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(54) **CONTENT DISTRIBUTION INCLUDING
ADVERTISEMENTS**

(71) Applicant: **Verance Corporation**, San Diego, CA
(US)

(72) Inventor: **Jian Zhao**, San Diego, CA (US)

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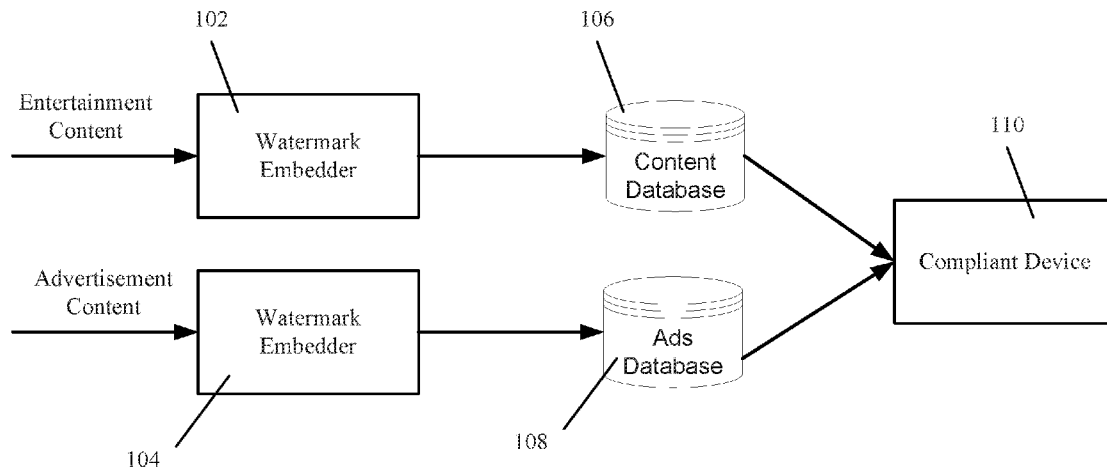
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(57)

ABSTRACT

Methods, devices, and computer program products are provided to enhance viewing of an entertainment content in the presence of advertisements. At a compliant device, at least a portion of an entertainment content is received and content policy information associated with the received entertainment content is obtained. The content policy information relates to presentation of one or more advertisements during a specific release window of the entertainment content. Such content policy information can be ascertained through one or both of: extraction of watermarks that are embedded in the one or more advertisements or the entertainment content, and computation and matching of fingerprints associated with the one or more advertisements or the entertainment content. Based on the content policy information, presentation of the one or more advertisements is triggered before allowing presentation of advertisement-free playback of the entertainment content, or simultaneous with presentation of the entertainment content.



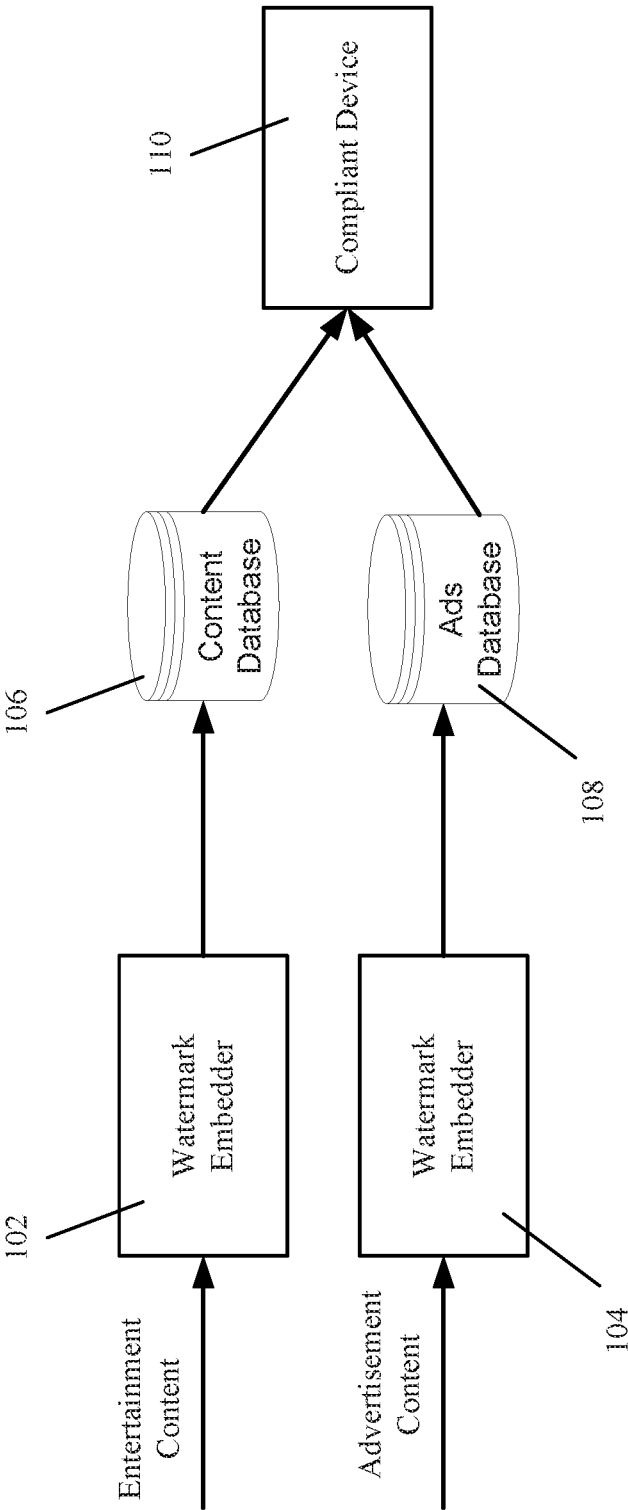


FIG. 1

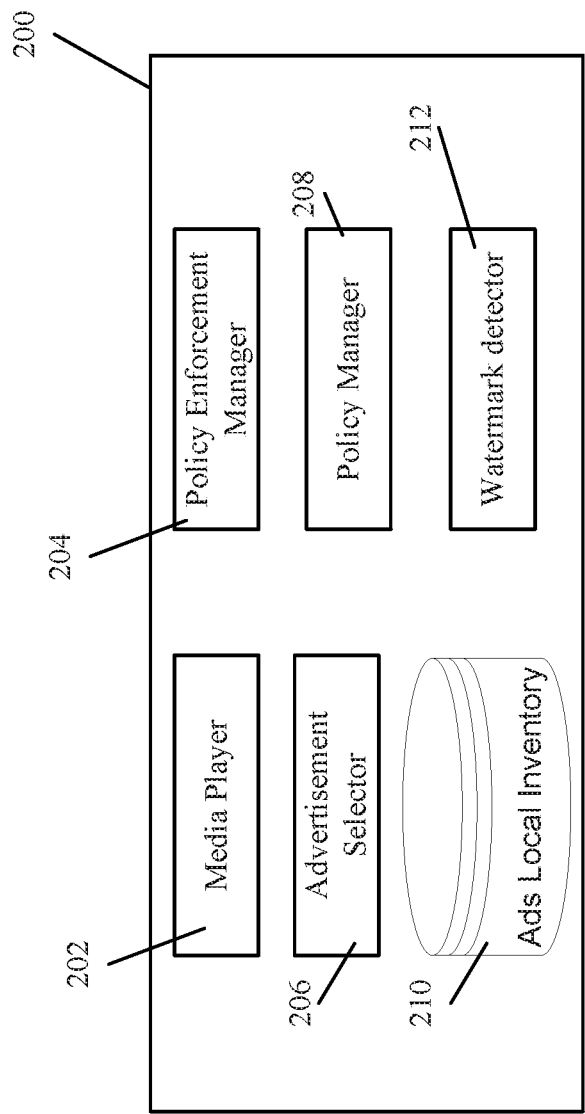


FIG. 2

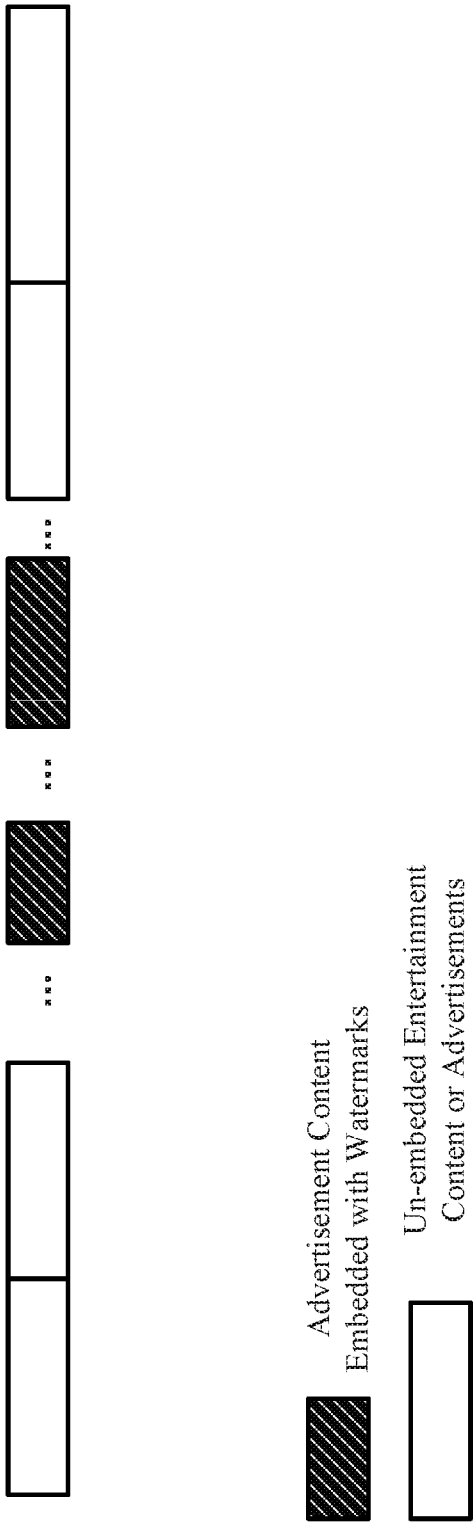


FIG. 3

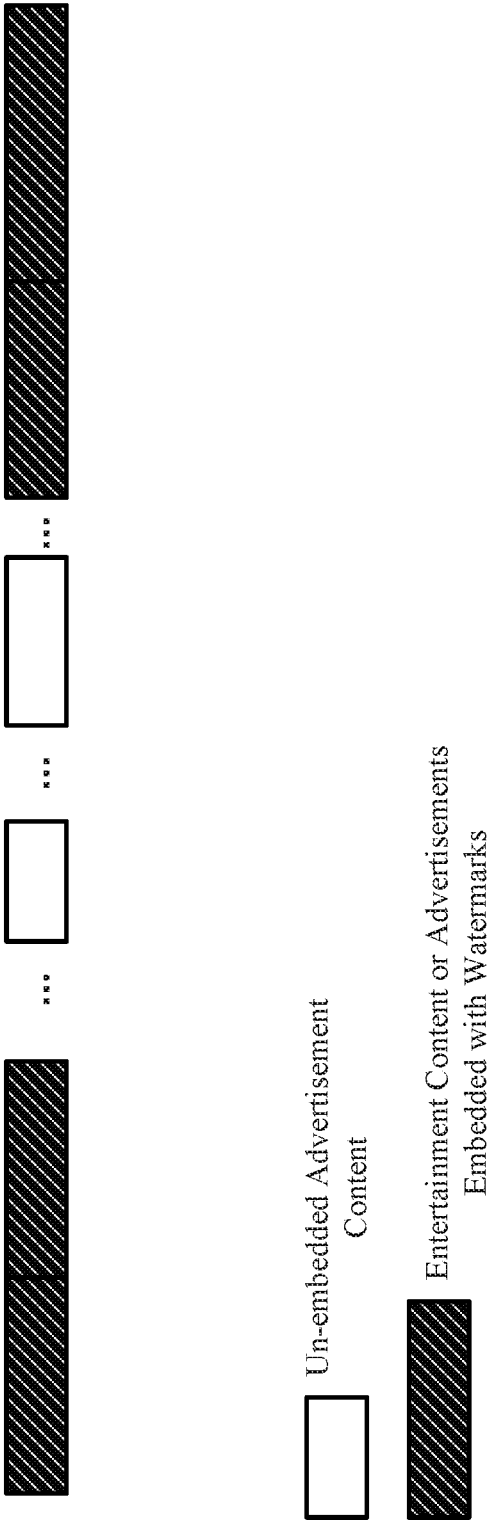
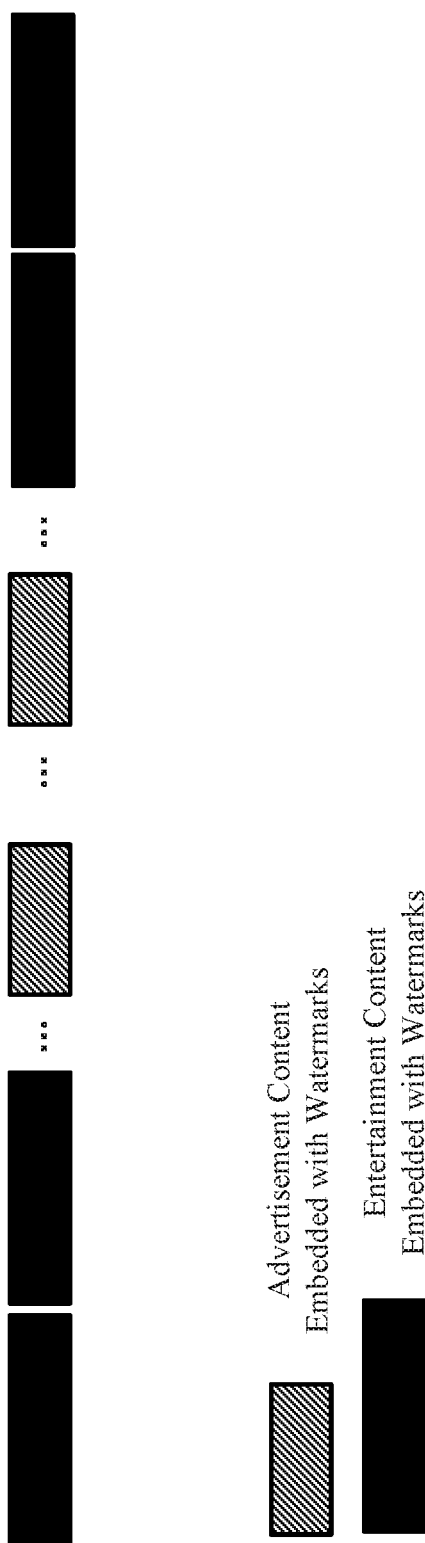


FIG. 4



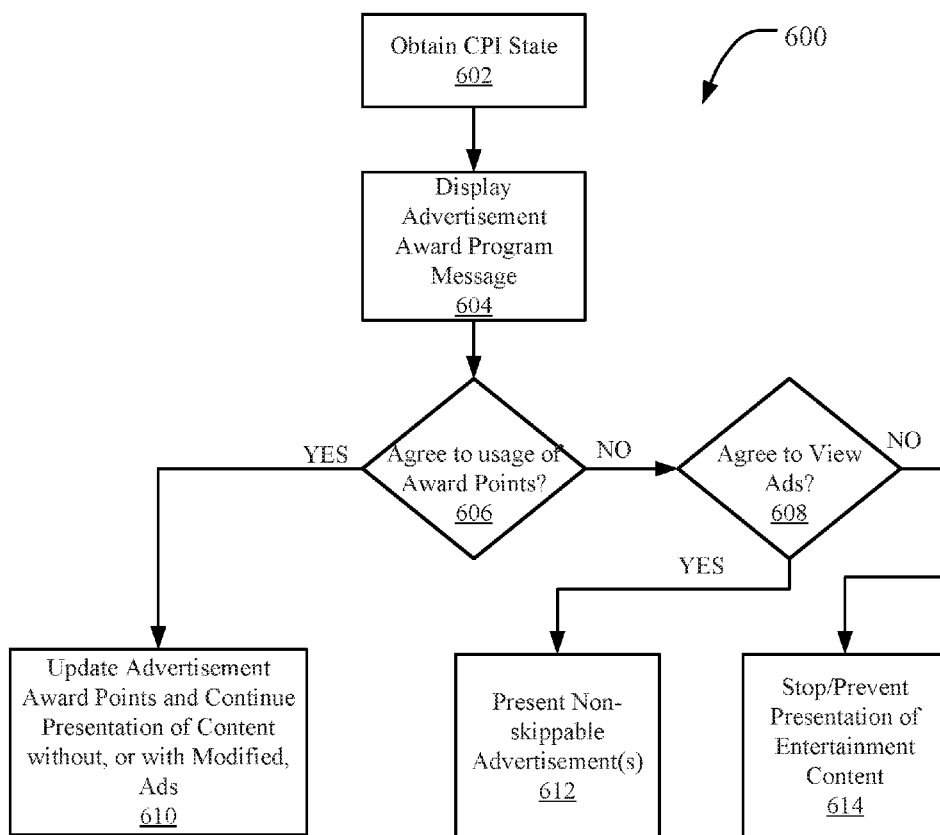


FIG. 6A

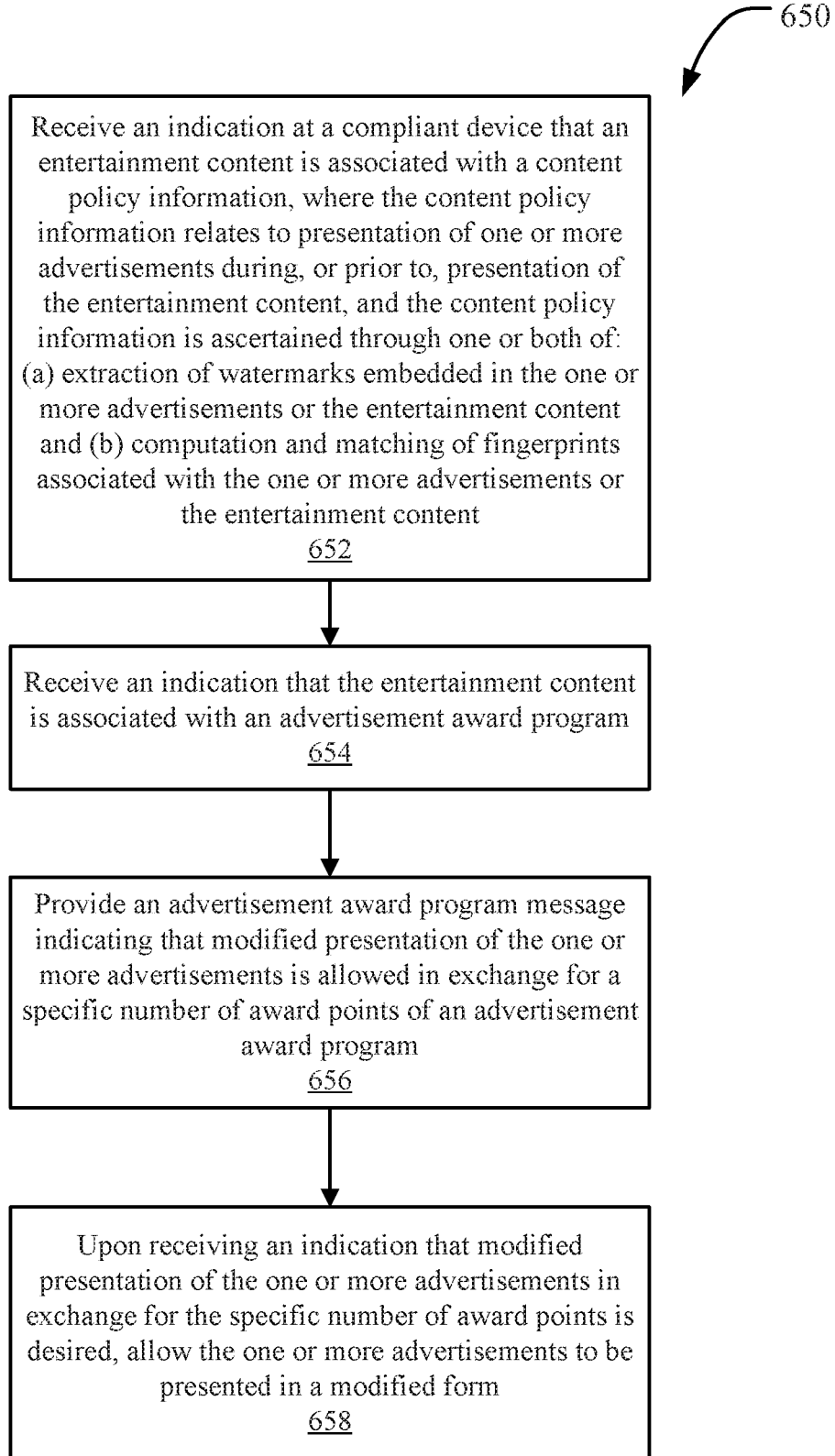


FIG. 6B

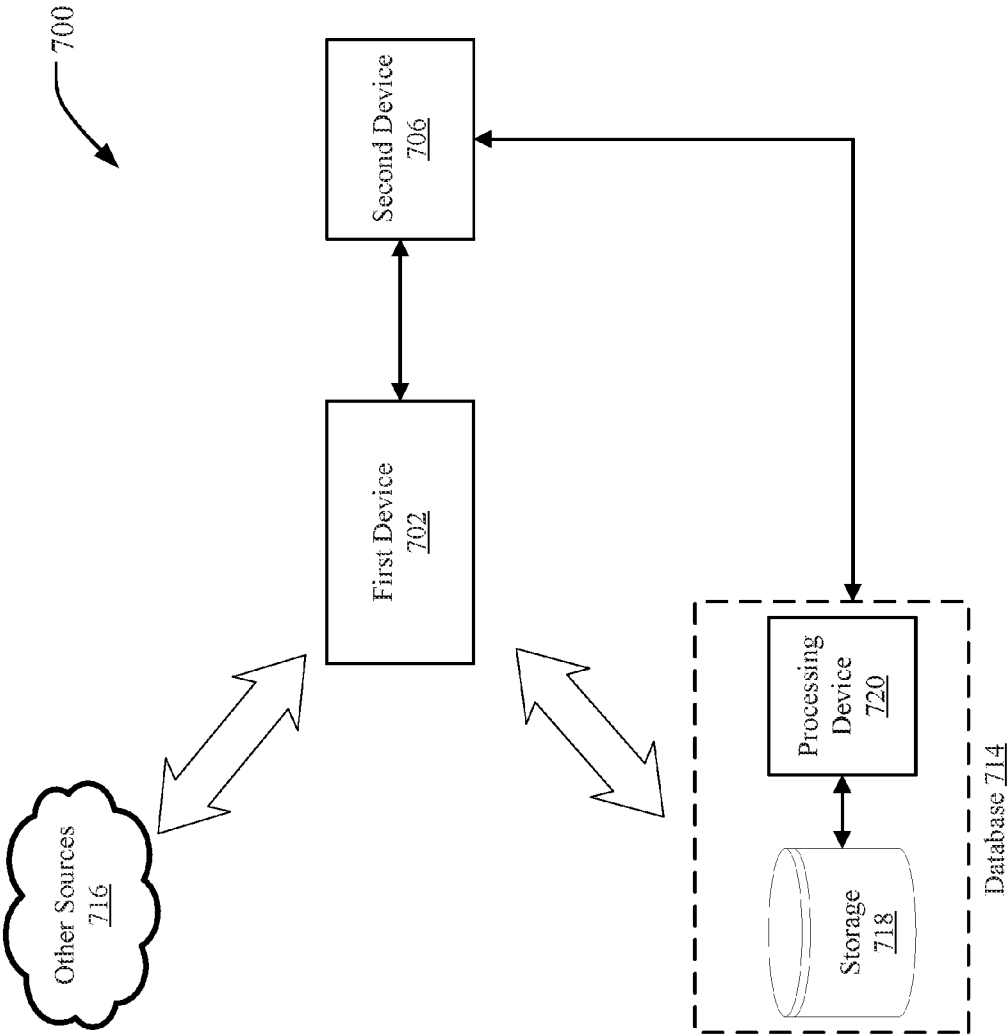


FIG. 7

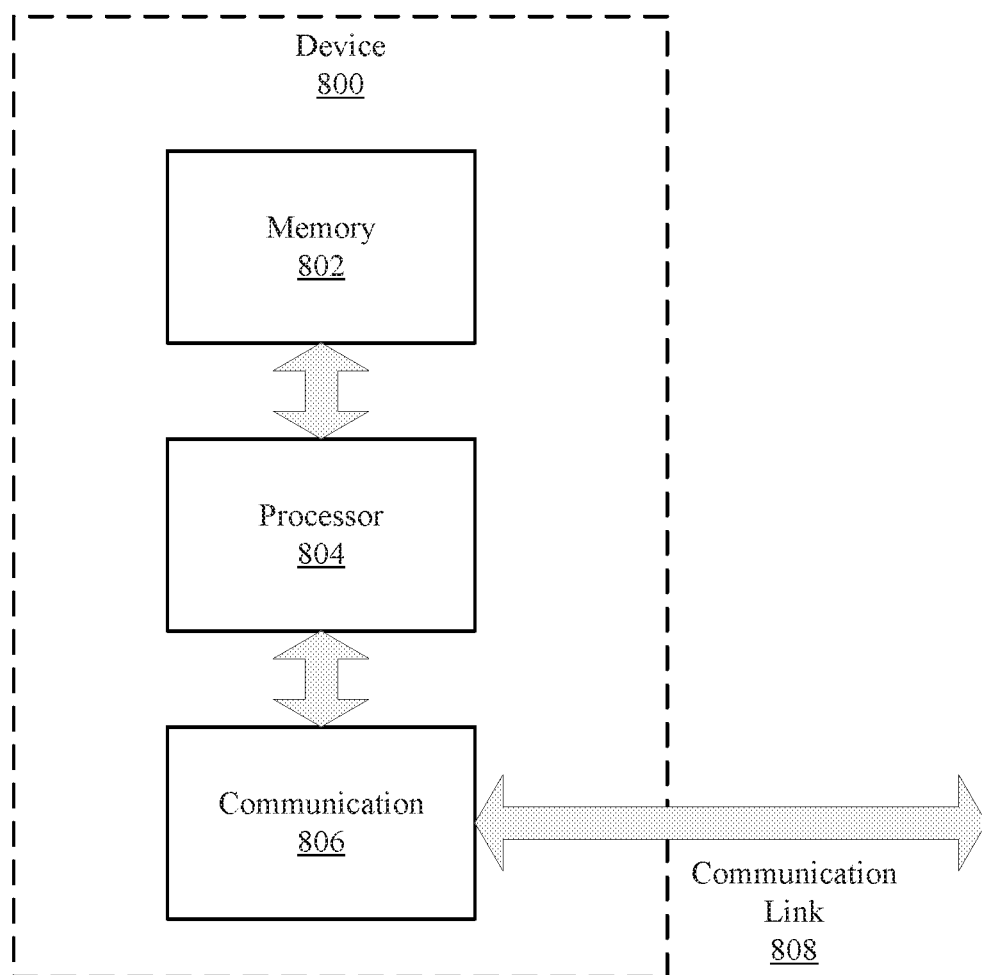


FIG. 8

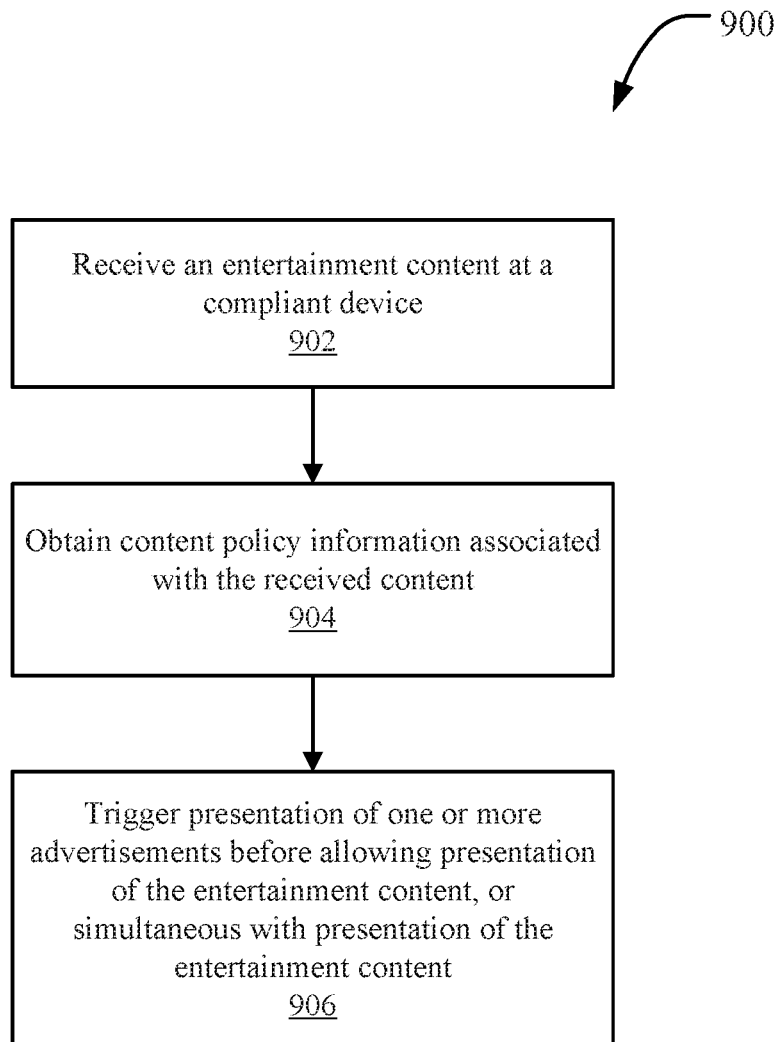


FIG. 9

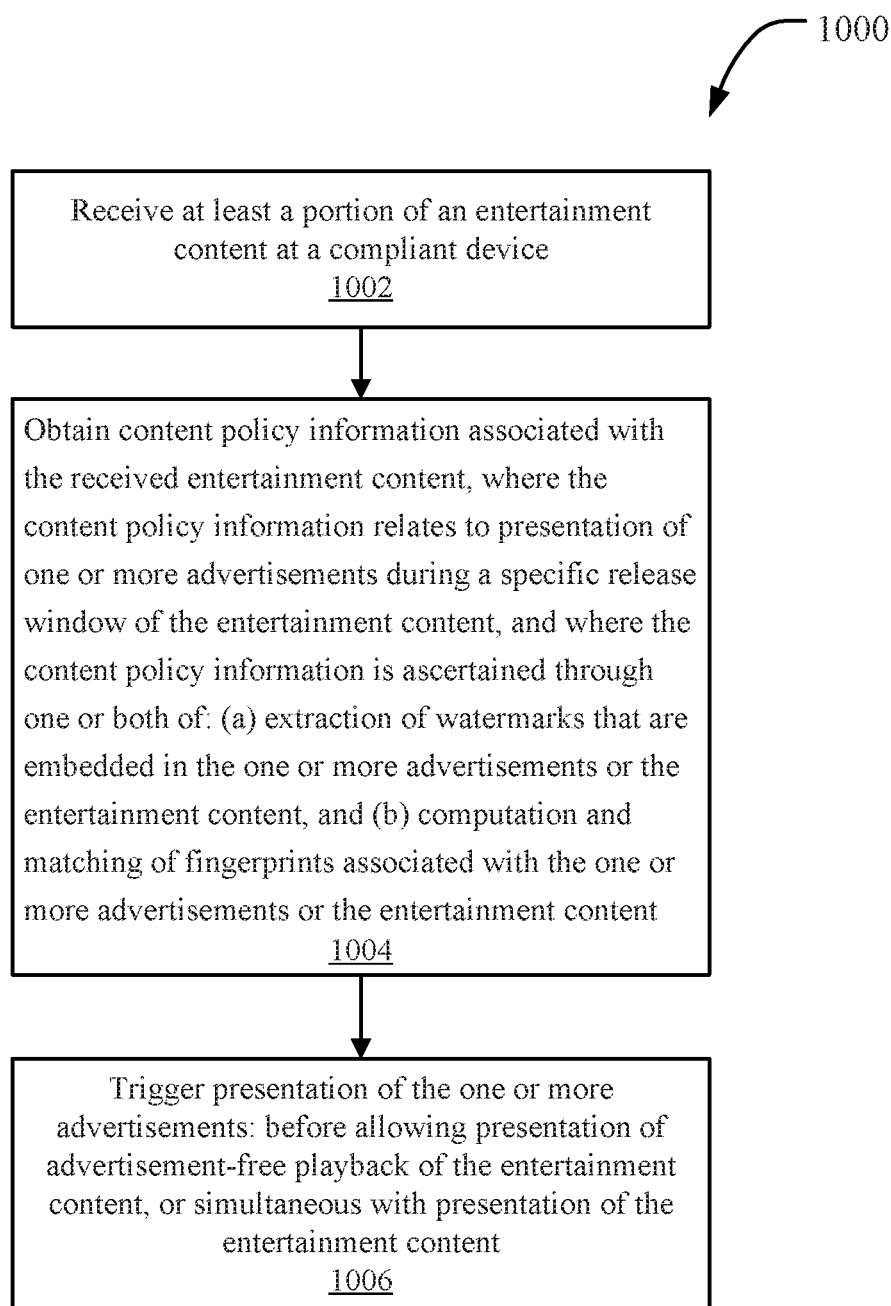


FIG. 10

CONTENT DISTRIBUTION INCLUDING ADVERTISEMENTS

RELATED APPLICATIONS

[0001] This patent application is a continuation of U.S. patent application Ser. No. 13/763,269, filed on Feb. 8, 2013, which claims the benefit of priority of U.S. Provisional Patent Application No. 61/700,830, filed on Sep. 13, 2012. The entire contents of the before-mentioned patent applications are incorporated by reference as part of the disclosure of this application.

FIELD OF INVENTION

[0002] The present application generally relates to the field of multimedia content presentation and advertisement.

BACKGROUND

[0003] The use and presentation of multimedia content on a variety of mobile and fixed platforms have rapidly proliferated. By taking advantage of storage paradigms, such as cloud-based storage infrastructures, reduced form factor of media players, and high-speed wireless network capabilities, users can readily access and consume multimedia content regardless of the physical location of the users or the multimedia content.

[0004] A multimedia content, such as an audiovisual content, often consists of a series of related images which, when shown in succession, impart an impression of motion, together with accompanying sounds, if any. Such a content can be accessed from various sources including local storage such as hard drives or optical disks, remote storage such as Internet sites or cable/satellite distribution servers, over-the-air broadcast channels, etc. In some scenarios, such a multimedia content, or portions thereof, may contain only one type of content, including, but not limited to, a still image, a video sequence and an audio clip, while in other scenarios, the multimedia content, or portions thereof, may contain two or more types of content.

SUMMARY

[0005] The disclosed embodiments relate to methods, devices and computer program products that facilitate enhanced use and interaction with a multimedia content, and presentation and consumption of advertisements at a compliant device.

[0006] One aspect of the disclosed embodiments relates to a method that includes receiving an indication at a compliant device that an entertainment content is associated with a content policy information. The content policy information relates to presentation of one or more advertisements during, or prior to, presentation of the entertainment content. Further, the content policy information is ascertained through one or both of (a) extraction of watermarks embedded in the one or more advertisements or the entertainment content and (b) computation and matching of fingerprints associated with the one or more advertisements or the entertainment content. The above noted method also includes receiving an indication that the entertainment content is associated with an advertisement award program, and providing, an advertisement award program message indicating that modified presentation of the one or more advertisements is allowed in exchange for a specific number of award points of an advertisement award program. Additionally, upon receiving

an indication that modified presentation of the one or more advertisements in exchange for the specific number of award points is desired, the method includes allowing the one or more advertisements to be presented in a modified form.

[0007] In one example embodiment, the content policy information is indicative that presentation of the one or more advertisements cannot be modified without receiving further input from a user or from a user device. In another example embodiment, the advertisement award program is associated with one of: a user, and the compliant device. According to yet another example, embodiment, the above noted method further comprises receiving identification information associated with a user or with the compliant device to enable access to award points of the advertisement award program associated with the user or with the compliant device. In still another embodiment, the above noted method further includes accumulating further award points in return for one or more of the following: presentation of one or more un-modified advertisements, purchase of one or more specific entertainment contents, and purchase of at least some of the specific number of award points.

[0008] In another example embodiment, the above noted method additionally includes accumulating further award points in return for presentation of one or more unmodified advertisements on each of a plurality of devices associated with a user. In one example embodiment, modified presentation of the one or more advertisements includes one or more of: shortened presentation of the one or more advertisements and skipping of the one or more advertisements. In another example embodiment, the above noted method further includes, upon receiving an indication that modified presentation of the one or more advertisements in exchange for the specific number of award points is not desired, presenting a message indicating that presentation of the entertainment content is allowed upon an agreement to view the one or more advertisement in unmodified format, and upon receiving an indication as to an agreement to view the one or more advertisements in unmodified format, presenting the one or more advertisements without modification.

[0009] According to another exemplary embodiment, the above noted method also includes, upon receiving an indication that modified presentation of the one or more advertisements in exchange for the specific number of award points is not desired, presenting a message indicating that presentation of the entertainment content is allowed upon an agreement to view the one or more advertisement in unmodified format, and upon receiving an indication as a lack of an agreement to view the one or more advertisements in unmodified format, providing a command to stop or prevent presentation of the entertainment content. In yet another exemplary embodiment, the advertisement award program is owned by a particular entity, and award points of the advertisement award program are redeemable through other entities affiliated with the particular entity. For example, the particular entity can be selected as one of: an advertiser, a television network, an entertainment content owner, and a content distributor.

[0010] In one exemplary embodiment, the advertisement award program is identified at least in-part by identifying the entertainment content using one or more of the following: (A) watermarks that are embedded in the entertainment content, (B) watermarks that are embedded in the one or more advertisements, (C) fingerprints that are computed

based on the entertainment content, and (D) fingerprints that are computed based on the one or more advertisements.

[0011] According to another example embodiment, the content policy information is associated with a specific aspect of the entertainment content, the specific aspect comprising one or more of: a rights holder of the entertainment content, a distribution channel of the entertainment content, a platform on which the entertainment content is presented, a genre of the entertainment content, a release window of the entertainment content, and a format of the entertainment content. Additionally, in this exemplary embodiment, the one or more advertisements in modified form are presented before allowing or resuming presentation of each entertainment content having the same specific aspect. In one exemplary embodiment, the rights holder of the entertainment content includes one of a creator and a distributor of the entertainment content. In another exemplary embodiment, the distribution channel includes one of an over-the-top (OTT), over-the-air, video on demand (VOD), satellite, cable, wireless and Internet distribution channels. In still another exemplary embodiment, the platform includes one of a mobile, desktop, and television platforms.

[0012] Another aspect of the disclosed embodiments relates to a device that includes a receiver configured to receive one or both of (a) an entertainment content and (1) one or more advertisements. Such a device further includes a processor that is configured to receive an indication that an entertainment content is associated with a content policy information, the content policy information relating to presentation of one or more advertisements during, or prior to, presentation of the entertainment content. The content policy information ascertained through one or both of (A) watermarks embedded in the one or more advertisements or the entertainment content, and (B) computation of fingerprints associated with the one or more advertisements or the entertainment content. The processor in such a device is also configured to receive an indication that the entertainment content is associated with an advertisement award program, to provide an advertisement award program message indicating that modified presentation of the one or more advertisements is allowed in exchange for a specific number of award points of an advertisement award program, and, upon receiving an indication that modified presentation of the one or more advertisements in exchange for the specific number of award points is desired, to allow the one or more advertisements to be presented in a modified form.

[0013] In one exemplary embodiment, the content policy information is indicative that presentation of the one or more advertisements cannot be modified without receiving further input. In another exemplary embodiment, the processor is further configured to receive identification information associated with a user or with the device to enable access to award points of the advertisement award program associated with the user or the device. In still another exemplary embodiment, the processor is further configured to accumulate further award points in return for one or more of the following: presentation of one or more un-modified advertisements, purchase of one or more specific entertainment contents, and purchase of at least some of the specific number of award points.

[0014] According to another exemplary embodiment, the processor is further configured to, upon receiving an indication that modified presentation of the one or more advertisements in exchange for the specific number of award

points is not desired, present a message indicating that presentation of the entertainment content is allowed upon an agreement to view the one or more advertisement in unmodified format. In this embodiment, the processor is additionally configured to, upon receiving an indication as to an agreement to view the one or more advertisements in unmodified format, present the one or more advertisements without modification.

[0015] In one example embodiment, the processor is further configured to, upon receiving an indication that modified presentation of the one or more advertisements in exchange for the specific number of award points is not desired, present a message indicating that presentation of the entertainment content is allowed upon an agreement to view the one or more advertisement in unmodified format. In this exemplary embodiment, the processor is also configured to, upon receiving an indication as to a lack of an agreement to view the one or more advertisements in unmodified format, provide a command to stop or prevent presentation of the entertainment content.

[0016] According to one exemplary embodiment, the above noted device includes at least one of (a) a watermark extractor configured to extract watermarks that are embedded in the entertainment content or in the one or more advertisements, and (b) a fingerprint computation component configured to compute a fingerprint associated with the entertainment content or in the one or more advertisements. Additionally, the device is further configured to identify the advertisement award program using one or more of the following: (A) watermarks extracted from the entertainment content by the watermark extractor, (B) watermarks extracted from the one or more advertisements by the watermark extractor, (C) fingerprints computed based on the entertainment content by the fingerprint computation component, and (D) fingerprints computed based on the one or more advertisements by the fingerprint computation component. In one exemplary embodiment, one or both of the watermark extractor and fingerprint computation component are implemented as a component separate from the processor. In another exemplary embodiment, one or both of the watermark extractor and fingerprint computation component are implemented as part of the processor.

[0017] According to yet another exemplary embodiment, the content policy information is associated with a specific aspect of the entertainment content, the specific aspect comprising one or more of: a rights holder of the entertainment content, a distribution channel of the entertainment content, a platform on which the entertainment content is presented, a genre of the entertainment content, a release window of the entertainment content, and a format of the entertainment content. In this exemplary embodiment, the processor is configured to allow presentation of the one or more advertisements in modified form for each entertainment content having the same specific aspect. In another exemplary embodiment, the above noted device is one of a: mobile device, a set-top box device, a handheld device, a personal computer, and a Blu-ray playback device.

[0018] Another aspect of the disclosed embodiments relates to a computer program product, embodied on a non-transitory computer readable medium, that includes program code for receiving an indication at a compliant device that an entertainment content is associated with a content policy information, where the content policy information relates to presentation of one or more advertisements

during, or prior to, presentation of the entertainment content, and the content policy information is ascertained through one or both of (a) watermarks embedded in the one or more advertisements or the entertainment content, (b) computation of fingerprints associated with the one or more advertisements or the entertainment content. The computer program product further includes program code for receiving an indication that the entertainment content is associated with an advertisement award program, program code for providing an advertisement award program message indicating that modified presentation of the one or more advertisements is allowed in exchange for a specific number of award points of an advertisement award program, and program code for, upon receiving an indication that modified presentation of the one or more advertisements in exchange for the specific number of award points is desired, allowing the one or more advertisements to be presented in a modified form.

[0019] Another aspect of the disclosed embodiments relates to a method that includes receiving at least a portion of an entertainment content at a compliant device, and obtaining content policy information associated with the received entertainment content, where the content policy information relates to presentation of one or more advertisements during a specific release window of the entertainment content, and the content policy information is ascertained through one or both of: (a) extraction of watermarks that are embedded in the one or more advertisements or the entertainment content, and (b) computation and matching of fingerprints associated with the one or more advertisements or the entertainment content. Such an exemplary method further includes triggering presentation of the one or more advertisements: before allowing presentation of advertisement-free playback of the entertainment content, or simultaneous with presentation of the entertainment content.

[0020] In one exemplary embodiment, the release window includes a specific time period, upon the termination of which, the entertainment content is released in a different format. In one example embodiment, release of the entertainment content in the different format includes release of the entertainment content as a Blu-ray content, a broadcast television content, a cable television content, a video-on-demand content and a format playable by a mobile device.

[0021] According to another exemplary embodiment, the same one or more advertisements is presented before allowing or resuming presentation of the entertainment content on a plurality of playback devices. In one exemplary embodiment, each of the plurality of playback devices is categorized as at least one of a mobile device, a set-top box device, a handheld device, a personal computer, and a Blu-ray playback device, and the content policy information provides for a different set of enforcement actions for each category of playback devices. In still another embodiment, the above noted method that takes into account the release window further includes, after allowing presentation of at least one advertisement, determining whether or not a sufficient number or duration of advertisements has been presented, and when an insufficient number or duration of advertisements has been presented, triggering presentation of at least one additional advertisement.

[0022] In yet another embodiment, existence of the specific release window is signaled through watermarks that are embedded in the entertainment content. In another example embodiment, expiration of the specific time window is signaled through watermarks that are embedded in the

entertainment content that differ from watermarks that signal existence of the specific release window. In yet another exemplary embodiment, the one or more advertisements are selected to target a specific group of users and/or user devices based on a particular set of criteria. For example, the particular set of criteria includes one or more of a title of the entertainment content, an advertisement presentation history of the compliant device, an advertisement presentation history of a user of the compliant device, a programming contextual relevance of the one or more advertisements, a current date and time, feedback of a user related to the one or more advertisements, a geographical location of the compliant device, a platform on which the compliant device is implemented, a type of the entertainment content, a storage format of the entertainment content, a distributor of the entertainment content, and a distribution channel of the entertainment content.

[0023] According to another embodiment, watermarks that are embedded in the entertainment content or in the one or more advertisements allow obtaining identification information associated with the entertainment content or with the one or more advertisements. In one exemplary embodiment, the identification information includes one or more of: a content identifier (CID), a source identifier (SourceID) and a timecode.

[0024] According to another example embodiment, the entertainment content does not include embedded watermarks, and the one or more advertisements include embedded watermarks. In this exemplary embodiment, triggering presentation of the one or more advertisements comprises determining a duration of watermarked advertisements from a plurality of timecodes embedded in the one or more presented advertisements, determining whether or not a sufficient duration or number of advertisements has been presented, and, upon a determination that a sufficient duration or number of advertisements has not been presented, triggering presentation of at least one additional advertisement.

[0025] In one exemplary embodiment, the entertainment content includes embedded watermarks and the one or more advertisements do not include embedded watermarks. In this exemplary embodiment, presenting the one or more advertisements comprises determining a duration of watermarked advertisements based on an absence of watermarks as the entertainment content is being presented, determining whether or not a sufficient duration or number of advertisements has been presented, and, upon a determination that a sufficient duration or number of advertisements has not been presented, triggering presentation of at least one additional advertisement.

[0026] In yet another exemplary embodiment, the entertainment content includes embedded watermarks, and the one or more advertisements include embedded watermarks. In this exemplary embodiment, presenting one or more advertisements includes identifying the entertainment content using the watermarks that are embedded in the entertainment content, identifying the one or more advertisements using the watermarks that are embedded in the one or more advertisements, determining whether or not the identified one or more advertisements are non-skippable with respect to the identified entertainment content, and, upon a determination that the identified one or more advertisements are non-skippable with respect to the identified entertain-

ment content, triggering presentation of the one or more non-skippable advertisements.

[0027] Another aspect of the disclosed embodiments relates to a device that includes a receiver configured to receive one or both of (a) an entertainment content and (b) one or more advertisements. Such device also includes a processor that is configured to obtain content policy information associated with the received entertainment content, where the content policy information relates to presentation of one or more advertisements during a specific release window of the entertainment content, and the content policy information is ascertained through one or both of: (a) extraction of watermarks that are embedded in the one or more advertisements or the entertainment content, and (b) computation of fingerprints associated with the one or more advertisements or the entertainment content. The processor of such a device is further configured to trigger presentation of the one or more advertisements: before allowing presentation of advertisement-free playback of the entertainment content or simultaneous with presentation of the entertainment content.

[0028] In one exemplary embodiment, the processor is further configured to, after presentation of at least one advertisement, determine whether or not a sufficient number or duration of advertisements has been presented, and upon a determination that an insufficient number or duration of advertisements has been presented, trigger presentation of at least one additional advertisement. In another exemplary embodiment, the device further comprises a watermark extractor configured to extract one or more watermarks that are embedded in the entertainment content, and the processor is further configured to determine existence of the specific release window through the extracted watermarks. In yet another exemplary embodiment, the processor is further configured to determine expiration of the specific time window through at least one extracted watermark. In still another exemplary the watermark extractor is implemented as a component separate from the processor, while in another exemplary embodiment, the watermark extractor is implemented as part of the processor.

[0029] In another exemplary embodiment, the device further comprises a watermark extractor configured to extract one or more watermark that are embedded in the entertainment content or in the one or more advertisements, and the processor is further configured to obtain identification information associated with the entertainment content or with the one or more advertisements from the watermarks extracted by the watermark extractor.

[0030] In yet another exemplary embodiment, the entertainment content does not include embedded watermarks, the one or more advertisements include embedded watermarks. In this exemplary embodiment, the processor is configured to trigger presentation of the one or more advertisements by at least: determining a duration of watermarked advertisements from a plurality of timecodes embedded in the one or more presented advertisements, determining whether or not a sufficient duration or number of advertisements has been presented, and, upon a determination that a sufficient duration or number of advertisements has not been presented, triggering presentation of at least one additional advertisement must be presented.

[0031] In another exemplary embodiment, the entertainment content includes embedded watermarks and the one or more advertisements do not include embedded watermarks.

In this exemplary embodiment, the processor is configured to trigger presentation of the one or more advertisements by at least: determining a duration of watermarked advertisements based on an absence of watermarks as the entertainment content is being presented, determining whether or not a sufficient duration or number of advertisements has been presented, and, upon a determination that a sufficient duration or number of advertisements has not been presented, triggering presentation of at least one additional advertisement must be presented.

[0032] In still another exemplary embodiment, the entertainment content includes embedded watermarks and the one or more advertisements include embedded watermarks. In this exemplary embodiment, the processor is configured to trigger presentation of the one or more advertisements by at least: identifying the entertainment content using the watermarks that are embedded in the entertainment content, identifying the one or more advertisements using the watermarks that are embedded in the one or more advertisements, determining whether or not the identified one or more advertisements are non-skippable with respect to the identified entertainment content, and upon a determination that the identified one or more advertisements are non-skippable with respect to the identified entertainment content, triggering presentation of the one or more non-skippable advertisements.

[0033] Another aspect of the disclosed embodiments relates to a computer program product, embodied on a non-transitory computer readable medium. The computer program product includes program code for receiving at least a portion of an entertainment content at a compliant device and program code for obtaining content policy information associated with the received entertainment content, where the content policy information relates to presentation of one or more advertisements during a specific release window of the entertainment content, and the content policy information is ascertained through one or both of: (a) extraction of watermarks that are embedded in the one or more advertisements or in the received entertainment content, and (b) computation of fingerprints associated with the one or more advertisements or the entertainment content. The computer program product further includes program code for triggering presentation of the one or more advertisements: before allowing presentation of advertisement-free playback of the entertainment content, or simultaneous with presentation of the entertainment content.

BRIEF DESCRIPTION OF THE DRAWINGS

[0034] FIG. 1 shows a high-level diagram of an advertising-supported content distribution system in accordance with an exemplary embodiment.

[0035] FIG. 2 illustrates some of the components within a compliant device in accordance with an exemplary embodiment.

[0036] FIG. 3 shows a sequence of content segments in accordance with an exemplary embodiment in which one or more advertisements are watermarked.

[0037] FIG. 4 shows a sequence of content segments in accordance with an exemplary embodiment, in which the entertainment content is watermarked.

[0038] FIG. 5 shows a sequence of content segments in accordance with an exemplary embodiment in which the both the entertainment content and the advertisements are watermarked.

[0039] FIG. 6A illustrates a set of operations that can be carried out when content distribution using a CPI state (e.g., ‘ads-obliged state’) is effected in accordance with an exemplary embodiment.

[0040] FIG. 6B illustrates a set of operations **650** that can be carried out to control presentation of an entertainment content and associated advertisements in accordance with an exemplary embodiment.

[0041] FIG. 7 illustrates a system **700** that can accommodate the disclosed embodiments.

[0042] FIG. 8 illustrates a simplified diagram of an exemplary device within which various disclosed embodiments may be implemented.

[0043] FIG. 9 illustrates a set of operations that can be carried out to effectuate advertising-supported content distribution in accordance with an exemplary embodiment.

[0044] FIG. 10 illustrates a set of operations that may be carried out to trigger presentation of one or more advertisements in accordance with an exemplary embodiment.

DETAILED DESCRIPTION OF CERTAIN EMBODIMENTS

[0045] In the following description, for purposes of explanation and not limitation, details and descriptions are set forth in order to provide a thorough understanding of the disclosed embodiments. However, it will be apparent to those skilled in the art that the present invention may be practiced in other embodiments that depart from these details and descriptions.

[0046] Additionally, in the subject description, the word “exemplary” is used to mean serving as an example, instance, or illustration. Any embodiment or design described herein as “exemplary” is not necessarily to be construed as preferred or advantageous over other embodiments or designs. Rather, use of the word exemplary is intended to present concepts in a concrete manner.

[0047] Watermarking has been used to enable the communication and enactment of use policies for audiovisual content across a broad range of distribution channels and devices. Watermarks are typically embedded substantially imperceptibly in one or more components of a multimedia content, such as in an audio component or a video component, and can be used for a variety of applications such as tamper detection, copy management, content identification, broadcast monitoring, etc. Digital watermarks can also be used to communicate Content Policy Information (CPI) between the content provider and the compliant consumer devices. Examples of CPI include Copy Once, No More Copy, No Home Use (i.e. the content that contains such CPI information is intended for theatrical release only but not for home use), Trusted Source (implying that the content should be protected by approved encryption). As will be described in the sections that follow, watermarks can also be used to enable the advertisement-obliged or advertisement-supported content distribution, where the presentation of certain advertisements is required for, or facilitates, the viewing of the entertainment content. For example, the disclosed embodiments can be used to effect award-earning content distribution, where the viewers can earn award points by viewing the presentation of such content including advertisements.

[0048] The watermarked content is distributed through any means and may ultimately be used on devices that incorporate the watermark detection functionality. The

detection functionality enables those devices to retrieve the information contained within the watermarks and apply the associated content use policies. For example, the retrieved information may indicate that the content is only intended for theatrical release and not for use in any consumer devices, or the content is intended for use only under the governance of certain content protection technologies.

[0049] In some implementations, devices such as Blu-ray Disc players read CPI from the audio track of audiovisual content that they are playing or copying, and may limit the use of the content when certain unauthorized uses are identified. Playback or copying of unauthorized copies may be stopped or audio may be muted as enforcement response, depending on which CPI is found and what operation is being performed. For example, when the use of content is restricted based on a CPI, an explanatory message may be provided on the video screen or on the front panel of the device as part of the enforcement response.

[0050] Revenue from advertisement is one of the major sources for content providers to fully monetize their assets and investment. Modern user interfaces allow the users to smoothly switch channels to skip viewing the commercials. Devices such as Digital Video Recorders (DVRs) allow programs to be recorded for later viewing. During replay of such recorded programs, commercials can be skipped, either manually by the users or automatically by certain devices. Moreover, commercials can be removed or replaced from content for unauthorized distribution (e.g., broadcasting and online distribution). For content providers and distributors, it is crucial to prevent the user from conveniently skipping the advertisements especially in an advertisement-supported content distribution model.

[0051] In some embodiments of the present application, a non-skippable (or an enforced) advertisement system is provided such that playback of necessary advertisements is enforced as a specific content policy based on the CPI embedded as watermarks in advertisement-obliged content or in advertisement materials.

[0052] To utilize an advertisement-obliged state, a compliant consumer device (i.e., a consumer device that is configured to detect the CPI and enforce the associated policies) is needed to enforce a policy related to watching non-skippable advertisements during playback of the content that contains such a CPI. An example of such a policy associated with an ad-support CPI is to require certain advertisements or certain amount of advertisements to be watched without skipping or shortening the duration of content viewing (e.g., not to use fast-forward or other trick playback modes) during playback of content items distributed by a specific distributor or channel. It should be noted that while in describing certain embodiments of the present application references are made to “viewing” or “watching” advertisements, it is understood, that the disclosed embodiments are also applicable to audio content.

[0053] In addition to the CPI state, watermarks may also contain the information that identifies one or more of the following: One or more identifiers for the entertainment content title (“content ID” or CID); one or more identifiers for the content sources through which the content is distributed (“Content Source ID” or “SourceID”), such as TV networks, channels or content distributors; and/or one or more identifiers for individual segments of the content (for example a timecode, a counter value, and the like, that identifies temporal location of a content segment). For

example, based on timecodes which identify each unique segment in a content item, the start and end of each watermarked segment of the content can also be identified. Thus, the duration of each watermarked segment can be calculated from the start and end positions of the segment in the content. CID, SourceID and timecodes are collectively called identification information. It should be noted that the above list of identification information is not exhaustive and the watermarks can carry additional information. Moreover, in some embodiments, one or more of the information carried on the watermark can be combined. It should also be noted that the identification information is not limited to being represented by the watermarks that are embedded in the content. Another representation of the identification information fingerprints, which are digests derived from features of the content without requiring modification of the content.

[0054] In the remainder of this disclosure, the term “content” is sometimes used to broadly cover audio and video contents, including, but not limited to, Movies, T V and Events, Music, Interactive Content, Mobile Content, UGC, Voice, Advertisements which are distributed by any means such as Terrestrial, cable, satellite, Internet Protocols, IPTV, OTT (Over-the-Top) Internet, Web, Mobile, Physical Media, and others. To avoid confusion, content that is dedicated for advertising is called an advertisement (sometimes abbreviated as “ad” or “ads”) while the remaining types of content is referred to as “entertainment content.” It is however understood that the content may have other purposes than entertainment. For example, news and documentaries are other non-exclusive types of content that may be referred to as “entertainment content” in this disclosure.

[0055] FIG. 1 shows a high-level diagram of an advertisement-obliged content distribution system in accordance with an exemplary embodiment. It should be noted that throughout this disclosure, the terms “advertisement obliged,” “advertisement supported,” and “advertisement enhanced” may be used interchangeably, in connection with content distribution, to refer to distribution of content that is accompanied by advertisements. These advertisements, among other things, may be required for viewing the content, may incentivize but not require a consumer to view the advertisements and/or allow financial transactions to occur that are associated with content and/or advertisements. As illustrated in FIG. 1, the entertainment content can be embedded with watermarks using the watermark embedder 102 and is stored at the content database 106. Similarly, the advertisement content can be embedded with watermarks using a watermark embedder 104 and stored at an ads database 108. The compliant device 110 can then access or be presented with the embedded content and/or advertisements. It should be noted that while two separate watermark embedders 102, 104 and two separate ads/content databases 106, 108 are shown (e.g., to show content and ads can be embedded and stored separately), in some embodiments, entertainment content and advertisement watermarking and/or storage may occur using the same watermark embedder (e.g., at the same facility) and/or the same database (or different portions of the same database) may be used to store the content and the advertisements.

[0056] The compliant device 110 of FIG. 1, can be any hardware, software (including system or application software), or combination of them that is capable of obtaining content policy information and taking actions in accordance

with the policy. The actions may include granting award points in exchange for viewing the presentation of the award-earning content, controlling the presentation of the entertainment content and/or advertisements, and the like. Examples of the compliant device include Set-Top Boxes, Blu-ray players, tablets, mobile phones, PCs, TVs, media players, apps on mobile devices, etc.

[0057] FIG. 2 illustrates some of the components within a compliant device 200 in accordance with an exemplary embodiment. The exemplary compliant device 200 of FIG. 2 includes a media player 202 that plays the content including entertainment content and advertisements. The media player 200 can be equipped with various functionalities that allow, for example, playback of the content, in either or both forward and reverse directions, and at various speeds, allow skipping of the content, recording of the content and the like. The Advertisement Selector 206 is configured to select the advertisements from the Ads Local Inventory 210 based on, for example, personal preferences and other customization information. The Policy Enforcement Manager 204 is configured to execute the actions determined by Policy Manager 208. The Policy Manager 208 is configured to determine the actions based on the predefined policies associated with watermark payloads that are embedded in the content being played back. The Watermark Detector 212 is configured to detect watermarks from the content and recover the watermark payloads. The exemplary compliant device 200 of FIG. 2 can include fewer or additional items. For example, some of the components within FIG. 2 can be combined together and/or the compliant device 200 of FIG. 2 can include a processor, a memory, one or more communication units (which can include a receiver and/or a transmitter that is configured to receive and/or send data, information and signals to other entities through a communication channel), a display, speakers and other components to allow proper operations of the compliant device 200. For example, the compliant device 200 can include a content policy information detector that is configured to obtain the content policy information or state (e.g., the CPI that is specifically related to the advertisement-obliged content distribution) through one or more of extraction of watermarks, computation of fingerprints and obtaining the CPI associated with a content from a remote device. Such a content policy information detector can, for example, be incorporated as part of the Policy Manager 208. In some embodiments, the content policy information may be obtained from a different component or device that resides outside of the compliant device (e.g., from a content distributor, advertisement servers, or other trusted entities in the home network or in the cloud).

[0058] In the sections that follow, three exemplary scenarios are described based on whether the advertisements, entertainment content or both are watermarked. If one of them is not watermarked or does not contain the watermark information that identifies the CID, Content Source ID and/or timecodes (“identification information”), such identification information may be made available to a compliant device (e.g., provided by the distribution system or through other identification system such as metadata lookup or digital fingerprinting content recognition).

[0059] FIG. 3 shows a sequence of content segments in accordance with an exemplary embodiment in which one or more advertisements are watermarked. In FIG. 3, the shaded regions represent advertisements that are interspersed within the entertainment content, and are embedded with water-

marks. The clear regions represent unwatermarked entertainment content or advertisements. It should be noted that while in some embodiments, the embedded advertisements may be presented in a time-multiplexed fashion with respect to the remaining segments of the content, in other embodiments, the embedded advertisements (or advertisements in general) may be presented simultaneously as the entertainment content. In case of the latter, the advertisements may be presented as pop-ups, as translucent overlays, or on a separate display or as a separate window as the entertainment content. When the exemplary content segments of FIG. 3 are received at a compliant device, the compliant device can recover the identification information from the watermarked advertisements. The duration of watermarked advertisements can be calculated from, for example, the detected timecodes. The duration of the entertainment content being played back can be estimated from the duration of absence of watermarks, and/or provided by the system clock of the compliant device. An example of enforcement action in this scenario includes preventing skipping of the advertisement by mandatorily playing back the advertisements when insufficient advertisement time has been accumulated since the start of the playback.

[0060] FIG. 4 shows a sequence of content segments in accordance with an exemplary embodiment, in which the entertainment content is watermarked. In FIG. 4, the shaded regions represent embedded sections of the entertainment content, and the clear regions represent an unwatermarked advertisements. When the exemplary content segments of FIG. 4 are received at a compliant device, the device can recover the identification information from the watermarked content. The duration of watermarked content can be calculated from, for example, the detected timecodes, and the duration of unwatermarked ads can be estimated from the duration of absence of watermarks or provided by compliant device when such ads are locally buffered. An example of enforcement action in this scenario includes preventing skipping of the advertisement by mandatorily playing back the advertisements when insufficient advertisement time has been accumulated since the start of the content playback.

[0061] FIG. 5 shows a sequence of content segments in accordance with an exemplary embodiment, in which the both the entertainment content and the advertisements are watermarked. In FIG. 5, the solid black regions represent embedded sections of the entertainment content, and the shaded regions represent watermarked advertisements. The embedded information can include CID, SourceID, timecodes, and the like. When the exemplary content segments of FIG. 5 are received at a compliant device, the device can recover the identification information from the watermarked entertainment content and/or advertisements. The duration of both the watermarked content and watermarked advertisements can be calculated during the playback. A compliant device is able to identify the entertainment content and the advertisements based on the extracted CIDs from the watermarked entertainment content and watermarked advertisements, respectively. An example enforcement action in this scenario includes enforcing the playback a list of specific non-skippable ads during the playback of a list of specific entertainment contents. For example, a car company can show a new car advertisement whenever a specific movie is played back during an ad-supported release window on any home entertainment platform such as mobile device, computers or smart TVs.

[0062] It should be noted that throughout the present application, the term release window sometimes used to refer to a specific time period or time interval, upon the termination of which the entertainment content may be released in a different form. For example, an entertainment content is often released by the movie studios in phases, or windows. In particular, release windows of a movie can include, but are not limited to, theatrical release in select theaters, release in all (or a larger number of theatres), release on Blu-ray, DVD, release on release as video on demand, release on cable/satellite subscription networks, release on Internet, release on over-the-air television, and the like. In some of the disclosed embodiments, each release window may be signaled using embedded watermarks that, for example, differ from one release window to another. In some embodiments, the release window can be signaled from external sources, such as a database (e.g., IMDb) that includes information regarding the history and latest release window of an entertainment content.

[0063] According to the some embodiments, advertisements can be customized to allow targeted advertising. For example, different advertisements can be played with the same entertainment content depending on user's information (e.g., user's preferences) privately stored in the compliant device. As a result, the users are presented with more relevant and less annoying advertisement materials while advertisers benefit from consumer information without having actual access to the information.

[0064] Moreover, in some embodiments, such targeted advertisements can be dynamic. That is, the same user may be presented with different advertisements each time the same entertainment content is played back. Dynamic advertising may improve the user's experience (by avoiding repeated advertisements) and improve the value of the entertainment content (by introducing new advertisements). In some exemplary embodiments, a compliant device may select an advertisement from the local advertisement inventory according to at least one or more of the following:

[0065] The title or genre of the entertainment content that is being played back;

[0066] The advertisement presentation history on a specific device;

[0067] The entertainment programming contextual relevance of an advertisement;

[0068] The current date and time;

[0069] The feedback provided by the user regarding the advertisements (collected from, for example, on an additional screen of a separate device, or a separate window on the same device that displays the entertainment content);

[0070] The location (e.g., geographic location) information of the device that presents the content, or user of such device;

[0071] The playback platform (e.g., whether the content is being presented on a laptop, game console, mobile phone, tablet, smart TV, etc.);

[0072] The type of the media that is used to distribute the content (e.g., physical disc, digital in HD, digital on mobile, etc.); and/or

[0073] The content distributor and distribution channel (e.g., broadcast channel, OTT, VOD, etc.).

[0074] The advertisement can be delivered to the users through a variety of techniques, configurations and channels. In one example embodiment, the advertisements are part of the content or are bound together with the content. In these

scenarios, the advertisements are, for example, inserted into the entertainment content prior to delivery for the application, such as video-on-demand (VOD). Such advertisements can be personalized by the VOD servers based on the information about devices, user profiles, the content that is being consumed, associated rights policies and the like. More details in this regard will be presented in the sections that follow.

[0075] In another exemplary embodiment, the advertisements are inserted during the delivery, for example, by the servers of Content Distribution Networks (CDN). In these scenarios, the advertisements can be regionally targeted. For example, local advertisements can be inserted for all customers in a particular local area.

[0076] In yet another exemplary embodiment, the advertisements are dynamically selected and inserted from a locally buffered advertisement inventory. Such insertion may be performed in real-time for broadcast or live content. Additionally, or alternatively, the insertion of such advertisements from a local inventory can be carried out for recorded content (e.g. using a DVR). Such advertisement inventory can be pulled by the compliant devices or pushed by the advertisement servers into the local advertisement storage during the same time as the content is being presented or distributed, or during previous presentation/distribution of the content. When advertisements are stored on local devices, they can be synchronized with Ads Servers periodically, manually, triggered by downloading/streaming of legitimate content, or triggered by extraction of watermark payloads. In one example embodiment, the reception of an entertainment content that includes one or more embedded watermarks can automatically trigger a watermark extractor to extract embedded watermarks. Based on the extracted watermarks, the compliant device can automatically select advertisements based on a particular criteria, and present the advertisements on the compliant device.

[0077] According to the disclosed embodiments, a variety of enforcement actions can be supported. Some examples of the actions are described below. However, it is understood that new actions may be defined, including, actions that are provided by combining the actions from one or more existing categories.

[0078] In some embodiments, the enforcement action is based on advertising time requirements. For example, such an enforcement policy can require a minimum time for presentation of advertisements during the playback of an entertainment content. In one exemplary embodiment, the enforcement policy requires that at least one advertisement to be presented for every 5- or 10-minute presentation of an entertainment content. In another exemplary embodiment, the enforcement policy requires that a specific “pre-roll” advertisement precede the presentation of an entertainment content. In still another exemplary embodiment, the enforcement policy requires playback of N % advertisement (measured, for example, in terms of a percentage of time) for presentation of every (100-N) % entertainment content. In all of the above cases, a failure to fulfill the enforcement policy can result in an enforcement action, such as stoppage of playback of content, display of warning or informational messages, disabling of fast-forward functionality, and the like. In some embodiments, failure to fulfill the enforcement policy may result in more than one enforcement action, or can allow the user to select between alternate enforcement actions, some of which may not be detrimental to viewing of

the content. In some embodiments, a compliant player may be configured to enforce one particular enforcement policy, such as disabling the fast-forward or skip functionalities, in accordance with enforcement policy requirements.

[0079] In some embodiments, the enforcement action is based on using an award program. For example, the enforcement policy can allow certain award/loyalty points to be spent in order to skip or shorten the presentation of advertisements during presentations of the entertainment content. For instance, these award points can be purchased or earned through loyalty programs provided by content providers, content distributors, networks, marketers, advertisement agencies or other parties. Details of using and earning Advertisement Credits are described in the sections that follow.

[0080] In some embodiments, enforcement action is based on cross-media and cross-platform advertising. In this context, a platform includes a hardware architecture and a software framework (such as one or more application frameworks), where software, particularly application software such as media player and media streaming client, to able to be executed. Typical platforms such as Microsoft Windows or Google Android include an architecture, operating system, programming languages and related user interface. Cross-media and cross-platform advertising can, for example, introduce more opportunities to create brand awareness by bringing the same advertising message across multiple media formats (e.g., in HD, SD and mobile), through different distribution methods (e.g., linear TV or VOD, Internet, 4G, etc.), and across different consumption platforms/devices (e.g., Set-Top Boxes, Blu-ray players, tablets, mobile phones, PCs, etc.). In some exemplary embodiments, the enforcement action associated with the cross-media/cross-platform advertising requires that a specific advertisement (or a specific group of advertisements) to be presented during presentation of a specific entertainment content item (or a specific group of entertainment contents). In some embodiments, advertisements may be grouped according to various criteria such as the brand name, sponsors, industry, category of the advertised products. Additionally, or alternatively, in some embodiments, entertainment content may be grouped according to 1) production and rights information such as the rights holder, content creator, and content distributor; 2) distribution information such as content distribution channels, distribution platforms, consumption platforms, and content sources; and/or 3) other content metadata such as ranking, genre, release window, format of the content, producer, crew that took part in content production, and the like.

[0081] Cross-media advertising policy can be implemented by matching the identification information between the advertisement and entertainment content by a compliant device. Such identification information may be extracted from watermarks or made available to the compliant devices or through other means such as metadata from content distributors or content recognition through digital fingerprinting.

[0082] Some examples of cross-media and cross-platform advertising, include but are not limited to:

[0083] A series of advertisements promoting a product are presented on all platforms, such as TVs, mobile devices, and PCs, during each live and recorded presentation of a series of episodes of a specific TV show from a specific network within a specific time period.

[0084] An advertisement promoting a car is presented whenever a specific movie is presented on all compliant devices such as Blu-ray players, tablets, mobile phones or PCs.

[0085] Presentation of a TV show requires presentation of advertisements from a TV network or its affiliates that create and distribute the TV show.

[0086] Presentation of a movie requires presentation of one or more advertisements from an advertiser who sponsors the distribution of the movie.

[0087] According to the disclosed embodiments, advertisement award points may be utilized in advertising-supported content distribution. Advertisement award programs may be created by a multiple system operator (MSO), a retailer, an advertiser or sponsor, advertisement agency, an OTT provider such as Netflix or Amazon, or a TV network, or a content owner. In some example embodiments, the award points accumulated through advertisement award program created by a content distributor may be redeemed only for the benefits associated with the content distributed by such distributor and its affiliates. To this end, one or more identifiers that are obtained by the compliant device are associated with one or more award programs. For example, the points earned from the award program created by ABC Networks may be redeemed for premium content viewing with a discounted fee, allowing viewing of an entertainment content without (or with shortened) advertisements, or receiving discounts to purchase products at a Disney store. In some example embodiments, the user can spend the award points to skip or shorten the advertisements during the playback of the entertainment content that contains the CPI 'ads-support' state. For example, the award points are redeemed from the user's account associated with the award program that is created by the distributor of such entertainment content, and registered with the identification information of such entertainment content which is obtained by the compliant device. According to some embodiments, the user can redeem the accumulated advertisement award points to receive product discounts, gifts, or cash from advertisers.

[0088] The disclosed embodiments further allow advertisement award points to be earned and redeemed in different ways. For example, the points can be purchased, earned via purchase of a content (e.g., via download, VOD, DBD/BD, etc.), earned by viewing certain affiliates programs, or other promotions. Alternatively, or additionally, award points can be earned by viewing advertisements across multiple platforms such advertisements presented on a TV, on an online program, and/or on mobile device. Such award points may be calculated based on the number of advertising impressions exposed to a user or duration of the watched advertisements. Such watched advertisements can be identified and measured automatically by the compliant device that continuously identifies the entertainment content and advertisements during the their presentation. The award points can be stored locally at the compliant devices and/or submitted by the compliant device to a central location that keeps track of the award points. In additional or alternate embodiments, credits can be purchased, transferred, and further shared among family members.

[0089] In some embodiments, a user may create multiple accounts with different advertisement award programs. Each advertisement award program can, for example, correspond to one or more CIDs that are extracted from the entertain-

ment content or advertisements. An advertisement award program can be established by an advertiser, advertisement sponsor, agency, promoter, content distributor or producer, and market intelligence firms to promote and sell the products or enrich the value of the ads. When an advertisement identified by a particular CID is presented to a user, the user (or the compliant device associated with that user) earns award points from one or more of the associated award programs that are registered with such identifier. When a particular CID is associated with more than one award program, the user or the compliant device may determine the preference of these programs so that the award points earned by watching the identified advertisements are only credited to the preferred award program. The award points can be redeemed against the offers provided by the owner of the award program. For example, the award points from an advertiser can be redeemed for coupons to buy the products or services provided by such advertiser. In another example, the award points from a content distributor may be redeemed for reduced advertisements on the program provided by such distributor or for personalized and exclusive content.

[0090] In additional or alternate embodiments, award points earned in different programs may be transferred, exchanged, and further shared among these programs subject to the collaboration and agreements among these programs.

[0091] FIG. 6A illustrates the operations 600 that can be carried out when content distribution using a CPI state (e.g., 'ads-obliged state') is effected in a accordance with an exemplary embodiment. In particular, the operations 600 start at 602 when the CPI state (e.g., 'ads-obliged' state) is obtained. Next, at 604 an advertisement award program message is displayed to the user. For example, the message at 604 can indicate to the user that "N advertisement award points are required to continue playback" of the entertainment content. Upon seeing the message, the user can make a decision as to whether or not agree to use his/her accumulated award points. If received input at 606 is affirmative (i.e., "YES" at 606), at 610, the advertisement award points are updated (e.g., reduced to account for subtraction of N credits), and the playback of the entertainment content continues without advertisements or with a modified (e.g., an abbreviated) version of advertisements. If, on the other hand, received input at 606 is a "NO" (e.g., the user does not agree to use N award points), then the user may be optionally be prompted at 608 to answer whether or not he/she agrees to watch the advertisements. If the answer received at 608 is a "NO," then presentation of content is stopped at 614 (or is prevented, if the operations 600 are carried out, for example, prior to presentation of the entertainment content). If the input received at 608 is affirmative (i.e., "YES" at 608), then at 612 one or more non-skippable advertisements are presented to the user. In some embodiments, the user may have the option of selecting the particular advertisement(s) for viewing, while in other embodiments, the advertisements may be selected for the user. Such a selection may be carried out based on the user profile (e.g., stored user preferences), at random, or based on other criteria, such as the type of platform, the content format, the content owner's preferences and the like. It should be noted that the various messages that are presented to the user in the exemplary operations 600 of FIG. 6A, may be displayed as interruptions in presentation of the entertainment content, as an overlay (a pop-up, a translucent overlay, or as a picture-in-

picture screen), or on a companion device (e.g., on a tablet device, when the entertainment program is being presented on a television). It should be further noted that, in some embodiments, operations at **608** and **614** may not be implemented. That is, at **606**, upon user's refusal to use the his/her award points, the operations **600** directly flows to **612**, where non-skippable advertisement(s) are presented to the user.

[0092] FIG. 6B illustrates a set of operations **650** that can be carried out to control presentation of an entertainment content and associated advertisements in accordance with an exemplary embodiment. At **652**, an indication at a compliant device is received that an entertainment content is associated with a content policy information. The content policy information relates to presentation of one or more advertisements during, or prior to, presentation of the entertainment content. Further, the content policy information is ascertained through one or both of: (a) extraction of watermarks embedded in the one or more advertisements or the entertainment content and (b) computation and matching of fingerprints associated with the one or more advertisements or the entertainment content. At **654**, an indication that the entertainment content is associated with an advertisement award program is received. At **656**, an advertisement award program message is provided that indicates modified presentation of the one or more advertisements is allowed in exchange for a specific number of award points of an advertisement award program. At **658**, upon receiving an indication that modified presentation of the one or more advertisements in exchange for the specific number of award points is desired, one or more advertisements are allowed to be presented in a modified form.

[0093] FIG. 7 illustrates a system **700** that can accommodate the disclosed embodiments. The system **700** includes a first device **702** that is configured to present a multimedia content that can include both the entertainment content and the advertisements. The first device **702** can be coupled to, or include, a display screen, a projector screen, one or more speakers and the associated circuitry, such as a processor and a memory, as well as software components to enable the reception, storage, processing and presentation of a multimedia content. The first device **702** can be in communication with a database **714**. The database **714** includes one or more storage **718** devices for storage of a variety of multimedia content, including the entertainment content and the advertisements, as well as meta data, survey results, applications, instructions, etc., which may be stored on magnetic, optical, semiconductor and/or other types of memory devices. The database **714** can, for example, include a remote (e.g., cloud-based) storage device.

[0094] The first device **702** may, alternatively or additionally, be configured to receive multimedia content and meta-data through one or more other sources **716**, such as through the Internet, through a terrestrial broadcast channel, through a cable network, through a home network (e.g., a Digital Living Network Alliance (DLNA) compliant network), through a wired or wireless network (e.g., a local area network (LAN), wireless LAN (WLAN), a wide area network (WAN) and the like). Such a media content can also be a real-time (e.g., streaming) content that is broadcast, unicast or otherwise provided to the first device **702**. The received content can be at least partially stored and/or buffered before

being presented by the first device **702**. In some embodiments, the first device **702** is a compliant device that is shown in FIG. 2.

[0095] Referring again to FIG. 7, in some embodiments, the first device **702** is also in communication with at least a second device **706** to, for example, present various questions or alerts to the user. In some embodiments, the second device **706** is also in communication with the database **714**. Connectivity between the various devices in FIG. 7, and components therein, can be effectuated using any one of wired or wireless communication techniques, including but not limited to 802.11 protocol, Bluetooth, Infrared transmissions, and the like.

[0096] Certain aspects of the disclosed embodiments can be implemented as a device that includes a processor, and a memory comprising processor executable code, the processor executable code, when executed by the processor, configures the device to perform any one of and/or all operations that are described in the present application. In some examples, the devices that are described in the present application can comprise a processor, a memory unit, an interface that are communicatively connected to each other, and may range from desktop and/or laptop computers, to consumer electronic devices such as media players, mobile devices and the like. For example, FIG. 8 illustrates a block diagram of a device **800** within which various disclosed embodiments may be implemented. The device **800** comprises at least one processor **804** and/or controller, at least one memory **802** unit that is in communication with the processor **804**, and at least one communication unit **806** that enables the exchange of data and information, directly or indirectly, through the communication link **808** with other entities, devices, databases and networks. The communication unit **806** may provide wired and/or wireless communication capabilities in accordance with one or more communication protocols, and therefore it may comprise the proper transmitter/receiver antennas, circuitry and ports, as well as the encoding/decoding capabilities that may be necessary for proper transmission and/or reception of data and other information. The exemplary device **800** of FIG. 8 may be integrated as part of a compliant device, such as the compliant device that is shown in FIG. 2, to carry out some or all of the operations that are described in the present application.

[0097] In some embodiments, the device **800** of FIG. 8 may also be incorporated into a device that resides at a remote database, such as database **714**, that is shown in FIG. 7, and is configured to perform some or all of the operations that are described in accordance with various disclosed embodiments. FIG. 9 illustrates a set of operations **900** that can be carried out to effectuate advertising-supported content distribution in accordance with an exemplary embodiment. At **902**, an entertainment content is received at a compliant device. At **904**, content policy information associated with the received content is obtained. Such a content policy information relates to presentation of one or more advertisements during a specific release window of the entertainment content, and is ascertained through one or both of: (a) extraction of watermarks that are embedded in the one or more advertisements or the received entertainment content, and (b) computation of fingerprints associated with the one or more advertisements or the entertainment content. At **906**, presentation of one or more advertisements is triggered before allowing presentation of the entertain-

ment content or simultaneous with presentation of the entertainment content. The presentation of the one or more advertisements can be done on the compliant device that is presenting the entertainment content, or on another device companion to the compliant device.

[0098] FIG. 10 illustrates a set of operations **1000** that may be carried out to trigger presentation of one or more advertisements in accordance with an exemplary embodiment. In particular, at **1002**, at least a portion of an entertainment content is received at a compliant device. At **1004**, content policy information associated with the received entertainment content is obtained. The content policy information relates to presentation of one or more advertisements during a specific release window of the entertainment content, and the content policy information is ascertained through one or both of: (a) extraction of watermarks that are embedded in the one or more advertisements or the entertainment content, and (b) computation and matching of fingerprints associated with the one or more advertisements or the entertainment content. At **1006**, presentation of the one or more advertisements is triggered. Such presentation is provided before allowing presentation of advertisement-free playback of the entertainment content, or simultaneous with presentation of the entertainment content.

[0099] As noted earlier, the disclosed embodiments further allow delivery of targeted advertisements that are consistent and/or synchronized across multiple media, distribution methods and consumption platforms. Further, an award program in accordance with the presented embodiments allows the users to earn points by, for example, watching advertisements, and spending/applying the earned points to skip or shorten presentation of future advertisements. As such, the disclosed embodiments at the very least address the problems of advertisement skipping, inconsistent targeted advertisements across different media types and platforms, and lack of motivation/loyalty with respect to advertisement consumption.

[0100] It is understood that the various embodiments of the present disclosure may be implemented individually, or collectively, in devices comprised of various hardware and/or software modules, units and components. In describing the disclosed embodiments, sometimes separate components have been illustrated as being configured to carry out one or more operations. It is understood, however, that two or more of such components can be combined together and/or each component may comprise sub-components that are not depicted. Further, the operations that are described in the present application are presented in a particular sequential order in order to facilitate understanding of the underlying concepts. It is understood, however, that such operations may be conducted in a different sequential order, and further, additional or fewer steps may be used to carry out the various disclosed operations.

[0101] Various embodiments described herein are described in the general context of methods or processes, which may be implemented in one embodiment by a computer program product, embodied in a computer-readable medium, including computer-executable instructions, such as program code, executed by computers in networked environments. A computer-readable medium may include removable and non-removable storage devices including, but not limited to, Read Only Memory (ROM), Random Access Memory (RAM), compact discs (CDs), digital versatile discs (DVD), Blu-ray Discs, etc. Therefore, the com-

puter-readable media described in the present application include non-transitory storage media. Generally, program modules may include routines, programs, objects, components, data structures, etc. that perform particular tasks or implement particular abstract data types. Computer-executable instructions, associated data structures, and program modules represent examples of program code for executing steps of the methods disclosed herein. The particular sequence of such executable instructions or associated data structures represents examples of corresponding acts for implementing the functions described in such steps or processes.

[0102] A content that is embedded with watermarks in accordance with the disclosed embodiments may be stored on a storage medium or transmitted through a communication channel. In some embodiments, such a content that includes one or more imperceptibly embedded watermarks, when accessed by a content handling device (e.g., a software or hardware media player) that is equipped with a watermark extractor and/or a fingerprint computation component, can trigger a watermark extraction or fingerprint computation process to trigger the various operations that are described in this application.

[0103] The foregoing description of embodiments has been presented for purposes of illustration and description. The foregoing description is not intended to be exhaustive or to limit embodiments of the present invention to the precise form disclosed, and modifications and variations are possible in light of the above teachings or may be acquired from practice of various embodiments. The embodiments discussed herein were chosen and described in order to explain the principles and the nature of various embodiments and its practical application to enable one skilled in the art to utilize the present invention in various embodiments and with various modifications as are suited to the particular use contemplated. The features of the embodiments described herein may be combined in all possible combinations of methods, apparatus, modules, systems, and computer program products.

1-15. (canceled)

16. A method for providing conditional access to a multimedia content, comprising:

receiving, at a first device, at least a portion of the multimedia content that includes an entertainment content and one or more advertisements;

initiating presentation of the multimedia content at the first device;

processing digital sample values of the entertainment content or the one or more advertisements using a processor that is implemented at least in-part in electronic circuitry, the processing comprising extracting of one or more watermark messages from the one or more advertisements or the entertainment content;

obtaining information indicative of a usage policy associated with the entertainment content based on a payload of the one or more watermark messages;

determining a particular number of advertisements that must be presented in conformance with the usage policy; and

triggering presentation of the one or more advertisements based on a determination as to whether only the entertainment content, or both the entertainment content and the one or more advertisements, include embedded watermark messages, wherein:

- (A) upon a determination that the entertainment content includes embedded watermarks and the one or more advertisements do not include embedded watermarks: determining a duration or a number of advertisements that have already been presented based on a duration of the multimedia content that excludes embedded watermark messages, comparing the duration or the number of the advertisements that have already been presented to the particular number of advertisements that must be presented in conformance with the usage policy, and upon a determination that the duration or the number of the advertisements that have already been presented is less than the particular number of advertisements that must be presented in conformance with the usage policy, triggering presentation of at least one additional advertisement, and
- (B) upon a determination that both the entertainment content and the one or more advertisements include embedded watermarks: using a plurality of timecodes embedded in the one or more advertisements to determine a duration or a number of the advertisements that have already been presented, comparing the duration or the number of the advertisements that have already been presented to the particular number of advertisements that must be presented in conformance with the usage policy, and upon a determination that the duration or the number of the advertisements that have already been presented is less than the particular number of advertisements that must be presented in conformance with the usage policy, triggering presentation of at least one additional advertisement.
- 17.** The method of claim **16**, further comprising: upon a determination that the duration or the number of the advertisements that have already been presented is less than the particular number of advertisements that must be presented in conformance with the usage policy, triggering presentation of the at least one additional advertisement on a plurality of additional devices.
- 18.** The method of claim **17**, wherein: each of the plurality of additional devices is categorized as one of: a mobile device, a set-top box device, a handheld device, a personal computer, or a Blu-ray device, the usage policy provides for a different set of enforcement actions for each category of devices, and the first device and each of the additional devices belong to the same category of devices.
- 19.** The method of claim **16**, further comprising, after allowing presentation of at least one advertisement, determining whether or not a sufficient number or duration of advertisements has been presented that fulfills the usage policy, and upon a determination that an insufficient number or duration of advertisements has been presented, triggering presentation of at least another advertisement.
- 20.** The method of claim **16**, wherein the one or more advertisements are selected to target a specific group of users or user devices based on a particular set of criteria.
- 21.** The method of claim **20**, wherein the particular set of criteria includes one or more of: a title of the entertainment content, an advertisement presentation history of the first device, an advertisement presentation history of a user of the first device, a programming contextual relevance of the one or more advertisements, a current date and time, feedback of a user related to the one or more advertisements, a geographical location of the first device, a platform on which the first device is implemented, a type of the entertainment content, a storage format of the entertainment content, a distributor of the entertainment content, or a distribution channel of the entertainment content.
- 22.** The method of claim **16**, further comprising obtaining identification information associated with the entertainment content or with the one or more advertisements using the one or more watermark messages that are extracted from the entertainment content or the one or more advertisements.
- 23.** The method of claim **22**, wherein the identification information includes one or more of: a content identifier (CID), a source identifier (SourceID) or a timecode.
- 24.** The method of claim **16**, wherein processing the digital sample values of the entertainment content or one or more advertisements includes computation of fingerprints that enable identification of the entertainment content or one or more advertisements.
- 25.** The method of claim **16**, wherein: the entertainment content includes embedded watermarks, and the one or more advertisements include embedded watermarks; and triggering presentation of the one or more advertisements includes: identifying the entertainment content using the one or more watermark messages that are extracted from the entertainment content, identifying the one or more advertisements using the one or more watermark messages that are embedded in the one or more advertisements, based on the usage policy, determining whether or not the identified advertisements are non-skippable with respect to the identified entertainment content, and upon a determination that the identified advertisements are non-skippable, triggering presentation of the one or more non-skippable advertisements.
- 26.** A media playback device, comprising: a receiver to receive at least a portion of the multimedia content that includes an entertainment content and one or more advertisements; a processor and a memory comprising processor executable code that upon execution by the processor configures the processor to: initiate presentation of the multimedia content at the media playback device; process digital sample values of the entertainment content or the one or more advertisements to extract one or more watermark messages from the one or more advertisements or the entertainment content; obtain information indicative of a usage policy associated with the entertainment content based on a payload of the one or more watermark messages;

- determine a particular number of advertisements that must be presented in conformance with the usage policy; and
- trigger presentation of the one or more advertisements based on a determination as to whether only the entertainment content, or both the entertainment content and the one or more advertisements, include embedded watermark messages, wherein:
- (A) upon a determination that the entertainment content includes embedded watermarks and the one or more advertisements do not include embedded watermarks the processor executable code upon execution by the processor configures the processor to:
- determine a duration or a number of advertisements that have already been presented based on a duration of the multimedia content that excludes embedded watermark messages,
 - compare the duration or the number of the advertisements that have already been presented to the particular number of advertisements that must be presented in conformance with the usage policy, and
 - upon a determination that the duration or the number of the advertisements that have already been presented is less than the particular number of advertisements that must be presented in conformance with the usage policy, trigger presentation of at least one additional advertisement, and
- (B) upon a determination that both the entertainment content and the one or more advertisements include embedded watermarks the processor executable code upon execution by the processor configures the processor to:
- determine a duration or a number of the advertisements that have already been presented using a plurality of timecodes embedded in the one or more advertisements,
 - compare the duration or the number of the advertisements that have already been presented to the particular number of advertisements that must be presented in conformance with the usage policy, and
 - upon a determination that the duration or the number of the advertisements that have already been presented is less than the particular number of advertisements that must be presented in conformance with the usage policy, trigger presentation of at least one additional advertisement.
- 27.** The media playback device of claim **26**, wherein:
- upon a determination that the duration or the number of the advertisements that have already been presented is less than the particular number of advertisements that must be presented in conformance with the usage policy, the processor executable code upon execution by the processor configures the processor to trigger presentation of the at least one additional advertisement on a plurality of additional devices.
- 28.** The media playback device of claim **27**, wherein:
- each of the plurality of additional devices is categorized as one of: a mobile device, a set-top box device, a handheld device, a personal computer, or a Blu-ray device,
 - the usage policy provides for a different set of enforcement actions for each category of devices, and
 - the media playback device and each of the additional devices belong to the same category of devices.
- 29.** The media playback device of claim **26**, wherein the processor executable code upon execution by the processor further configures the processor to, after presentation of at least one advertisement, determine whether or not a sufficient number or duration of advertisements has been presented that fulfills the usage policy, and upon a determination that an insufficient number or duration of advertisements has been presented, trigger presentation of at least another advertisement.
- 30.** The media playback device of claim **26**, wherein the one or more advertisements are selected to target a specific group of users or user devices based on a particular set of criteria.
- 31.** The media playback device of claim **30**, wherein the particular set of criteria includes one or more of:
- a title of the entertainment content,
 - an advertisement presentation history of the media playback device,
 - an advertisement presentation history of a user of the media playback device,
 - a programming contextual relevance of the one or more advertisements,
 - a current date and time,
 - feedback of a user related to the one or more advertisements,
 - a geographical location of the media playback device,
 - a platform on which the media playback device is implemented,
 - a type of the entertainment content,
 - a storage format of the entertainment content,
 - a distributor of the entertainment content, or
 - a distribution channel of the entertainment content.
- 32.** The media playback device of claim **26**, wherein the processor executable code upon execution by the processor further configures the processor to obtain identification information associated with the entertainment content or with the one or more advertisements using the one or more watermarks that are extracted from the entertainment content or the one or more advertisements.
- 33.** The media playback device of claim **32**, wherein the identification information includes one or more of: a content identifier (CID), a source identifier (SourceID) or a time-code.
- 34.** The media playback device of claim **26**, wherein the processor executable code upon execution by the processor further configures the processor to use the digital sample values of the entertainment content or one or more advertisements to compute fingerprints that enable identification of the entertainment content or one or more advertisements.
- 35.** The media playback device of claim **26**, wherein:
- the entertainment content includes embedded watermarks, and the one or more advertisements include embedded watermarks; and
 - the processor executable code upon execution by the processor configures the processor to:
 - identify the entertainment content using the one or more watermark messages that are extracted from the entertainment content,
 - identify the one or more advertisements using the one or more watermark messages that are embedded in the one or more advertisements,

based on the usage policy, determine whether or not the identified advertisements are non-skippable with respect to the identified entertainment content, and upon a determination that the identified advertisements are non-skippable, trigger presentation of the one or more non-skippable advertisements.

36. A computer program product embodied on one or more non-transitory computer medium, comprising:

program code for receiving at least a portion of the multimedia content that includes an entertainment content and one or more advertisements;

program code for initiating presentation of the multimedia content;

program code for processing digital sample values of the entertainment content or the one or more advertisements, the processing comprising extracting of one or more watermark messages from the one or more advertisements or the entertainment content;

program code for obtaining information indicative of a usage policy associated with the entertainment content based on a payload of the one or more watermark messages;

program code for determining a particular number of advertisements that must be presented in conformance with the usage policy; and

program code for triggering presentation of the one or more advertisements based on a determination as to whether only the entertainment content, or both the entertainment content and the one or more advertisements, include embedded watermark messages:

(A) the computer program product further includes program code for, upon a determination that the entertainment content includes embedded watermarks and the one or more advertisements do not include embedded watermarks:

determining a duration or a number of advertisements that have already been presented based on a duration of the multimedia content that excludes embedded watermark messages,

comparing the duration or the number of the advertisements that have already been presented to the particular number of advertisements that must be presented in conformance with the usage policy, and

upon a determination that the duration or the number of the advertisements that have already been presented is less than the particular number of advertisements that must be presented in conformance with the usage policy, triggering presentation of at least one additional advertisement, and

(B) the computer program product further includes program code for, upon a determination that both the entertainment content and the one or more advertisements include embedded watermarks:

using a plurality of timecodes embedded in the one or more advertisements to determine a duration or a number of the advertisements that have already been presented,

comparing the duration or the number of the advertisements that have already been presented to the particular number of advertisements that must be presented in conformance with the usage policy, and

upon a determination that the duration or the number of the advertisements that have already been presented is less than the particular number of advertisements that must be presented in conformance with the usage policy, triggering presentation of at least one additional advertisement.

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