Australian Code of Practice on Disinformation and Misinformation
Adobe, Inc.
2021 Annual Transparency Report

Summary

Adobe is pleased to continue its participation in the Australian Code of Practice on Disinformation and Misinformation. We share the concern held by many about the spread of misinformation and disinformation and are committed to further developing our technology to help users more easily evaluate the reliability and source of information presented online.

Over many years, Adobe has built its brand on empowering creators and promoting creative expression. With that as our legacy, we feel it is our responsibility to play a leading role in addressing content authenticity in this new era of digital content. As part of that effort, we have invested significant resources to produce an open-sourced, long-term solution that offers greater transparency into how images have been altered to help consumers better assess the content they view online.

To fulfil our commitment to address harms of misinformation and disinformation in Australia, we have partnered with other technology companies to advance this effort. Adobe is continuing its work to develop technology to help increase digital literacy so that users can better understand the importance of content attribution for online media. We believe that, over time, this approach will help reduce the harms associated with the dissemination of inauthentic content.

In 2019, Adobe, along with the *New York Times* and Twitter, convened the Content Authenticity Initiative (CAI), a community of stakeholders unified in the pursuit of a standard, scalable approach to digital content provenance. Members of the Initiative include other technology firms, news and publishing companies, and human rights organizations, among other fields and industries. The CAI was designed to have each member bring their unique expertise to the table to help build a growing ecosystem where members will have ultimately adopted the shared framework and implemented it into their products.

In February 2021, Adobe became a founding member of the Coalition for Content Provenance and Authenticity (C2PA), an alliance that unifies the efforts of CAI to develop technical standards for provenance. Only eight months later, C2PA published draft specifications and solicited public comments. On January 26, the Coalition released

version 1.0 of its technical specification for digital provenance. **And, in June 2022 Adobe will release license-free, open-source tools to help create a vibrant developer ecosystem that will bring transparency to consumer platforms and applications worldwide.**

Through a combination of these efforts, Adobe is working to help establish a worldwide standard and prototype implementations to demonstrate their effectiveness. For its part, Adobe introduced Content Credentials, a system that utilizes the CAI framework to allow users to provide and assess the provenance and attribution of digital content. Content Credentials was added to Photoshop and a group of commentary products in October 2021. We are working to make it available in additional Creative Cloud products in the near future.

Summary of Adobe's Commitments under the Code

Objective 1 Safeguards against Disinformation and Misinformation: Adobe has been a pioneer in the development of implementation of content provenance standards. We have led coalitions committed to this effort and enabled content provenance on some of our most popular tools and software. Once again, the goal for our public advocacy and improvements to our products is to give more people the ability to disclose important information about their content and to make it available to all creators, regardless of their location or access to the latest technology.
Objective 3 Work to ensure the integrity and security of services and products delivered by digital platforms: The C2PA has developed draft specifications and technical specifications to ensure that other digital platforms and technology companies can integrate seamlessly into the ecosystem and leverage content credentials securely. Please see Objective 1.
Objective 4 Empower consumers to make better informed choices of digital content: Adobe's work on content provenance began to accelerate in 2020. In the past two years, we have made specific investments in that effort. We have a team of experts whose work is focused almost exclusively on content authenticity initiatives and the development of our own technology. Through the joint development of standards in collaboration with industry, academia, government and NGOs, Adobe will continue to develop, publish, and implement standards for Content Provenance to include universal user experience, iconography and terminology. Taken in its entirety, our work, and that of our coalitions and partnerships, will bring to market ubiquity, technology and common experiences covering creation and consumption of imagery, video, audio and text. Please also see Objective 1.
Objective 6 Strengthen public understanding of Disinformation and Misinformation through support of strategic research: In the US, research is underway with Washington University's Department of Computer Science and Engineering. In addition, Adobe User Experience research has committed to 12 months of UX studies in the area of provenance interventions and their efficacy.
Objective 7 Publicise the measures we take to combat Disinformation: In addition to our work with coalitions and investments to make changes to our own products and platforms, Adobe is leading the effort to publicly promote these efforts so we can educate everyone, including content creators, content curators, consumers, and media users on the importance of content provenance. We have hosted events and briefings in the US, Europe, and Australia to advance this effort. And we are committed to raising awareness in photojournalism schools as well as K-12 schools so we can increase digital literacy and improve online safety.

Following the Code's guidance on signatories nominating to report on specified provisions in the Code, we have reported on measures that are "proportionate and relevant" to our business. Adobe has considered the Code's guiding principles and the context in which our products and services might to contribute to the harms arising from the spread of disinformation and misinformation on online platforms.

Adobe produces content creation and editing tools to help individuals and enterprises accelerate their productivity as they create, publish, and promote their creative work. While some of our products – most notably Behance – allow users to share, showcase, and promote their content online, Adobe is not a social media company. None of our products facilitate global conversations about current events or allow users to share and disseminate news content to global audiences. We believe digital creative works – the primary purpose of Adobe's suite of products – and any associated harms that stem from them are not the focus of the Code.

While Adobe's products and services fall outside the scope of the Code, we share the expressed concerns about harms that may result from malicious actors using our tools to produce inaccurate digital content. Therefore, we have opted into the provisions of the Code that focus on technologies we are developing to help consumers authenticate online media. To mitigate the negative impact of misinformation and disinformation, Adobe is focused on providing tools to digital platforms that can help their users determine the sources and authenticity of online content.

Reporting against commitments

Objective 1: Safeguards against Disinformation and Misinformation

Outcome 1a: Reducing harm by adopting scalable measures

We are experiencing an extraordinary moment in the history of media and communications. Information continues to spread rapidly through social media platforms using opaque technologies to amplify its reach and influence. This often happens without any real regard for accuracy or authenticity. Whether it is deliberate or inadvertent, the presence content that is misattributed, mis-contextualized, or otherwise inauthentic continues to expand.

Creators looking to attach metadata to their works to maintain their rights as authors or document any changes others might make cannot currently do so in way that is secure, tamper-evident and standard across platforms. This type of information gives publishers and consumers important context to determine whether media is authentic. This is particularly true for users of creative tools that use AI for augmented reality or those producing fully synthetic content who want to do so responsibly.

To address the problem of inauthentic content and the erosion of trust that results from its dissemination, most efforts must fall into one or more of the following three distinct categories:

- **Detection –** Using both algorithmic identification and human-centred verification of can slow the spread of inauthentic content. But the techniques used for creating such content are becoming more and more sophisticated and accessible. As technology allows purveyors of content increase the speed of production and distribution; detection techniques will likely struggle to keep pace.

- **Education –** Well-intentioned creators and consumers of content need to learn the dangers of disinformation and the methods used to contain its spread. They must also be educated on the responsible use of sophisticated of creative tools. These skills can be taught and passed on through media literacy campaigns and formal education programs. Given the right tools and information, more people will be able to discern what media and sources they can trust and why.
- **Content Provenance** – To help reduce the level of inauthentic content, creators must be able to optionally disclose information about who created or changed a piece of content and the specifics of any changes or alterations. The ability to embed that information should be available to all creators, regardless of their location or access to the latest technology.

Most of our efforts at Adobe focus on content provenance. While detection is important, it can only address the problem reactively through the identification of deceptive media. Attribution adds a layer of transparency so consumers can be informed even when detection efforts have failed to block or appropriately flag content that has been tampered with or corrupted. The ability to provide content attribution for creators, publishers and consumers is essential to engendering trust online.

At the same time, content creators must be able to protect their privacy when necessary. An effective solution will be one that is globally viable across technology platforms and contexts while minimizing the potential to create unintended risks or harms. And, it must be built around the value freedom of creative expression for content and media producers.

Adobe is working to address content authenticity at scale. We've helped lead the formation of both CAI and C2PA to establish an open, extendable approach for content attribution and the creation and implementation of standards. Earlier this year, those efforts resulted in the release of CP2A's technical specification for digital provenance, which is a first of its kind framework for better content attribution and transparency across multiple industries and platforms.

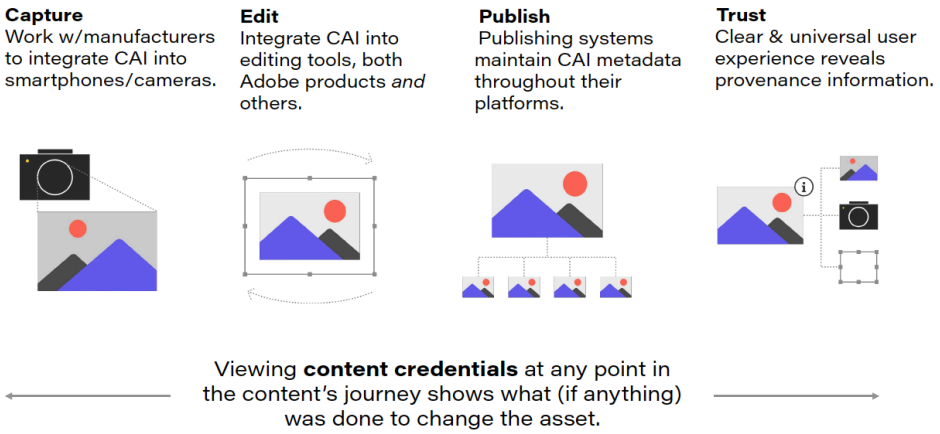
These efforts also bore fruit for us internally when we launched a beta version of Content Credentials within Photoshop, allowing users to attach provenance to their work. To complement that development, we have added Content Credentials to give the users of our Behance platform the same ability and attached it to images available in Adobe Stock.

CASE STUDY – How Content Credentials Work

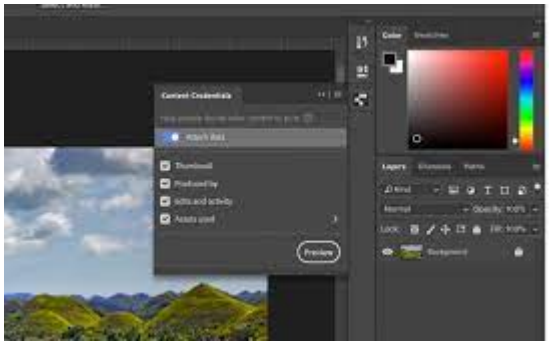
The CAI and C2PA were established as a partnership with a range of organisations including media and technology companies because an ecosystem approach is required to address disinformation/misinformation.

As outlined in the image below, CAI and content credentials are embedded from the capture of the image, its editing and its publishing in order to build the necessary trust in the provenance of the content. If legitimate creators use Content Credentials to identify their work, then consumers can decide for themselves based on the information available how to interpret content.

Content with Credentials will specify any edits and changes made to it, and trust in any content without credentials can be interpreted and assessed based on that lack of information.

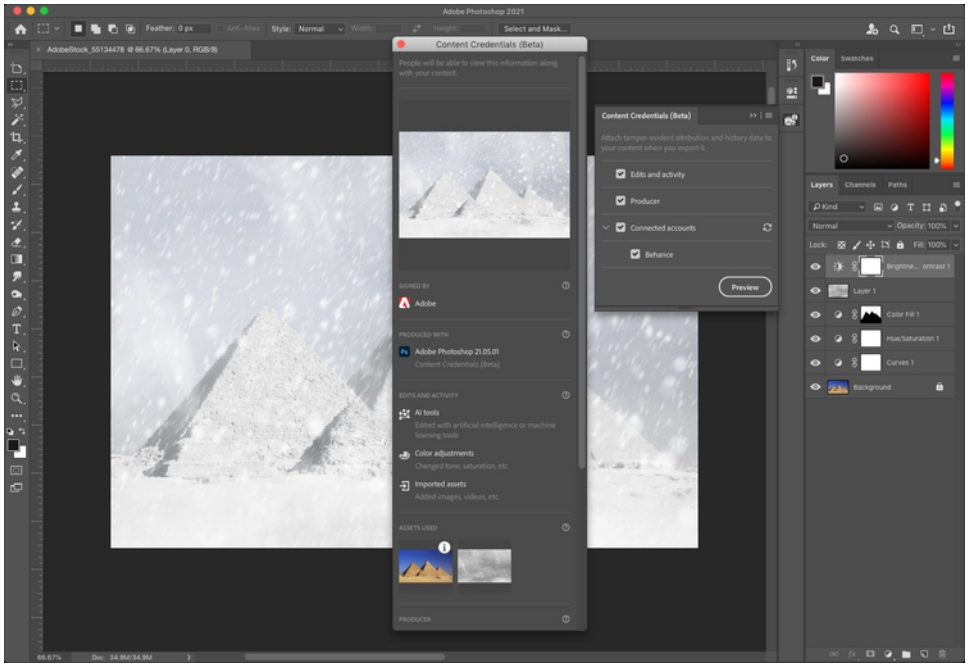


Adobe currently has an attribution tool in beta in its products such as Photoshop. Taking that example, when editing an image in Photoshop, a user has the option to attach Content Credentials data to the image, as below.

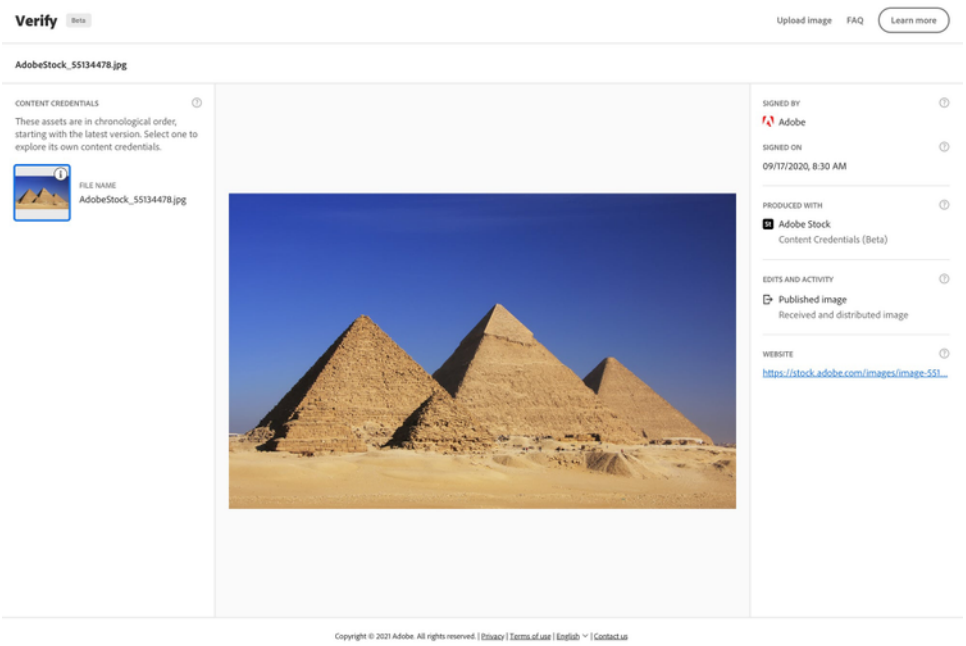


Once the Content Credentials function has been turned on, the creator can choose to attach specific information, such as a thumbnail of the original image, their details as the producer of the image, tracking the edits and activity and tagging other assets used and included. There is also a preview of what will be attached to the image for the

creator to review and know what the end user will see. Each of these details are opt-in for each use case.



The final image, once published has all of the Content Credentials embedded in it, so anyone can verify the details of an image and its Content Credentials.



Users can now link their social media profiles and crypto wallet addresses to their work in the Photoshop desktop app. By adding social media and wallet addresses to your Content Credentials creators can further assure consumers that they are indeed the creator of your content. A crypto address is also useful if someone wishes to mint their work as crypto art. Adobe has partnered with the NFT marketplaces KnownOrigin, OpenSea, Rarible, and SuperRare to display Content Credentials, thereby allowing

collectors to see if the wallet used to create an asset was indeed the same one used to mint.

Additionally, we are working toward the release of an open-sourced developer kit for any team to integrate Content Credentials into their product. Adobe eventually wants many apps, websites, and even cameras to support the CAI — to make it a de facto standard for image attribution working with partners and other technology and media companies.

A walkthrough of the functionality can be found here.

Objective 3: Work to ensure the integrity and security of services and products delivered by digital platforms.

While the CAI, C2PA and Adobe are working with our partners to develop our own functionality, because the fundamental idea is to create the ecosystem so users can make their own judgements on the trust and provenance of content, the C2PA has not only developed draft specifications, but also technical specifications.

This framework has been developed amongst members and partners and shared publicly in order to encourage other digital platforms and providers to adopt these standards to ensure content creation, editing, sharing and consumption is aligned and users and consumers have the information (or lack thereof) to make their own value judgments on the provenance of the content they see, thereby addressing the fundamental issues of misinformation/disinformation.

Please also refer to Objective 1.

Objective 4: Empower consumers to make better informed choices of digital content.

Robust content provenance promotes greater transparency, understanding, and trust among consumers. It is an essential element in the fight to slow the advance of misinformation and disinformation that has resulted from the expansion and democratization of powerful creation and editing techniques.

Adobe's work on content provenance began to accelerate in 2020. In the past two years, we have made specific investments in that effort. We have a team of experts whose work is focused almost exclusively on content authenticity initiatives and the development of our own technology.

Through the joint development of standards in collaboration with industry, academia, government and NGOs, Adobe will continue to develop, publish, and implement standards for Content Provenance to include universal user experience, iconography and terminology. Taken in its entirety, our work, and that of our coalitions and partnerships, will bring to market ubiquity, technology and common experiences covering creation and consumption of imagery, video, audio and text.

Provenance creates a virtuous cycle. As more creators produce and distribute content with proper attribution, more consumers will come to expect to see that information and put it use viewing and assessing media online. In the end, we believe this will help minimize the influence of bad actors sharing deceptive content.

Please also refer to Objective 1.

Objective 6: Strengthen public understanding of Disinformation and Misinformation through support of strategic research.

In the US, research is underway with Washington University's Department of Computer Science and Engineering. In addition, Adobe User Experience research has committed to 12 months of UX studies in the area of provenance interventions and their efficacy.

Objective 7: Signatories will publicise the measures they take to combat Disinformation.

In addition to our work with coalitions and investments to make changes to our own products and platforms, Adobe is leading the effort to publicly promote these efforts so we can educate everyone, including content creators, content curators, consumers, and media users on the importance of content provenance. We have hosted events and briefings in the US, Europe, and Australia to advance this effort. And we are committed to raising awareness in photojournalism schools as well as K-12 schools so we can increase digital literacy and improve online safety.

We are also continually communicating with government leaders and policymakers about the benefits of content provenance and the importance educating consumers. In addition, Adobe is working to integrate our Content Credentials solution into more of our tools and applications.

CASE STUDY 2 – Partnerships and Events

The CAI was launched in 2019 and now has over 500 members, including:

For a full list of current members, see here.

In addition, Adobe has a dedicated CAI team engaging with stakeholders, including schools and universities. We are working with Carnegie Mellon, Temple University and the University of Miami in the US, in addition to running workshops with:

- VII Academy
- Eddie Adams Workshop (global participants)
- Photoville (New York photo festival)

- Noor Academy (Noor photo agency and Nikon, including global students)

The team is currently preparing curricula material for middle and high school students to educate them on the harms of misinformation and disinformation.

Concluding remarks

Over the past year, Adobe has been part of some remarkable developments thanks to the work we have done with CAI and C2PA. While we are pleased with this progress, both coalitions are still in the early stages of development, which means their work is just beginning.

Adobe's Photoshop CAI feature is currently in Beta and ramping up to Max, and as mentioned above, we are launching the open source offering later this year. Once those are launched, we can better track the metrics and endeavour to publish figures in next year's report.

Globally, we are constantly working to expand and diversify the membership of both CAI and C2PA and increase support among stakeholders for the standards they produce. These efforts include encouraging software companies, device manufacturers, publishers, and social media platforms to adopt content provenance solutions to expose a wider range of consumers to these tools.

Specifically, in Australia, our goal over the next year is to educate media outlets and journalists on the value of CAI so they can embed the tools into their work, and to continue to socialise the C2PA standard with policy makers and stakeholders.