Provenance: Building Trust & Transparency in an AI-Powered World

Katie Brooke | Public Policy & Government Relations, Adobe

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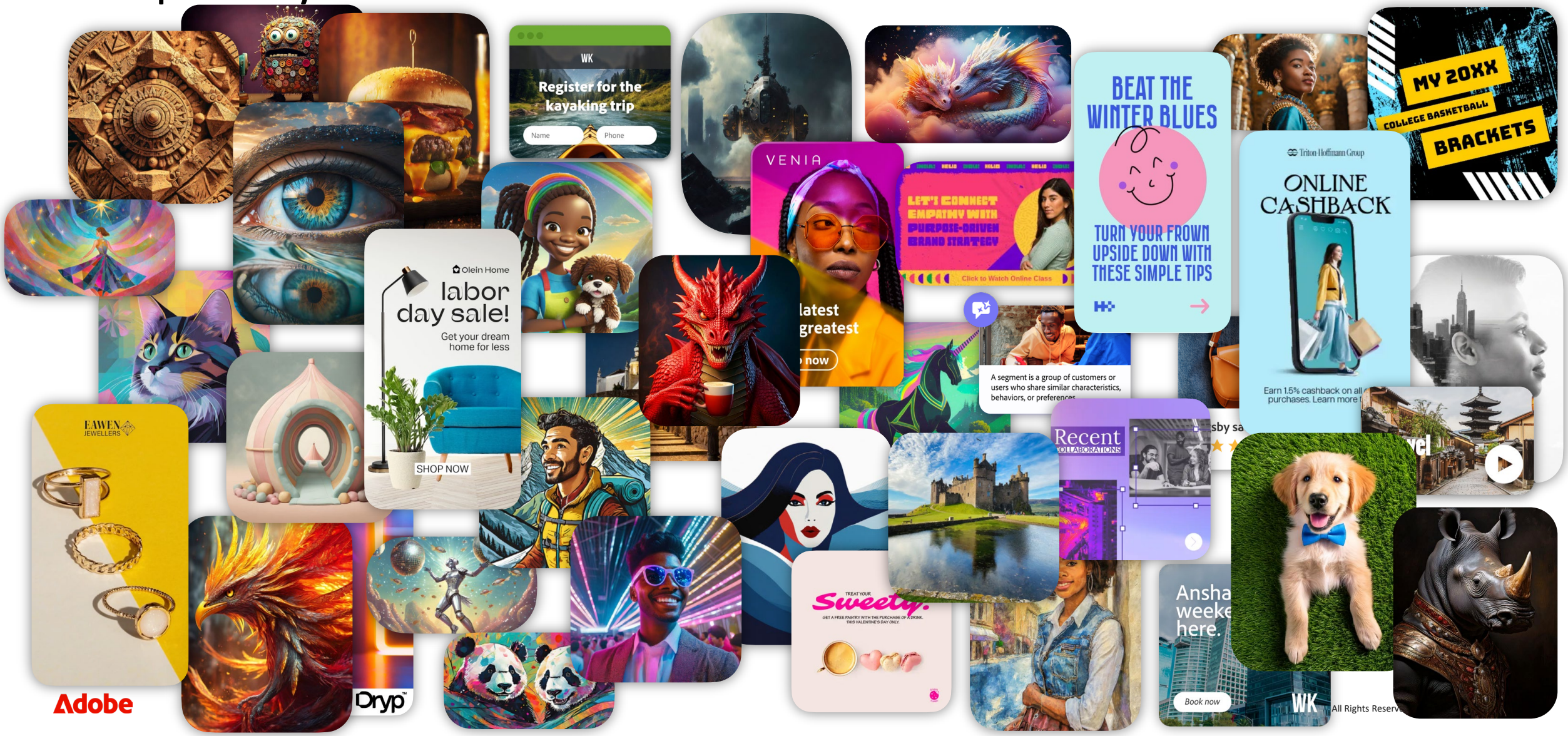
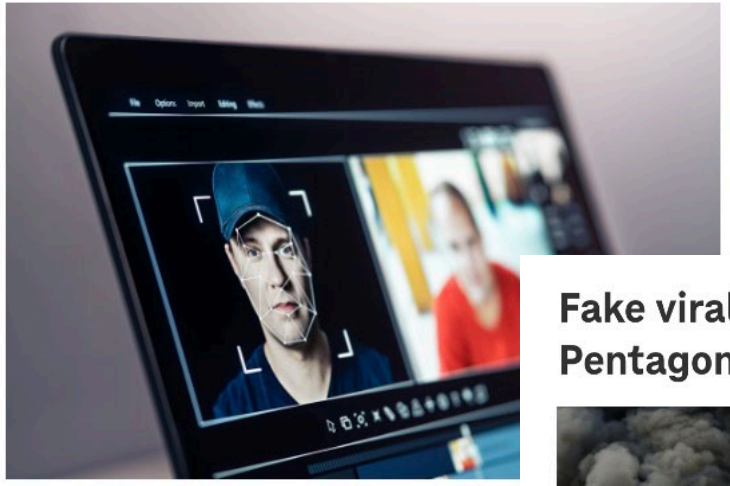
Vast majority of digital content doesn't necessarily require transparency



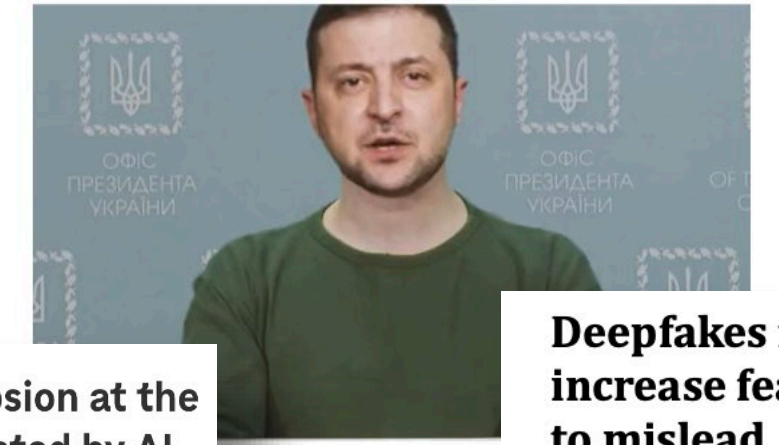
All Rights Reserv

But some types of content warrant more context before we can trust it

Finance worker pays out $25 million after video call with deepfake 'chief financial officer'



Deepfake footage purports to show Ukrainian president capitulating



Fake viral images of an explosion at the Pentagon were probably created by AI

Deepfakes from the Gaza war increase fears about AI's power to mislead

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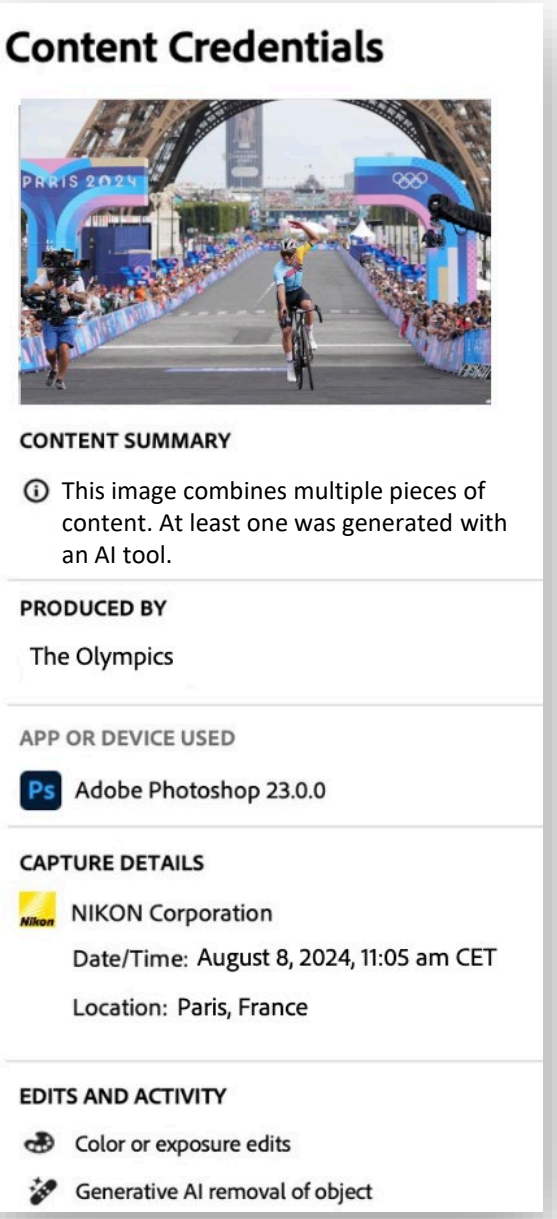
Establishing authenticity & provenance of digital content

- **Content Credentials** lets you show your work – images, audio, video.
- **Nutrition label** for images: can show name, date, location, edits made to content
- Opt-in technology, built on **open industry standard**



C2PA: 200+ members
Content Authenticity Initiative: 5,000+ members

across industry, academia, news and civil society

Cameras

Nikon
FUJIFILM
SONY
Leica
Canon

Generative AI & Software

Microsoft
Synthesia
Google
Meta
OpenAI

Media

CBC Radio-Canada
shutterstock
REUTERS
WSJ
AP
BBC
gettyimages
The New York Times

Hardware

NVIDIA
arm
Qualcomm
intel

Imaging Software

IMATAG
fotoware
camera bits
SMARTFRAME
TRUEPIC
CERTIFIED. ORIGINAL.
PIXELSTREAM

Non-profit & Civil Society

WITNESS
SEE IT FILM IT CHANGE IT
GUARDIAN PROJECT
https://guardianproject.info
[*] starlinglab

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Built on an open technical standard

THE LINUX FOUNDATION

C2PA

Coalition for Content Provenance and Authenticity

- Independent standards organization within Linux Foundation
- Develops and maintains open technical standards for Content Credentials technology
- Launched technical specification 2.1 in September 2024
- Includes images, video, audio

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The power of provenance

Blue Ivy removed from behind Beyonce using Generative Fill AI tool

Content Credentials

CONTENT SUMMARY

This image combines multiple pieces of content. At least one was generated with an AI tool.

PRODUCED BY

The New York Times

APP OR DEVICE USED

Adobe Photoshop 23.0.0

CAPTURE DETAILS

NIKON Corporation

Date/Time: February 2, 2025, 7:00pm PT

Location: Los Angeles, CA, USA

EDITS AND ACTIVITY

Color or exposure edits

Generative AI removal of object

SOCIAL MEDIA

@NYTimes

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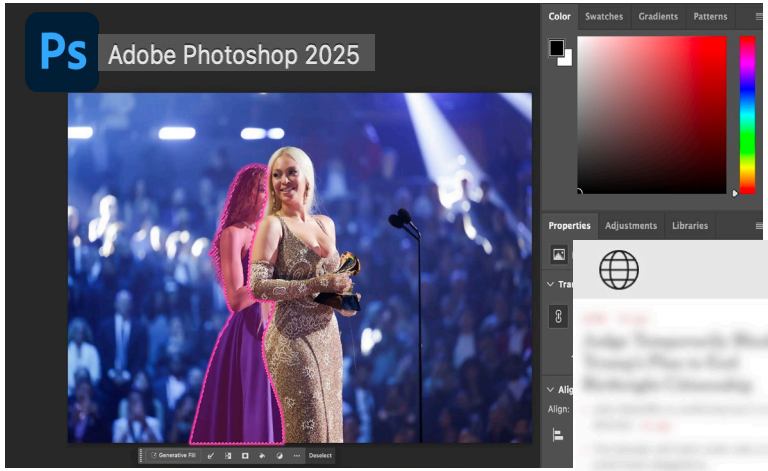
Provenance from content creation to consumption

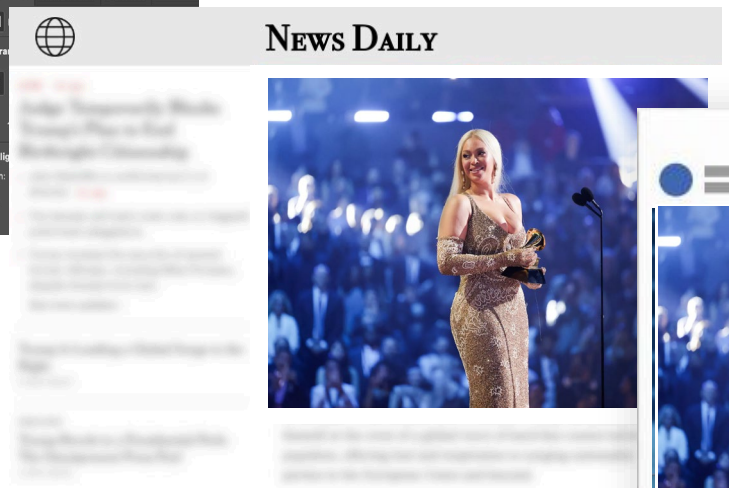
Creation

- *Creation date*
- *Tools created with*
- *Creator*



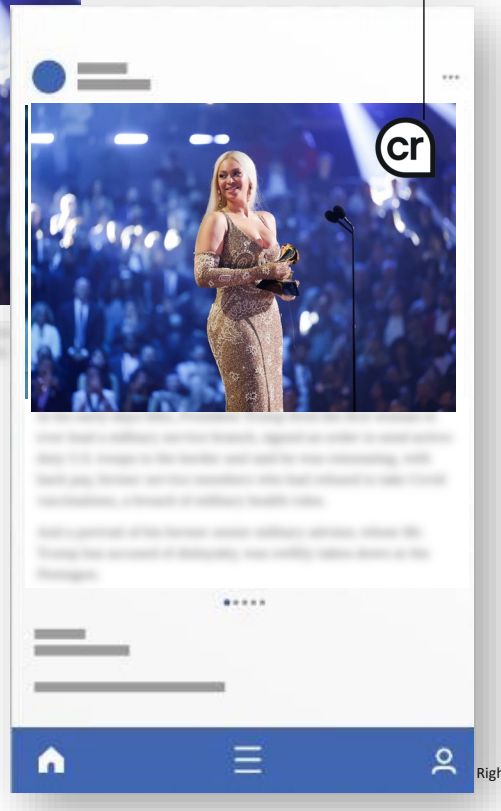
Editing

- *Edit date*
- *Edits made*
- *Tools edited with*
- *Editor*



Publishing

- *Publish date*
- *Publisher*



Sharing

- *Users can see provenance data alongside content*
- *Content Credentials can capture and add onto provenance data each step of the way to show a complete story about the content*

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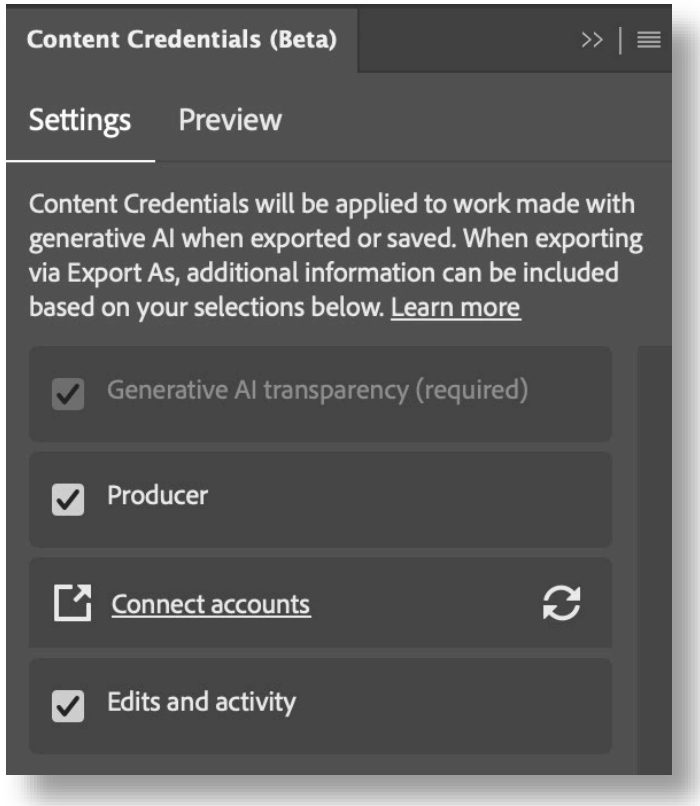
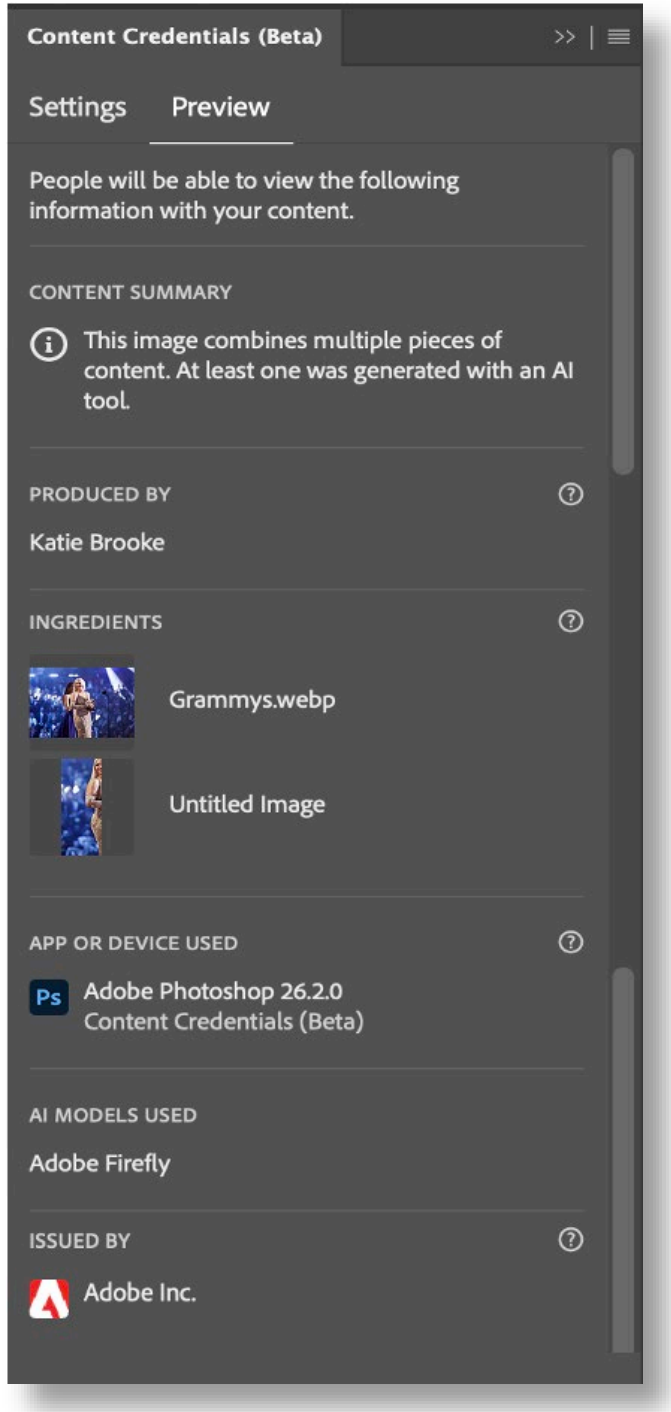
Privacy at the heart of C2PA

- Opt-in technology
- Creators' identity should always be optional
- Creators also choose what additional information to include in a credential, such as date, location, editing actions, etc.
- C2PA works closely with human rights organizations, journalism organizations, and privacy experts in throughout the ongoing development of the standard





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What can governments do? Remember the 3Ds

Drive:

Adoption

Drive Government adoption of Content Credentials to build greater trust with public in the digital age

Awareness

Drive public awareness about the risk of harmful synthetic content and how solutions like Content Credentials to help

Implementation

Drive Implementation of Content Credentials by encouraging Generative AI developers, online platforms, and capture devices such as smartphones to incorporate provenance into their tools and platforms

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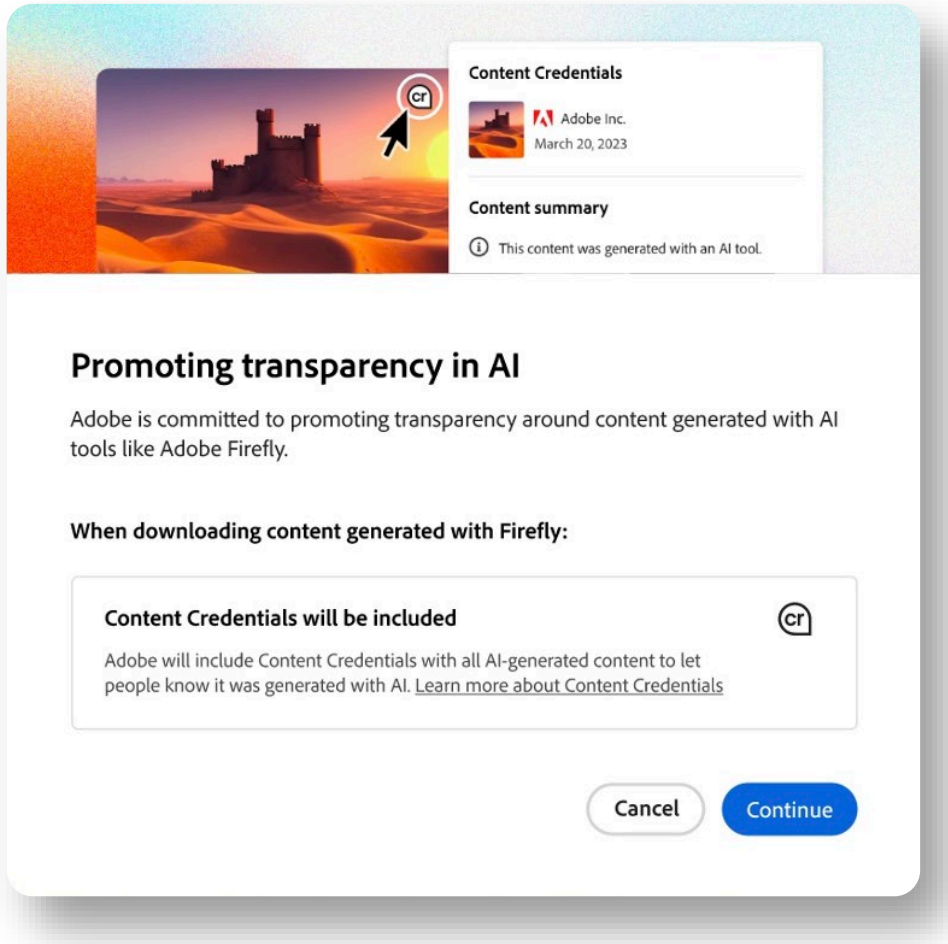
Driving implementation

Generative AI Tool Providers

- **Wholly-generated content:**
  - apply provenance data
- **Modified content**:
  - apply provenance data; OR
  - provide users with a provenance tool that allows them to attach provenance data



Content Credentials automatically applied to wholly AI-generated content in Adobe Firefly

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Driving implementation

Capture Devices

- Include in the device's capture app the ability for a user to attach provenance

Large Online Platforms

- Retain provenance data from content uploaded to the large online platform
- Give users a way to access provenance data

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