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Compilation of Media Consumption for User Enjoyment

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Compilation of Media Consumption for User Enjoyment

Abstract:

This publication describes techniques for compiling a history of media (e.g., movies, songs, shows) consumed by a user and providing the user with access to their media history. In aspects, a Media Manager, which identifies media as it is consumed by the user, is provided on a computing device of the user. The Media Manager may use information collected by physical sensors (e.g., microphone, camera) on the computing device to identify the media and may store information about the media (e.g., title, date consumed) on the computing device. The Media Manager may provide the user with information relating to media consumed by the user, at an appropriate time.

Keywords:

Log media, log data, central log, media records, media information, media content, played list, viewed list, watched list, memories, past events, application, detect, sensor, microphone

Background:

Users want to be reminded of media (e.g., movies, music, television shows) they have enjoyed in the past. For example, a user may like being reminded on Halloween of a scary movie they watched the previous Halloween, or a user may enjoy being reminded of a song they listened to at their wedding on their anniversary. Users consume media from a variety of third-party sources (e.g., online streaming, media applications) that may not be stored on their computing device (e.g., a smartphone). For example, a user may enjoy watching videos online from a fashion vlogger or listening to political commentary from a news channel online.

A process for reminding a user of past media consumption can vary across computing devices with varying scopes of third-party media applications. Users do not always have the time or desire to keep track of media they enjoyed. As a result, there are barriers preventing a user from accessing information regarding previously consumed media.

Description:

This publication describes techniques for compiling a history of media (e.g., movies, songs, shows) consumed by a user and providing the user with access to their media history.

While the example computing device described in this publication is a smartphone, other types of computing devices can also support the techniques described in this publication. A computing device may include one or more processors, transceivers for transmitting data to and receiving data from a base station (e.g., wireless access point, another computing device), sensors (e.g., a location sensor, an image sensor), a computer-readable medium (CRM), and/or an input/output device (e.g., a display, a speaker, a microphone). The CRM may include any suitable memory or storage device like random-access memory (RAM), static RAM (SRAM), dynamic RAM (DRAM), non-volatile RAM (NVRAM), read-only memory (ROM), or flash memory. The CRM includes device data (e.g., user data, multimedia data, applications, and/or an operating system of the device), which are executable by the processor(s) to enable the techniques described herein.

The device data may include a Media Manager. The computing device performs operations under the direction of the Media Manager to compile a history on the computing device of the media consumed by the user, store the media history, present the user with information relating to their media history, and automatically remind the user of their media consumption from the past.

The user can opt in to the Media Manager to allow the computing device to determine third-party media played on an installed application, as illustrated in Figure 1. When a user consumes a piece of media (e.g., song, movie, show), the Media Manager may detect and identify the piece of media. The operation of identifying media may include collecting audio or visual information from physical sensors (e.g., microphone, camera) on the computing device or directly from signals being sent from a media application to the computing device (e.g., audio/visual signals). The Media Manager will detect this media being consumed and best match it with a database of media "fingerprints."

A media fingerprint may include distinctive acoustic or visual qualities that are unique enough to allow for identification of the media. In an example, if the user is listening to a song on their computing device, the microphone sensor may detect the audio signals of the song as it is being played and collect a data sample to compare to audio fingerprints stored in a database. This audio fingerprint may include, for example, estimated tempos, prominent tones, or spectrograms (e.g., visual representations of the spectrum of frequencies). Using the sensors of the computing device, the Media Manager may be able to identify third-party media played on the device.
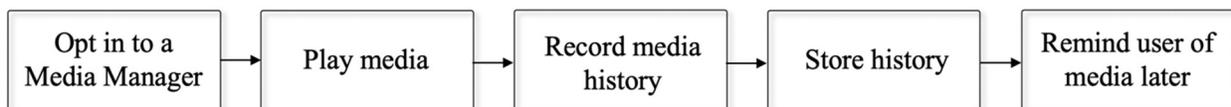
Opt in to a Media Manager	→	Play media	→	Record media history	→	Store history	→	Remind user of media later

Figure 1

A user may be provided with controls allowing the user to make an election as to both if and when systems, applications, and/or features described herein may enable collection of user information (e.g., online browsing history, media consumed, preferences of the user, consumer purchases), and if the user is sent content and/or communications from a server. In addition, certain data may be treated in one or more ways before it is stored and/or used, so that personally

identifiable information is removed. For example, the geographic location of the user may be generalized where location information is obtained (e.g., to a city, ZIP code, or state level), so that a particular location of a user cannot be determined. Thus, the user may have control over what information is collected, how that information is used, and what information is provided to their computing device.

Once the media being consumed is identified, the Media Manager may determine relevant information (e.g., title, date consumed) relating to the media and store it on the computing device. This history may, for example, be stored alongside photo and location history memory features that present memories (e.g., reminders of past events) to the user on the device. For example, if the user watches a romantic comedy on Valentine's Day, the Media Manager may determine the name of the movie and the date in February that it was enjoyed. That information may then be stored on the computing device of the user.

The operation of detecting media consumption may not be limited to media consumed directly on the computing device; it may, for example, include media detected within the ambient media. In the previous example, if the user was watching a romantic comedy on their television with their smartphone nearby, the smartphone may detect the sounds from the television through physical sensors and identify the movie. Similarly, if the user is at a concert with their computing device, the device may detect a song being played, identify the title, and store relevant information.

The Media Manager may also automatically remind the user of media consumed at an appropriate time. In the example illustrated in Figure 2, a user watches their favorite Christmas movie on Christmas Eve (December 24, 2019) to celebrate the holidays. The following year on December 24, 2020, the Media Manager may remind the user that they watched that Christmas

movie last year. This may provide the user with nostalgia and delight to be reminded of an enjoyable movie from the past.
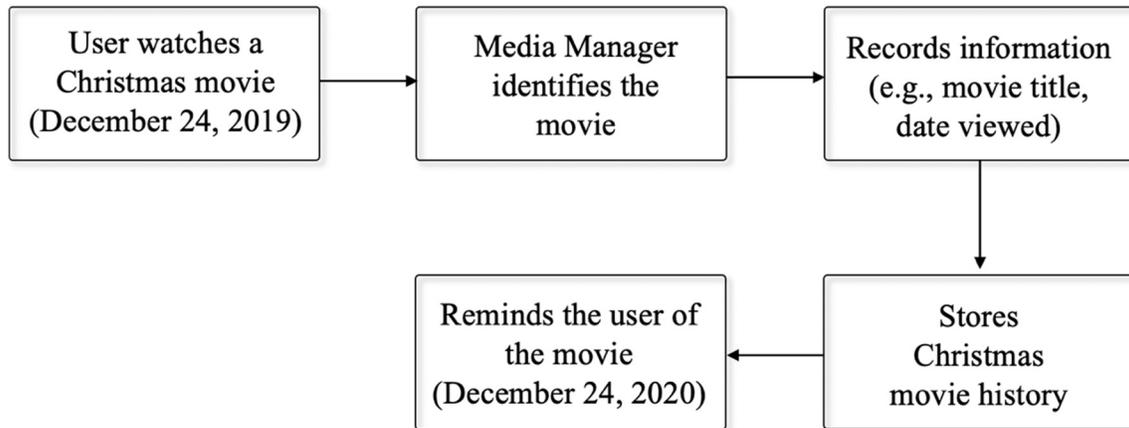

Figure 2

References:

[1] Patent Publication: US20100211575A1. System and Method for Automatically Presenting a Media File on a Mobile Device Based on Relevance to a User. Priority Date: February 13, 2009.

[2] Patent Publication: US20190251117A1. Media Consumption History. Priority Date: August 15, 2013.