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(54) **Title:** MANAGING SPOILERS FOR A TRANSMITTED EVENT

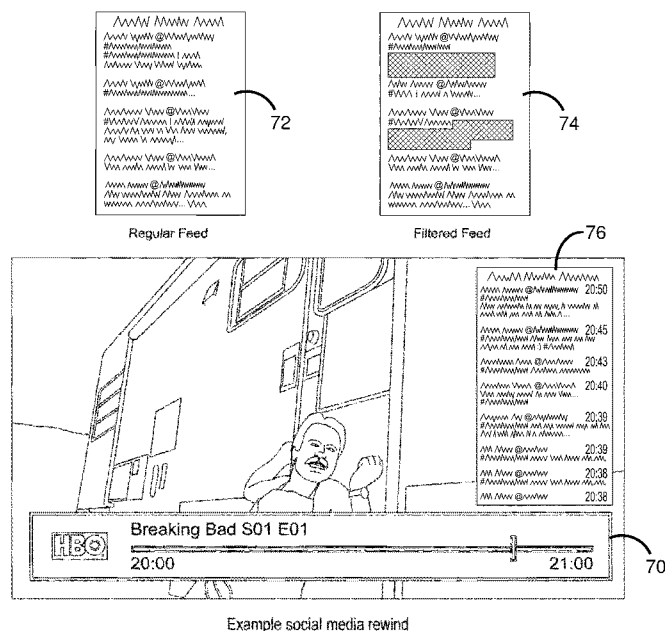


Fig. 6

Example social media rewind

(57) **Abstract:** A method and system for managing social media spoilers includes recording a scheduled media event and using a filter to block social media content relevant to the recorded program. The blocked content is accessed and displayed in synchronisation with the recorded program when it is played back.

Managing spoilers for a transmitted event

The specification relates to methods and apparatus providing online media feed content to users. In particular, the specification relates to controlling the provision of media feed
5 content to users.

Transmitted content comprising video and/or audio can be consumed, i.e. watched, listened to or interacted with, at a user's convenience in various ways. On the one hand, streaming of content on-demand serves this purpose. On the other hand, the user is able
10 to record a transmission and play it back when convenient.

The establishment of networks on social media means that there is much discussion and/or disclosure about current popular topics. Prominent among these is discussion and disclosures about such transmitted content. For a recorded, streamed video on-demand,
15 or near video on-demand, event this can sometimes have the effect of being a spoiler, whereby an element of a plot in a drama or the result of a sports fixture is discussed in a post during or after the event but before the event is watched by the person who recorded it. Similarly, news feeds often contain content that is relevant to a program that has been transmitted.

20

Having effectively time-shifted a scheduled transmitted event by recording it so that it can be played back at a later time, the user is particularly exposed to the unfolding content being spoilt by discussions or other disclosure on social media or in news feeds or the like during and after the scheduled transmission time. In effect, innocent chat posted on
25 social media after the event becomes a spoiler of the time-shifted content for the user who has recorded it.

Solutions to this problem have involved blocking media feed content according to filter criteria so the disclosures, posts, etc. relevant to the recorded content are blocked. The
30 filter can then be removed when the time-shifted event has been watched by the user. This solves the problem of the spoiler for the user but it also eliminates the dynamic of, for example, social media in relation to the program as well. For example, by blocking elements of social media the user is denied the wit and wisdom of social media posts relating to an unfolding drama. The spoiler risk is addressed but only by removing the
35 social media element from the user altogether.

According to an aspect of the disclosed embodiments, a method of managing media feed content comprises identifying a media event scheduled to be receivable by user equipment at a scheduled start time, arranging for the consumption of the media event through the user equipment after the scheduled start time, and displaying the content of the social media feed synchronised with the consumption of the media event. The social media feed content may be blocked by a filter, the blocking being progressively removed to display the blocked content of the media feed such that the blocked content is made available for the period of the media event that has elapsed as it is consumed.

10 The method may block some of the media based on the subject matter relevant to the media event. The adaptive filtering based on the elapsed progress of playback of the recorded content is thus able to maintain the filtering of the relevant subject matter while observing a temporal aspect to it such that the filter is effectively lifted for social media activity that would have occurred prior to any given point in the content at the time it was
15 originally transmitted and from which the recording was made.

The method may include monitoring for a marker, such as a start time of the media event, and enabling a count that is added as an offset of the period from when the event was originally transmitted to the start time of the playback. For the playback of recorded or
20 stored content the progress of elapsed playback time is available and can be used for this purpose.

The media event may be a scheduled broadcast program or other scheduled transmission which is receivable and recordable at a specified time by the user equipment. The media
25 feed may be displayed with the recorded event when it is played back either as an overlay or an inserted box on a display device. Alternatively, the media feed may be displayed on another device separately from that displaying the media event. The media feed can be accessed from a media network database of content.

30 The receivable media event can be content delivered to a user's equipment, for example a live event such as a sporting event, a scheduled video program transmission, an audio event, such as a radio feed or broadcast. The event may be made available to the user's equipment as a broadcast or feed or streamed on-demand as a recording of a previously broadcast or streamed event. The event can be consumed by playback after it has been
35 transmitted or while the rest of the program is still being transmitted.

The consumption of a transmissible event may be by watching video or listening to audio content.

Depending on the type of transmission of the event to the user equipment the event may
5 be monitored for (e.g.) time stamps in the transmission or inserted into a recording of the event. Alternatively, the scheduled start time of the event may provide a datum as a marker for a count to which the lifting of the social media block can be synchronised. The marker can be derived from the transmitted event or from the program guide data accessed by the user equipment for a program guide interface.

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The following disclosure is illustrated by way of example and with reference to the accompanying drawings in which:

Figure 1 is a schematic illustration of a system embodying the invention;

15 Figure 2 is a flow chart of a recording process;

Figure 3 is an illustration of a program guide screen;

Figure 4 is the flowchart of a playback process;

Figure 5 illustrates a screen for setting social media during playback; and

Figure 6 illustrates a screen bearing social media content.

20

Referring to Figure 1, a video and audio content receiving system comprises a screen 10 for displaying video content, a set-top box (STB) 12 and a remote control device 14. In this embodiment the STB 12 includes a decoder module 16 and a social media access and filter module 18. In addition, the STB 12 has control software and hardware 20 and a
25 signal generating function 22 which feeds a video signal to the screen 10. The decoder module 16 receives signals over-the-air via a terrestrial aerial 24. The social media access and filter module 18 of the STB 12 accesses one or more social and/or news media network feeds 25 via the internet generally denoted 26. The remote control device 14 communicates with and controls the STB 12 via infra red line of sight signalling through
30 IR sensor 28. The STB 12 also serves as a personal video recorder (PVR) having storage 29 for recording received content. The various elements of the STB 12 are controlled and configured by the control software 20. While the embodiments refer to social media, from the above it will be clear that the disclosure is also applicable in many aspects to other media feeds such as news feeds.

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Generally depicted on the screen 10 is an interactive electronic program guide (EPG) by which the user can control the STB/PVR using the remote control device 14 and thereby choose what is shown on the screen 10. Various options for recording a transmitted event, such as a scheduled television program, are shown as part of the EPG in Figure 1.

5 These include a “record” option 30 for enabling the recording of a program identified in a list of programs in the EPG onto the PVR 29, a “series” option 32 for recording multiple programs in a series, a spoiler filter option 34 to be described below and a social media option 36 also to be described in more detail below.

10 Figure 1 includes a schematic depiction of an EPG. In use, an EPG will include many more and varied options for watching, recording and otherwise interacting to control the display of video and other content on the screen 10. The screen in the example is a digital television fed with over-the-air signals from the terrestrial aerial 24. Of course, the source of media video content could equally well be transmitted as a stream from the
15 internet, a satellite-based service or a cable network service. The screen 10 could equally well be a screen of any other device with which the STB can be configured to provide suitable video/audio signals. Such devices include computers, tablets and smart phones. The PVR function 29 could be separate or part of another device such as a computer server local to the screen or remotely accessed via (e.g.) the internet from remote storage
20 whether specific storage or cloud-based storage. The communication of the video signals to the screen 10 is depicted by lines implying cabling such as coaxial, HDMI or ethernet, but could equally well be via a wireless transmission system such as wi-fi.

Turning to Figure 2, a configuration of the control software 20 of the set-top box 12 is
25 shown by way of a flow chart for controlling the display of social media feeds. As discussed above, the advent of media networking has made it all the more difficult to avoid becoming aware of the outcome of an event almost immediately. Because consumers of scheduled video content are used to enhancing the viewing experience by the contemporaneous consumption of a media feed such as Twitter, Facebook, Google+
30 etc., the exposure to “spoilers” if the user wishes to time-shift watching a program by recording it is ever present.

The record option 30 in Figure 1 is shown at block 40 in Figure 2. As is conventional, a scheduled program can be set up to be recorded by manually inputting to the STB 12 the
35 recording parameters of date, time, length of program and channel. The same data can be derived by the STB from a user selection of a program to record from the program

entries in the interactive EPG based on program schedule EPG data downloaded to or accessed from a remote source by the STB 12.

The disclosed embodiment includes two particular aspects. One is the ability to filter media feeds to block those relevant to the program to be recorded that might constitute a spoiler of the time-shifted viewing of the recorded event. The other is the ability to access social media feeds after the event that were blocked by the filtering and play them back along with the recorded program in synchronisation so that the media feed is time-shifted along with the viewing of the program. The media feed is consumed as if the program was being transmitted.

The record option 40 is followed by a spoiler block option 41. If the user opts to block social media posts that risk spoiling (e.g.) the score in a sports fixture or the plot in a drama, this can be defined by the set-top box 12 automatically according to the title, genre, keywords associated with the program entry in the EPG data at block 42 and/or service provider defined hashtags generated as part of the service provider's exploitation of a social media service before or during the actual transmission. Other ways of grouping content are as applicable as hashtags. The STB control and coordinating software 20 is configured to utilise the EPG data for a program to be recorded to define the filter parameters for the blocking of social media content that is relevant to the program. Alternatively, the user can define their own spoiler filter parameters at block 44. In a further embodiment the user can adopt a hybrid of the automatically defined filter parameters and those manually developed as well. For example, an automatically generated filter parameter may be #sherlockholmes on Twitter for the television series of the same name. However, a user may wish to add to the filter #benedictcumberbatch manually to avoid a risk of spoilers associated with the actor of that name who appears in the series.

Manually configuring the filtering parameters has the advantage of being customisable to extend beyond what is simply relevant to the media event in question. Likewise it is also possible to set the filter criteria simply to block all social media content. The user may wish to experience the total social media content available to that user as if it were all happening as the media event progressed during transmission. The process of choosing an automatically defined filter 52 or a manually defined one 50 is illustrated in Figure 3. After selecting 'Manual' 50 to enable the user to define a filter parameter, either alongside an automatically defined parameter or on its own, the user is invited to construct, for

example, the desired hashtag, such as #benedictcumberbatch, to add to the filter which automatically includes #sherlockholmes for that series.

The STB 12 sets up the social media feed to be linked to the program to be recorded at block 46 and the recording of the scheduled event at block 48. The recording schedule will then include a link to provide the viewer with the option to access relevant (filtered) social media feed content at the time the recorded program is played back. If no social media link is required at block 46 then the recording is simply set up on its own at block 51. In both cases the social media feed controlled by the STB 12 is arranged to block posts, etc that are relevant to the program to be recorded to avoid spoilers according to the defined parameters. The link option at block 46 may instead be made automatic so that the social media feed option is exercised only on playback.

The social media access and filter module 16 includes the filtering as defined automatically or manually. If the filtering parameters are defined automatically they are derived from the title of the program or other characteristics of the program identity as referred to above either within the program identification metadata which are part of the transmitted signal or within the EPG data by which the EPG is populated. The service provider may include a social media metadata tag that can be used to define a filter parameter. For example, a Twitter feed can be accessed (or in this case blocked) by a hashtag, such as #sherlockholmes for a program in the Sherlock Holmes series. However, automatically defining the filter blocking criteria by relying on the service provider hashtags may not fully address the risk of spoilers. Thus, the combination of the manual and automatic criteria may be more reassuring to the user. In both the automatic and the manual filter there is an additional temporal element that is managed by the control software 20. This is based on the start time of the actual scheduled program as recorded and is stored and activated as and when the recorded event is later played back. This is described below. In this embodiment, the essentially immediate nature of the social media feed is managed differently so that it is now blocked to avoid spoilers and is also thereafter made available by access to historical social media activity that is relevant to the program. Thus, the user is now able to play back the recorded program at a convenient time and experience the synchronised developing social media activity as if the two were being viewed as scheduled. By linking the start time of the social media posts to the scheduled start time of the program the posts are co-ordinated to the unfolding program.

The spoiler filter can be enabled as part of a recording request without the recording of the social media activity as well, as depicted in block 50.

Referring to Fig.4, having recorded a program as above, the user requests to playback the recording at block 60. At this point, the social media filter is still active in blocking relevant activity according to the filter blocking parameters so as not to spoil the user's later enjoyment of the recording. Playback is carried out using the remote control device 14 enabling the user to interact with the EPG on which it is possible to display a list of recorded programs. In this embodiment if the user opted to include a link to social media by selecting the on-screen option 80 in Figure 5, or if it was automatically included in the recording parameters, the user is then presented with an on-screen option at block 62 to include with the playback the social media feed or not. This is illustrated in Fig.6 in which a regular unfiltered social media feed is shown on the left 72. On the right 74, the same feed is filtered to exclude posts about an episode of Game of Thrones and a Wales v. France rugby match. The user will have selected these programs for recording and subsequent playback. The posts relevant to these programs are suppressed but will be available when each recorded program is played back. Also in Figure 6 is depicted the playback of an episode of Breaking Bad. This is accompanied by a feed of the historical social media posts 76 relevant to that program that are synchronised to the program so that the posts appear as they would have done when the program was transmitted as scheduled. Thus, if the answer is "yes" at block 62 the social media filter module 18 at block 63 enables access to the social media server 25 on which previous social media activity is stored. The social media filter blocking criteria for a particular program then, on playback, become the social media selection criteria on accessing the social media server 25 along with date/time start criteria associated with when the filter was imposed. At block 64, the STB then proceeds to playback the chosen program according to the time-shift and overlays the program as it is played back with a real-time feed of the equivalently time-shifted relevant social media network activity associated with the time when the recorded program was transmitted and from which the recording was made. The control software 20 monitors the progress of the consumption of the recording at 66 by noting timing marks. These conventionally manifest themselves as the progress bar 70 shown in Figure 6. The STB then progressively removes the filter at 68 by allowing those blocked social media events up to the point in the progress of the playback. This may be advanced or rewound as referred to above. Progress in this context is the point in the forward direction of the program at any time in its consumption. The STB control software 20 can overlay the social media posts on the program as it is played back or it can

distribute the posts to another device, such as a smart phone, where connected social media posts are commonly viewed. Such distribution can be achieved by a physical or a wireless connection.

- 5 Having set up a recording and enabled the spoiler filter, the STB 12 is automatically programmed to maintain the spoiler filter but synchronise and progressively to lift the filtering as the playback of the program progresses. It is to be noted that the spoiler filter is only effective on what is to be displayed to the user on the screen 10 or other device. The STB 12 actually progresses the incoming social media feed that would otherwise be a spoiler in order for it to be displayed as the recording of the scheduled program is played back.

- Social media activity, such as posts, includes a time stamp. Therefore, it is possible to adapt the filter to block all social media activity occurring after a time defined by the progress of the user's consumption of the recorded event calculated from the original transmission time for the program when it was recorded. By 'progress' is meant that the time into the recording preferably reflects the fact that the user may fast forward, pause or rewind during consumption of the recording. Progress in this sense does not reflect real-time but the point in the playback of the event. As the program is played back, the STB 12 monitors the progress of the playback and the spoiler filter module adapts to allow previously blocked social media activity that occurred before the point the playback of the program reached when it was originally recorded.

- The synchronisation of the social media feed to the playback of the recorded program can be as follows. The timed reception of the program when transmitted and recorded can be considered as a 'base time'. The playback time is a period on from the base time. At the point at which playback is initiated the period can be derived from an internal clock of the STB12. The base time plus the time from initiating recording to the start of playback defines the start of the period at which the filter begins to lift the temporal block on social media activity. The elapsed time of the program then defines the progressive temporal lifting of the filter. Likewise, if the program is fast forwarded, or rewound to review a previous part of the program played back, the elapsed time of the program can be adjusted to either advance the progression of the filter being removed from the accessed feed or to re-impose it for a rewind.

In this way, the user is not exposed to spoilers but is able to see all previously blocked social media activity up to the point in the progress of the playback as it unfolded when the program was originally transmitted. The user is able to enjoy the social media network activity associated with the program. The filter is active before the program is played back
5 but is also adaptively temporally modified during playback to enable a full social media user experience. When the program has been played back the spoiler filter is disabled. This can be done automatically or at the request of the user interacting with the STB via the remote control device and the screen. After the program has been played back the user may wish to reinstate the non-temporal parameters of the filter if the program played
10 back is a part of a series and the threat of more spoilers continues.

The above embodiments can be applied equally to any form of transmission of video and audio or just audio. The social media activity can be displayed on the screen as an overlay or a separate social media element. Alternatively, the social media activity can be
15 transmitted by the STB to another device for display.

The STB acts as a hub for both the recording and the management of the social media activity. By linking the two the spoiler filter can be defined and linked to the recorded program. Likewise, if a user opts to start over the consumption of the recorded event
20 again or to switch the device on which the event is displayed, the temporal parameter of the filter can be reimposed so that for any playback the social media feed can be synchronised.

In an alternative embodiment, there is an international element by which a widespread
25 broadcast of, for example, the popular television program Game of Thrones in many countries can also be addressed for spoilers and an enhanced form of social media experience alongside viewing the locally recorded program. In this form it has been recognised that a popular show could be transmitted in different countries and most likely at different times either due to time differences within the day or due to different
30 scheduling in terms of days or weeks. Nevertheless a user may wish to experience the social media activity from multiple transmissions of the same program. Within the transmission of the program when recorded the service provider may include times of transmissions of the same program in different countries (or repeats of the program in the same country) for this purpose. The filter module 16 is able to use the additional data to
35 block social media content activity originating in specified countries. On playback the STB 12 is able to concatenate the social media feeds for each country based on the base time

(time of transmission) in each country. In this way the user is able to experience a condensed feed of synchronised social media from multiple countries at the same time as playing back a program recorded in the user's home territory. The system blocks relevant social media feeds until the single recorded program is played back by the user at which
5 time the combined feeds from the different territories (or repeats of the same program) are also displayed with the playback.

In another embodiment the filter criteria are used only to retrieve the social media from the social media server relevant to the program recorded for time shifting.
10

The following embodiments are also disclosed:

1. A system of displaying social and/or other media feed content comprising user equipment configured:
15 for identifying a media event scheduled to be receivable at its scheduled start time;
for receiving a media feed of media content, the user equipment being configurable to enable the time-shifted consumption of the media event after the scheduled start time, and access a database of social media content to select at least the media content relevant to the media event; and
20 for displaying the media feed content by time-shifting to be synchronised with the consumption of the media event.
2. A system according to item 1 including a filter having a blocking function for blocking the media feed content relevant to the media event until the media event is
25 consumed
3. A system according to item 2 in which the filter is configured to progressively display the media feed content such that the blocked content is made available for the period of the media event that has been consumed.
- 30 4. A system according to any of items 1 to 3 in which the user equipment is configured to monitor the consumption of the media event for timing marks and to adapt the block on the social media content as the marks are encountered.
5. A system according to any of items 1 to 4 in which the media event is a scheduled
35 video event receivable to be recorded under the control of the user equipment.

6. A system according to any of items 1 to 5 including a recording apparatus under the specific control of the user equipment for recording the media event.
7. A system according to any of items 1 to 6 including a display device on which the social media content is displayed together with the media event.
8. A system according to item 2 in which the user equipment is configured to define filter criteria based on the characteristics of the media event.
9. A system according to item 8 in which the criteria are derived from program guide information available to the user equipment.
10. A system according to item 8 in which the criteria are derived from program identification information received with the media event.
11. A system according to any of items 1 to 10 in which the user equipment is configured to enable the user to consume the time shifted media event while the media event is being received in real-time.
12. A system according to any of items 1 to 11 in which the media event is one of a series of programs and the criteria include maintaining a block for the series of programs after the recorded program has been consumed.
13. A system according to any of items 1 to 12 in which user equipment is configured to receive social media content from multiple time zones, the social media content being synchronised to a single media event.

While describing various embodiments herein, the skilled person will be aware that various changes and modifications can be made to the teachings without departing from them according to their broader concepts. The following claims are intended to encompass all such modifications and alternatives.

Claims

1. A method of managing social and/or other media feed content comprising:
identifying a media event scheduled to be receivable by user equipment at its
5 scheduled start time;
arranging for the time-shifted consumption of the media event through the user
equipment after the scheduled start time;
accessing a database of media feed content;
selecting from the database at least the social media feed content relevant to the
10 media event according to filter criteria; and
displaying the media feed content by time-shifting to be synchronised with the
consumption of the media event.
2. A method as claimed in claim 1 including setting a filter to block media feed
15 content based on subject matter relevant to the media event until the program is
consumed.
3. A method as claimed in claim 1 or 2 in which the blocked content of the media
feed is progressively displayed such that the blocked content is made available for the
20 period of the media event that has been consumed.
4. A method as claimed in any of claims 1 to 3 in which the progress of the media
event is monitored for timing marks as the event is consumed to cause the filter to adapt
the block as the marks are encountered.
25
5. A method as claimed in any of claims 1 to 4 in which the media event is a
scheduled video event receivable to be recorded under the control of the user equipment.
6. A method as claimed in any of claims 1 to 5 in which the media feed content is
30 displayed on a screen together with the video.
7. A method as claimed in any of claims 1 to 6 in which the block on the content of
the media feed is defined by the user equipment based on the characteristics of the media
event.

8. A method as claimed in any of claims 1 to 7 in which the media event is consumed by the user as a recording while the same media event is still being transmitted in real time.
- 5 9. A method as claimed in claim 8 in which the criteria are derived from program guide information available to the user equipment.
10. A method as claimed in claim 8 in which the criteria are derived from program identification information received with the media event.
- 10 11. A method as claimed in any of claims 1 to 10 in which the media event is one of a series of events and in which the criteria include maintaining the block for the series of events after the media event has been consumed.
- 15 12. A method as claimed in any of claims 1 to 11 in which the social media are from territories in multiple time zones, the social media content being synchronised to a single media event.
- 20 13. A method as claimed in any of claims 1 to 12, wherein arranging for the time-shifted consumption of the media content comprises enabling time-shifted consumption of the media event while the media event is being received in real-time.
14. A system of displaying social and/or other media feed content comprising user equipment configured to implement a method as claimed in any of claims 1 to 13.
- 25 15. A computer program product, optionally one or more tangible, non-transient, computer readable media, comprising coded instructions which, when executed on a computing processor, implement a method according to any of claims 1 to 13.

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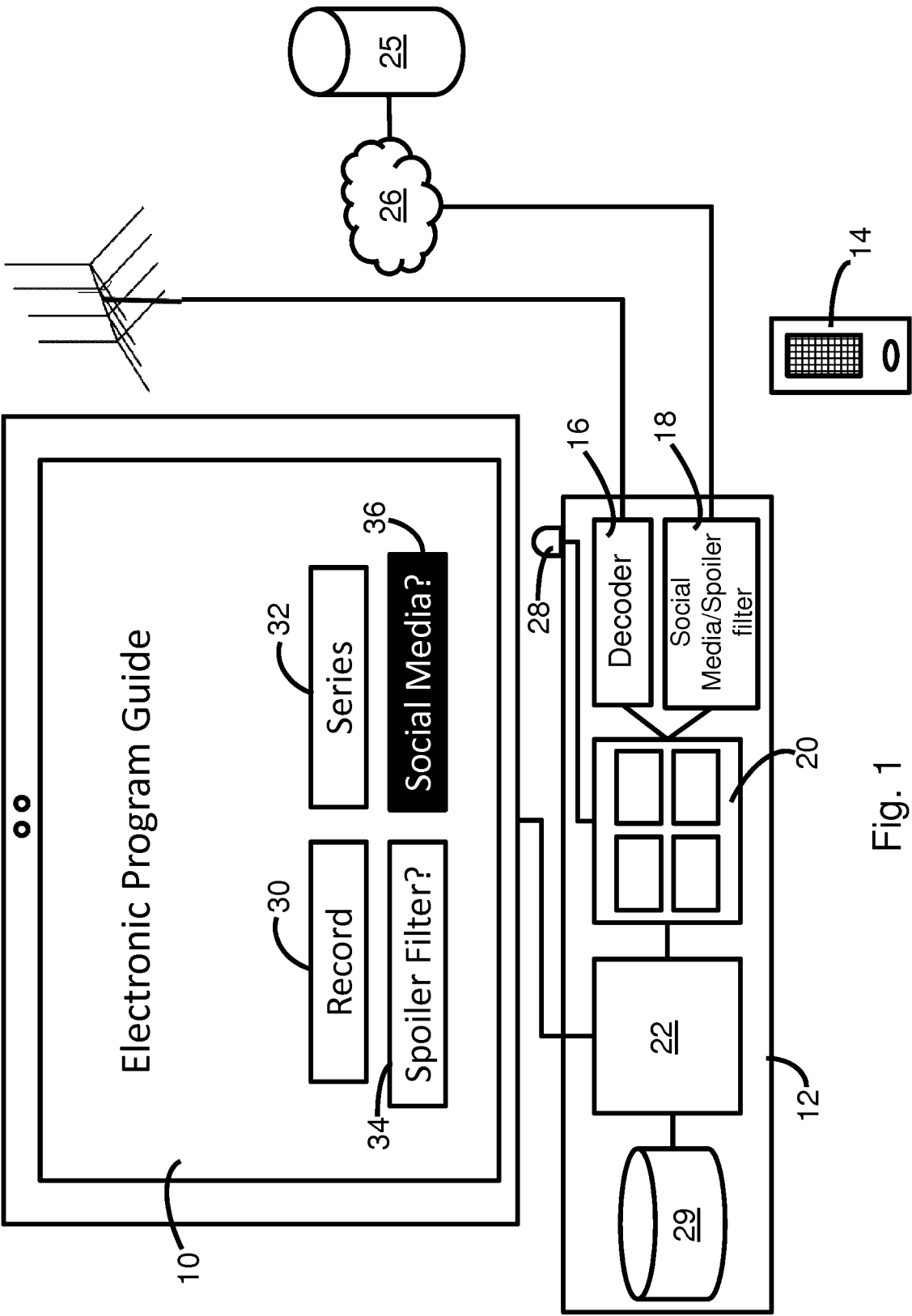


Fig. 1

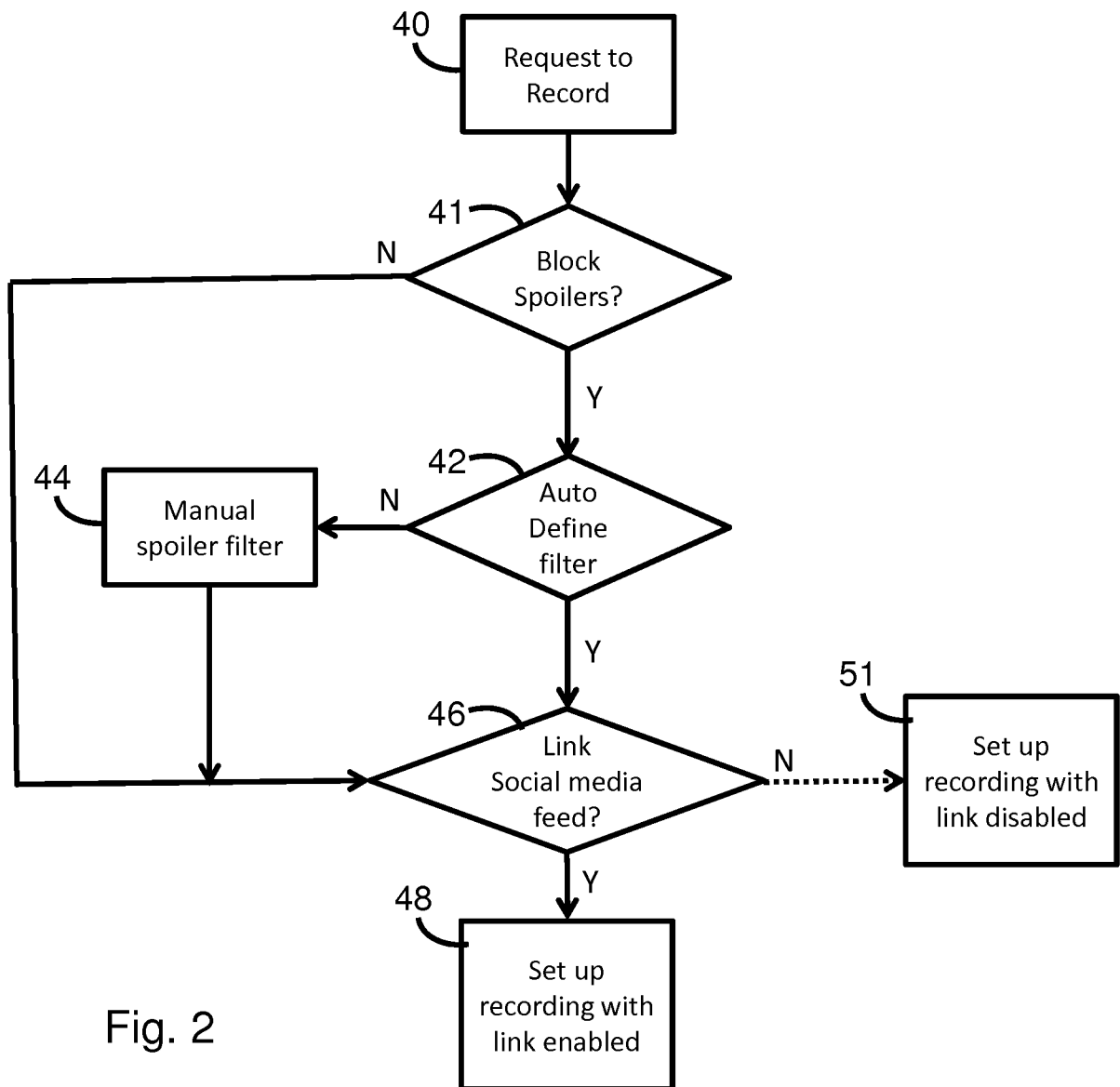


Fig. 2

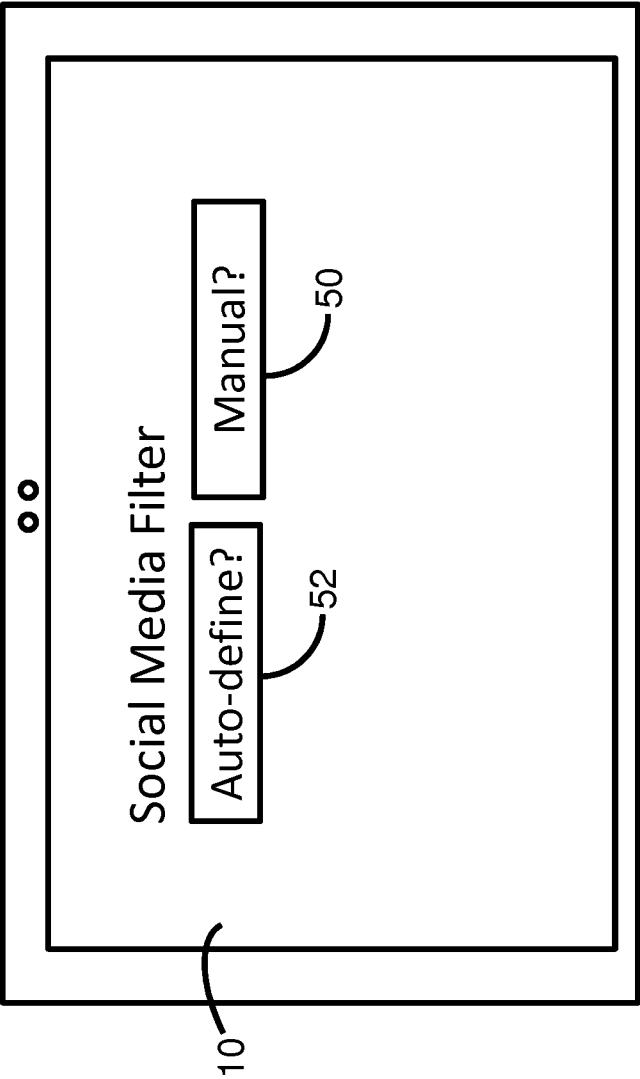


Fig. 3

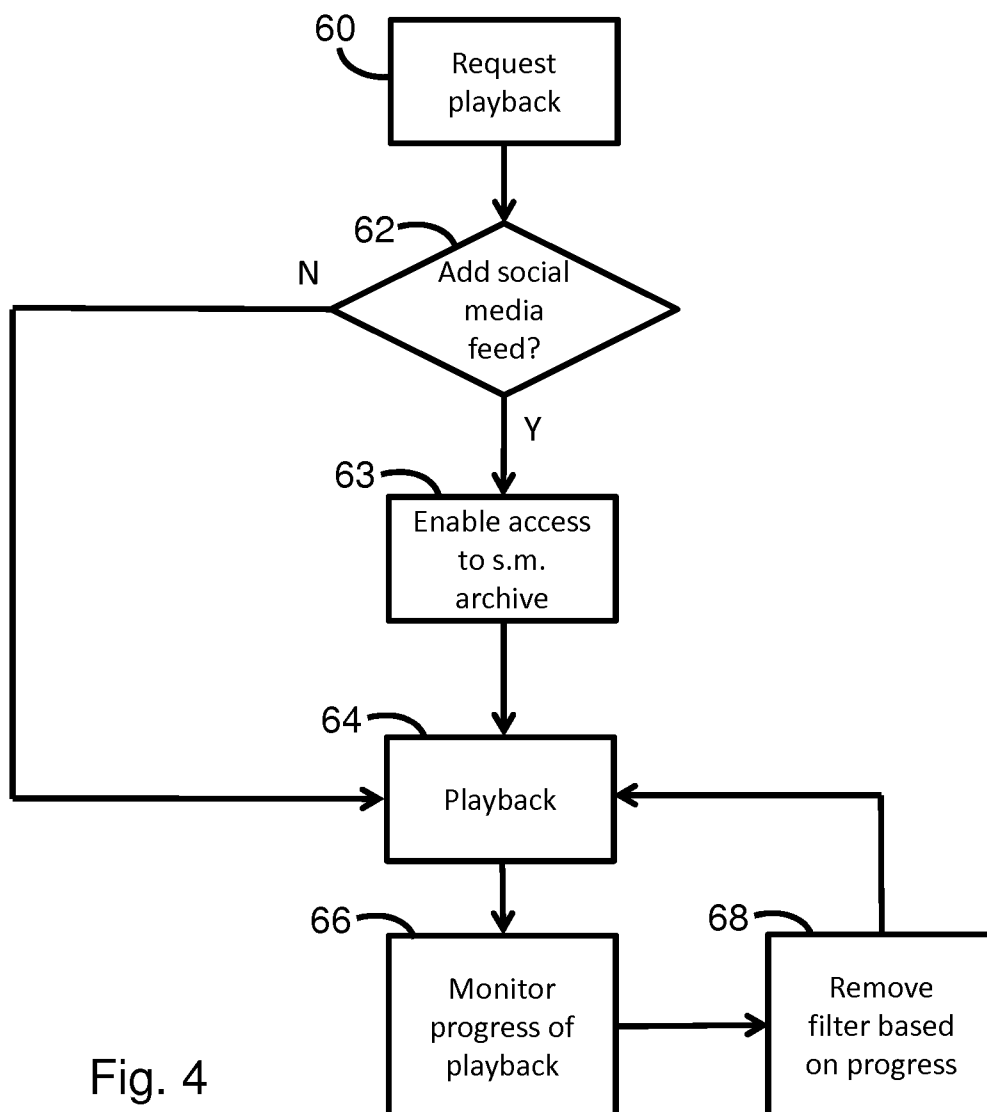


Fig. 4

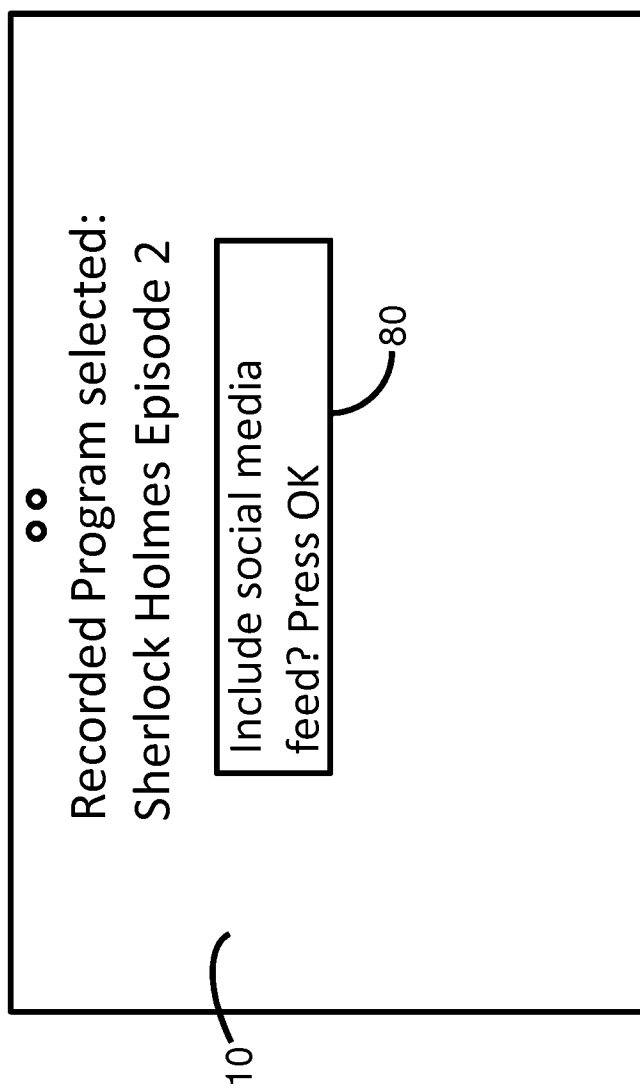


Fig. 5

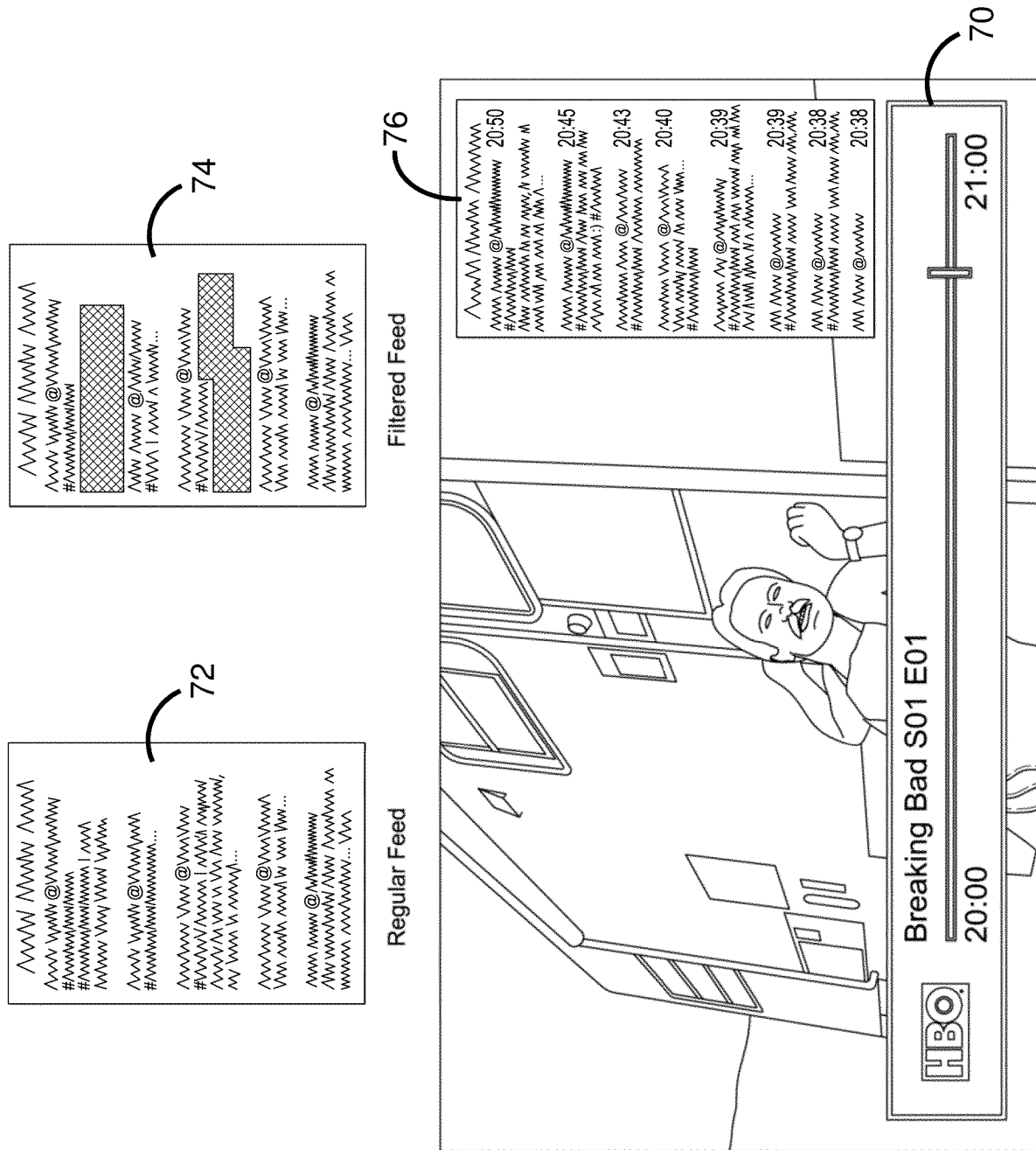


Fig. 6

Example social media rewind

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2017/050504

A. CLASSIFICATION OF SUBJECT MATTER
INV. H04N21/472
ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
H04N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2015/271546 A1 (KIM JAMES CHIHOON [US]) 24 September 2015 (2015-09-24) paragraphs [0001], [0005] - [0008], [0020] - [0022] paragraphs [0026], [0032] - [0035], [0038] - [0051] -----	1-15



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents :

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2015271546	A1	24-09-2015	NONE
