EXHIBIT 3

US010412141B2

(12) **United States Patent**
Osborne

(10) **Patent No.: US 10,412,141 B2**
(45) **Date of Patent: Sep. 10, 2019**

(54) **SYSTEMS AND METHODS FOR SEEKING WITHIN MULTIMEDIA CONTENT DURING STREAMING PLAYBACK**

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(65) **Prior Publication Data**

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(51) **Int. Cl.**
G06F 16/71 (2019.01)
H04L 29/06 (2006.01)
(Continued)

(52) **U.S. Cl.**
CPC ***H04L 65/604*** (2013.01); ***G06F 16/71*** (2019.01); ***G06F 16/739*** (2019.01);
(Continued)

(58) **Field of Classification Search**
CPC G06F 17/30; H04L 65/40; H04N 5/76
(Continued)

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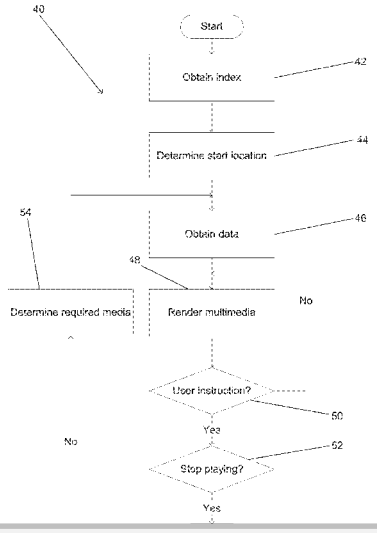
Primary Examiner — Glenford J Madamba
(74) *Attorney, Agent, or Firm* — KPPB LLP

(57) **ABSTRACT**

A receiver driven approach for playback of remote content is described. One embodiment includes obtaining information concerning the content of the media file from the remote server, identifying a starting location within the media sequence, identifying byte ranges of the media file corresponding to media required to play the media sequence from the starting location, requesting the byte ranges required to play the media sequence from the starting location, buffering received bytes of information pending commencement of playback, playing back the buffered bytes of information, receiving a user instruction, identifying byte ranges of the media file corresponding to media required to play the media sequence in accordance with the user instruction, flushing previous byte range requests, and requesting the byte ranges required to play the media in accordance with the user instruction.

30 Claims, 9 Drawing Sheets



Related U.S. Application Data

No. 14/632,670, filed on Feb. 26, 2015, now Pat. No. 9,794,318, which is a continuation of application No. 12/982,413, filed on Dec. 30, 2010, now Pat. No. 8,977,768, which is a continuation of application No. 11/970,493, filed on Jan. 7, 2008, now Pat. No. 7,886,069.

(60) Provisional application No. 60/883,659, filed on Jan. 5, 2007.

(51) **Int. Cl.**

G06F 16/738	(2019.01)
H04N 5/76	(2006.01)
H04N 5/783	(2006.01)
H04N 7/173	(2011.01)
H04N 21/234	(2011.01)
H04N 21/44	(2011.01)
H04N 21/472	(2011.01)
H04N 21/6587	(2011.01)

(52) **U.S. Cl.**

CPC ***H04L 65/4084*** (2013.01); ***H04L 65/4092*** (2013.01); ***H04N 5/76*** (2013.01); ***H04N 5/783*** (2013.01); ***H04N 7/17318*** (2013.01); ***H04N 21/23406*** (2013.01); ***H04N 21/44004*** (2013.01); ***H04N 21/472*** (2013.01); ***H04N 21/6587*** (2013.01)

(58) **Field of Classification Search**

USPC 709/100

See application file for complete search history.

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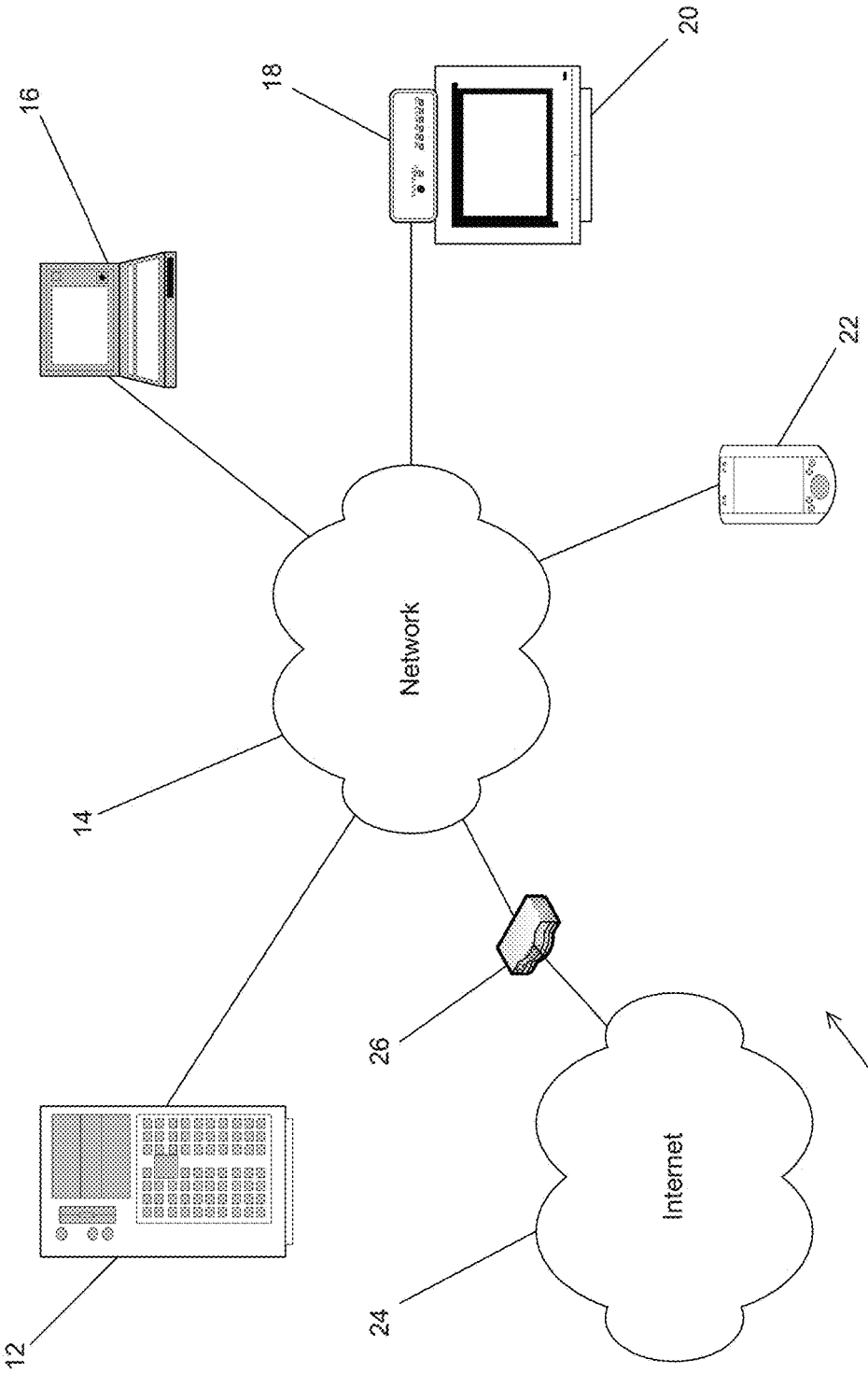

FIG. 1

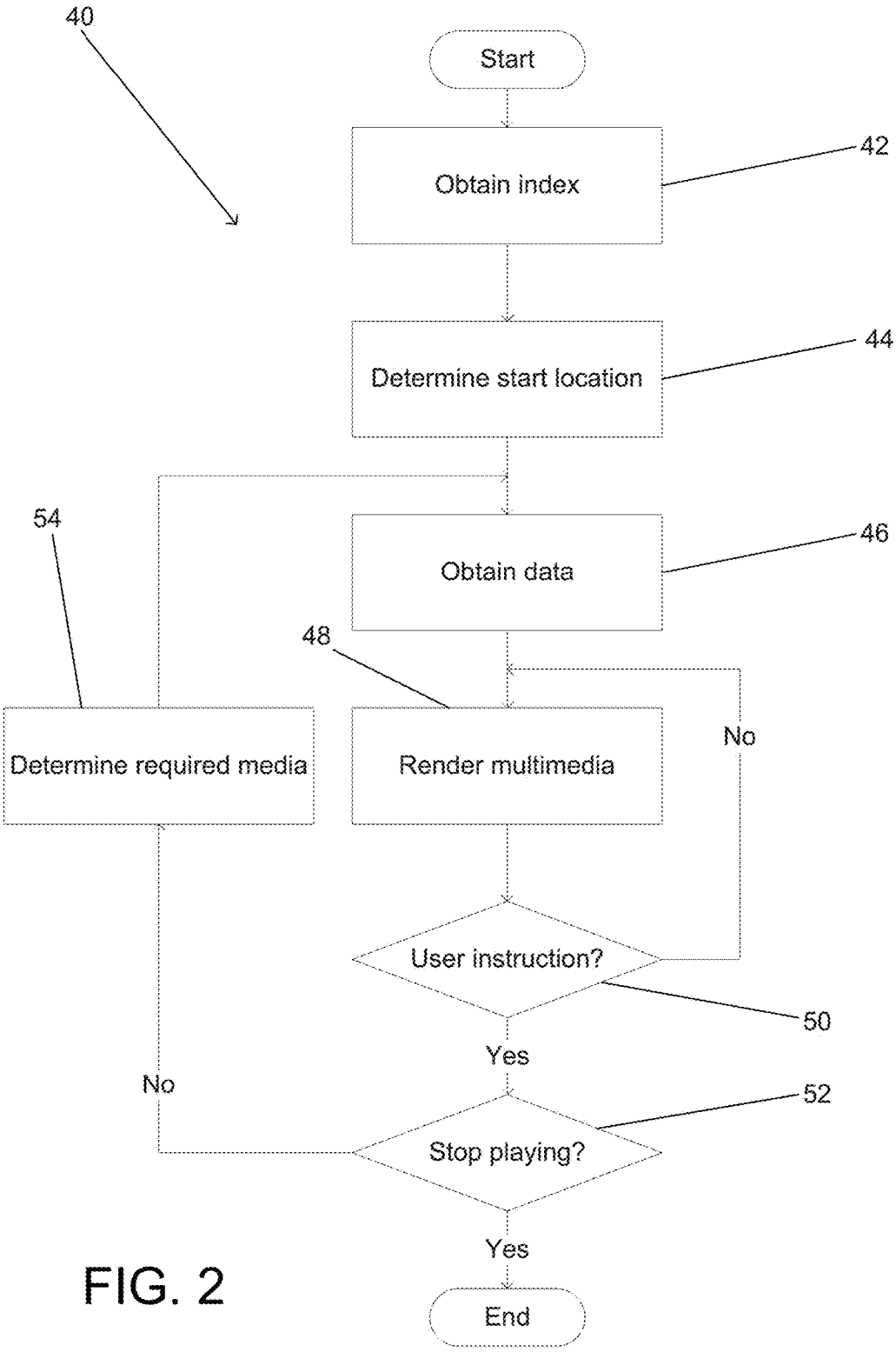

FIG. 2

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