Technical Disclosure Commons

December 12, 2017

Presenting Indications Of Alternative Search Results Associated With A Voice Query

Justin Lewis

Thomas Price

Follow this and additional works at: http://www.tdcommons.org/dpubs_series

PRESENTING INDICATIONS OF ALTERNATIVE SEARCH RESULTS ASSOCIATED WITH A VOICE QUERY

ABSTRACT

Disclosed herein is a mechanism for presenting indications of available alternative search results associated with a voice query. In response to receiving a voice query on a user device that instructs a system to cause a media content item to be presented on a particular media device (e.g., "play Artist A on bedroom television", the mechanism can parse the query to identify a group of candidate media content items each corresponding to a result in a group of results associated with the query and can assign a keyword to each of the results in the group of results. The mechanism can cause media content associated with a top result (e.g., a result determined to be most relevant to the query) to be presented on the media device indicated in the voice query, and can cause indications of the keywords corresponding to one or more of the other results in the group of results to be presented. The mechanism can allow a user to issue a second voice query that includes one of the keywords, where the second voice query causes a different media content item corresponding to the spoken keyword to be presented.

BACKGROUND

Users frequently want to transfer playback of a media content item, or cast the media content item, from a user device (e.g., a mobile phone, a tablet computer, etc.) to a media device (e.g., a television, speakers, etc.). For example, a user may want to initiate playback of a song or video from a mobile device and then transfer playback to speakers or to a television. Additionally, users may want to initiate playback of a media content item using a voice query directed to a user device or to a virtual assistant device, for example, by telling the device to play music by a particular artist. In some cases, initiating playback of a media content item using a

voice query can be combined with casting the media content item to a media device, for example, by including in the voice query that the media content item is to be played on a particular media device (e.g., "the living room television," etc.). A particular voice query may return a group of results, with playback of the top result initiated. However, it can be difficult for a user to view alternative results in the group of results or switch to presentation of a different result in the group of results when the media content item is casted to a media device, and the ability to view alternative results may be particularly important if the query is ambiguous. For example, a voice query may instruct a device to begin playing a particular artist (e.g., "play Artist A"), which may cause a particular music video associated with the artist to begin being played. However, the user may have intended to view a different music video or to listen to a playlist of songs by the artist, and it can be difficult for the user to switch to content corresponding to a different search result. Thus, there is a need for a better approach to present indications of available alternative search results that are associated with a voice query.

DESCRIPTION

The systems and techniques described in this disclosure relate to presenting indications of alternative search results. In particular, a voice query can be received on a user device (e.g., a mobile phone, a tablet computer, a wearable computer, a virtual assistant device, and/or any other suitable type of user device) that instructs the system to cause a media content item to be presented on a particular media device (e.g., "play Artist A on bedroom television," etc.). The system can then parse the query to identify a group of candidate media content items each corresponding to a result in a group of results associated with the query and can assign a keyword to each of the results in the group of results. The system can cause media content associated with a top result (e.g., a result determined to be most relevant to the query) to be

presented on the media device indicated in the voice query, and can cause indications of the

keywords corresponding to one or more of the other results in the group of results to be

presented. The system can thereby allow a user to issue a second voice query that includes one

of the keywords, where the second voice query instructs the system to switch to presentation of a

different media content item corresponding to the spoken keyword.

FIG. 1 shows an example user interface for presenting a media content item

corresponding to a top result associated with a voice query in connection with indications of

alternative search results associated with the voice query.

- MUSIC VIDEO -

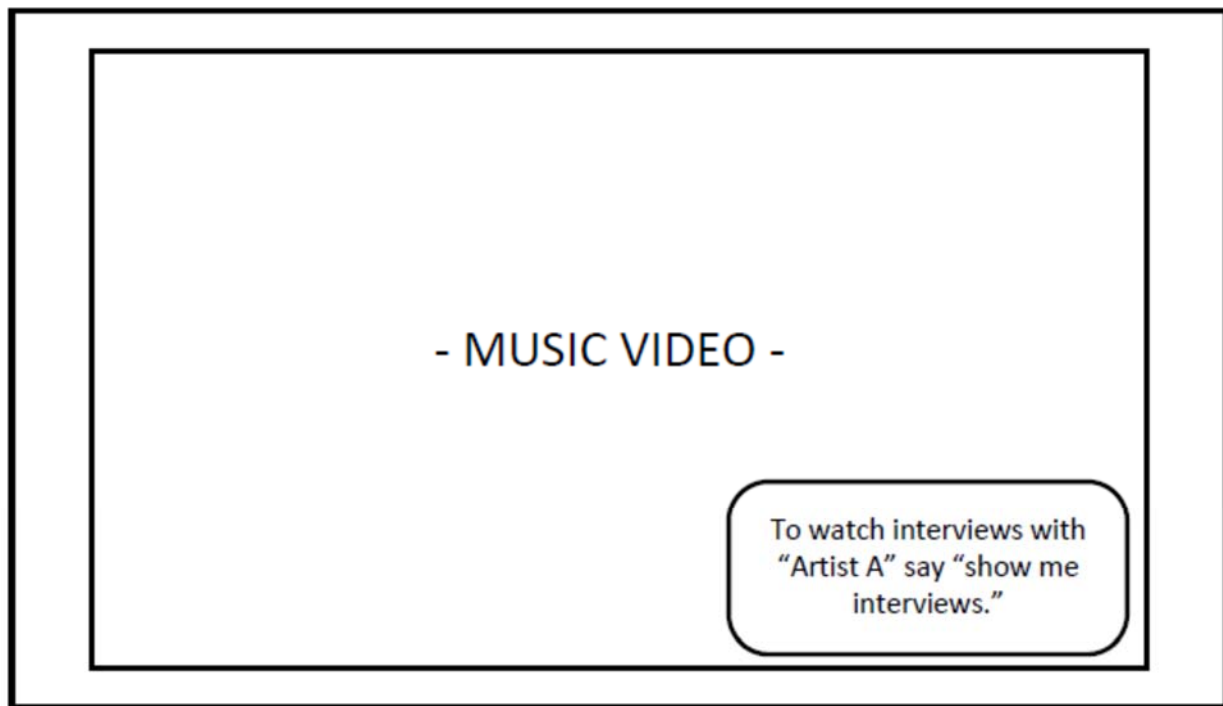To watch interviews with "Artist A" say "show me interviews."

FIG. 1

As illustrated in FIG. 1, a media content item (e.g., a video, a movie, a television show,

music, an audiobook, and/or any other suitable type of media content) can be presented, which

can correspond to a top result associated with a received voice query. For example, if the voice

query is "play Artist A," the top result can be a music video by Artist A with the highest

popularity metric, highest number of views, high recency metric, etc. The voice query can

additionally return other search results, such as a playlist of songs by Artist A, a currently trending song by Artist A, interviews with Artist A, other music videos by Artist A, etc., and each of the other search results can be assigned a keyword or key term (e.g., "playlist," "interviews," "other music video," and/or any other suitable terms). The system can then cause indications of the other search results to be presented in connection with presentation of the media content item corresponding to the top result, as shown in FIG. 1. For example, as illustrated, the indication can include an instruction for switching to a media content item associated with a second search result, such as, "to watch interviews with Artist A, say 'show me interviews.'" Note that, the indication(s) can include the assigned keyword corresponding to the second search result, thereby allowing the user to issue a second search query including the keyword to indicate that media content associated with the second search result is to be presented.

The systems and techniques described herein can be implemented on a user device (e.g., a mobile phone, a tablet computer, a wearable computer, a laptop computer, a desktop computer, a virtual assistant device, and/or any other suitable type of user device), a media device (e.g., speakers, a television, a projector, a vehicle entertainment or information system, and/or any other suitable type of media device), and a server.

FIG. 2 shows an illustrative example of an information flow diagram for presenting

indications of alternative search results associated with a voice query.

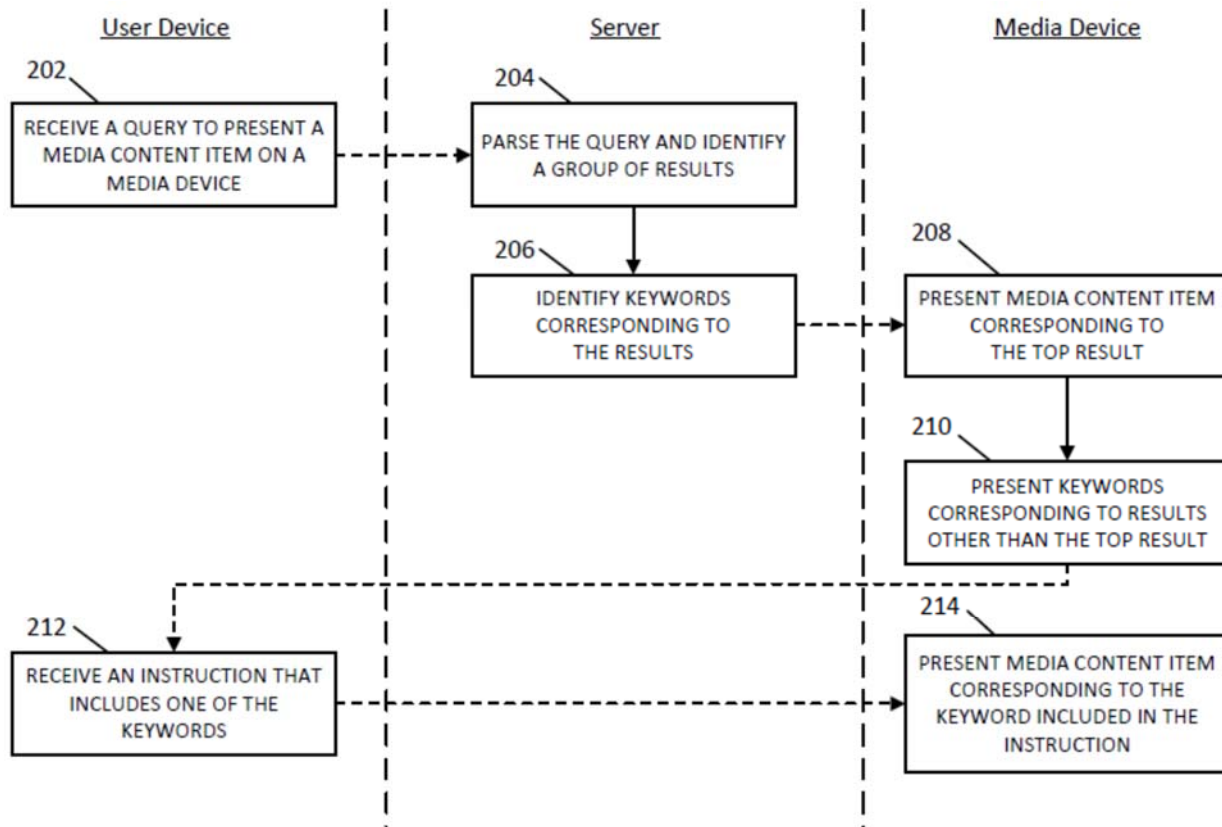| User Device	Server	Media Device
202 RECEIVE A QUERY TO PRESENT A MEDIA CONTENT ITEM ON A MEDIA DEVICE	**204** PARSE THE QUERY AND IDENTIFY A GROUP OF RESULTS	
	206 IDENTIFY KEYWORDS CORRESPONDING TO THE RESULTS	**208** PRESENT MEDIA CONTENT ITEM CORRESPONDING TO THE TOP RESULT
		210 PRESENT KEYWORDS CORRESPONDING TO RESULTS OTHER THAN THE TOP RESULT
212 RECEIVE AN INSTRUCTION THAT INCLUDES ONE OF THE KEYWORDS		**214** PRESENT MEDIA CONTENT ITEM CORRESPONDING TO THE KEYWORD INCLUDED IN THE INSTRUCTION

FIG. 2

At step 202, the user device can receive a voice query to present media content on a particular media device. For example, the voice query can indicate a particular media content item (e.g., a name of a movie or television show, a name of a channel, a name of a song, a name of a musician, and/or any other suitable indication), a genre of media content (e.g., a type of music, and/or any other suitable type of genre of media content), and/or indicate the media content to be presented in any other suitable manner. Additionally or alternatively, the voice query can include an indication of a media device that is to present the media content, such as a bedroom television, living room speakers, etc. A specific example of a voice query is "play Artist A on the living room television."

At step 204, the voice query can be transmitted from the user device to a server that parses the query. For example, the server can receive the voice query and can identify a group of results associated with the voice query. In some instances, each result in the group of results can be associated with media content, such as a video, a television show, a song, etc. The server can parse the query to identify the group of results using any suitable technique(s), such as by searching a database for actors, television show names, movie names, song names, or other identifiers included in the query.

At step 206, the server can then identify keywords or key terms corresponding to each of the results in the group of results. For example, for a result corresponding to interviews with a particular actor, a corresponding keyword can be "interviews." As another example, for a result corresponding to a sequel to a particular movie, a corresponding keyword can be "sequel." The server can assign the identified keyword or key term to each of the results in the group of results. The server can then cause a media content item associated with a top result (e.g., a result determined to be most likely to be relevant to the voice query, and/or a result determined to be the top result based on any other suitable information) to be presented on the media device, and can transmit indications of the other results in the group of results and the assigned keywords to the media device and/or the user device.

At step 208. the media device can begin presenting the media content item corresponding to the top result, for example, as shown in and described above in connection with FIG. 1.

Additionally, at step 210, the media device can present indications of the other results in the group of results, that is, one or more results in the group of results other than the top result. For example, as shown in and described above in connection with FIG. 1, an indication of a second result in the group of results corresponding to an interview with a particular actor can be

indicated using text that states, "to watch interviews with Actor A, say 'show me interviews.'" Continuing with this example, the keyword assigned to the second result by the server can be "interviews." The indications can be presented in any suitable manner, such as a text bubble superimposed on the presentation of the media content item corresponding to the top result associated with the voice query. Note that, in instances where the media device is a device without a display (e.g., speakers, and/or any other type of media device without a display), the indications of the other results in the group of results can be presented on a different device, such as the user device from which the voice query was received. Additionally, note that any suitable number of alternative results (e.g., one, two, three, and/or any other suitable number) other than the top result can be presented.

At step 212, in some instances, the user device can receive an instruction that includes one of the keywords presented at block 210. For example, the user device can receive a voice query from a user of the user device that states, "show me interviews," indicating that media content corresponding to interviews is to be presented on the media device. Note that, the user device can store keywords corresponding to each of the results in the group of results received from the server, thereby allowing the user device to transmit instructions to the media device to switch to presenting a different media content item based on determining that a particular keyword has been included in a voice query without additional communication with the server.

At step 214, the media device can begin presenting a second media content item corresponding to the keyword received in the instruction by the user device at step 212. In some instances, the media device can update the indications of alternative search results. For example, in instances where the second media content item corresponds to a second search result in the group of results, the media device can update the indications of alternative search results to

include any search results in the group of search results other than the second search result. In some instances, the updated indications can include an indication of the top result.

Accordingly, a mechanism for presenting indications of available alternative search results associated with a voice query is provided.