



(86) Date de dépôt PCT/PCT Filing Date: 2018/10/26
(87) Date publication PCT/PCT Publication Date: 2019/05/02
(45) Date de délivrance/Issue Date: 2022/11/08
(85) Entrée phase nationale/National Entry: 2020/04/27
(86) N° demande PCT/PCT Application No.: JP 2018/039899
(87) N° publication PCT/PCT Publication No.: 2019/083018
(30) Priorités/Priorities: 2017/10/27 (US62/577,924);
2018/03/23 (JP PCT/JP2018/011619)

(51) Cl.Int./Int.Cl. *H04N 21/47* (2011.01),
G06Q 30/02 (2012.01), *H04N 21/2543* (2011.01),
H04N 21/2743 (2011.01)
(72) Inventeur/Inventor:
KIYOOKA, TETSURO, CA
(73) Propriétaire/Owner:
KIYOOKA, TETSURO, CA
(74) Agent: RIDOUT & MAYBEE LLP

(54) Titre : SYSTEME ET PROCEDE DE LECTURE DE TRANSMISSION VIDEO EN CONTINU
(54) Title: VIDEO STREAMING PLAYBACK SYSTEM AND METHOD

(57) **Abrégé/Abstract:**

To provide an arrangement that enables video hosting website operators and content creators to obtain revenue. A video streaming playback system comprising a video playback module, a tipping module, a video download button/link display module, an ad module, and a video provision options control module; the video provision options control module providing options regarding (1) whether to operate the tipping module to accept s, (2) whether to operate the download button/link display module to permit videos to be downloaded, and (3) whether to operate the ad module to display ads to the user who is a video provider, enabling the selection of option (2) and prohibiting the selection of option (3) and the operation of the ad module when a selection to accept tips has been made for option (1), and prohibiting the operation of the tipping module and the video download button/link display module and enabling the selection of option (3) when a selection not to accept tips has been made for option (1).

ABSTRACT

To provide an arrangement that enables video hosting website operators and content creators to obtain revenue.

A video streaming playback system comprising a video playback module, a tipping module, a video download button/link display module, an ad module, and a video provision options control module; the video provision options control module providing options regarding (1) whether to operate the tipping module to accept s, (2) whether to operate the download button/link display module to permit videos to be downloaded, and (3) whether to operate the ad module to display ads to the user who is a video provider, enabling the selection of option (2) and prohibiting the selection of option (3) and the operation of the ad module when a selection to accept tips has been made for option (1), and prohibiting the operation of the tipping module and the video download button/link display module and enabling the selection of option (3) when a selection not to accept tips has been made for option (1).

VIDEO STREAMING PLAYBACK SYSTEM AND METHOD

FIELD OF THE INVENTION

[0001]

The present invention pertains to a video streaming playback system for providing video hosting service, and to a method for the same.

BACKGROUND OF THE INVENTION

[0002]

Recently, there are numerous services for video hosting websites; because of their convenience, these services have been attracting increasing numbers of users from year to year, and are recognized by society at large.

[0003]

Video hosting website services can be broadly divided into two types.

[0004]

One type is video hosting sites of the ad-supported model, in which users can watch videos for free in return for viewing ads (videos/images/audio/text); examples of these services include YouTube, Facebook video, and dailymotion (all registered trademarks). The other type is the subscription-based model, in which users pay a fee to watch videos; examples of these services include NetFlix, Amazon Video, and YouTube Red (all registered trademarks).

[0005]

Video hosting websites of the first type, the ad-supported model, have the drawback that, while users can view videos for free, many users are annoyed by the ads on the video sites. Ads on video sites are primarily online targeted advertising, wherein a user's video watching history and the user's residence (geographical location; determined from the IP address of the site connection), age, sex, etc., are determined, and, based on this information, the site operator shows ads to the targeted users requested by the advertiser. This arrangement allows for highly cost-effective advertising. However, this also means that the disclosure and collection of private information is the price users pay to view videos for free. Moreover, no matter how advanced online targeted ad technology may become, users simply want to watch videos, and it is natural for users to be annoyed by their videos being interrupted by ads.

[0006]

Moreover, in the ad-supported model, it is difficult for a user to confirm the quality of video content before viewing the video, and some content creators, taking advantage

of the way the ad-supported model works, put extreme titles and thumbnails on videos of low content quality to attract users, and there are also numerous fake videos and ad videos that profiteer off the ad revenue from the video ads that play before a video is viewed.

[0007]

As concerns video ratings, the ratings of good (Like) and bad (Dislike) on YouTube and Facebook Video, for example, are based merely on the subjective impressions of individual users, and are not theoretical.

[0008]

In addition, video hosting websites of the ad-supported model present the problem of forbidding the downloading and saving of all videos, including videos for which copyright ownership has been made explicit, on user terminals. Such websites also prevent background playback, which would allow a user to listen to video music while in another browser or application. The reason for this is that downloading and saving videos to personal terminal allows users to view videos offline, which means circumventing highly cost-effective online targeted advertising and making it difficult to obtain ad revenue. In addition, for users to listen to video music in the background, without visiting the video site, means circumventing advertising. In fact, YouTube has rolled out another video service (YouTube Red) that is ad-free and enables downloading and saving of videos and background playback for a subscription (monthly), which shows that subscription services must take the place of ad revenue in order to provide ad-free service that offers video downloading and saving and background playback.

[0009]

Meanwhile, video hosting websites of the subscription-based model do not disclose the contents of videos, and are configured so that viewers have no way of knowing the contents of video content, and must pay a fee unilaterally set by the video site before having any way of knowing the value of videos. On paid sites, users have no way of judging the value of video content, and must pay a unilaterally set fee in advance, which is not a fair transaction, and subjects users to risk.

SUMMARY OF THE INVENTION

Problem to be Solved by the Invention

[0010]

As explained above, current video hosting websites present problems such as ads, invasion of privacy, the need to pay fees in advance, and the presence of fake videos and ad videos. An object of the present invention is to solve these problems, and provide an

arrangement that enables video hosting website operators and content creators to obtain revenue.

Means for Solving the Problem

[0011]

In order to achieve the object proposed above, a first aspect of the present invention provides a video streaming playback system characterized by comprising:

a video playback module for displaying a video uploaded to a specific video hosting site by a user who is a content creator on a user interface displayed on a computer of a user who is a content consumer so as to enable streaming playback of the video over the Internet;

a tipping module that operates in tandem with a video playback operation performed by the video playback module;

a video download button/link display module that, operating in tandem with a tipping process performed by the tipping module, permits a video download as a reward for the tip;

an ad module that operates in tandem with a video playback operation performed by the video playback module; and

a video provision options control module for allowing a user who is a video provider to select options pertaining to the operation of the tipping module, the video download button/link display module, the video download button/link display module, and the ad module;

the video provision options control module providing options regarding

(1) whether to operate the tipping module to accept tips;

(2) whether to operate the download button/link display module] to permit videos to be downloaded; and

(3) whether to operate the ad module to display ads

to the user who is a video provider; and

enabling the selection of option (2) and prohibiting the selection of option (3) and the operation of the ad module when a selection to accept tips has been made for option (1); and

prohibiting the operation of the tipping module and the video download button/link display module and enabling the selection of option (3) when a selection not to accept tips has been made for option (1);

the tipping module comprising:

a tipping button/link display module that, when the start of video playback by the video playback module is detected, displays an active tipping button/link on the user

interface either during video playback in a manner not interfering with the playback of the video, or after video playback is finished; and

a payment processing module that, in response to a user who is a content consumer operating the displayed active tipping button/link, processes a tip of a specific amount to a user who is a content creator for the playback in question;

the video download button/link display module:

displaying an active video download button/link on the user interface and enabling downloading of the video for which the tip has been paid to a computer of the content consumer in response to the user performing a tipping process for the video; and

not displaying the video download button/link as active if, as the result of the selection for (2), the user has not permitted video downloads in response to tips for (2); and

the ad module displaying, in tandem with a video playback operation performed by the video playback module, a specific ad on the user interface before and/or during the video playback.

[0012]

In accordance with this arrangement, there is constructed a site that excludes the operation of all advertising systems, including user-privacy-infringing targeted ads, and is capable of manifesting completely ad-free video streaming, and a tipping system (payment system) that operates in tandem with video playback, and a system is provided whereby, according to user selections, a user can assess the value of a video while or after watching the video and use a tipping button on the site to decide upon an amount and pay a fee, and downloading of the video can be allowed as a reward for the tip.

[0013]

In accordance with a preferred embodiment of the present invention, the tipping module further comprises a video rating generation module that, in response to the tipping process being executed for the video, generates a rating for the video, associates the rating with the video, and stores the rating so as to be displayable to all content consumers on the user interface, and, when a selection is made to accept tips for option (1), the video provision options control module displays the video rating generated by the video rating generation module on the user interface.

[0014]

In this case, it is preferable that the video rating generation module calculate a tipping frequency (payment count $\div$ view count), and generate the video rating on the basis of the tipping frequency. It is more preferable that the video rating be displayed on the user interface so as to be displayable to all content consumers in the form of a number

(numerical value) or stars (number of stars).

[0015]

A second main aspect of the present invention is a video streaming playback method characterized by using a video streaming playback system comprising:

a video playback module for displaying a video uploaded to a specific video hosting site by a user who is a content creator on a user interface displayed on a computer of a user who is a content consumer so as to enable streaming playback of the video over the Internet;

a tipping module that operates in tandem with a video playback operation performed by the video playback module;

a video download button/link display module that, operating in tandem with a tipping process performed by the tipping module, permits a video download as a reward for the tip;

an ad module that operates in tandem with a video playback operation performed by the video playback module; and

a video provision options control module for allowing a user who is a video provider to select options pertaining to the operation of the tipping module, the video download button/link display module, the video download button/link display module, and the ad module;

the method comprising a step wherein the video provision options control module provides options regarding:

(1) whether to operate the tipping module to accept tips;

(2) whether to operate the download button/link display module to permit videos to be downloaded; and

(3) whether to operate the ad module to display ads;

and comprising:

a step of enabling the selection of option (2) and prohibiting the selection of option (3) and the operation of the ad module when a selection to accept tips has been made for option (1); and

a step of prohibiting the operation of the tipping module and the video download button/link display module and enabling the selection of option (3) when a selection not to accept tips has been made for option (1);

the tipping module comprising:

a step, when the start of video playback by the video playback module is detected, of displaying an active tipping button/link on the user interface either during video playback in a manner not interfering with the playback of the video, or after video

playback is finished; and

a step, in response to a user who is a content consumer operating the displayed active tipping button/link, of processing a tip of a specific amount to a user who is a content creator for the playback in question;

the video download button/link display module comprising:

a step of displaying an active video download button/link on the user interface and enabling downloading of the video for which the tip has been paid to a computer of the content consumer in response to the user performing a tipping process for the video; and

a step of not displaying the video download button/link as active if, as the result of the selection for (2), the user has not permitted video downloads in response to tips for (2); and

the ad module comprising:

a step of displaying, in tandem with a video playback operation performed by the video playback module, a specific ad on the user interface before and/or during the video playback.

[0016]

Characteristics other than those set forth above will be apparent from the following description and drawings of embodiments of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0017]

FIG. 1 is a schematic illustration of the system configuration of a video hosting server according to one example of the present invention.

[0018]

FIG. 2 is a schematic illustration of a tipping module of the same.

[0019]

FIG. 3 is a flowchart of a video playback process in the same.

[0020]

FIG. 4 is a schematic illustration of a video playback interface of the same.

[0021]

FIG. 5 is a flowchart of a tipping process in the same.

[0022]

FIG. 6 is a schematic illustration of a payment means setting screen.

[0023]

FIG. 7 is a schematic illustration of a tip setting screen.

[0024]

FIG. 8 is a flowchart of a video download process.

[0025]

FIG. 9 is a schematic illustration of a video upload setting screen.

[0026]

FIG. 10 is a schematic illustration of a screen after a tip payment.

[0027]

FIG. 11 is a flowchart of a video offline playback setting process.

[0028]

FIG. 12 is a flowchart of a video rating process.

[0029]

FIG. 13 is a schematic illustration of a video rating screen.

[0030]

FIG. 14 is a schematic illustration of a dashboard screen of a video owner.

[0031]

FIG. 15 is a schematic illustration of a tip statement screen.

[0032]

FIG. 16 is a schematic illustration of a video management screen.

[0033]

FIG. 17 is a flowchart of a selection process for options pertaining to video provision.

[0034]

FIG. 18 is a schematic illustration of a tip setting screen.

[0035]

FIG. 19 is a schematic illustration of a video playback interface.

Best Mode for Embodying the Invention

[0036]

An embodiment of the present invention will be described hereafter.

[0037]

FIG. 1 is an illustration of a system configuration according to the present embodiment.

[0038]

1. System/server configuration

A video hosting website 100 (the system of the present invention) comprises: a front end server 110 for providing a user interface; and, as a back end for processing video playback and tipping processes, a video provision module 120, a video importing module 121, a video analysis module 122, a digital rights management (DRM) module

123, a tipping module 124, an ad display module 125, a video provision options control module 126, and various databases including a video database 130, a user database 131, a digital rights management database 132, a video analysis database 133, and a flagged-for-review video database 134.

[0039]

Numerous functions known in the art, such as firewall, load balancer, application server, authentication server, fault bypass server, and site management tools, will not be shown in the present embodiment in order to avoid confusion regarding the characteristics of the present invention, but naturally may be provided, as appropriate.

[0040]

The front end server 110 and the modules 120–125 are installed as a program executed by the computer making up the video hosting website 100; this program is expanded in memory by the CPU of the computer in which the program is installed, and executed, as appropriate, to form the various elements of the present invention. The computer on which the server program is installed is preferably a server-class computer comprising a network interface, a peripheral interface, and other elements known in the art. For example, the computer runs on an operating system, such as Linux®, comprising a generally high-performance CPU and a disk storage device for memory. Other types of computers may of course be used, and it is anticipated that more powerful computers developed in the future can be configured as described herein. It is also possible to provide a function installed through one of the elements using a computer program product stored on a computer-readable physical storage medium (e.g., ROM, RAM, hard disk, SSD, or magneto-optical medium).

[0041]

The video hosting website 100 is connected via a network 150 to a content creator (individual, corporation, group) 140 and a viewer (individual, corporation, group) 141 constituting users. The content creator 140 and the viewer 141 run a browser 170 on a computer, portable terminal, etc., and connect to the front end server 110 over the network 150. Typically, the network 150 is the Internet, but may include any combination of LANs, MANs, WANs, mobile, wired or wireless networks, private networks, cellular networks (e.g., the Long-Term Evolution (LTE) network), CDNs (content delivery networks), and virtual private networks. The front end server system 110 can be connected to over the network 150, which can be any network, without limitation.

[0042]

In FIG. 1, the content creator 140 and viewer 141 constituting the users of the video

hosting website 100, as well as their respective user ID 160, browsers 170, and offline programs 180 are shown as single units; however, it goes without saying that an extremely large number (for example, millions) of users can be supported and allowed to communicate with the video hosting website 100 at any time. The users 140, 141 may include a variety of different computer devices. Examples of the user devices 140, 141 include PCs, laptops, smartphones, tablets, information terminals, portable information terminals, portable telephones, mobile telephones, etc. The technology of said field is naturally not limited to the abovementioned devices.

[0043]

The browser 170 can include any application by which a user can access web pages on the World Wide Web. Suitable applications are Apple Safari®, Google Chrome®, Android®, Microsoft Edge®, Internet Explorer®, and any applications adapted so as to be capable of accessing web pages on the World Wide Web, including smartphone and tablet application software. The browser 170 also includes suitable video players, such as HTML5 Player and Adobe Systems' Flash (both registered trademarks), as well as any other player that is usable on the video hosting website 100 and compatible with video film format. Alternatively, a standalone program independent of the browser 170 may access videos.

[0044]

Records of all registered users, including the content creator 140 and viewer 141, are registered and saved in the user database 131 of the video hosting website. The video hosting website 100 maintains records of all registered users using this user database 131. Names, user names, channel names, passwords, email addresses, tip payment information (credit card numbers, online payment information, etc.), tipping settings, tip receipt information (bank account, etc.), tipping records, tip receipt records, private coin information, video viewing records, video upload records, video upload records, video upload settings, uploaded video ratings, rights records, violation records, and ad settings information (whether or not the user wishes to receive ad revenue for uploaded videos, and settings for doing so) are stored in the records for the registered users. Records are also included for users who simply watch videos without being registered on the video site 100.

[0045]

2. Site registration and user ID

It is general practice in web service user registration, not limited to the video hosting website 100, to identify users by email address, telephone number, and registered social media accounts (Facebook, etc.), and later input the information necessary to use the

site services, such as legal name, sex, address, payment information, user name, channel name, etc., to register with the site. After registering with the site, a user is given an ID (identifier) 160, and can utilize the services of the video hosting website 100.

[0046]

As this method of site registration and ID 160 acquisition is standard for website registration at present, it will not be shown in order to avoid confusion regarding the characteristics of the system of the present invention. Other methods of website registration and ID acquisition invented in the future will be applicable to the system of the present invention as long as they are methods in which users are identified by user IDs.

[0047]

3. Unregistered site users

Users not registered with the video hosting website 100 can view videos, but must register with the video hosting website 100 and obtain a user ID 160 in order to utilize services such as paying tips, accepting tips, uploading videos, downloading videos, offline playback, background playback, and posting comments; thus, the operator of the video hosting website 100, through the user interface (not shown) on the front end server 110, notifies unregistered users of the option of registering with the site, and encourages them to do so.

[0048]

4. Uploading videos

A registered user is capable of becoming a content creator 140; to upload digital content to the video hosting website 100, the content creator 140 connects over the network 150 to the video importing module 121 via a video settings user interface 900 (FIG. 9) generated by the front end server 110. The user interface 900 can be accessed by, for example, clicking the “Upload” button 402 in the video viewing interface shown in FIG. 4.

[0049]

When the content creator 140 clicks the “Upload” button 402 in the user interface, it is confirmed whether the provided is logged into the video hosting website 100. If the content creator 140 is logged in, the user ID 160 is identified, and if the content creator 140 is not logged in, a login page is displayed (not shown in the drawings), the provider is made to log in, and the user ID 160 is identified. Unregistered users of the video hosting website 100 are directed to a user registration page (not shown in the drawings) to register as a user and obtain a user ID 160, after which the user ID 160 is identified at login.

[0050]

In the user interface 900 shown in FIG. 9, the video to upload can be designated by selecting the storage location of the video or dragging and dropping the file, and video title, description, tags, and category (903) can be designated. One can also specify (901) whether to accept tips for the video (selection for “Accept tipping for this video” (Yes/No)), (904) whether to display the number of received tips (selection for “Show tipping count on this video” (Yes/No)), (905) whether to accept ad revenue (selection for “Receive advertising revenue” (Yes/No)), and selecting (Yes/No) whether to offer a download reward whereby (902) users who have tipped are permitted to download the video (reward offered). When the “Submit Now” button in the interface is pressed, the video importing module stores the designated video in the video database 130 along with the conditions specified in the interface.

[0051]

The video importing module 121 also assigns an ID (identifier) to and performs initial processing upon the uploaded video. This processing includes format conversion (encoding, transcoding) and compression. The processing also includes data processing involving tagging the user ID 160, video ID, tipping settings set in the user interface, as well as metadata such as video title, description, tags, categories, language, geo-blocking, age restrictions, and video length.

[0052]

Examples of uploaded digital content items include video, audio, and combinations of video and audio. Alternatively, the digital content item may be a still image such as a JPEG or GIF file, or a text file. The item may of course also be live video (streaming data). For simplicity and to describe the present embodiment, the uploaded digital content item will be referred to as a “video”, a “video file”, “video data”, or a “video item”, but these terms are not intended to limit the types of digital content items that can be uploaded.

[0053]

The video analysis module 122 then analyzes the tagged metadata. For this analysis, the module checks for any prohibited words, violence, sexual content, etc., violating terms that have been set by the video hosting website 100 and stored in the video analysis database 133, and also checks for copyrights. Video metadata for previous violations of terms is stored in the video analysis database 133, as is copyright information independently obtained by the operator of the video hosting website 100. Information on movie companies, music labels, television stations, artists, and other music copyright holder registered with the video hosting website 100 as users is also

converted to metadata and stored, and copyright infringements are also checked for. After analysis, the digital rights management (DRM) module 123 performs an encryption process (download-blocking encryption process) on non-problematic videos to block downloading of the video data to user terminals, and a decryption key for unblocking is simultaneously issued. After the encryption process, the video data is stored in the video database 130, and the unblocking decryption key is stored in the digital rights management (DRM) database 132. The uploaded video is also associated with the content creator 140, and the record in the user database 131 is updated and saved.

[0054]

Videos that are judged problematic are stored in the flagged-for-review video database 134, and the operator of the video hosting website 100 checks the video again, and, if there are no problems, the digital rights management (DRM) module 123 performs the encryption process for blocking downloads of the video data to user terminals as described above, and simultaneously issues a decryption key for unblocking. After the encryption process, the video is stored in the video database 130, and the unblocking decryption key is stored in the digital rights management (DRM) database 132. The uploaded video is also associated with the content creator 140, and the record in the user database 131 is updated.

Problematic videos are deleted after being checked by the operator of the video hosting website 100; in this system, metadata for problematic videos is stored in the video analysis database 133 as violation data, and the user violation history in the user database 131 is updated.

[0055]

In this system, the encryption used by the digital rights management (DRM) module 123 to block downloading of videos to user terminals is carried out through a combination of a process that prevents displaying the video on the user browser 170 and a process that prevents the video player from running in the event that the user manages to download the video. If a user attempts to use downloading software to download the video, a warning text is displayed, and, simultaneously, the user violation history for the user ID 160 that attempted the download is updated in the user database 131, and a notification is sent to the operator of the video hosting website 100. The IP address, browser, model information, and terminal number of users not registered with the video hosting website 100 are recorded and saved in the user database 131, and such users are registered as risky users. There are many other methods that can be used for this video content protection through digital rights management (DRM); as demanded by

circumstances, the operator of the video hosting website 100 may utilize an optimal method, and set the same in the digital rights management (DRM) module 123.

[0056]

Video authorship is made up of extremely complex rights, and it may in practice be difficult to detect all copyright infringements using just the video analysis module 122 and the video analysis database 133. Therefore, the video hosting website 100 makes final patrol-based checks, responds to infringement notifications from external parties on a case-by-case basis, and, as necessary, deletes videos and freezes or deletes user IDs 160.

[0057]

5. Viewing videos

The viewer 141 can run the browser 170 and connect to the front end server 110 to view videos that have been uploaded by the content creator 140 to the video database 130.

[0058]

Using the interface displayed by the front end server 110 as illustrated in FIG. 4, the viewer 141 selects and views posted videos according to category, view count ranking, rating ranking, and the settings and video viewing history of the viewer 141, or the viewer 141 inputs search words into a video search system on the front end server 110, videos (titles, descriptions, artist names, tags, etc.) matching the metadata stored and distributed by the video database 130 and the search words inputted by the viewer 141 are displayed as search results, and the viewer 141 selects and views a video. When the viewer 141 selects a video, the video ID is sent to the video provision module 120, the video data is retrieved from the video database 130, and the video provision module 120 sends the video data to the viewer 141 for viewing.

[0059]

As these methods of selecting and searching for videos are standard on video hosting websites, they will not be shown in order to avoid confusion regarding the characteristics of the present invention.

[0060]

The video view count by viewers 141 is recorded by the video provision module 120, and stored in the video database 130 in association with the video.

[0061]

6. Video playback and tipping module

FIG. 2 is a block diagram of the tipping module 124 shown in FIG. 1.

[0062]

In the embodiment shown in FIG. 2, the tipping module 124 comprises a tipping button/link display module 200, a tip processing module 201, a video download button/link display module 202, an offline playback/background playback control module 203, a video rating generation module 204, and a tip revenue module 205.

[0063]

FIG. 3 is a flow chart of a process performed by the tipping module 124.

[0064]

When the video selected by the viewer 141 is played back (step 301 in FIG. 3), the tipping button/link display module 200 receives a video playback signal and operates (step 302), and, as a result of the setting regarding (901) whether to accept tips in the video uploading interface 900 being set to accept payments (Yes), an active tip button 400 is displayed (step 303) as shown in FIG. 4, enabling the viewer 141 to leave a tip. Because other, conflicting remuneration payment means, such as the ad display module 125 in this example, are provided in the system of the present invention, the tipping button/link display module 200 stops the operation or inhibits the activation of the ad display module 125 so that no ads (of any sort, including in-stream ads) are displayed. In the present embodiment, in other words, the tip processing module operates either the tipping button/link display module 200 or the ad display module 125 according to the setting (Yes or No) regarding (901) whether to accept tips.

[0065]

The ad display module 125 displays ads (in-stream ads, etc.) based on the information registered for a user over videos uploaded by the user as the videos are being played back, and may have the same configuration as in existing ad-supported video hosting websites.

[0066]

When the ad display module 125 operates, for example, an “Ads off” button 403 as shown to the side of the “Upload” button 402 in FIG. 4 is provided, the button being configured so as to halt the operation of the ad display module 125 and run the tipping button/link display module 200. The operator may also set a single such button for the video hosting website (video sharing website) as a whole. When the tipping button/link display module 200 is operating, an “Ads ON” button 404 as shown in FIG. 4 may be displayed, the button being configured so as to halt the operation of the tipping button/link display module 200 and run the ad display module 125, the opposite of the process described above, when pressed. In such a case, one or the other of the tip accepting setting 901 and the ad revenue receiving setting 905, which operate in tandem, operates as described above, and 902, 904 also operate in tandem as described above.

As a result, when the operation of the ad display module 125 is stopped using the “Ads Off” button 403, and the tipping button/link display module 200, which is one exclusive option, operates, the tip acceptance setting 901 is forcibly set to Yes, and the ad revenue receiving setting 905 is forcibly set to No, and cannot be selected by the content creator 140. As a result, the video hosting website (video sharing website) becomes completely ad-free, including in-stream ads. In this case (ad-free, ad revenue accepting setting 905 set to No), the content creator 140 uses the user interface 902 to select whether to allow downloading of a video for which a tip has been given to a user terminal as a reward (rewards on) or not to allow such downloading (rewards off).

[0067]

Next, when the viewer 141 clicks on the tip button 400, the tip processing module 201 operates in response to the tip request (step 304), the tip processing module 201 maps video ID, user ID 160, tipping settings, tip payment settings, and tip amount settings (step 305), and a tipping details confirmation screen not shown in the drawings is returned to the viewer 141 (step 306).

[0068]

When the viewer 141 has confirmed the tip details and clicks the confirm tip button (not shown), the tip processing module 201 receives the confirmation signal (step 307) and starts a payment approval process for the tip from the viewer 141 (step 308). If the tipping settings of the viewer 141 are set to prepaid tip coins, the number of prepaid tip coins in the wallet of the viewer 141 is confirmed in the user database 131, the number of coins requested by the viewer 141 is withdrawn, and payment with prepaid tip coins is approved (step 309). If the viewer 141 has insufficient prepaid tip coins, and the number of tip coins requested by the viewer 141 cannot be paid, the user interface 700 for purchasing prepaid tip coins shown in FIG. 7 is displayed, and the viewer 141 is directed to purchase prepaid tip coins.

[0069]

The number of prepaid tip coins in the wallet of the viewer 141 is displayed on the user interface 605 shown in FIG. 6. If the tipping settings of the viewer 141 are set to credit card, electronic payment, or the like, the tipping processor 201 sends a payment approval request to the payment company, and obtains payment approval from the payment company (step 309). If the payment cannot be approved, a payment error message (not shown) is displayed to the viewer 141. When the tip payment has been approved, a tipping complete message is displayed to the viewer 141 (step 310), a tip ID is simultaneously issued (step 311), and the information in the user database 131 and the video database 130 are updated and saved in association with the user ID 160 and the

video ID (step 312).

[0070]

FIG. 5 is a flow chart of a tipping process accompanied by tipping settings of the viewer 141 that accompany the flow of the process performed by the tipping module 124 in FIG. 3.

[0071]

When the video starts playing and the viewer 141 clicks the active tip button 400 (FIG. 4) (step 501), the process continues to step 502, and the tip processing module 201 confirms whether the viewer 141 is logged into the video hosting website 100. If the viewer 141 is logged in, the user ID 160 is identified, and, if the viewer 141 is not logged in, the process continues to step 503, in which the viewer is made to log in, and the user ID 160 is similarly identified. Users not registered with the video hosting website 100 are directed to a user registration page (not shown), and the user is registered and issued a user ID 160, then logged in.

Next, in step 504, the tip processing module 201 confirms the tip payment settings of the viewer 141. Viewers 141 who have set their tip payment settings are sent to step 506, and viewers 141 who have not yet set their tip payment settings are sent to step 505, set various means, such as prepaid tip coin payment 604 or credit card/electronic payment 606, for the tip payment settings in the user interface 600 shown in FIG. 6, and are then sent to step 506.

[0072]

A section for setting an amount for a single tip is present in the upper part of the user interface 600 for tip payment settings, and a section for setting payment method in the lower part. For single-payment tip amounts, the viewer can select and set automatic (601), wherein a fixed amount is paid for each click, and manual (603), wherein the viewer manually sets the payment amount each time. The payment method for each tip can be set in the lower section; viewers can select a prepaid tip coin payment 604 or a credit card or electronic payment 606.

[0073]

If a prepaid tip coin payment 604 is selected, the viewer must purchase a specific quantity of tip coins in advance using the interface 700 shown in FIG. 7; this process will be described later.

[0074]

In step 506, the tip processing module 201 confirms the settings of the tip button 400 of the viewer 141. Once the amount per click setting 602 for the automatic tipping setting 601 has been set, the viewer 141 is sent to step 508. If the manual tipping setting

603 is set, the viewer 141 is sent to step 507, inputs the tip amount, and is then sent to step 508.

[0075]

In step 508, the tip processing module 201 displays a tipping details confirmation screen (not shown) for the viewer 141. Once the viewer 141 has confirmed the tip details and clicked the tip confirmation button (step 509), a tipping complete screen is displayed, and payment of the tip is complete (step 510).

[0076]

The tip processing module 201 accesses the video database 130, and updates tip information (dates, amounts, etc.) for the video.

[0077]

If the viewer 141 does not click the tip button 400 in step 501, the tip processing module 201 will not operate. If the content creator 140 has opted not to accept tips (set to No) in the user interface 901, the tip button 400 will not be displayed, and the tipping module 124 will not operate. The tip acceptance settings for the content creator 140 for each video can be confirmed and changed using user interfaces 1600, 1601, even after the videos have been uploaded.

[0078]

“Steps 504/505” and “steps 506/507” are processed in the order of “steps 504/505” followed by “steps 506/507” in FIG. 5, but may also be processed in the opposite order.

[0079]

7. Downloading/saving videos

FIG. 8 is a flow chart of the operation of the video download button/link display module 202 when a tip is given. When the viewer 141 has finished paying a tip, the video download button/link display module 202 receives a signal from the tip processing module 201 and activates (step 801), and confirms the video download permission setting 902 set by the content creator 140 (step 802). If permission to download the video has been granted, the process proceeds to step 803, the video download button/link display module 202 requests the digital rights management (DRM) module 123 for the decryption key that will unblock downloading and saving the video, and the digital rights management (DRM) module 123 retrieves the decryption key for unblocking downloading and saving of the video from the digital rights management (DRM) database 132, and sends the decryption key to the video download button/link display module 202.

[0080]

The video download button/link display module 202 maps the decryption key for

unblocking downloading and saving, video ID, user ID 160, and tip ID (step 804), unblocks the viewer 141 from downloading and saving the video, generates a download button 1001 and a background playback button (video screen off, audio-only playback) 1003, and displays the buttons on the user interface (step 805).

[0081]

When the viewer 141 clicks the download button 1001 (step 806), the video download button/link display module 202 receives said request (step 807), confirms the video data in the video database 130, and displays the downloadable file size (step 808).

[0082]

When the viewer 141 selects the desired video file to download, the video download button/link display module 202 retrieves the designated video file from the video database 130 and sends the file to the viewer 141, and the viewer 141 downloads and saves the file to the terminal (step 809).

[0083]

When the viewer 141 has finished downloading and saving the file, a download complete screen is displayed (step 810).

[0084]

By saving the video data in his or her own terminal, the viewer 141 can play the video whenever desired, and can also use the background playback button (video screen off, audio-only playback) 1003 generated by the user interface to play the video in the background.

[0085]

A “download ready” display 1002 is not displayed on the tip button 400 for videos for which the content creator 140 has indicated No for the video downloading/saving setting (rewards on/off setting) 902, and the video cannot be downloaded and saved even if the viewer 141 offers a tip. After video upload, the content creator 140 can log into a user account page (not shown) and access a user interface 1600 from a Manage Videos button (not shown) to confirm and change tip acceptance settings and downloading/saving permission settings (rewards on/off) for each video in 1601.

[0086]

The viewer 141, as desired, can also download dedicated application software provided by the video hosting website 100 to view videos. The application software is provided with a dedicated video player, and comprises various functions associated with playing back downloaded and saved videos, such as a dedicated background playback button (video screen off, audio-only playback), a video playlist creation function, etc.

[0087]

8. Offline playback

FIG. 11 is a flow chart for the operation of the offline playback/background playback control module 203 when a tip is given.

[0088]

When the viewer 141 has finished paying a tip, the offline playback/background playback control module 203 receives a tipping complete signal from the tip processing module 201 and activates (step 1100). Next, the video downloading/saving permission setting (rewards on/off) 902 set by the content creator 140 is confirmed (step 1101). If downloading of the video is permitted (rewards offered), the process proceeds to step 1102, and, if downloading of the video is not permitted (rewards not offered), the offline playback/background playback control module 203 does not activate, and the process ends. Next, the offline playback/background playback control module 203 generates an offline program 180 (step 1102). The offline program 180 generated by the offline playback/background playback control module 203, as well as the download/saving unlocking decryption key, video ID, user ID 160, tip ID, and video data mapped when the tip was paid, are saved to memory (cache, ROM, RAM, etc.) in the user terminal (step 1103). When the user launches the browser 170 offline and attempts to connect to the video hosting website 100 (step 1104), the offline program 180 receives an offline signal from the terminal operation system (not shown) of the viewer 141, and activates (step 1105). Next, in step 1103, the offline program 180 accesses the location in the memory of the terminal of the viewer 141 at which the video data is saved, reads the video data, and displays an offline-playable video in the browser 170 (step 1106). When the viewer 141 selects a playable video, the offline program 180 receives the request (step 1107), retrieves the video data from the memory of the terminal of the viewer 141 in which the video data is saved, and plays the video (step 1108). A background playback button (video screen off, audio-only playback) 1003 is generated in the video player for videos for which tips have been paid, enabling the user to play the videos in the background while working in another browser or application software. In step 1103, the background playback button (video screen off, audio-only playback) 1003 is generated in the video player, enabling the user to play the videos in the background while working in another browser or application software.

[0089]

The offline program 180 does not activate in online environments. The offline playback/background playback control module 203 does not activate for videos for which the content creator 140 has turned off the video downloading/saving permission setting 902. After uploading videos, the content creator 140 can confirm and change the

download/saving permission setting for each video in interfaces 1600, 1601.

[0090]

Viewings of downloaded videos are counted toward the view count, and stored in the video database 130.

[0091]

9. Video rating based on tipping frequency (%)

The video rating generation module 204 is provided with an algorithm for calculating video rating in tandem with tips. The video rating calculation algorithm is based on tipping frequency, calculated according to the following formula.

[0092]

· Tip payment count ÷ video view count = tipping frequency (%)

An ordinary counting method may be used to determine the tip payment count and the video view count; to calculate a more accurate rating, the unique tip payment count and unique video view count may be determined.

[0093]

This is because a more accurate video rating can be calculated by counting multiple tips paid by the same user for the same video as only one tip, and counting multiple viewings of the same video by the same user as only one view. As discussed above, the video database 130 and user database 131 save all of a user's video viewing records and tipping records, enabling calculation of the unique tip count and unique view count. As circumstances demand, the operator of the video hosting website 100 calculates the tipping frequency (%) from the unique tip count and the unique video view count.

[0094]

FIG. 12 is a flow chart of the operation of the video rating generation module 204 when a tip is given.

[0095]

When the viewer 141 has finished paying a tip, the video rating generation module 204 receives a tipping complete signal from the tip processing module 201 and activates (step 1201). The video rating generation module 204 uses a predetermined rating algorithm to confirm rating eligibility conditions (such as minimum view count); thus, the module confirms the video view count with the video database 130, and checks the view count against the set rating eligibility conditions (step 1202). If the conditions are met, the process continues to step 1203; if the conditions are not met, the video rating generation module 204 terminates without rating the video.

[0096]

In step 1203, the video rating generation module 204 confirms the video category

set by the content creator 140 in the user interface 903, and applies the algorithm set for each video category to calculate and generate the video rating. The reason why an algorithm is set for each video category is that video categories (e.g., educational, cars, how-to, music, etc.) have different tipping frequencies, with some categories having high tipping frequencies and some categories having low tipping frequencies. Setting an algorithm for each video category makes it possible to calculate more accurate ratings. The process then proceeds to step 1204, wherein a number (numerical value) and stars reflecting the video rating generated in 1203 are displayed, as indicated by label 401 in the user interface 400 shown in FIG. 4. Simultaneously, the video rating is reflected in the video search results display order, as well as in the video ranking order. The video database 130 and user database 131 pertaining to video rating calculation are then updated and saved (step 1205).

[0097]

10. Example tipping frequency rating algorithm (by rank)

One example of a rating algorithm based on tipping frequency (%) used in the system according to the present invention is to assign high rankings to videos having high tipping frequencies and low rankings to videos having low tipping frequencies, as shown in Table 1 below, and calculate ratings according to rank.

[0098]

In this case, the tipping frequency rating is expressed in numbers (numerical values) and stars (numbers of stars) on a ten-rank scale of 0.5–5.0 (ten-point method), with the highest rating being 5.0 and the lowest rating being 0.5. An algorithm is set for each video category, and rating eligibility conditions (minimum view count, etc.) are set.

[Table 1]

Not eligible for rating	☆☆☆☆☆	0.0	Fewer than 100 views, or no tips received
Rating	Rating (stars)	Rating (number)	Rating according to rank
Lowest rating	★☆☆☆☆	0.5	Lower 5.00% or less
	★★☆☆☆	1.0	Lower 10.00% to 5.01%
	★★★☆☆	1.5	Lower 20.00% to 10.01%
	★★★★☆	2.0	Lower 35.00% to 20.01%
	★★★★★	2.5	Lower 50.00% to 35.01%
	★★★★★	3.0	Upper 49.99% to 35.01%

	★★★★☆	3.5	Upper 35.00% to 20.01%
	★★★★☆	4.0	Upper 20.00% to 10.01%
	★★★★★	4.5	Upper 10.00% to 5.015
Highest rating	★★★★★	5.0	Upper 5.00% or higher

Table 1: Example of rating algorithm based on tipping frequency rank

[0099]

11. Example tipping frequency rating algorithm (by averages)

Another example of a rating algorithm, as shown in Table 2, is based on average tipping frequency (%), with a ten-stage scale (ten-point method) in which the range from highest tipping frequency (%) to average tipping frequency (%) is divided into five stages, and the range from average tipping frequency (%) to lowest tipping frequency (%) is divided into five stages, and a numerical range is calculated for each rating.

[0100]

In this method, if, for example, the average tipping frequency is 7.50%, the highest value is 30.00%, and the lowest value is 0.10%, the range from (A) the highest value of 30.00% (stars: 5.0) to the average value of 7.50% is divided into five stages, and the range from (B) the lowest value of 0.10% (stars: 0.5) to the average value of 7.50% is divided into five stages. As a result, a numerical range for each rating is calculated as follows.

[0101]

(A) $30.00\% \text{ (max. value)} - 7.50\% \text{ (average value)} = 22.50\% \div 5 \text{ (stages)} = 4.50\%$
(numerical range)

(B) $7.50\% \text{ (average value)} - 0.10\% \text{ (min. value)} = 7.40\% \div 5 \text{ (stages)} = 1.48\%$
(numerical range)

It is also possible to set an algorithm for each video category, and to set rating eligibility conditions (minimum view count, etc.).

[0102]

The rating thus calculated is expressed with stars and number of stars, as indicated by label 401 in the interface in FIG. 4.

[Table 2]

Not eligible for rating	☆☆☆☆☆	0.0	Fewer than 100 views, or no tips received	
Value	Rating (stars)	Rating (number)	Tipping frequency (%)	Numerical range (%)
Minimum	★☆☆☆☆	0.5	0.10% or less to 1.58%	1.48%

value				
	★☆☆☆☆	1.0	1.59% to 3.06%	1.48%
	★★☆☆☆	1.5	3.07% to 4.54%	1.48%
	★★★☆☆	2.0	4.55% to 6.02%	1.48%
	★★★★☆	2.5	6.03% to 7.50%	1.48%
	★★★★★	3.0	7.51% to 12.00%	4.50%
	★★★★★	3.5	12.01% to 16.50%	4.50%
	★★★★★	4.0	16.51% to 21.00%	4.50%
	★★★★★	4.5	21.01% to 25.50%	4.50%
Highest rating	★★★★★	5.0	25.51% to 30.00% or greater	4.50%

Table 2: Example of algorithm based on average tipping frequency

[0103]

12. Rating algorithm based on total received tips

In the system according to the present invention, it is also possible to set an algorithm based on total received tips for the video in the video rating generation module 204. This is because videos that have high total received tips can be defined as highly rated. However, this method has the drawback that videos that have been posted for longer periods will inevitably have higher total received tips, and statement periods (1 hour, 3 hours, 24 hours, weekly, monthly, annual, etc.) are set, and total received tips for each video are calculated. In addition, because tip amounts for the same video will differ from user to user due to the personal circumstances (income, etc.) of users, this approach will inevitably be less reliable than the tipping-frequency-based algorithm described above. For this reason, while this total-received-tips-based algorithm can be used alone, it is better to construct an algorithm in combination with the tipping-frequency-based algorithm.

[0104]

The calculation method (rating according to rank) described in Table 1 can be applied to this total-received-tips-based algorithm, with videos being ranked according to total received tips, and ratings being calculated according to a ten-stage scale (ten-point method) and expressed in numbers (numerical values) and stars (numbers of stars). The calculation method described in Table 2 (rating based on average values) can similarly be applied, with the algorithm being based on average total received tips, the range from the highest total received tips to the average total received tips being divided into five stages, the range from the average total received tips to the lowest total received tips being divided into five stages, a numerical range being calculated for each

rating, and ratings being expressed on a ten-stage scale (ten-point method). An algorithm is set for each video category, and rating eligibility conditions (minimum view count, etc.) are set.

[0105]

13. Average of multiple ratings algorithm

In the system according to the present invention, it is also possible to calculate a rating from the average of the rating calculated from tipping frequency as described in sections 10 and 11 above and the rating calculated from total received tips as described in section 12 above. For example, a tipping frequency rating of 4.5 and a total received tips rating of 4.0 yields the following value.

$$(4.5 + 4.0) \div 2 \text{ (number of algorithms)} = 4.25 \text{ (average rating)}$$

This rating is not expressed on a ten-stage scale, but as a numerical value (to two decimal places), and stars in combination with the numerical value. While the average rating is calculated from two algorithms in this example, more than two algorithms may also be used.

[0106]

The video rating calculation algorithms described above and in the previous sections are merely examples; various video rating algorithms based on the tipping frequency or tip revenues obtained from user tips can be set in the video rating generation module 204. While the video ratings are expressed on a ten-stage scale (ten-point method) in the examples above, they can also be expressed, for example, via a 100-point method (maximum 100 to minimum 1).

[0107]

Apart from numbers (numerical values) and stars, ratings can be displayed in the user interface using other rating display methods capable of expressing numerical rating values, such as bar graphs.

[0108]

As AI (artificial intelligence) technology advances in the future, it will also be possible to provide more accurate video ratings to users by setting an algorithm combining tipping frequency, tips revenues, and AI in the video rating generation module 204.

14. Rating content creators based on tips

The video rating generation module 204 associates all video ratings pertaining to tips with video ID and user ID 160, and saves them in the video database 130 and the user database 131. The video rating generation module 204 calculates the average rating

for all videos uploaded by a content creator 140, and displays this average rating on a user interface 1301 constituting a personal page for the content creator 140.

[0109]

The average video ratings for content creators 140 are also reflected in the display order of search results yielded by a content creator search system for searching content creators 140. As a result, a user can confirm the rating of a content creator 140 in a timely manner.

[0110]

15. Tip-associated video ranking display

On the video hosting website 100, video rankings are posted on the user interface on the basis of the ratings based on tipping frequency and total received tips described above. Content creator 140 rankings are similarly posted.

[0111]

Ranking periods (1 hour, 3 hours, 24 hours, weekly, monthly, annual, etc.) are established, and highly ranked videos and content creators 140 are listed at the top of the ranking screen, thereby providing users with a timely display of popular videos and popular content creators.

[0112]

16. Accepting tips

After a user has given a tip, the tip revenue module 205 calculates and generates tip revenue shares as decided upon by the content creator 140 and the operator of the video hosting website 100, and the user database 131 for the content creator 140, and the associated video database 130, are updated and saved.

[0113]

For example, revenue shares of 60% for the content creator 140 and 40% for the operator of the video hosting website 100 are agreed upon, and, when a viewer 141 gives a tip of \$1.00, the content creator 140 receives \$0.60 and the operator of the video hosting website 100 receives \$0.40. Once a tip payment is confirmed, the tip revenue module 205 distributes the tip revenue according to conditions (revenue shares, payment conditions, bank account for depositing tips, etc.) agreed upon with the content creator 140.

[0114]

The tip revenue module 205 receives and displays information on tip revenue details (numbers of transactions, times/dates, currencies, amounts, revenue shares, revenue amounts, tip payment dates, tip givers) for all videos uploaded by a user to the user interfaces 1400, 1401, and the details (numbers of transactions, times/dates, currencies,

amounts, payment IDs) for tips given by users for various videos on the user interfaces 1500, 1501, from the video database 130 and the user database 131.

[0115]

If the content creator 140 has opted no for the tip acceptance setting 901 for the uploaded video, the system according to the present invention does not display the tip button 400 on the video screen, making it impossible to receive tips for the video. After video upload, the content creator 140 can log into a user account page (not shown) and access a user interface 1600 from a Manage Videos button (not shown) to confirm and change tip acceptance settings and downloading/saving permission settings (rewards on/off) for each video in 1601.

[0116]

17. Buying and selling prepaid tip coins

In the video hosting website 100 of the present invention, prepaid tip coins are sold through the user interface 700, and are available for purchase by users.

[0117]

In this example, the tip revenue module 205 establishes and displays an exchange rate for currency and tip coins (701). Thus, if, for example, it has been established that USD 1.00 = 1.00 TipCoin, a user can use 1.00 TipCoins to give a tip of USD 1.00. The tip revenue module 205 is configured so that rewards can be included with prepaid tip coins, and is configured so as to be capable of displaying explanations of rewards 702, and awarding reward points as follows, for example.

[0118]

·Prepaid USD 10.00 = 0.10 TipCoins (Reward *0.10 TipCoins)

·Prepaid USD 25.00 = 25.30 TipCoins (Reward *0.30 TipCoins)

·Prepaid USD 50.00 = 51.00 TipCoins (Reward *1.00 TipCoins)

·Prepaid USD 100.00 = 103.00 TipCoins (Reward *3.00 TipCoins)

The monetary amount of rewards may be borne by the operator of the video hosting website 100, in which case the user purchasing the prepaid tip coins profits by indirectly receiving monetary rewards. The operator can also alter and set reward points at any time in the tip revenue module 205.

[0119]

The tip revenue module 205 is also configured so as to enable users to confirm

prepaid tip coin conditions 701 and reward conditions 702 when purchasing tip coins. After confirming these conditions, the user selects the purchase amount 703, selects the payment method 704, inputs the information required to carry out the payment, and clicks an order button 705 to purchase prepaid tip coins.

[0120]

When using a credit card or electronic payment to give a tip, the user must transmit payment information, which is confidential user information, over the Internet every time such a payment is made. However, purchasing prepaid tip coins and using the coins to give tips reduces the number of times confidential user information is transmitted over the Internet, thereby reducing the risk of confidential information being hacked. Naturally, this exchange of confidential information is encrypted, and thus would be of no use to a hacker even if it were hacked. However, as the transmission of confidential information over the Internet is not completely without risk, having users purchase prepaid tip coins reduces the number of times confidential user information is transmitted over the Internet, resulting in increased security.

[0121]

While the term “prepaid tip coin” is used herein, other names that make it clear that users can give tips, such as “prepaid tip points” or “prepaid tip cash”, may also be used.

[0122]

While the service is explicitly described in places in the foregoing description only as being for a content creator 140 and a video viewer 141 for the sake of clarity, the service can be provided to all users that have a user ID 160.

[0123]

18. Download reward settings

Next, the control of the user interface provided to the content creator in “4. Uploading videos” above will be described.

[0124]

The present invention is provided with the video provision options control module 126, which operates so that the tip acceptance setting 901, download permission (reward) setting 902, and accepted tip count display 904 operate in tandem in the user interface shown in FIG. 9.

[0125]

Specifically, the video provision options control module 126 displays the download reward selection 902 and tip count display selection 904 only when the tip acceptance selection 901 has been set to allow (Yes/offer), and the download reward selection 902 and tip count display selection 904 are not active, and cannot be selected or designated,

when the tip acceptance selection 901 has been set to not allow (No/do not offer).

[0126]

Specifically, because the acceptance of ad revenues is a means of receiving remuneration that conflicts with tip payments, the video provision options control module 126 sets the ad revenue acceptance selection 905 to No, and makes it inactive so as not to be selectable, when the content creator has selected to permit (Yes) for the tip acceptance selection 901. As a result, no ads (of any sort, including in-stream ads) are displayed for the video. In other words, the video provision options control module 126 of the present invention is configured to operate either the tip acceptance selection 901 or the ad revenue selection 905 on the basis of the setting (Yes or No) for the tip payment selection 901.

[0127]

As described above, the video provision options control module 126 is configured so that the user selects, on the user interface 902, whether to permit downloading of a video to a user terminal as a reward (rewards on/offered) or not permit downloading (rewards off/not offered) only for videos for which the content creator 140 has permitted tipping.

[0128]

The operation of the video provision options control module 126 described above will now be described in greater detail with reference to the flowchart in FIG. 17.

[0129]

First, when the content creator 140 clicks, for example, the “Upload” button 402 in the user interface shown in FIG. 4 in step 1701, the video provision options control module 126 confirms whether the content creator 140 is already logged in (1702), has the content creator log in if not logged in, and displays a specific user interface 900 (FIG. 9) on the basis of the ID of the user (step 1703). Although the process is not shown in the drawings, if the user is not registered with the video hosting website 100, the user is directed to a user registration page (not shown), is registered, and acquires a user ID 160, which is identified when logging in (1703).

[0130]

Out of a plurality of options 901, 902, 904, 905 selectable by the content creator in the default user interface 900 display, the video provision options control module 126 sets the tip acceptance option 901, tip count selection 904, and download reward selection 902 to active, and sets the ad revenue acceptance selection 905 to No and renders the selection inactive so that it cannot be selected (step 1703). In the present embodiment, Yes has been selected for all of the active options 901, 904, 902.

[0131]

Next, if the content creator changes the tip acceptance selection 901 to No, this is detected in steps 1704, 1705, and the display of the user interface 900 is updated (step 1706). Specifically, in such cases, the tip count selection 904 and the download reward selection 902 are set to inactive, and, in their place, the ad revenue acceptance selection 905 is set to active so as to be selectable (step 1703). As described above, No is selected for the ad revenue selection 905 by default.

[0132]

If the content creator changes the tip acceptance selection 901 to No, then back to Yes, this is detected in steps 1104, 1105, and the display of the user interface 900 is updated, as shown in step 1707. Specifically, in such cases, the tip acceptance selection 901, tip count selection 904, and download reward selection 902 are set to active, and the ad revenue acceptance selection 905 is set to No, and rendered inactive so as to be unselectable.

[0133]

Next, the video provision options control module 126 waits for the user to make selections for the various options (step 1708), and, when the Submit Now button is pressed (step 1709), the video file is uploaded and saved in the video database 130 along with the option settings selected by the user (step 1710).

[0134]

In this arrangement, when the tip acceptance selection 901 is set to Yes, the download reward selection 902 is made active, allowing the user to select whether to permit (offer a reward) or not permit (not offer a reward) downloading and saving of the video when a tip is given for the video (steps 1703, 1707).

[0135]

If video downloading/saving is permitted (a reward is offered) in these steps, a tip button 400 for the video is generated on the user interface shown in FIG. 10, as described above, and a download reward display 1002 is also displayed. As a result, the viewer 141 can confirm that the video offers a download reward. Next, when the viewer 141 gives a tip for the video, the video download button/link display module 202 and offline playback/background playback control module 203 activate, enabling downloading and saving, offline playback, and background playback of the video on a terminal of the viewer 141, as described above.

[0136]

If, in steps 1704, 1705, it is detected that the content creator 140 has not opted to accept tips for the video, and said setting has been saved (step 1710), a tip button 400 is

not generated for the video, the tip button 400 is not displayed on the user interface, and tips cannot be accepted, as described above.

[0137]

If the content creator 140 uses the interface 900 to set the download reward selection 902 to No (no reward offered) for a video for which a tip is given, the download reward display 1002 is not displayed on the tip button 400 for the video on the user interface shown in FIG. 10, and the viewer 141 is capable of confirming that a download reward is not offered for the video. In such cases, the video download button/link display module 202 and offline playback/background playback control module 203 do not activate even if a viewer 141 gives a tip for the video, and the video cannot be downloaded and saved, played offline, or played in the background on the terminal of the viewer 141.

[0138]

After video upload, the content creator 140 can log into and access a user account page (not shown) and access the user interface 1600 shown in FIG. 16 from a Manage Videos button (not shown) to confirm and change tip acceptance settings and downloading/saving permission settings (rewards) for each video in 1601.

[0139]

As concerns the download reward display 1002, a display method other than the download reward display 1002 displayed on the tip button 400 as described above, or a method other than one in which, after a tip payment is confirmed, a download button 1001 and a background playback button 1003 are generated and displayed on the user interface, may be used as long as the viewer 141 is capable of confirming whether or not download rewards are offered for each video, and the video download button/link display module 202 and the offline playback/background playback control module 203 operate in tandem.

[0140]

For example, if the video download permission setting 902 in FIG. 9 is set to permit (offer a reward), a download button 1001A and a background playback button 1003A such as shown in FIG. 19A–C may be displayed.

[0141]

In addition, an arrangement is acceptable in which, after the viewer 141 has given a tip for the video using the tip button 400, the video download button/link display module 202 and the offline playback/background playback control module 203 activate, and the display of the download button 1001A is altered to 1001B, as shown in FIG. 19B, and the display of the background button 1003A is altered to 1003B, as shown in

FIG. 19C, to show that the buttons are active. The download buttons may also be displayed in forms such as shown in FIG. 19D (icons only).

[0142]

If the video download permission setting 902 is set to not permitted (no reward offered), the download button 1001A and background playback button 1003A are not displayed, and the video download button/link display module 202 and offline playback/background playback control module 203 do not activate. After video upload, the content creator 140 can log into a user account page (not shown) and access a user interface 1600 from a Manage Videos button (not shown) to confirm and change tip acceptance settings and downloading/saving permission settings (rewards) for each video in 1601.

[0143]

The present invention is not limited to the example described above, and various modifications may be made thereto to the extent that they do not depart from the gist of the invention.

[0144]

For example, for the tip payment means, apart from setting the tip button 400 as described in the foregoing embodiment, the operator of the video site 100 can also alter the user interface 600 so that default settings for the tip button 400 are set in advance. The default settings for the tip button 400 are amount per click (including currency) and payment method (prepaid tip, credit card, electronic currency, etc.), and the operator of the video site 100 can alter the user interface 600 to set defaults for the tip button 400.

[0145]

For example, to set defaults of 1 USD per click and prepaid tips as the payment method, the interface 1800 shown in FIG. 18 is provided instead of the user interface 600 shown in FIG. 6, the amount and currency per click of the tip button (1802) are displayed, and only the default tip payment method 1804 is displayed.

[0146]

In order to set these defaults, the content viewer 141 can, as necessary, access the user interface for tip button settings, and confirm the default settings for the tip button 400.

[0147]

In the interface shown in FIG. 18, label 1807 indicates a button for accessing the prepaid tip coin purchasing interface (returning to FIG. 7). A similar button may also be provided in the interface shown in FIG. 6.

Reference Numbers

[0148]

100: Video hosting website
 110: Front end server
 120: Video provision module
 1212: Video importing module
 122: Video analysis module
 123: Digital rights management
 124: Tipping module
 125: Ad display module
 130: Video database
 131: User database
 132: Digital rights management database
 133: Video analysis database
 134: flagged-for-review video database
 140: content creator
 141: Viewer
 150: Network
 160: User ID
 170: Browser
 180: Offline program
 200: Link display module
 201: Processing module
 202: Link display module
 203: Background playback control module
 204: Video rating generation module
 205: Tip revenue module
 400: Tip button
 401: Rating (stars/number of stars)
 402: Upload button
 403: Ads Off button
 404: Ads ON button
 600: Payment settings user interface
 700: User interface for purchasing prepaid tip coins
 900: User interface
 900: Video upload interface
 1001: Download button

- 1002: Display “download ready”
- 1003: Background playback button

Claims

1 A digital content streaming playback system comprising:

a digital content playback module, configured to provide digital content that was previously uploaded to a specific digital content hosting site by a user who is a content creator on a user interface displayed on a computer of a user who is a content consumer so as to enable streaming playback of the digital content over an electronic network, the digital content playback module having a digital content playback operation to allow the digital content to be played on the user interface;

a tipping module configured to operate in tandem with the digital content playback operation performed by the digital content playback module, the tipping module configured to perform a tipping process;

a digital content download button/link display module configured to operate in tandem with the tipping process performed by the tipping module;

the digital content streaming playback system further comprising:

a setup interface configured for the user who is a content creator to select permission or non-permission of downloading the digital content which the user who is a content creator has uploaded;

wherein the tipping module comprises:

a tipping button/link display module configured to display an activated tipping button/link on the user interface; and

a tip processing module configured to, in response to the user who is a content consumer operating the activated tipping button/link, process payment of a tip of a specific amount according to a default setting or a setting made by the user who is a content creator;

wherein the digital content download button/link display module is configured to, in response to a tip payment process being executed for the digital content,

display an activated digital content download button/link on the user interface and enable the digital content for which the tip has been paid to be downloaded to the computer of the user who is a content consumer when the downloading of the digital content upon payment of a tip is permitted by the user who is a content creator through the aforementioned selection, and

not display an activated digital content download button/link on the user interface when the downloading of the digital content upon payment of a tip is not permitted by the user who is a content creator through the aforementioned selection, and wherein the tipping module further comprises a digital content rating generation module for ranking the digital content configured to, in response to the tipping process being executed for the digital content, generate a rating for the digital content, the digital content rating generation module calculating the rating based on a tipping frequency (tip payment count ÷ digital content view count) or a ranking on total received tips within a certain period, or a combination thereof.

2. The digital content streaming playback system according to claim 1, wherein the system further comprises:

an ad module configured to operate in tandem with the digital content playback operation performed by the digital content playback module; and

a digital content provision options control module for allowing the user who is a content creator to select options pertaining to the operation of the tipping module, the digital content download button/link display module, and the ad module;

wherein the digital content provision options control module provides a setup interface configured to display, to the digital content provider, options of:

(1) whether to operate the tipping module to accept tips,

(2) whether to operate the download button/link display module to permit digital content to be downloaded, and

(3) whether to operate the ad module to display ads,

enables the selection of option (2) and prohibits the selection of option (3) and the operation of the ad module when a selection to accept tips has been made for option (1), and

prohibits the operation of the tipping module and the digital content download button/link display module and enables the selection of option (3) when a selection not to accept tips has been made for option (1); and

wherein the ad module displays, in tandem with the digital content playback operation performed by the digital content playback module, a specific ad on the user interface before and/or during the digital content playback when the option (3) is selected.

3. The digital content streaming playback system according to claim 2, wherein:
the digital content rating generation module stores the rating so as to be displayable to all users who are content consumers on the user interface; and
the digital content provision options control module displays a digital content rating generated by the digital content rating generation module on the user interface when a selection to accept tips has been made in the setup interface.
4. The digital content streaming playback system according to claim 3, wherein:
the digital content rating is displayed on the user interface so as to be displayable to all users who are content consumers in the form of a number (numerical value) or stars (number of stars).
5. A digital content streaming playback method that uses a digital content streaming playback system including (i) a digital content playback module for providing digital content that was previously uploaded to a specific digital content hosting site by a user who is a content creator on a user interface displayed on a computer of a user who is a content consumer so as to enable streaming playback of the digital content over an electronic network, the digital content playback module having a digital content playback operation to allow the digital content to be played on the user interface; (ii) a tipping module that operates in tandem with the digital content playback operation performed by the digital content playback module, the tipping module configured to perform a tipping process; and (iii) a digital content download button/link display module configured to operate in tandem with the tipping process performed by the tipping module;
the digital content streaming playback method comprising:
a step, executed by the digital content streaming playback system, of
providing a setup interface configured for the user who is a content creator to select permission or non-permission of downloading the digital content which the user who is a content creator has uploaded;
steps, executed by the tipping module, of
displaying an activated tipping button/link on the user interface; and
in response to the user who is a content consumer operating the activated tipping button/link, processing payment of a tip of a specific amount according to a default setting or a

setting made by the user who is a content creator;

a step, executed by the digital content download button/link display module, of:

in response to a tip payment process being executed for the digital content, displaying an activated digital content download button/link on the user interface and enabling the digital content for which the tip has been paid to be downloaded to the computer of the user who is a content consumer when the downloading of the digital content upon payment of a tip is permitted by the user who is a content creator through the aforementioned selection;

wherein an activated digital content download button/link is not displayed on the user interface when the downloading of the digital content upon payment of a tip is not permitted by the user who is a content creator through the aforementioned selection, and

wherein the tipping module further comprises a step for ranking the digital content, executed by a digital content rating generation module, to generate a rating for the digital content in response to the tipping process being executed for the digital content, the digital content rating generation module calculating the rating based on a tipping frequency (tip payment count ÷ digital content view count) or a ranking on total received tips within a certain period, or a combination thereof.

6. The method according to claim 5, wherein the digital content streaming playback system further comprises (iv) an ad module configured to operate in tandem with the digital content playback operation performed by the digital content playback module; and (v) a digital content provision options control module configured to enable the user who is a content creator to select options pertaining to the operation of the tipping module, the digital content download button/link display module, and the ad module;

the digital content streaming playback method further comprising:

steps, executed by the digital content provision options control module, of

providing the setup interface to display options of:

(1) whether to operate the tipping module to accept tips;

(2) whether to operate the download button/link display module to permit digital content to be downloaded; and

(3) whether to operate the ad module to display ads;

enabling the selection of option (2) and prohibiting the selection of option (3) and the

operation of the ad module when a selection to accept tips has been made for option (1); and
prohibiting the operation of the tipping module and the digital content download
button/link display module and enabling the selection of option (3) when a selection not to accept
tips has been made for option (1); and
a step, executed by the ad module, of
displaying, in tandem with the digital content playback operation performed by the digital
content playback module, a specific ad on the user interface before and/or during the digital
content playback when the option (3) is selected.

7. The method according to claim 6, wherein:

the digital content rating generation module stores a rating generated for the digital content,
associated with the digital content so as to be displayable to all users who are content consumers
on the user interface; and

the digital content provision options control module comprises a step of displaying a digital
content rating generated by the digital content rating generation module on the user interface when
a selection to accept tips has been made as a selection on the setup interface.

8. The method according to claim 7, wherein:

the digital content rating is displayed on the user interface so as to be displayable to all users
who are content consumers in the form of a number (numerical value) or stars (number of stars).

9. The digital content streaming playback system according to claim 1, wherein the digital
content includes a video, audio, image, and text files.

10. The digital content streaming playback system according to claim 1, wherein digital
content rankings are presented on the user interface, wherein digital content with high rankings are
listed in an order from a highest ranking on a ranking screen.

11. The method according to claim 5, wherein the digital content includes a video, audio,
image, and text files.

12. The method according to claim 5, wherein digital content rankings are presented on the user interface, wherein digital content with high rankings are listed in an order from a highest ranking on a ranking screen.

13. The method according to claim 5, wherein the digital content includes a video, audio, image, and text files.

1/19

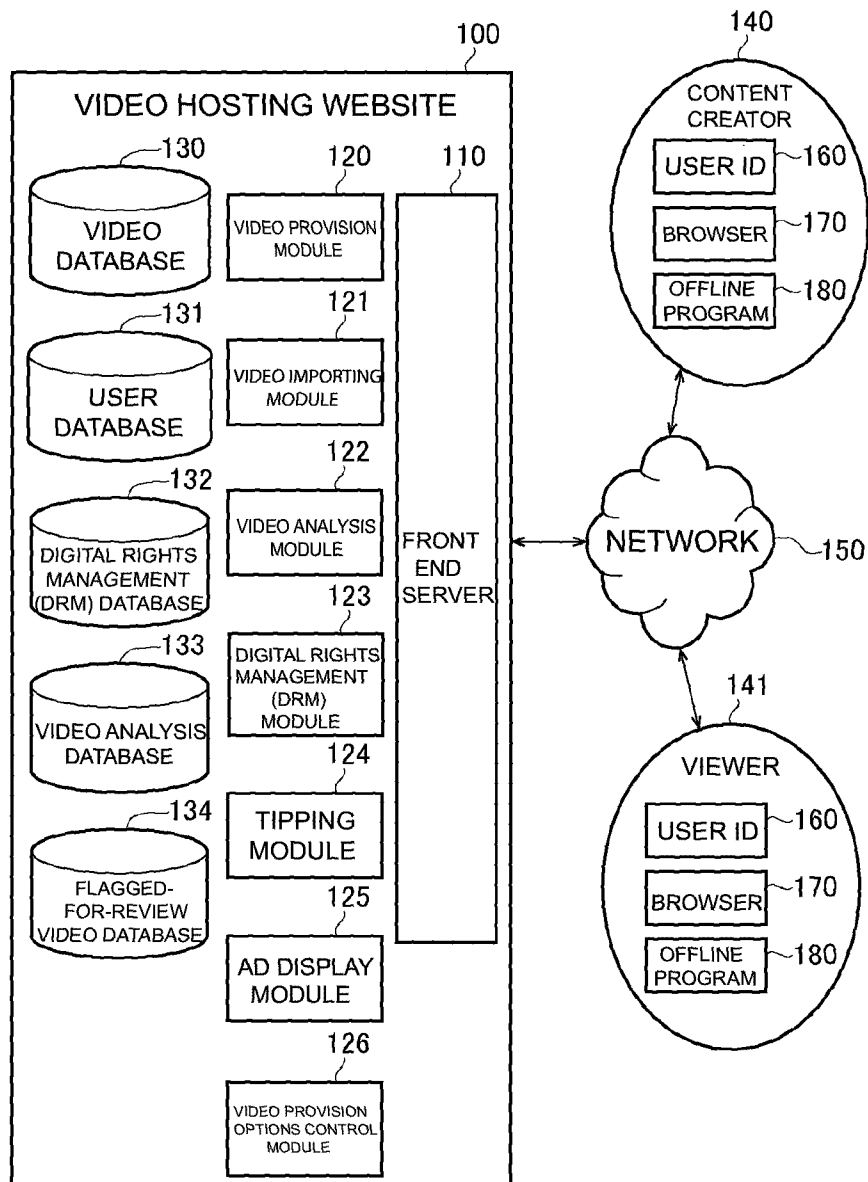


FIG. 1

2/19

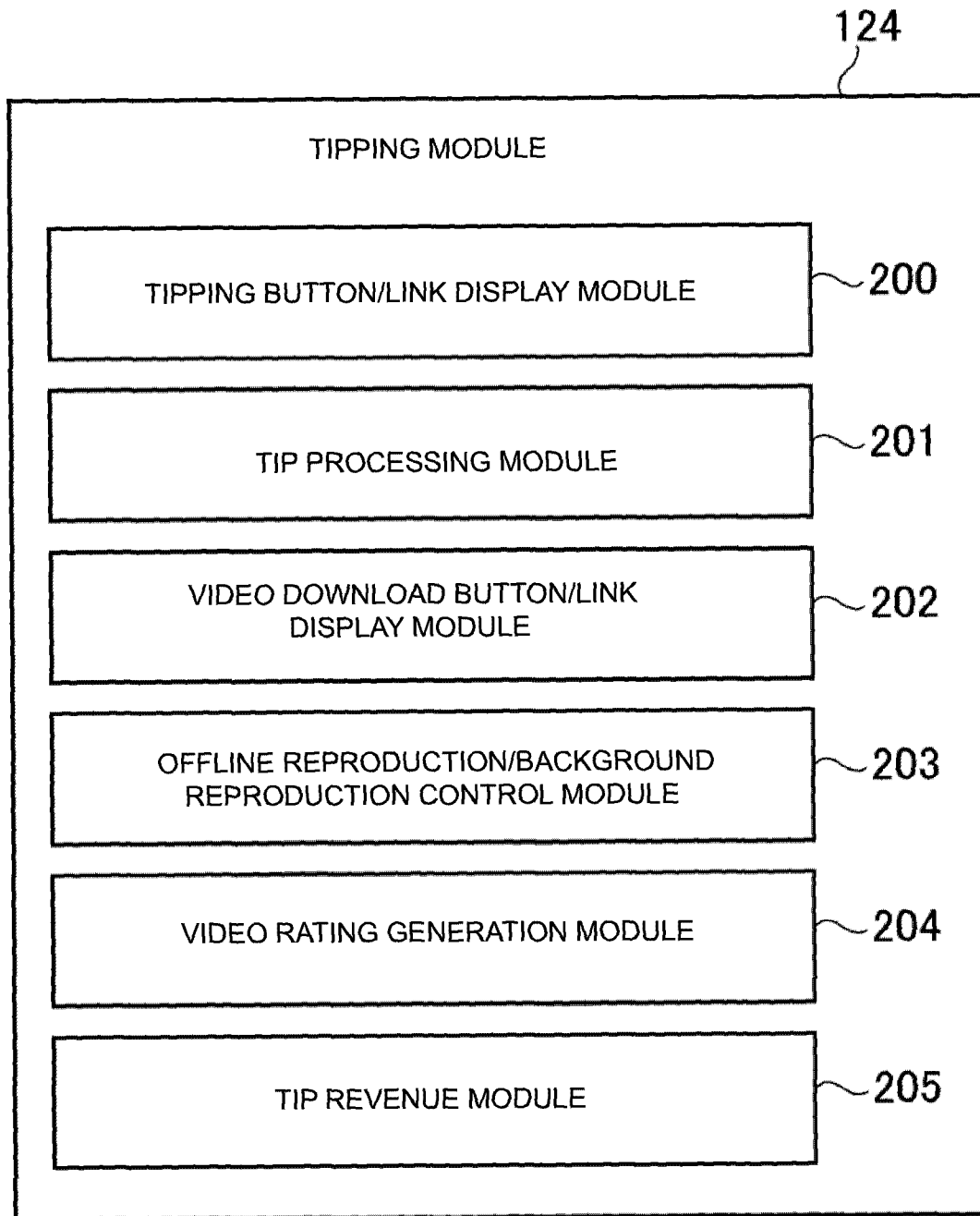


FIG.2

3/19

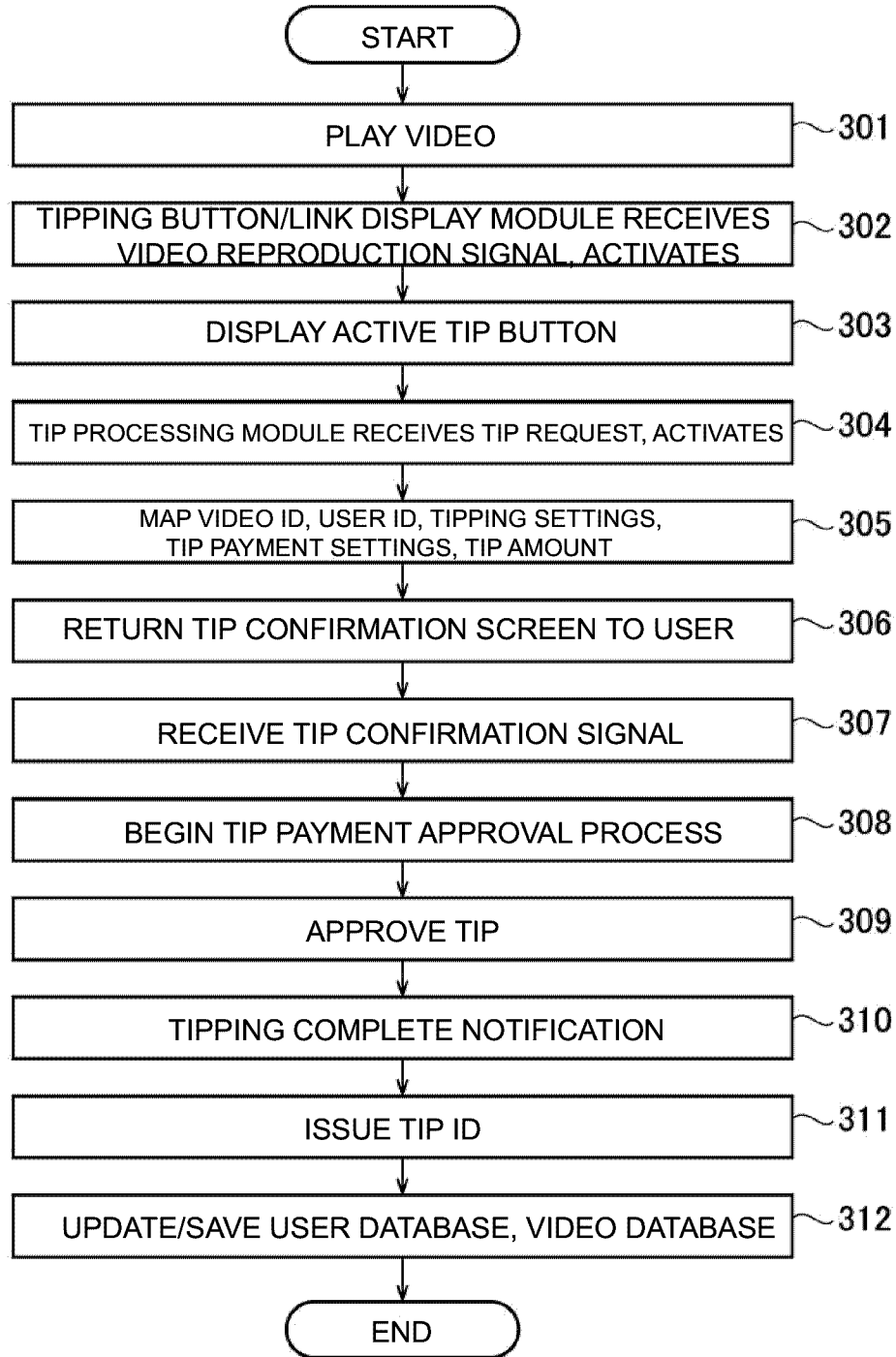


FIG.3

4/19

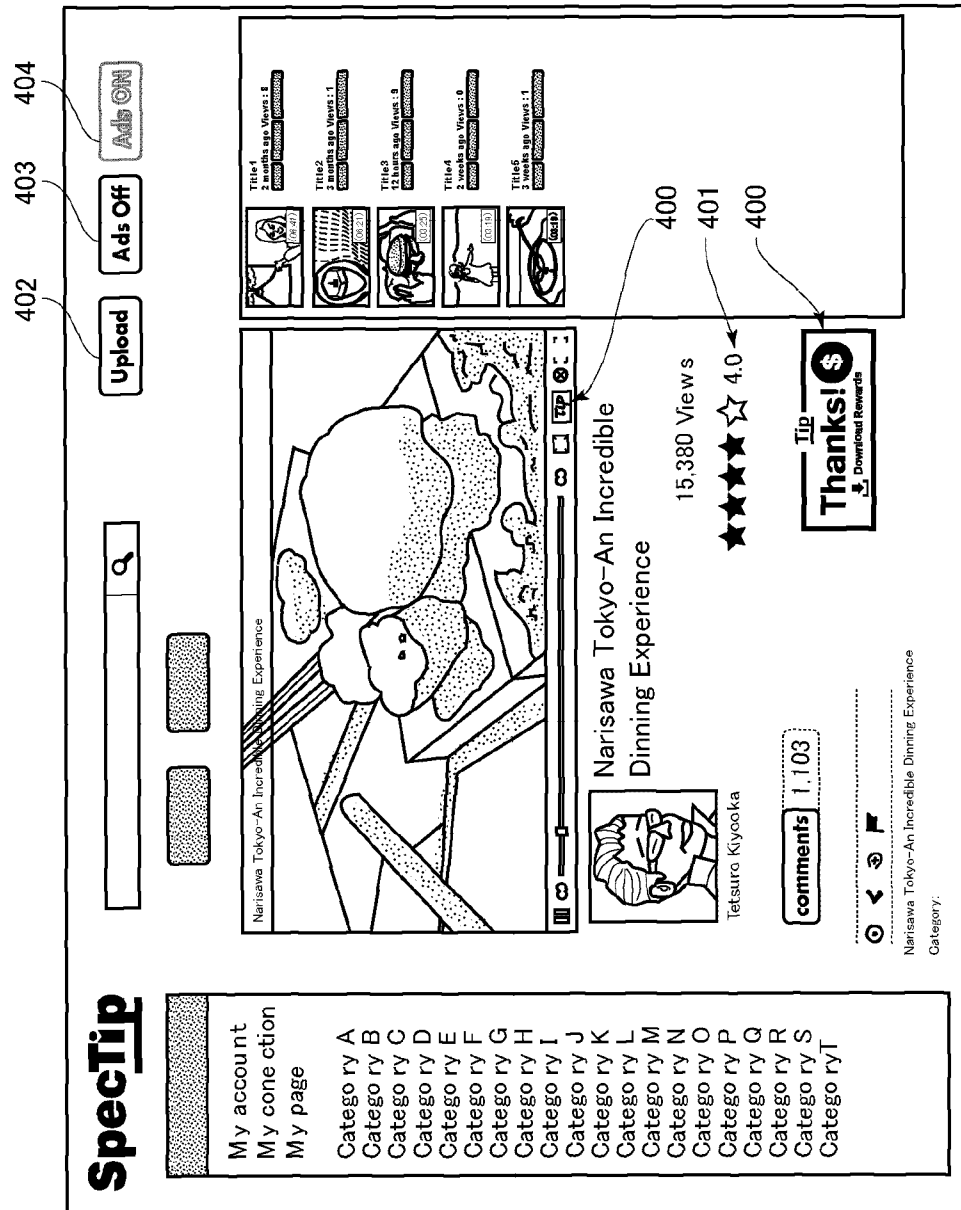


FIG. 4

5/19

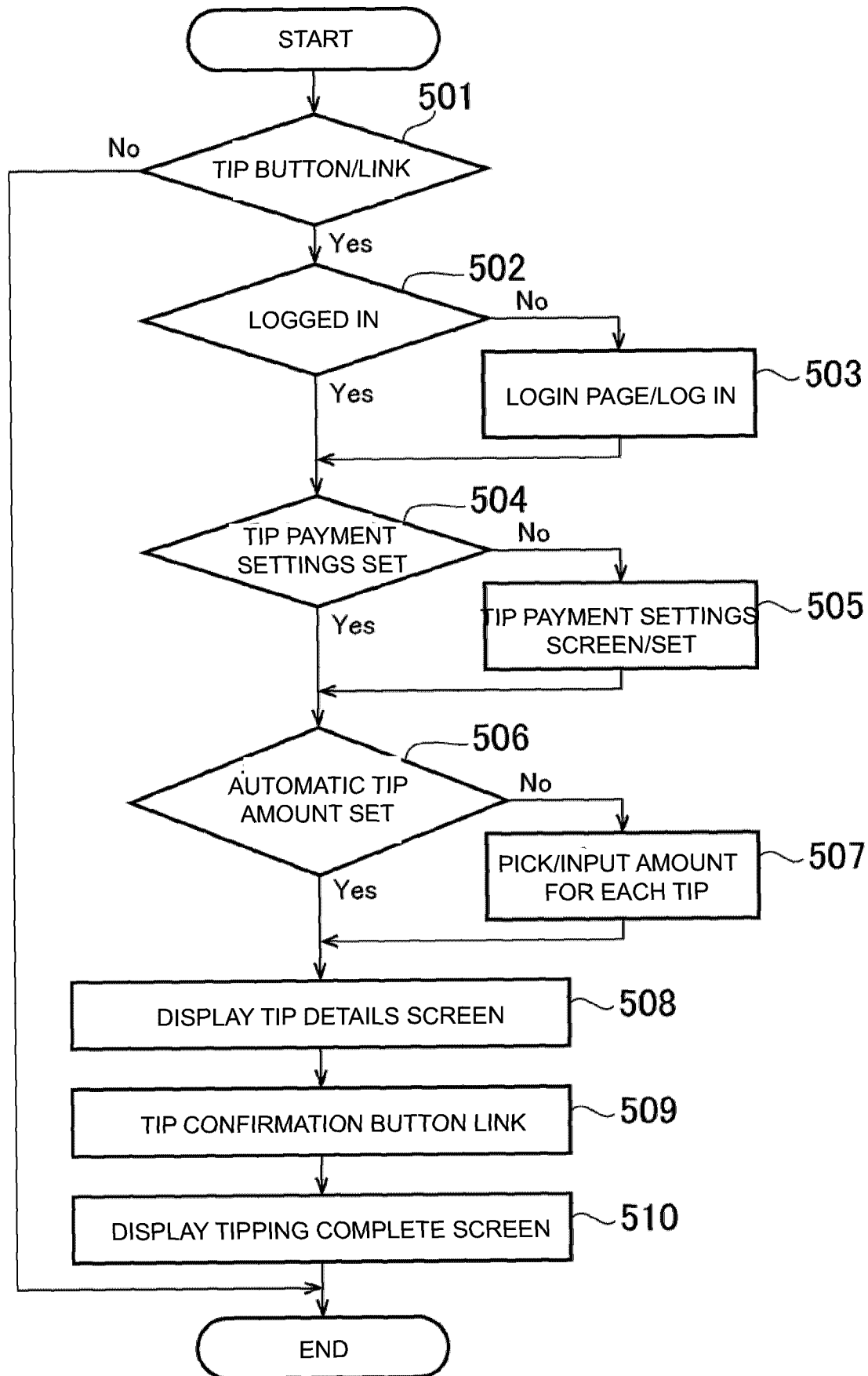


FIG.5

6/19

600

Tipping amount configurations

Tip
Thanks! \$

601

☒ Automatic: Tipping Amount

USD/Coin

1.00

per click

603

☐ Manual(Decide an amount of tipping each time)

602

Payment Method

☒ Prepaid TipCoin

TipCoin

:34.00 TipCoins left

604

☐ Credit Card

VISA   

Card Number

Expiration Date

MM / YY

Security Code

Card Holder Name

606

☐ PayPal



Email

Password

605

Save the settings

FIG.6

7/19

700

TipCoin

Select & Purchase Prepaid TipCoin USD 10.00 ▾

701 ※You can use the points : USD 1.00 = 1.00 TipCoin

702 ※Reward the coin by the purchase below

• Prepaid USD 10.00 =	10.10 TipCoins (Reward *0.10TipCoins)
• Prepaid USD 25.00 =	25.30 TipCoins (Reward *0.30TipCoins)
• Prepaid USD 50.00 =	51.00 TipCoins (Reward *1.00TipCoins)
• Prepaid USD 100.00 =	103.00 TipCoins (Reward *3.00TipCoins)

☒ Credit Card    

Card Number

Expiration Date MM / YY

Security Code

Card Holder Name

☐ PayPal 

Email

Password

Place an order

705

FIG.7

8/19

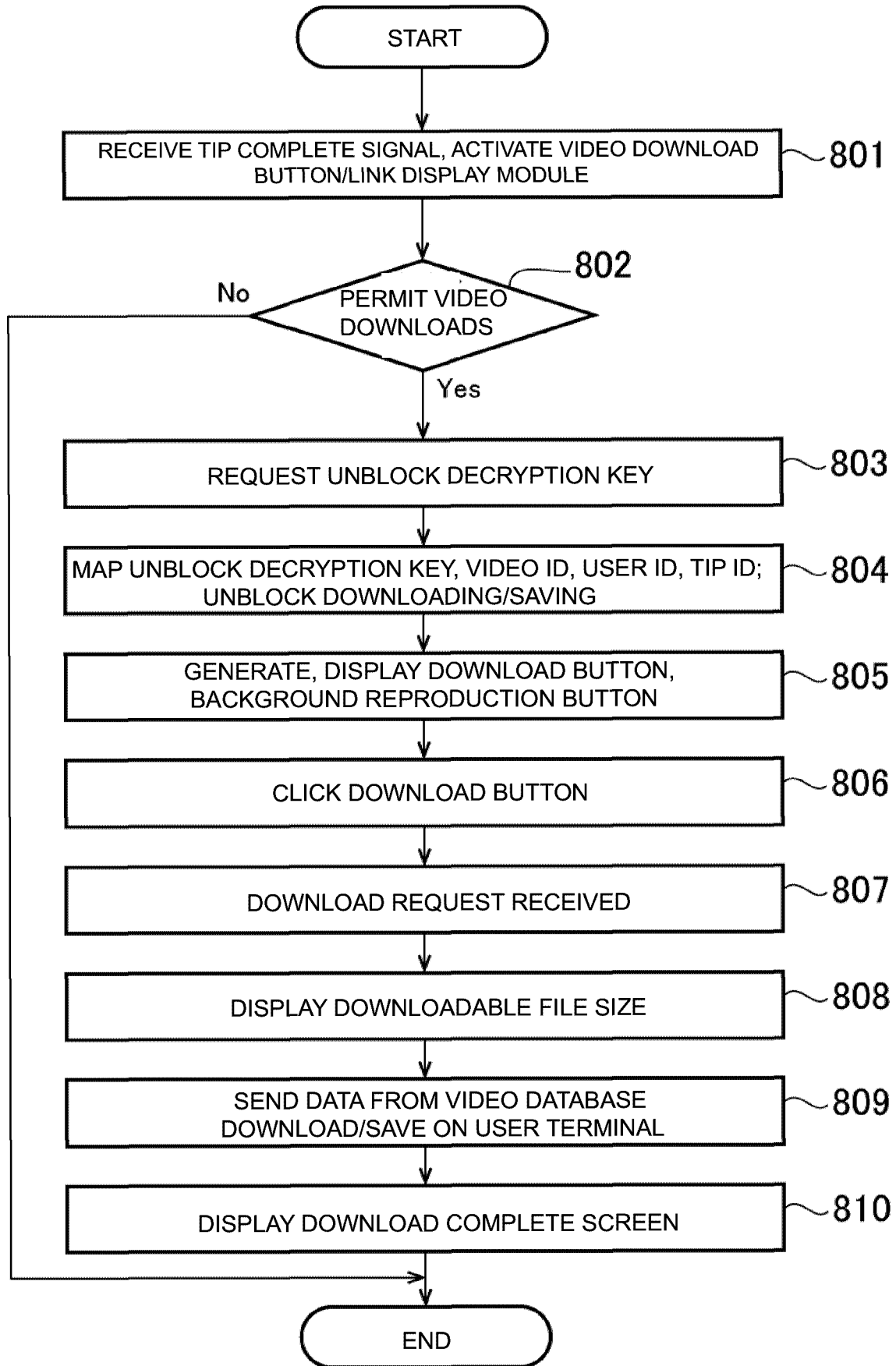


FIG.8

9/19

900

Upload File



Drag & Drop Files Here
You can upload videos of any streaming format and HD videos

Select Video

Title

Description

Video Category  903

Tags

Accept tipping for this video ☒ Yes ☐ No 901

Show tipping count on this video ☐ Yes ☒ No 902

Allow downloading this video as rewards for tipping ☒ Yes ☐ No 904

Receive advertising revenue ☐ Yes ☒ No 905

Submit Now

FIG. 9

10/19

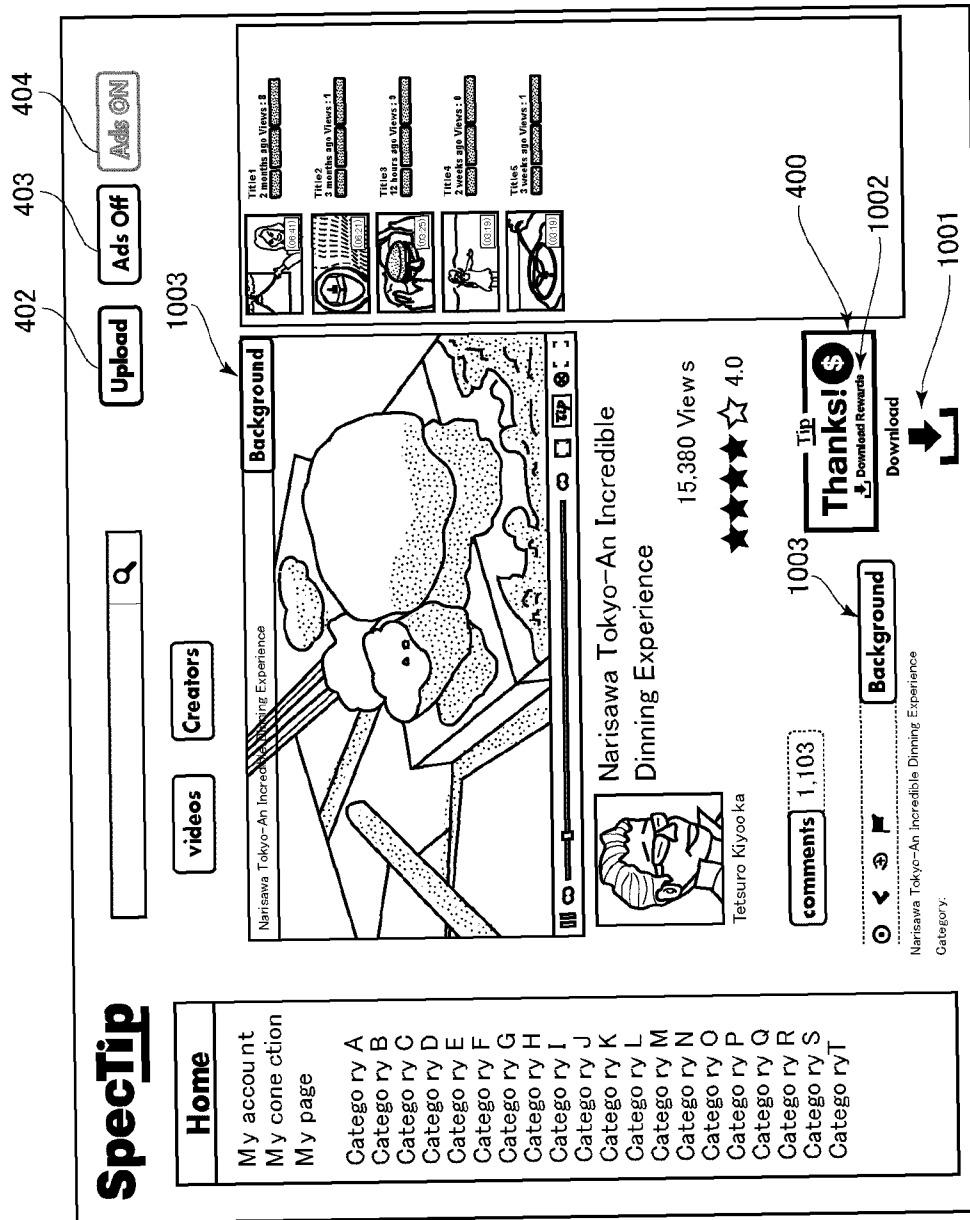


FIG. 10

11/19

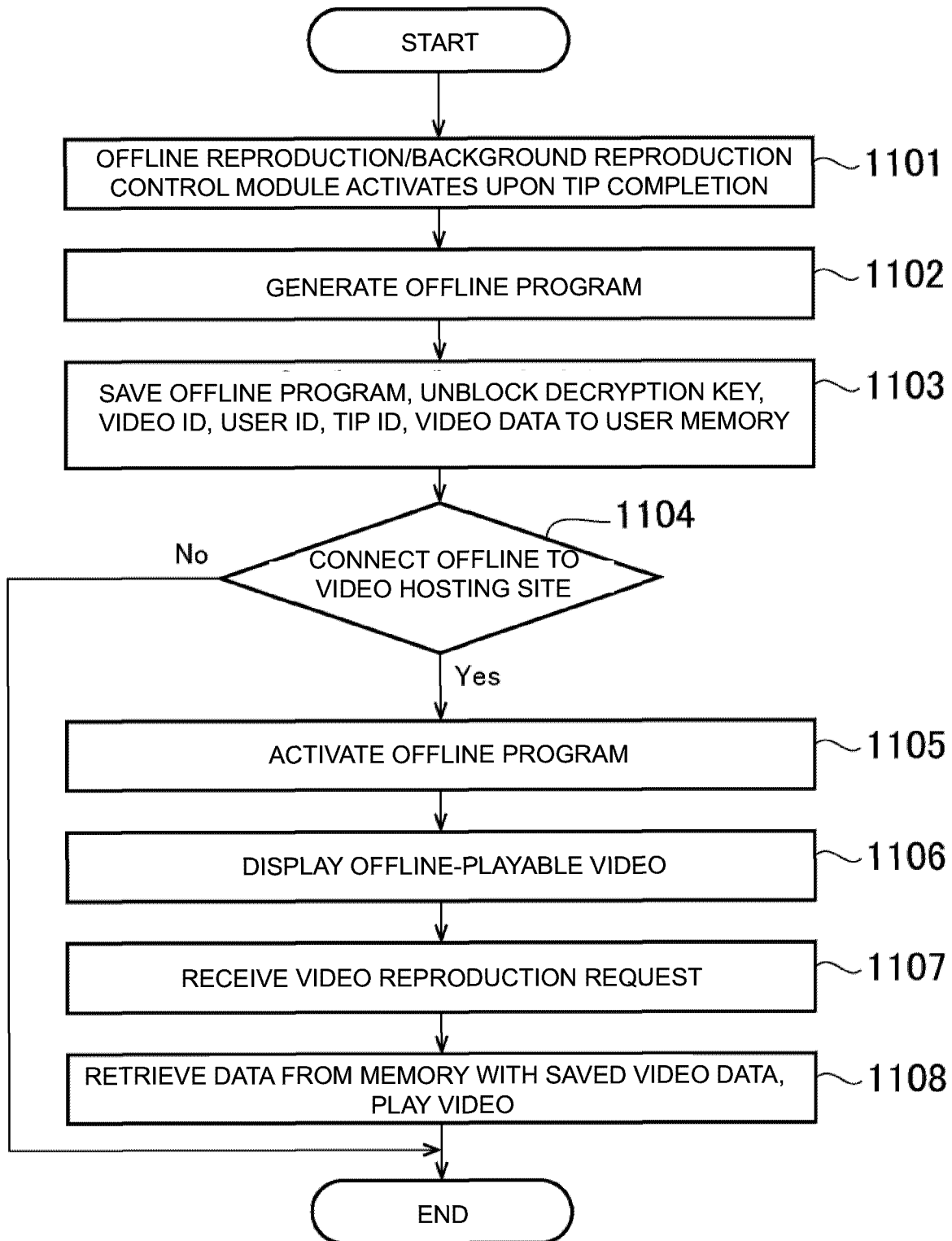


FIG.11

12/19

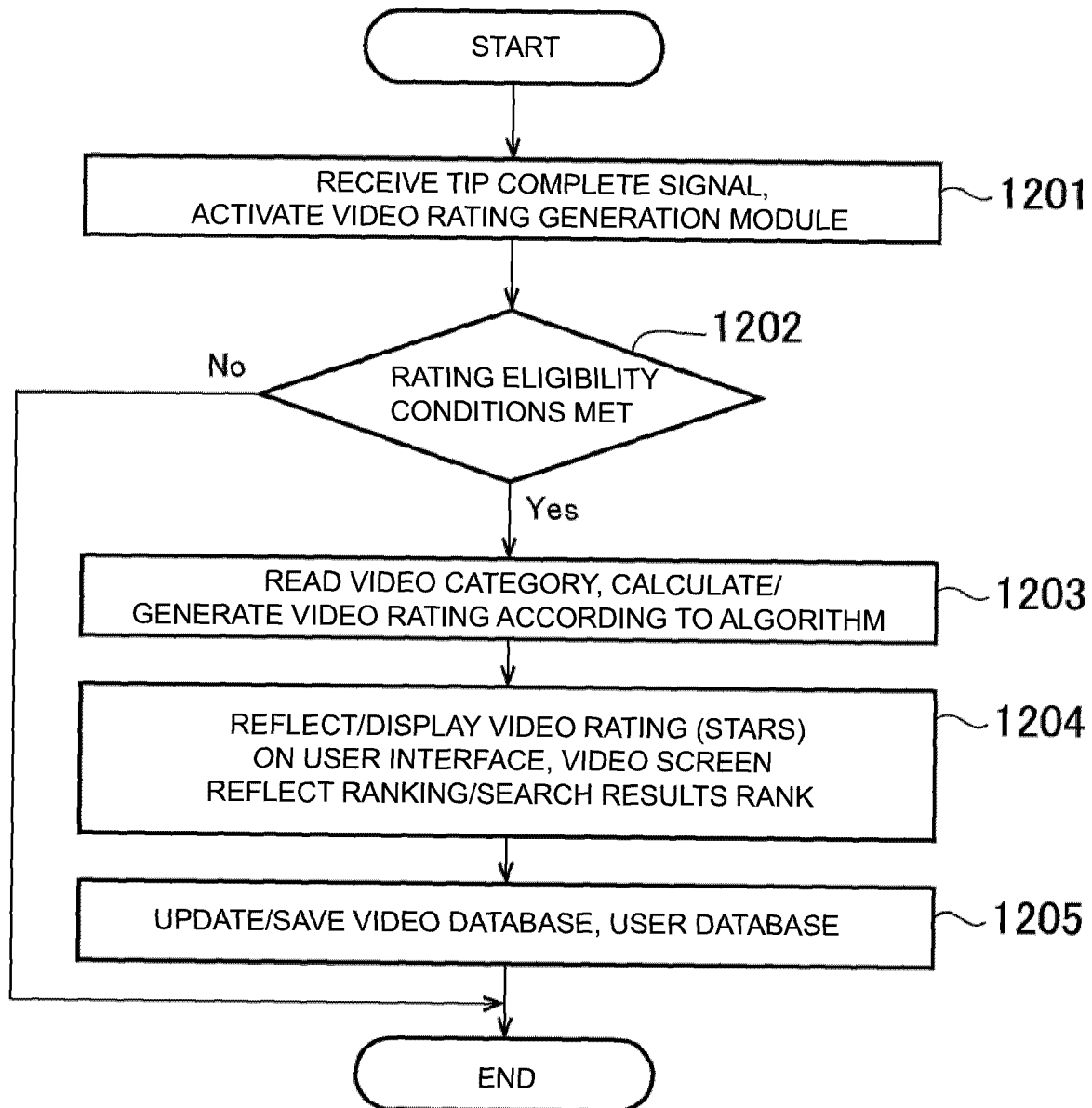


FIG.12

13/19

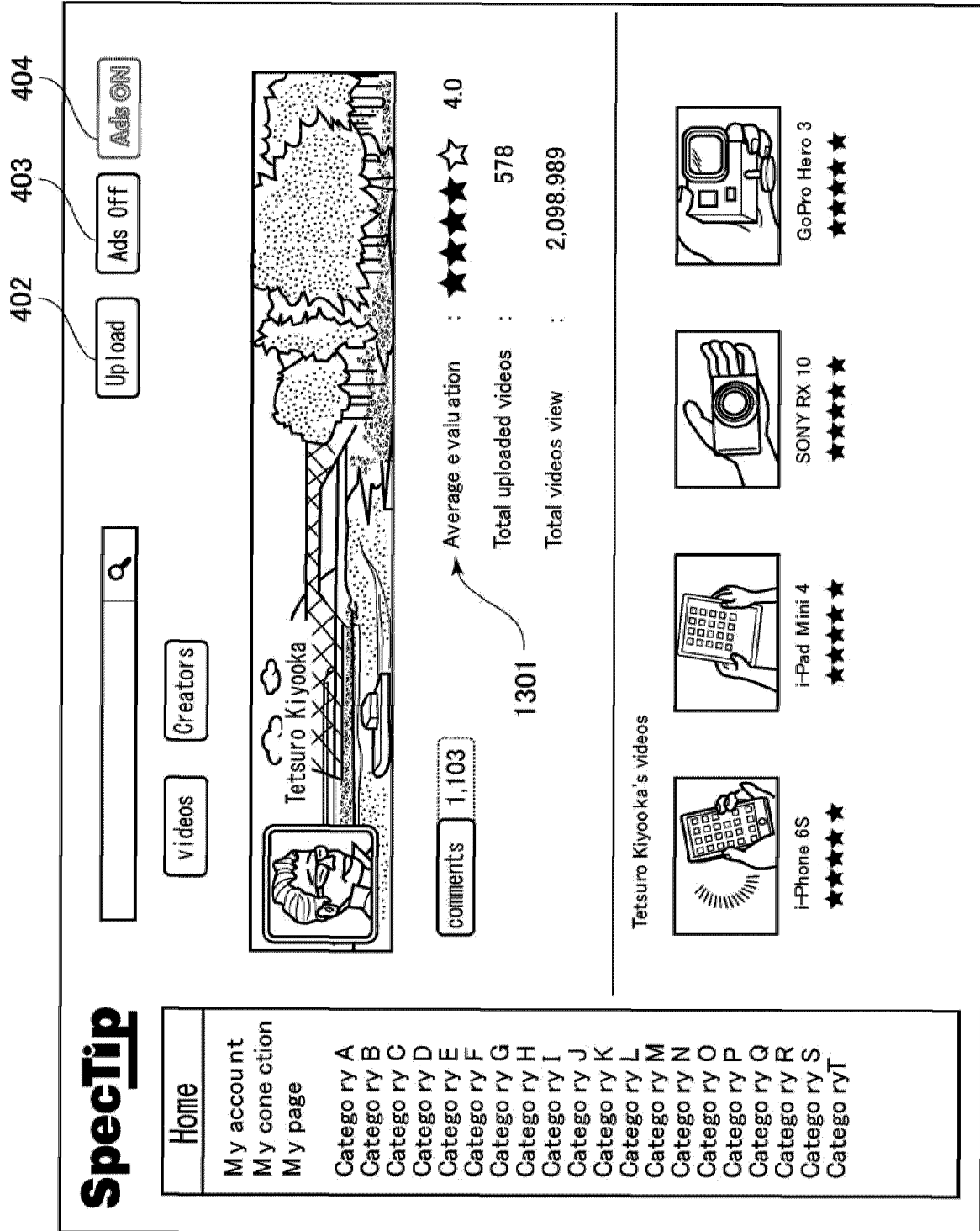


FIG.13

14/19

1400

1401

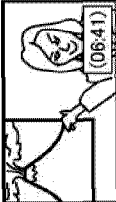
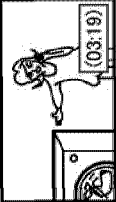
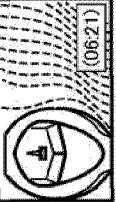
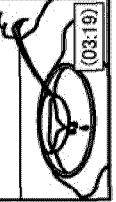
Receiving an amount of tipping						
Yearly July 2017(Monthly)		Tip Thanks!\$				
Video No.		Quantity	Amount (USD)	Revenue(60%) Amount(USD)		
ajd1908088	 Title1 2 months ago Views : 8	53	76.00	45.60	Details	
ajd1908678	 Title2 3 months ago Views : 1	88	121.00	72.60	Details	
ajd17980678	 Title3 12 hours ago Views : 9	22	38.00	22.80	Details	
ajd15970670	 Title4 2 weeks ago Views : 0	156	238.00	142.80	Details	
ajd14376672	 Title5 3 weeks ago Views : 1	2,869	4,289.00	2,573.40	Details	
Total		3,188	4,762.00	2,857.20	Details	

FIG.14

15/19

1500

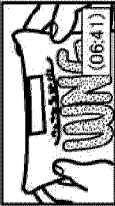
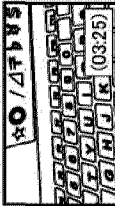
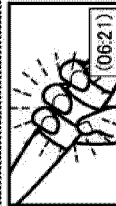
Tipping Statement

▾ Yearly

▾ July 2017(Monthly)

Thank you for the tipping!



Payment ID		Quantity	Amount(USD)	
bjv298858	 Title 6 3 weeks ago Views : 2	1	1.00	Details
kwn569971	 Title 7 3 weeks ago Views : 1	1	2.00	Details
hui3390672	 Title 8 3 weeks ago Views : 1	1	1.00	Details
lcv6420670	 Title 9 3 weeks ago Views : 1	1	1.00	Details
	Total	4	5.00	Details

1501

FIG.15

16/19

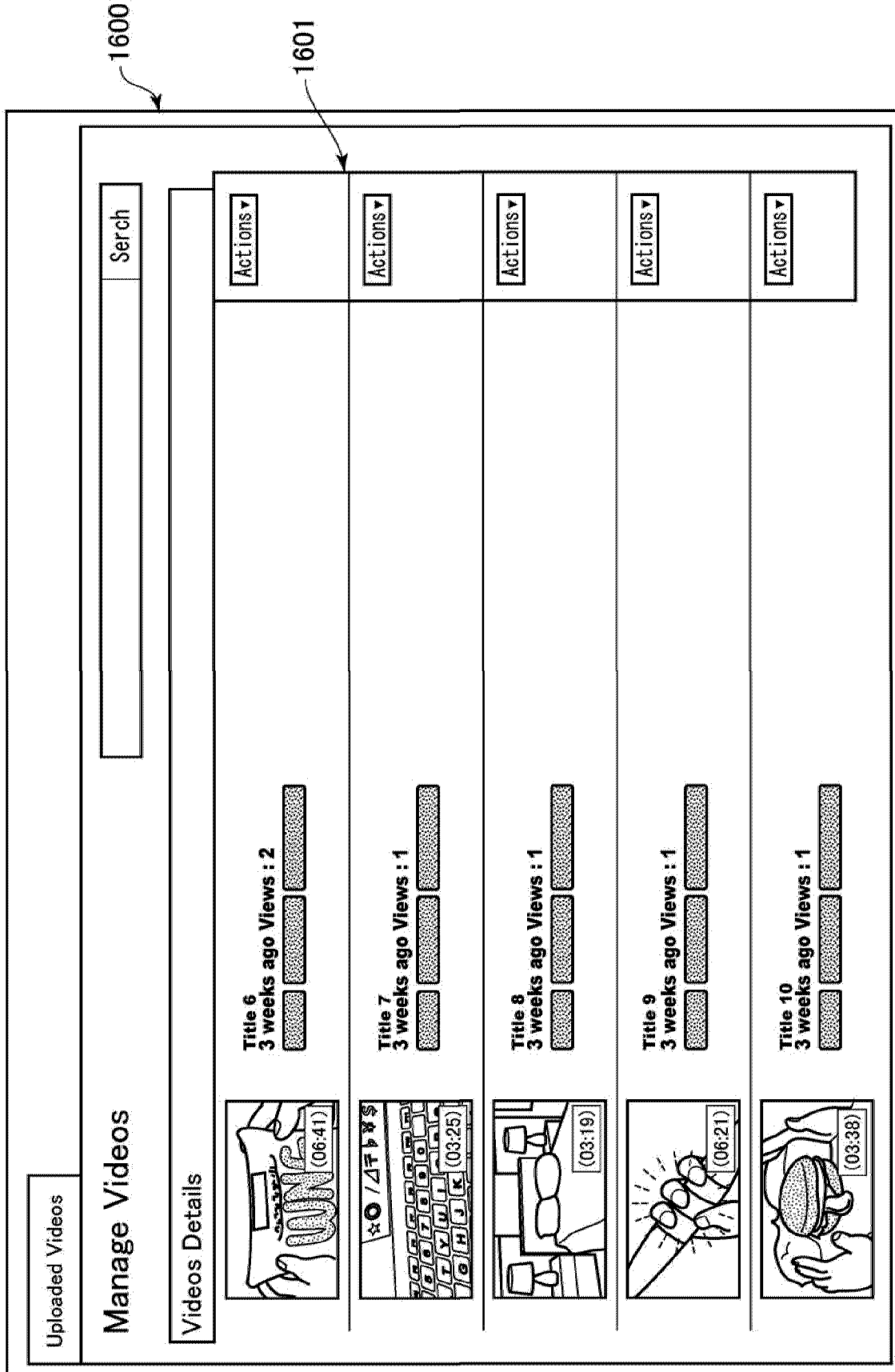


FIG.16

17/19

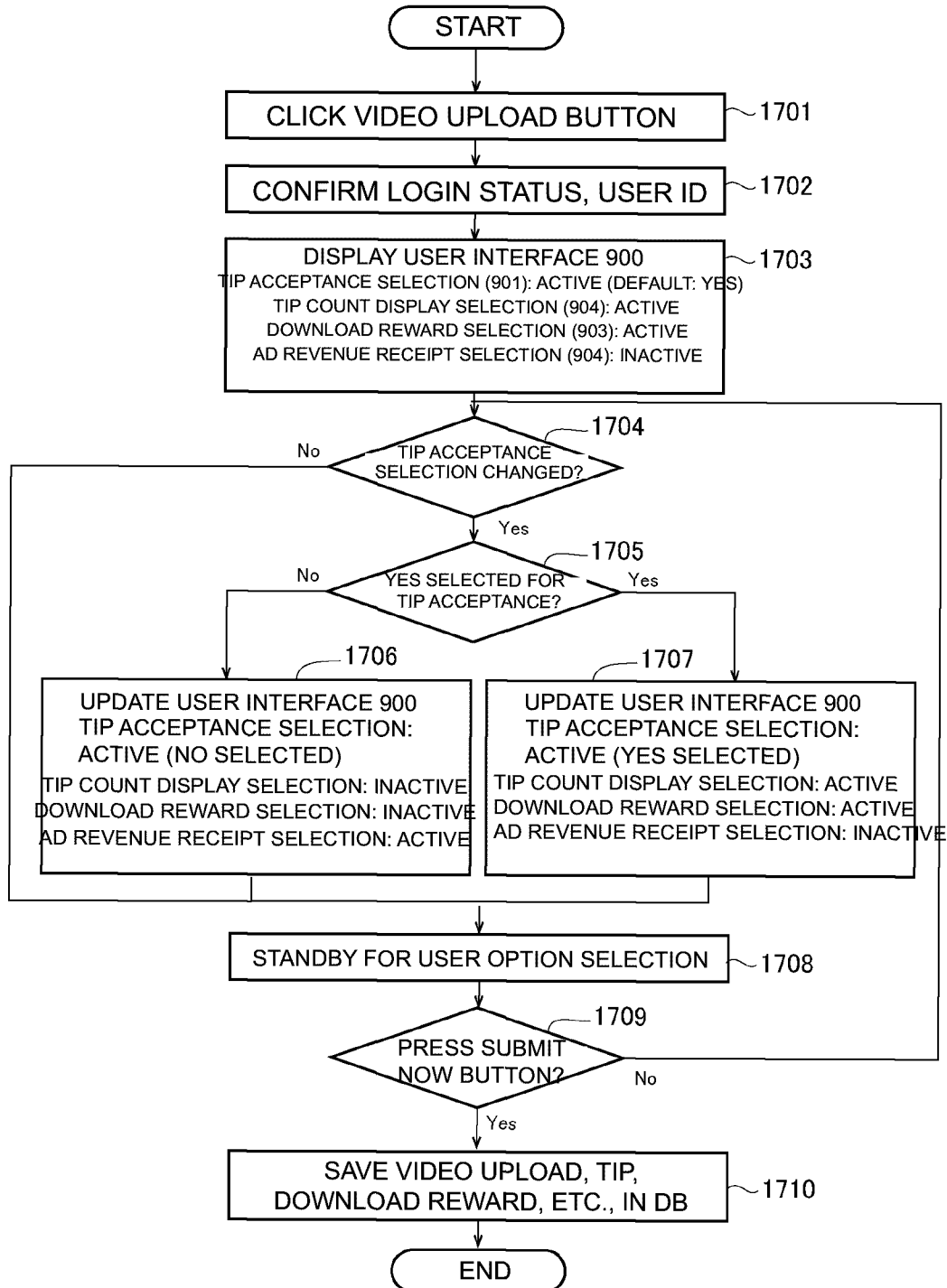


FIG.17

18/19

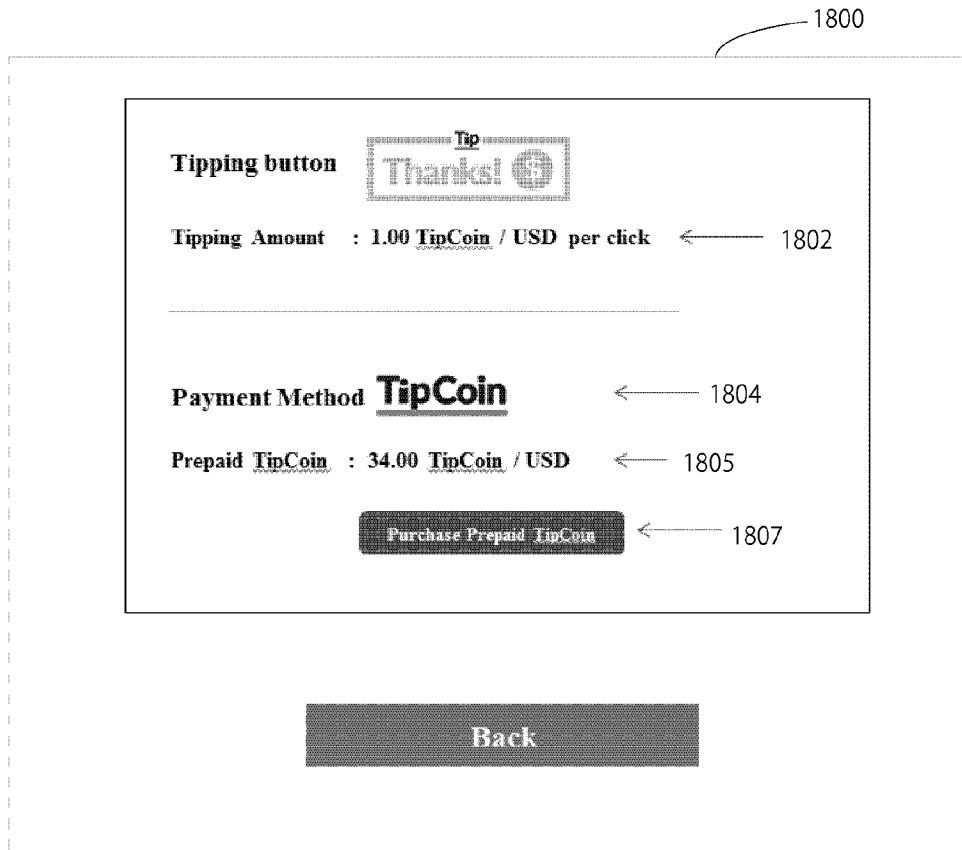


FIG.18

19/19



Fig.19A

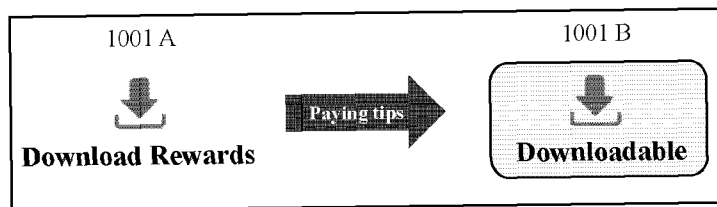


Fig.19B

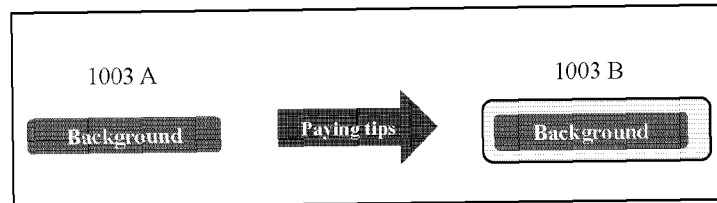


Fig.19C

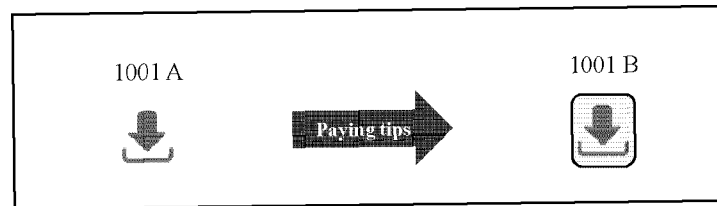


Fig.19D

FIG.19

Upload File



Drag & Drop Files Here
You can upload videos of any streaming format and HD videos

Select Video

Title

Description

Video Category

Tags

Accept tipping for this video

☒ Yes ☐ No

Show tipping count on this video

☐ Yes ☒ No

Allow downloading this video as rewards for tipping

☒ Yes ☐ No

Receive advertising revenue

☐ Yes ☒ No

Submit Now

900

903

901

904

902

905