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# Introduction

This document defines the scope of a WG03 exploration of indicating AI-generated/altered content standards in the MPEG Systems standards.

The misuse of AI-generated or altered content is getting a lot of attention lately due to various reasons, including several incidents of deceiving the public by publishing manipulated media content on social media platforms that falsely appears to be authentic, including the audio and video of people appearing to say or do things they did not say or do, without their consent (‘deep fake’). Such misuse of AI has raised significant concerns among the public, media, and governments, and various legislative activities are being conducted to address the issue.

While defining the scope and definition of such AI generation or alternation, is not in the scope of WG03, the media system standard developed by WG03 can provide the means for marking if a piece of media content is generated by AI or altered by AI. Providing a technical solution, i.e. a clear placeholder for signaling whether the content has been AI-generated or altered, and perhaps the “marking information”, makes the standard useful for carrying information that would be required by law in different jurisdictions.

# Background and justification

The document JVET-AG0045-v1 provides an overview of the recent legislative activities in its Annex A. In summary, legislative works have been started in several jurisdictions that attempt to provide requirements for marking content AI-generated or altered content. The documented activities in that annex are:

1. The EU AI Act article 52 requires the disclosure of information regarding the AI-generated/manipulated content that may deceive the audience in an appropriate, timely, clear, and visible manner: “Disclosure shall mean labeling the content in a way that informs that the content is inauthentic and that is clearly visible for the recipient of that content.” and “To label the content, users shall take into account the generally acknowledged state of the art and relevant harmonized standards and specifications.”
2. The US Senate proposal (Schatz/Kennedy AI Labeling Act) requires the AI-generated content shall include a clear mark that the content is AI-generated. Furthermore, it requires “the output’s metadata information shall include an identification of the content as being AI-generated content, the identity of the tool used to create the content, and the date and time the content was created.” It evens goes further with “the disclosure shall, to the extent technically feasible, be permanent or unable to be easily removed by subsequent users.”

# Scope of this exploration

This exploration will explore how to mark media content with metadata that indicates the AI-generated/altered portions including the following aspects:

1. Collect and study the use cases and applications in which the marking of AI-generated or altered content is relevant.
2. Define the technical requirements of the above use cases. The requirements would cover the signaling and/or carriage of the information.
3. Study and catalog the MPEG Systems standards that are impacted by the above use cases and the relevant existing MPEG System technologies that can provide a solution.