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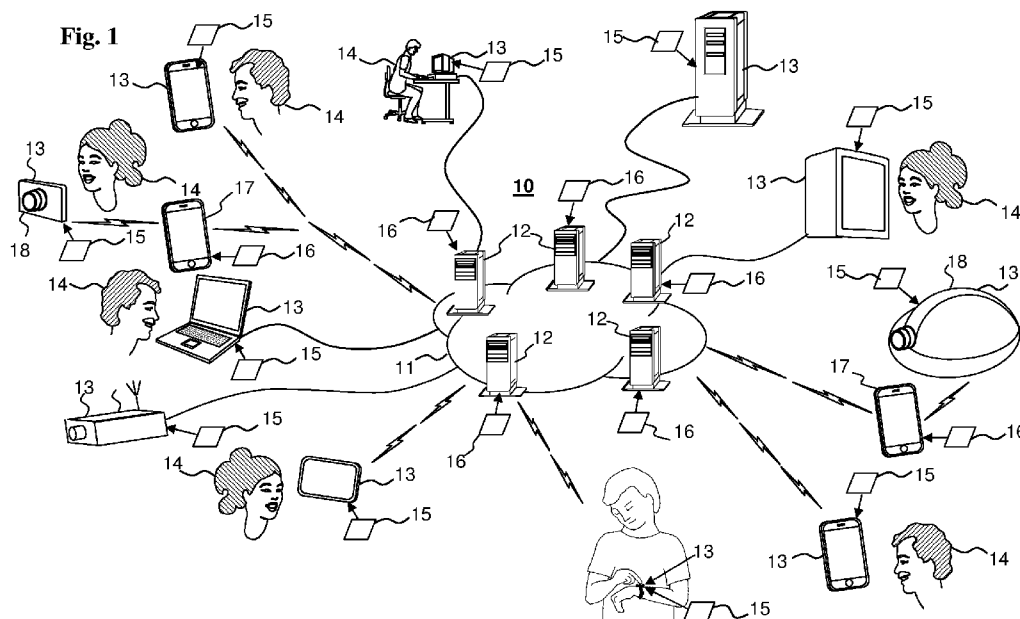
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(54) Title: SYSTEM AND METHOD FOR INTERLEAVED MEDIA COMMUNICATION AND CONVERSION



(57) Abstract: A method or system configured for receiving a first single data stream representing a first multimedia file, the first single data stream including an interleaved sequence of data elements of a plurality of media, and/or transmitting a second single data stream representing a second multimedia file, the second single data stream including an interleaved sequence of data elements of said plurality of media, where the second multimedia file differs from said first multimedia file by at least one data element of a selected medium extracted from said first multimedia file, and/or by at least one data element of a selected medium added to the first multimedia file, and/or by at least one data element of a selected medium added to the first multimedia file being a converted version of the at least one data element of a selected medium extracted from the first multimedia file.



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INTERNATIONAL SEARCH REPORT

International application No.

PCT/IB 17/00642

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - H04N 7/24 (2017.01), H04N 5/445 (2017.01), H04L 29/06 (2017.01)

CPC - H04L 65/607, H04L 65/4084, H04N 21/222, H04N 21/8146, H04N 21/478, H04N 21/2665, H04N 5/44591, H04N 21/234318

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

See Search History Document

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

See Search History Document

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

See Search History Document

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2003/0200336 A1 (Pal et al.), 23 October 2003 (23.10.2003), entire document, especially Abstract; Para [0023], [0030]-[0033], [0035]	1, 3-21, 23-41, 43-60
Y	US 2001/0013068 A1 (KLEMETS et al.), 09 August 2001 (09.08.2001), entire document, especially Abstract; Para [0073], [0080]-[0083] entire document, especially Abstract;	1, 3-21, 23-41, 43-60
Y	US 2014/0163980 A1 (Tesch et al.), 12 June 2014 (12.06.2014), entire document, especially Abstract; Para [0075], [0213]-[0214]	9-10, 29-30, 49-50
Y	US 2015/0134771 A1 (Kalman et al.), 14 May 2015 (14.05.2015), entire document, especially Abstract; Para [0013], [0018], [0050]	12-15, 18, 32-35, 38, 52-58 and 58
A	US 2006/0156217 A1 (Ertel et al.), 13 July 2006 (13.07.2006), entire document	1, 3-21, 23-41, 43-60
A	US 2014/0163980 A1 (Tesch et al.), 12 June 2014 (12.06.2014), entire document	1, 3-21, 23-41, 43-60

☐ Further documents are listed in the continuation of Box C.☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/IB 17/00642

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Group I - Claims 1, 3-21, 23-41, 43-60 are directed to a method, system and program product for generating a single stream of media from multiple media sources.

Group II - Claims 2-6, 8-18, 22-26, 28-38, 42-46, 48-60 are directed to a method, system and program product for receiving and reassembling a single stream of media that includes elements of plurality of media.

--- (See Continuation in Supplemental Box) ---

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
Claims 1, 3-21, 23-41, 43-60

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.

Continuation of:

Box III. Observations where unity of invention is lacking

The inventions listed as Groups I-II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

Special Technical Features:

The invention of Group I included the features of obtaining a plurality of media by a transmitter communicatively coupled to said communication network; preparing to transmit said plurality of media to a receiver communicatively coupled to said communication network; transmitting said plurality of media from said transmitter to said receiver as a single data stream including an interleaved sequence of data elements of said plurality of media, not required by group II.

The invention of Group II included the features of a receiving, at a network-accessible device, a first single data stream including a first interleaved sequence of data elements of said plurality of media; and transmitting a second single data stream representing a second multimedia file derived from the first multimedia file, said second single data stream including a second interleaved sequence of data elements of said plurality of media, wherein each of said data elements includes data of one type of medium of said plurality of media; wherein said second multimedia file differs from said first multimedia file by at least one of: at least one data element of a selected medium extracted from said first multimedia file; at least one data element of a selected medium added to said first multimedia file; and wherein said at least one data element of said selected medium added to said first multimedia file is a converted version of said at least one data element of said selected medium extracted from said first multimedia file, not required by Group I.

Common Technical Features

Groups I-II share the technical feature of a first single data stream including a first interleaved sequence of data elements of said plurality of media, wherein each of said data elements includes data of one type of medium of said plurality of media.

However, the shared technical features does not represent a contribution over prior art as being anticipated by US 2003/0200336 A1 (Pal et al.), 23 October 2003 (23.10.2003).

Pal teaches a first single data stream including a first interleaved sequence of data elements of said plurality of media, wherein each of said data elements includes data of one type of medium of said plurality of media (Abstract; Para [0023], [0030]-[0033], [0035] - before transmission to a client, media content from servers are collectively aggregated to produce multimedia content with a unified framework. Such aggregation is accomplished by application driven media processing and delivery modules; two different types of media content in order to integrate the two different types of media content into a single stream of media content; combination of different types of media objects; M-CE 110 is adapted to receive another type of media content, such as navigator bar 230, buttons 240, layout 260 and other 2D graphic elements from content engines 127. M-CE 110 processes the different types of received media content and creates screen display 200 shown in FIG. 2. The created screen display 200 is then delivered to client(s) 135.sub.X (e.g., television, a browser running on a computer or PDA) through access network 130).

As the common features were known in the art at the time of the invention, this cannot be considered a common technical feature that would otherwise unify the groups. Therefore, Groups I-II lack unity under PCT Rule 13.