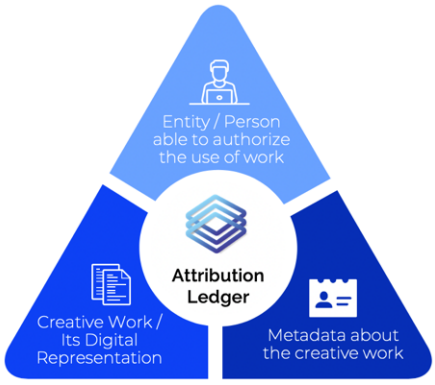
The goal of the Attribution Ledger initiative is to bring together an industry consortium to define the rules and protocols required for verified attribution. The role of the Attribution Ledger initiative will be to:

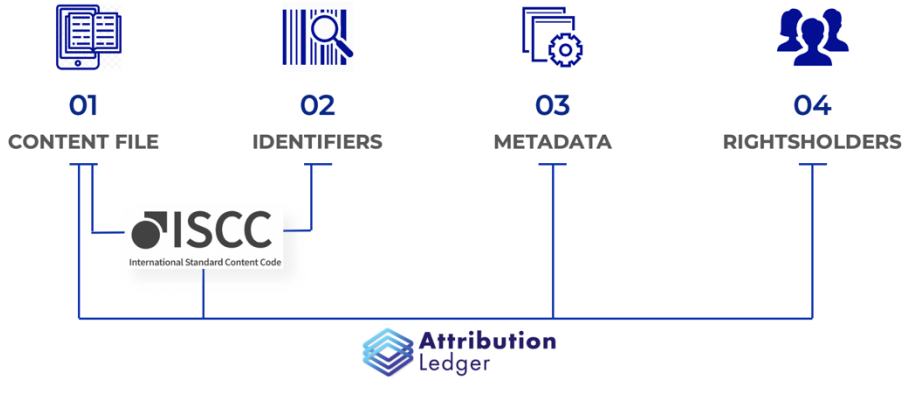
- Provide the overall governance for the creation, verification and use of verified attribution
- Develop and implement protocols and guidelines for verified attribution
- Bring together the ecosystem for issuing and using verified attribution
- Build and maintain processes and core technology infrastructure



Transparency – Blockchain

A blockchain-powered Attribution Ledger provides an open and transparent system which immutably connects the work (or its digital representation through the ISCC), metadata about the work and the entity or person able to authorize the use of a work.





Attribution is the ability to connect a creative work to its lawful creator and rights owner in a reliable and authoritative manner.

SAMPLE USE CASES FOR THE ATTRIBUTION LEDGER

EBOOK RETAILER

Through an API, the e-book retailer site is connected to the Attribution Ledger. Every time someone uploads a content file on the retailer's site the system:

- Generates an ISCC for the content file being uploaded
- Validates the ISCC thus generated against the ISCCs attributed on the Attribution Ledger to determine if there are any identical or similar matches. If there is a match:
  - The system sends a message to the entity connected to the ISCC on the Attribution Ledger to authorize the upload on the retailer site.
  - Once the upload has been authorized, the work is available for sale on the site.

STM JOURNAL ARTICLES

With the use of the Attribution Ledger, services can be developed to assist STM publishers to identify journal articles and images that circulate online without proper authorizations:

- The ISCC supports the management of excerpts and allows excerpts, including chapters, images and charts, to be linked to the parent content.
- The rightsholder information, metadata of the excerpts and the parent content and their respective ISCCs are connected, and that connection is immutably shared on the Attribution Ledger.
- A publisher can generate a new ISCC for each licensee of the same article. Because the ISCC is a composite code of four separate elements, the Content-ID can be used to match the content and the Meta-ID can be used to verify authorized licensee of content found online.

fanship

Fanship is a fan recommendation and ebook sales platform. The platform allows independent authors and publishers to view how their books are being recommended by fans and the impact of those recommendations on sales. Similarly, the platform allows fans to track how their recommendations influence sales and to get rewarded for those sales. The beta version of Fanship and the Attribution Ledger will be available for select users to test in early 2020. The Fanship – Attribution Ledger link works as follows:

- Independent authors and publishers upload books and its supporting metadata (ONIX Files) on Fanship.
- Fanship verifies if the work already exists on Attribution Ledger.
  - If the work exists in the Attribution Ledger, Fanship verifies, using the information on the Attribution Ledger, that the person uploading the work is the entity able to authorize its use.
  - If the work does not exist in the Attribution Ledger, Fanship directs the person uploading the work to submit a claim through the Attribution Ledger. The work circulates on Fanship only when the claim for attribution has been approved by an Attribution Attester and recorded on the ledger.
- In order to approve claims, the Attestation Provider (the only authorized Attestation Provider in this beta version of the Attribution Ledger is Access Copyright) verifies the identity of the entity making the claim, third party databases of published works and makes other reasonable enquiries.

IMPRIMO

Visual artists often discover that their works are shared and exhibited without credit, authorization and compensation. Imprimo aims to provide necessary digital tools to solve these challenges. Imprimo is a visual art digital passport that provides artists the necessary tools to create their verified profile and create verified records of creation and provenance for their artwork. The beta version of Imprimo will be available to select set of visual artists to test in early 2020. The Imprimo – Attribution Ledger link works as follows:

- Visual Artists upload images of their work (e.g., photograph of the painting) on Imprimo.
- Imprimo verifies if the work already exists on the Attribution Ledger.
  - If the work exists on the Attribution Ledger, Imprimo verifies that the person uploading the work is the person identified on the ledger as the entity able to authorize its use.
  - If the work does not exist on the Attribution Ledger, Imprimo will direct the visual artist to submit a claim in the Attribution Ledger. Once the claim is verified by the Attestation Provider, the artist's portfolio is tracked as verified on Imprimo.
- The only authorized Attestation Providers in this beta version of the Attribution Ledger are the Canadian Artists Representation (CARFAC), Copyright Visual Arts (CVA) and Le Regroupement des artistes en arts visuels du Québec (RAAV). CARFAC, CVA and RAAV are in the process of determining what procedures they will use to verify attestation.
- Once the verified work is available on Imprimo, artists can generate a certificate of creation that provides a QR code that links the artists to their work.