

Front pages of 11 granted US patents



US010652592B2

(12) **United States Patent**
Geva et al.

(10) **Patent No.:** **US 10,652,592 B2**
(45) **Date of Patent:** **May 12, 2020**

(54) **NAMED ENTITY DISAMBIGUATION FOR PROVIDING TV CONTENT ENRICHMENT**

H04N 21/233; H04N 21/4722; H04N 21/235; H04N 21/44008; H04N 21/4394; G06Q 30/0241; G10L 15/26; G06F 17/278

(71) Applicant: **COMIGO LTD.**, Yarkona (IL)

See application file for complete search history.

(72) Inventors: **Guy Geva**, Kfar-Saba (IL); **Menahem Lasser**, Kohav-Yair (IL)

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(73) Assignee: **Comigo Ltd.**, Yarkona (IL)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 100 days.

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(21) Appl. No.: **15/935,000**

Co-pending U.S. Appl. No. 15/935,000, filed Mar. 25, 2018.
(Continued)

(22) Filed: **Mar. 25, 2018**

(65) **Prior Publication Data**

US 2019/0007711 A1 Jan. 3, 2019

Related U.S. Application Data

(60) Provisional application No. 62/528,104, filed on Jul. 2, 2017, provisional application No. 62/530,905, filed on Jul. 11, 2017.

Primary Examiner — Junior O Mendoza
(74) *Attorney, Agent, or Firm* — Marc Van Dyke; Momentum IP Group

(51) **Int. Cl.**

H04N 21/233 (2011.01)
H04N 21/234 (2011.01)
(Continued)

(57) **ABSTRACT**

Methods and systems are disclosed for enriching a viewing experience of a user watching video content on a screen of a client terminal by increasing the relevance of additional media content proposed or provided to the user. Disambiguation of named entities detected in a video content item being played is performed by identifying and accessing an information source directly associated with the video content item, and/or by analyzing visual content of a segment of the video content item. Selecting, proposing and/or providing an additional media content item is based on the information source and/or on the analyzing.

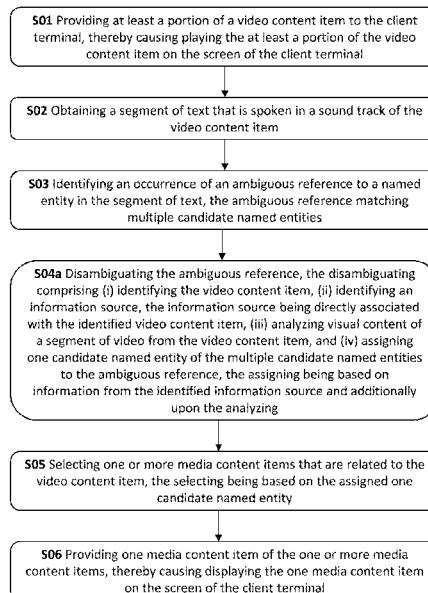
(52) **U.S. Cl.**

CPC **H04N 21/23424** (2013.01); **G06F 40/295** (2020.01); **G06Q 30/0241** (2013.01);
(Continued)

20 Claims, 11 Drawing Sheets

(58) **Field of Classification Search**

CPC H04N 21/23424; H04N 21/84; H04N 21/23418; H04N 21/251; H04N 21/2668;





US010498739B2

(12) **United States Patent**
Lasser

(10) **Patent No.:** **US 10,498,739 B2**
(45) **Date of Patent:** **Dec. 3, 2019**

(54) **SYSTEM AND METHOD FOR SHARING ACCESS RIGHTS OF MULTIPLE USERS IN A COMPUTING SYSTEM**
(71) Applicant: **COMIGO LTD.,** Yarkona (IL)
(72) Inventor: **Menahem Lasser,** Kohav-Yair (IL)
(73) Assignee: **Comigo Ltd.,** Yarkona (IL)
(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 244 days.

(21) Appl. No.: **15/345,518**

(22) Filed: **Nov. 8, 2016**

(65) **Prior Publication Data**
US 2017/0214697 A1 Jul. 27, 2017

Related U.S. Application Data

(60) Provisional application No. 62/281,384, filed on Jan. 21, 2016.

(51) **Int. Cl.**
H04L 29/06 (2006.01)
G06F 21/31 (2013.01)

(52) **U.S. Cl.**
CPC **H04L 63/102** (2013.01); **G06F 21/31** (2013.01); **H04L 63/104** (2013.01); **G06F 2221/2141** (2013.01)

(58) **Field of Classification Search**
CPC H04L 63/102; H04L 63/104; G06F 21/31; G06F 2221/2141
See application file for complete search history.

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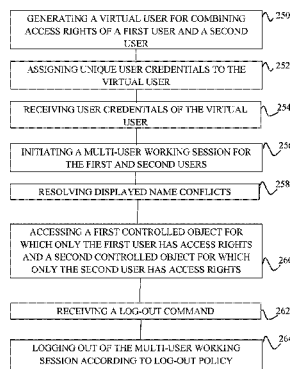
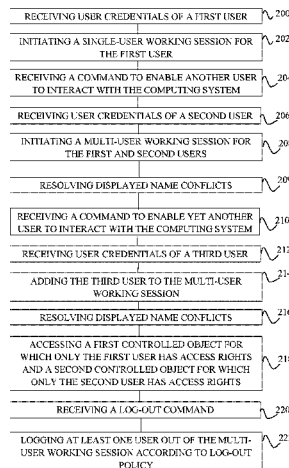
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Primary Examiner — Cheng-Feng Huang
(74) *Attorney, Agent, or Firm* — Marc Van Dyke

(57) Methods and systems for sharing the access rights of multiple users in a computing system, each of the multiple users having corresponding user credentials and corresponding access rights to controlled objects in the computing system, so as to enable a specific user to temporarily access controlled objects for which he does not have access rights, and another user does have access rights.

17 Claims, 4 Drawing Sheets



(12) **United States Patent**
Makovetzky

(10) **Patent No.:** **US 10,244,276 B2**
(45) **Date of Patent:** **Mar. 26, 2019**

(54) **SYSTEM AND METHOD FOR ALLOCATING BANDWIDTH IN A NETWORK**

(71) Applicant: **COMIGO LTD.**, Yarkona (IL)
(72) Inventor: **Avraham Makovetzky**, Bnei-Brak (IL)
(73) Assignee: **Comigo Ltd.**, Yarkona (IL)
(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **16/047,114**
(22) Filed: **Jul. 27, 2018**

(65) **Prior Publication Data**
US 2019/0020908 A1 Jan. 17, 2019

Related U.S. Application Data
(62) Division of application No. 15/263,437, filed on Sep. 13, 2016, now Pat. No. 10,063,895.
(60) Provisional application No. 62/271,258, filed on Dec. 27, 2015.
(51) **Int. Cl.**
H04N 21/2385 (2011.01)
H04N 21/258 (2011.01)

(52) **U.S. Cl.**
CPC ... **H04N 21/2385** (2013.01); **H04N 21/25891** (2013.01)

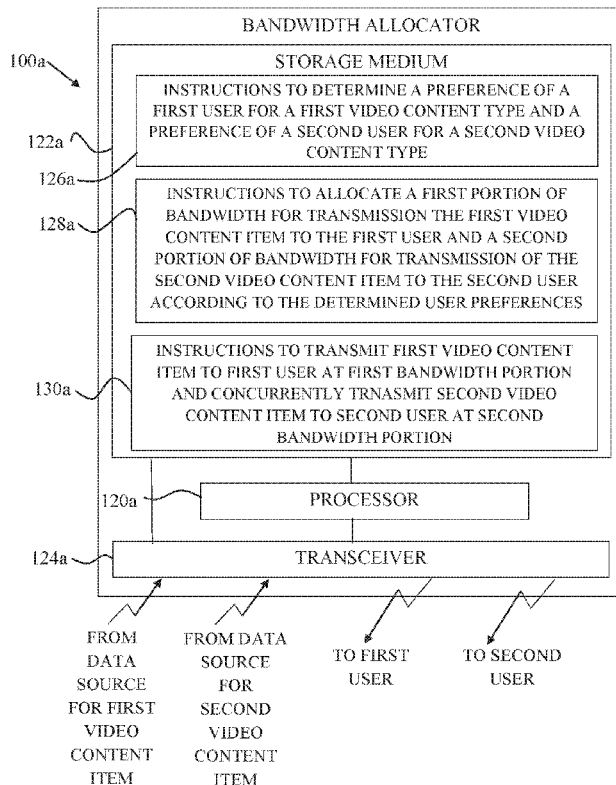
(58) **Field of Classification Search**
CPC H04N 21/2385; H04N 21/25891
See application file for complete search history.

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Primary Examiner — Oschta I Montoya
(74) *Attorney, Agent, or Firm* — Marc Van Dyke

(57) **ABSTRACT**
Devices and methods for allocating bandwidth in a data communication network having available bandwidth, particularly when allocating bandwidth for data of more than one video content item.

10 Claims, 5 Drawing Sheets





US010194212B2

(12) **United States Patent**
Lentzitzky et al.

(10) **Patent No.:** **US 10,194,212 B2**
(45) **Date of Patent:** **Jan. 29, 2019**

(54) **SYSTEMS AND METHODS FOR PROVIDING FLEXIBLE ACCESS TO SCENES CONTAINED WITHIN A VIDEO CONTENT ITEM**

(71) Applicant: **COMIGO LTD.**, Yarkona (IL)

(72) Inventors: **Motty Lentzitzky**, Tel Aviv (IL);
Menahem Lasser, Kohav-Yair (IL)

(73) Assignee: **Comigo Ltd.**, Yarkona (IL)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **15/640,546**

(22) Filed: **Jul. 2, 2017**

(65) **Prior Publication Data**

US 2018/0070150 A1 Mar. 8, 2018

Related U.S. Application Data

(60) Provisional application No. 62/383,616, filed on Sep. 6, 2016.

(51) **Int. Cl.**

H04N 21/6587 (2011.01)
H04N 21/472 (2011.01)
H04N 21/61 (2011.01)
H04N 21/845 (2011.01)

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

CPC ... **H04N 21/6587** (2013.01); **H04N 21/47217** (2013.01); **H04N 21/6125** (2013.01); **H04N 21/8456** (2013.01)

(58) **Field of Classification Search**

None
See application file for complete search history.

(56) **References Cited**

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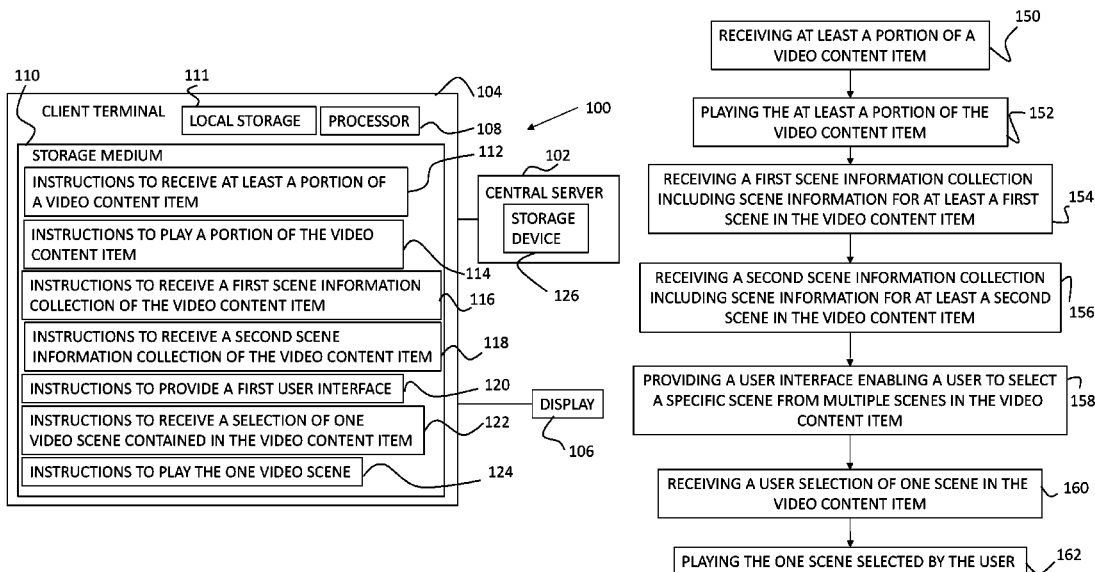
Primary Examiner — Cai Y Chen

(74) Attorney, Agent, or Firm — Marc Van Dyke

(57) **ABSTRACT**

Devices, systems, and methods for providing flexible access to video scenes contained within a video content item by receiving a scene information collection relating to the video scenes in the video content item and providing a user interface enabling a user to select a scene based on the scene information collection.

4 Claims, 11 Drawing Sheets





US010191899B2

(12) **United States Patent**
Lasser

(10) **Patent No.:** **US 10,191,899 B2**
(45) **Date of Patent:** **Jan. 29, 2019**

(54) **SYSTEM AND METHOD FOR UNDERSTANDING TEXT USING A TRANSLATION OF THE TEXT**

(56) **References Cited**

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(71) Applicant: **COMIGO LTD.**, Yarkona (IL)
(72) Inventor: **Menahem Lasser**, Kohav-Yair (IL)
(73) Assignee: **Comigo Ltd.**, Yarkona (IL)
(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 10 days.

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(21) Appl. No.: **15/415,952**

(22) Filed: **Jan. 26, 2017**

(65) **Prior Publication Data**

US 2017/0351661 A1 Dec. 7, 2017

Related U.S. Application Data

(60) Provisional application No. 62/345,989, filed on Jun. 6, 2016.

(51) **Int. Cl.**
G06F 17/28 (2006.01)
G06F 17/27 (2006.01)

(52) **U.S. Cl.**
CPC **G06F 17/2785** (2013.01); **G06F 17/2836** (2013.01); **G06F 17/2854** (2013.01); **G06F 17/2775** (2013.01); **G06F 17/2863** (2013.01)

(58) **Field of Classification Search**
CPC .. G06F 17/28; G06F 17/2809; G06F 17/2818; G06F 17/2827; G06F 17/2836; G06F 17/2845; G06F 17/2854; G06F 17/2863; G06F 17/2872; G06F 17/289; G06F 17/2881; G06F 17/30265
USPC 704/2-8
See application file for complete search history.

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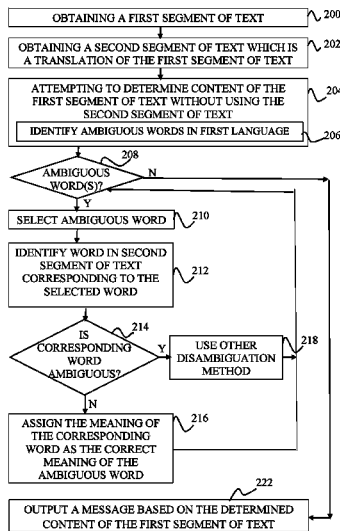
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Primary Examiner — Lamont M Spooner
(74) *Attorney, Agent, or Firm* — Marc Van Dyke

(57) **ABSTRACT**

Devices and methods for determining the content of a first segment of text in a first language, using a second segment of text in a second language. The second segment of text is a translation of the first segment of text.

20 Claims, 6 Drawing Sheets





US010089604B2

(12) **United States Patent**
Lasser et al.

(10) **Patent No.:** US 10,089,604 B2
(45) **Date of Patent:** Oct. 2, 2018

(54) **METHOD AND APPARATUS FOR MANAGING A JOINT SLIDE SHOW WITH ONE OR MORE REMOTE USER TERMINALS**

(71) Applicant: **COMIGO LTD.**, Yarkona (IL)

(72) Inventors: **Menahem Lasser**, Kohav-Yair (IL);
Itzhak Pomerantz, Kfar Saba (IL)

(73) Assignee: **COMIGO LTD.**, Yarkona (IL)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 621 days.

(21) Appl. No.: **14/873,320**

(22) Filed: **Oct. 2, 2015**

(65) **Prior Publication Data**
US 2016/0132221 A1 May 12, 2016

Related U.S. Application Data

(60) Provisional application No. 62/075,970, filed on Nov. 6, 2014.

(51) **Int. Cl.**
G06F 3/00 (2006.01)
G06Q 10/10 (2012.01)
(Continued)

(52) **U.S. Cl.**
CPC **G06Q 10/101** (2013.01); **H04N 1/00198** (2013.01); **H04N 7/15** (2013.01); **H04N 21/4788** (2013.01)

(58) **Field of Classification Search**
CPC ... G06F 3/0482; G06F 3/0485; H04L 65/403; H04L 51/32; H04L 29/06176; H04N 7/15
See application file for complete search history.

(56) **References Cited**

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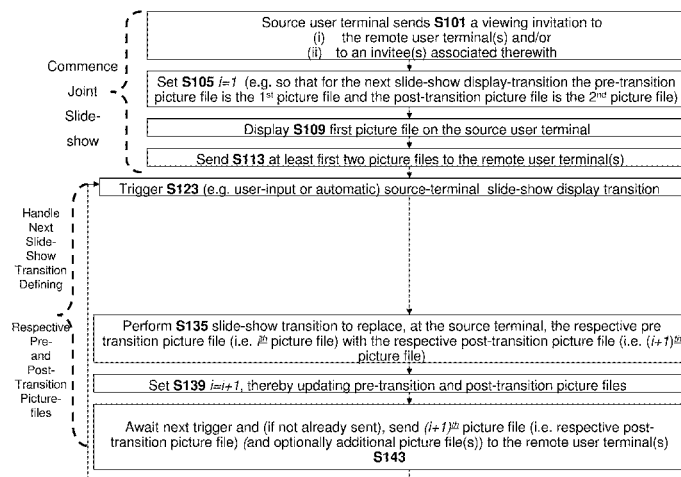
Primary Examiner — Haoshian Shih

(74) *Attorney, Agent, or Firm* — Marc Van Dyke

(57) **ABSTRACT**

Methods and apparatus for managing a joint slide show by a source user terminal in communication with one or more remote user terminal(s) are disclosed herein. During the slide show, a plurality of picture files are shown on the source user terminal. One or more slide-show display-transitions are performed at the source user terminal by replacing, at a slide-show display-location of the source user terminal, a pre-transition picture file with a post-transition picture file. In some embodiments, (i) for each slide-show display-transition, a respective post-transition picture file is sent from the source terminal to each remote user terminal in advance of the slide-show display-transition and/or (ii) each of the slide-show display-transitions is contingent upon, and performed only after meeting a condition related to a number of remote user-terminals from which the source terminal has received a confirmation message confirming receipt of the respective post-transition picture file.

20 Claims, 38 Drawing Sheets





US010063895B2

(12) **United States Patent**
Makovetzky

(10) **Patent No.:** **US 10,063,895 B2**

(45) **Date of Patent:** **Aug. 28, 2018**

(54) **SYSTEM AND METHOD FOR ALLOCATING BANDWIDTH IN A NETWORK**

(56) **References Cited**

U.S. PATENT DOCUMENTS

- (71) Applicant: **COMIGO LTD.**, Yarkona (IL)
- (72) Inventor: **Avraham Makovetzky**, Bnei-Brak (IL)
- (73) Assignee: **COMIGO LTD.**, Yarkona (IL)
- (*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.
- (21) Appl. No.: **15/263,437**
- (22) Filed: **Sep. 13, 2016**

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(65) **Prior Publication Data**
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Related U.S. Application Data

(60) Provisional application No. 62/271,258, filed on Dec. 27, 2015.

Primary Examiner — Oschta Montoya

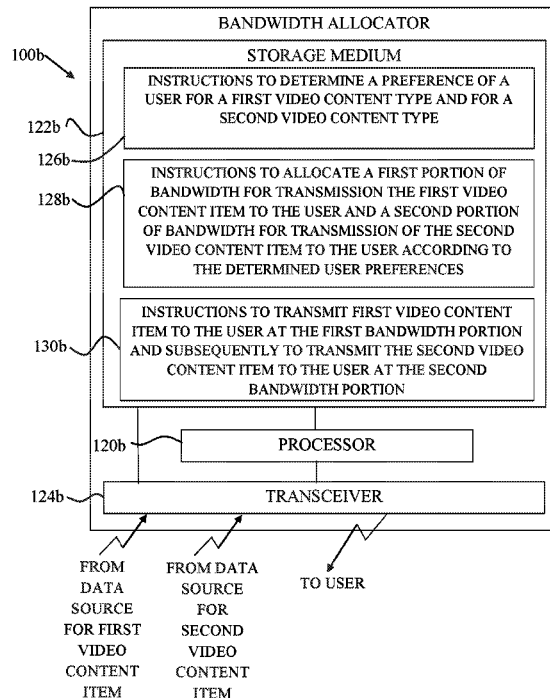
(74) *Attorney, Agent, or Firm* — Marc Van Dyke

- (51) **Int. Cl.**
H04N 7/173 (2011.01)
H04N 21/2385 (2011.01)
- (52) **U.S. Cl.**
CPC *H04N 21/2385* (2013.01)
- (58) **Field of Classification Search**
CPC H04N 21/2385
See application file for complete search history.

(57) **ABSTRACT**

Devices and methods for allocating bandwidth in a data communication network having available bandwidth, particularly when allocating bandwidth for data of more than one video content item.

10 Claims, 5 Drawing Sheets





US010019599B1

(12) **United States Patent**
Moran et al.

(10) **Patent No.:** **US 10,019,599 B1**
(45) **Date of Patent:** **Jul. 10, 2018**

(54) **LIMITING APPLICATIONS EXECUTION TIME**

(71) Applicant: **COMIGO LTD.**, Yarkona (IL)

(72) Inventors: **Dov Moran**, Kfar-Saba (IL); **Menahem Lasser**, Kohav-Yair (IL)

(73) Assignee: **COMIGO LTD.**, Yarkona (IL)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 244 days.

(21) Appl. No.: **14/958,952**

(22) Filed: **Dec. 4, 2015**

Related U.S. Application Data

(60) Provisional application No. 62/144,533, filed on Apr. 8, 2015.

(51) **Int. Cl.**
G06F 21/00 (2013.01)
G06F 21/62 (2013.01)

(52) **U.S. Cl.**
CPC **G06F 21/629** (2013.01)

(58) **Field of Classification Search**
CPC G06F 21/629
See application file for complete search history.

(56) **References Cited**

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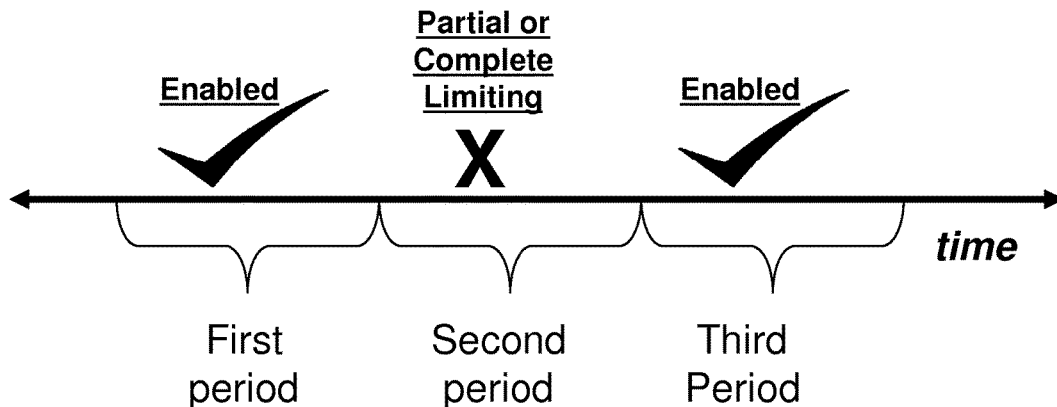
Primary Examiner — Kendall Dolly

(74) *Attorney, Agent, or Firm* — Marc Van Dyke

(57) **ABSTRACT**

A method of limiting execution of a software application according to a pre-defined time-based rule comprises: whenever the software application is attempted to be launched, enforcing a pre-defined time-based rule (e.g. that is user-immutable) such that: i. whenever the software application is attempted to be launched during a first time interval, the execution of the software application is enabled; ii. whenever the software application is attempted to be launched during a second time interval immediately following the first time interval, the execution of the software application is limited; and iii. whenever the software application is attempted to be launched during a third time interval immediately following the second time interval, the execution of the software application is enabled.

23 Claims, 7 Drawing Sheets





US009712866B2

(12) **United States Patent**
Lasser

(10) **Patent No.:** **US 9,712,866 B2**

(45) **Date of Patent:** **Jul. 18, 2017**

(54) **CANCELLING TV AUDIO DISTURBANCE BY SET-TOP BOXES IN CONFERENCES**

USPC 349/14.01-14.16; 725/110, 123, 131, 725/139, 151

See application file for complete search history.

(71) Applicant: **COMIGO LTD.**, Yarkona (IL)

(56) **References Cited**

(72) Inventor: **Menahe Lasser**, Kohav-Yair (IL)

U.S. PATENT DOCUMENTS

(73) Assignee: **COMIGO LTD.**, Yarkona (IL)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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(65) **Prior Publication Data**

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(51) **Int. Cl.**

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- H04N 21/439** (2011.01)
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(52) **U.S. Cl.**

CPC **H04N 21/439** (2013.01); **H04N 7/147** (2013.01); **H04N 21/42203** (2013.01); **H04N 21/4788** (2013.01)

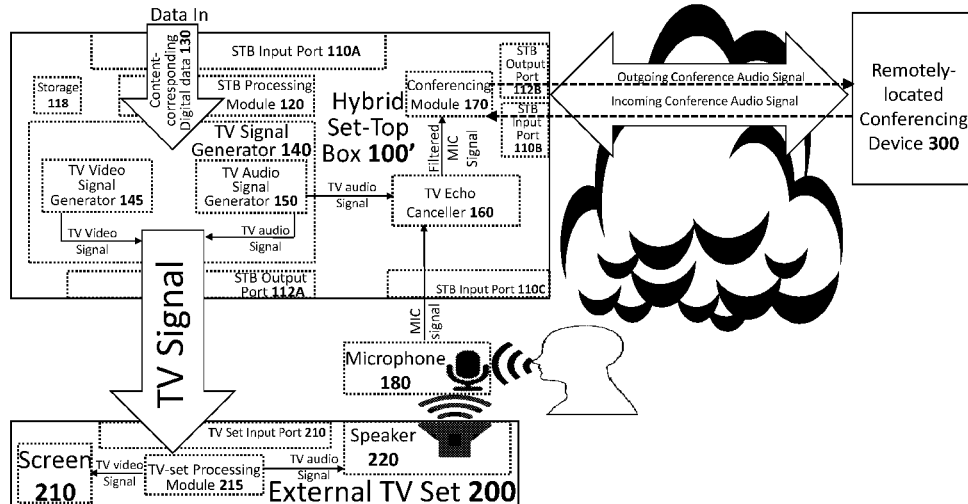
(58) **Field of Classification Search**

CPC H04N 7/147; H04N 7/17318; H04N 21/4126; H04N 21/4203; H04N 21/4204; H04N 21/439; H04N 21/4396; H04N 21/4788; H04N 21/47

(57) **ABSTRACT**

Embodiments of the present invention relate to a Set-Top Box (STB) that in addition to outputting a TV signal to an external TV set also supports conferencing between different users located at different locations. When a user is engaged in a conferencing session he may at the same time also view and listen to a TV program on the TV set. The STB of the present disclosure is able to cancel audio disturbances in the outgoing audio signal of the session that might be caused by the TV audio signal played by the TV speaker penetrating the session as a result of being received by the video conferencing microphone.

13 Claims, 6 Drawing Sheets





(12) **United States Patent**
Moran et al.

(10) **Patent No.:** **US 9,516,262 B2**
(45) **Date of Patent:** **Dec. 6, 2016**

(54) **SYSTEM AND METHODS FOR MANAGING TELEPHONIC COMMUNICATIONS**

(71) Applicant: **COMIGO LTD.**, Yarkona (IL)
(72) Inventors: **Dov Moran**, Kfar Saba (IL); **Motty Lentzitzky**, Raanana (IL)
(73) Assignee: **COMIGO LTD.** (IL)
(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 120 days.

(21) Appl. No.: **13/888,423**
(22) Filed: **May 7, 2013**

(65) **Prior Publication Data**
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(60) Provisional application No. 61/643,372, filed on May 7, 2012, provisional application No. 61/643,375, filed on May 7, 2012.

(51) **Int. Cl.**
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H04N 21/41 (2011.01)
H04N 21/475 (2011.01)
H04L 29/06 (2006.01)
H04M 7/00 (2006.01)
H04N 21/454 (2011.01)

(52) **U.S. Cl.**
CPC **H04N 7/141** (2013.01); **H04L 65/1069** (2013.01); **H04M 7/0039** (2013.01); **H04N 7/147** (2013.01); **H04N 21/4126** (2013.01); **H04N 21/454** (2013.01); **H04N 21/4755** (2013.01); **H04M 7/006** (2013.01); **H04M 2201/50** (2013.01)

(58) **Field of Classification Search**
USPC 348/14.01–14.03, 14.07–14.1
See application file for complete search history.

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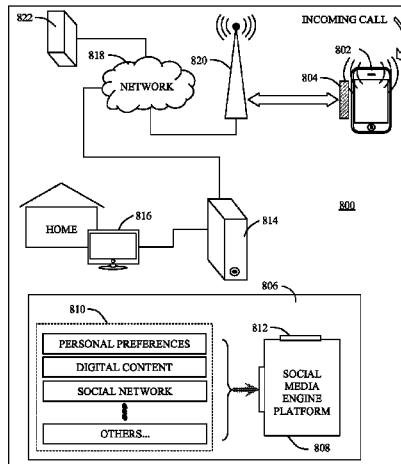
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(74) *Attorney, Agent, or Firm* — Marc Van Dyke

(57) **ABSTRACT**

A communication filtering system comprising an authorization module and a management module. The authorization module is configured to selectively authorize an incoming call according to media content rendered by a media renderer. The management module is configured to manage filtering of multiple incoming calls directed to a telephony system according to the selective authorizations of the multiple incoming calls by the authorization module.

10 Claims, 11 Drawing Sheets





(12) **United States Patent**
Gaziel et al.

(10) **Patent No.:** **US 9,432,722 B2**
(45) **Date of Patent:** **Aug. 30, 2016**

(54) **REDUCING INTERFERENCE OF AN OVERLAY WITH UNDERLYING CONTENT**

(56) **References Cited**

(71) Applicant: **COMIGO LTD.**, Yarkona (IL)

U.S. PATENT DOCUMENTS

(72) Inventors: **Yoav Gaziel**, Tel-Aviv (IL); **Menahem Lasser**, Kohav-Yair (IL); **Ronen Segal**, Herzlia (IL)

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(73) Assignee: **COMIGO LTD.**, Yarkona (IL)

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Related U.S. Application Data

Primary Examiner — Michael Lee

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(74) *Attorney, Agent, or Firm* — Marc Van Dyke

(60) Provisional application No. 62/027,798, filed on Jul. 23, 2014.

(51) **Int. Cl.**
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H04N 21/431 (2011.01)

(Continued)

(57) **ABSTRACT**

Methods and apparatus for displaying an overlay on top of media content are disclosed herein. In some embodiments, a request for presentation of an overlay on top of the media content at a target position on the display screen is handled (e.g. by a local terminal) in accordance with a dynamically determined extent of interference caused by the overlay to the media content. In some embodiments, a modification to at least one overlay attribute of the overlay is computed in accordance with the determined extent of interference, and the modified overlay is display over the underlying media content. Examples of 'overlay attributes' include size, color, transparency and shape.

(52) **U.S. Cl.**
CPC **H04N 21/4316** (2013.01); **G06Q 30/0241** (2013.01); **H04N 5/262** (2013.01); **H04N 5/445** (2013.01); **H04N 21/4312** (2013.01); **H04N 21/4318** (2013.01); **H04N 21/4438** (2013.01); **H04N 2005/44521** (2013.01)

(58) **Field of Classification Search**
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USPC 348/564
See application file for complete search history.

25 Claims, 24 Drawing Sheets

