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(54) Title: METHOD AND SYSTEM OF DETERMINING PERSONALIZED MULTIMEDIA CONTENT IN A SMART DEVICE

(57) Abstract: A method (300) and system (100) of determining personalized multimedia content in a smart device 102. A processor (104) receives a user query inputted via a user interface (108). A first validation of the user query is performed based on a set of predefined validation rules. An optimized query is generated based on the user query and a user profile. The optimized query is inputted to a generative artificial intelligence (AI) model via an application programming interface (API). A first output is received corresponding to the optimized query from the generative artificial intelligence model via the API. A second validation of the first output is performed. A set of multimedia content is determined. A second output is displayed comprising the set of multimedia content and the corresponding one or more distribution channels via the user interface (108).

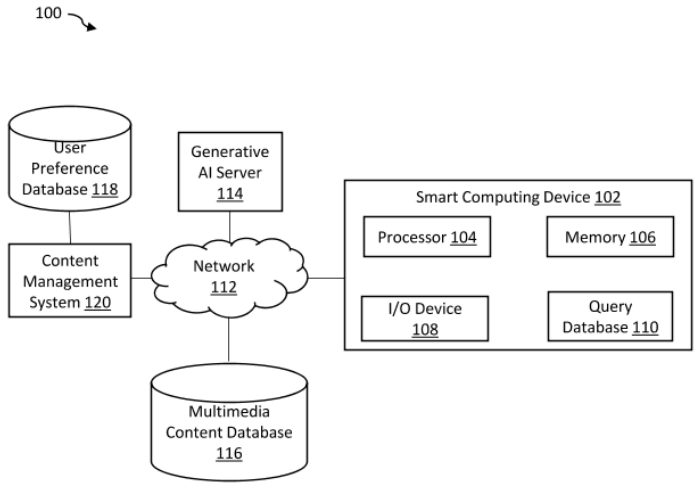

FIG. 1

FORM 2

THE PATENTS ACT 1970
(39 OF 1970)
&
The Patent Rules, 2003

Complete Specification
(See Section 10 and Rule 13)

1. TITLE OF THE INVENTION

METHOD AND SYSTEM OF DETERMINING PERSONALIZED MULTIMEDIA CONTENT IN A SMART DEVICE

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3. PREAMBLE TO THE DESCRIPTION

COMPLETE

The following specification particularly describes the invention and the manner in which it is to be performed

DESCRIPTION

Technical Field

[001] This disclosure generally relates to determination of multimedia content, and more particularly to a method and system of determination of personalised multimedia content in a smart device.

BACKGROUND

[002] Engaging subscribers has emerged as a significant challenge for video platform providers, whether they operate in the realm of Over-The-Top (OTT) streaming or traditional media distribution services. How consumers consume media has a direct and substantial impact on the revenue generated. While personalization has been instrumental in delivering curated content to viewers, it has also given rise to a related challenge – subscribers spending an excessive amount of time browsing through content. This prolonged content exploration often leads to subscriber disengagement. In addition to personalized content recommendations, subscribers frequently seek out content that falls outside the scope of their established preferences.

[003] Traditionally, the approach to addressing these challenges has involved monitoring and analyzing user preferences and content consumption history. Personalization efforts have primarily focused on providing content suggestions based on the limited metadata available through the application platform or media operator. This typically includes promoting content genres aligned with recent user activity as part of the recommendations which may not align to user mood or user current frame of mind.

[004] Therefore, there is a requirement for an efficient and effective methodology for personalized multimedia content.

SUMMARY OF THE INVENTION

[005] In an embodiment, a method of determining personalized multimedia content is disclosed. The method may include receiving, by a smart computing device, a user query inputted via a user interface. The method may further include performing, by the smart computing device, a first validation of the user query based on a set of predefined validation rules. The method may further include generating, by the smart computing device and upon the first validation, an optimized query based on the user query and a user profile. In an embodiment, the user profile is saved in a user preference database. The method may further include inputting, by the smart computing device, the optimized query to a generative artificial intelligence (AI) model via an application programming interface (API). In an embodiment,

the generative AI model may be ChatGPT, Bard®, Midjourney, DeepMind, etc. The method may further include receiving, by the smart computing device, a first output corresponding to the optimized query from the generative artificial intelligence model via the API. The method may further include, performing by the smart computing device, a second validation of the first output based on the set of predefined validation rules. The method may further include, determining by the smart computing device and upon the second validation, a set multimedia content by extracting a set of keywords from the first output using a deep learning model. In an embodiment, the deep learning model may be trained to determine the set of multimedia content based on a multimedia content database. In an embodiment the multimedia content database may include a plurality of multimedia content each associated to one or more of a plurality of distribution channels. The method may further include displaying, by the smart computing device, a second output that may further include the set of multimedia content and the corresponding one or more distribution channels via the user interface.

[006] In another embodiment, a system of determining personalized multimedia content is disclosed. The system may include a processor, a memory communicably coupled to the processor, wherein the memory may store processor-executable instructions, which when executed by the processor may cause the processor to receive a user query inputted via a user interface. The processor may further perform a first validation of the user query based on a set of predefined validation rules. The processor may upon the first validation, generate an optimized query based on the user query and a user profile. In an embodiment, the user profile is saved in a user preference database. The processor may further input the optimized query to a generative artificial intelligence (AI) model via an application programming interface (API). The processor may further receive a first output corresponding to the optimized query from the generative artificial intelligence model via the API. The processor may further perform a second validation of the first output based on the set of predefined validation rules. The processor may, upon the second validation, determine a set of multimedia content based on extraction of a set of keywords from the first output using a deep learning model. In an embodiment, the deep learning model may be trained to determine the set of multimedia content based on a multimedia content database. In an embodiment, the multimedia content database comprises a plurality of multimedia content each associated to one or more of a plurality of distribution channels. The processor may further display a second output that may further include the set of multimedia content and the corresponding one or more distribution channels via the user interface.

[007] Various objects, features, aspects, and advantages of the inventive subject matter will become more apparent from the following detailed description of preferred embodiments, along with the accompanying drawing figures in which like numerals represent like components.

BRIEF DESCRIPTION OF THE DRAWINGS

[008] The accompanying drawings, which are incorporated in and constitute a part of this disclosure, illustrate exemplary embodiments and, together with the description, serve to explain the disclosed principles.

[009] **FIG. 1** illustrates a block diagram of an exemplary personalized multimedia content determining system, in accordance with some embodiments of the present disclosure.

[010] **FIG. 2** illustrates a functional block diagram of a smart computing device, in accordance with some embodiment of the present disclosure.

[011] **FIG. 3** is a flowchart of a method for determining personalised multimedia content in a smart device in accordance with some embodiments of the present disclosure.

DETAILED DESCRIPTION OF THE DRAWINGS

[012] Exemplary embodiments are described with reference to the accompanying drawings. Wherever convenient, the same reference numbers are used throughout the drawings to refer to the same or like parts. While examples and features of disclosed principles are described herein, modifications, adaptations, and other implementations are possible without departing from the scope of the disclosed embodiments. It is intended that the following detailed description be considered exemplary only, with the true scope being indicated by the following claims. Additional illustrative embodiments are listed.

[013] Further, the phrases “in some embodiments”, “in accordance with some embodiments”, “in the embodiments shown”, “in other embodiments”, and the like mean a particular feature, structure, or characteristic following the phrase is included in at least one embodiment of the present disclosure and may be included in more than one embodiment. In addition, such phrases do not necessarily refer to the same embodiments or different embodiments. It is intended that the following detailed description be considered exemplary only, with the true scope being indicated by the following claims.

[014] Referring now to **FIG. 1**, a block diagram of a personalized multimedia determining system 100, in accordance with some embodiments of the present disclosure is illustrated. The

personalized multimedia determining system 100 may include a smart computing device 102, a generative AI server 114, a content management system 120, a user preference database 118 and a multimedia content database 116 communicably connected to each other through a wired or wireless communication network 112. The smart computing device 102 may include a processor 104, a memory 106, an input/output device 108 and a query database 110.

[015] In an embodiment, examples of processor(s) 104 may include, but are not limited to, an Intel® Itanium® or Itanium 2 processor(s), or AMD® Opteron® or Athlon MP® processor(s), Motorola® lines of processors, Nvidia®, FortiSOC™ system on a chip processors or other future processors.

[016] In an embodiment, the memory 106 may store instructions that, when executed by the processor 104 may cause the processor 104 to determine personalized multimedia content in a smart device, as discussed in more detail below. In an embodiment, the memory 106 may be a non-volatile memory or a volatile memory. Examples of non-volatile memory may include but are not limited to, a flash memory, a Read Only Memory (ROM), a Programmable ROM (PROM), Erasable PROM (EPROM), and Electrically EPROM (EEPROM) memory. Further, examples of volatile memory may include but are not limited to, Dynamic Random Access Memory (DRAM), and Static Random-Access memory (SRAM).

[017] In an embodiment, the I/O device 108 may comprise of variety of interface(s), for example, interfaces for data input and output devices, and the like. The I/O device 108 may facilitate inputting of instructions by a user communicating with the smart computing device 102. In an embodiment, the I/O device 108 may be wirelessly connected to the smart computing device 102 through wireless network interfaces such as Bluetooth®**,** infrared**,** or any other wireless radio communication known in the art. In an embodiment, the I/O device 108 may be connected to a communication pathway for one or more components of the smart computing device 102 to facilitate the transmission of inputted instructions and output results of data generated by various components such as, but not limited to, the processor(s) 104 and the memory 106.

[018] In an embodiment, the network 112 may be a wired or a wireless network or a combination thereof. The network 112 can be implemented as one of the different types of networks, such as but not limited to, ethernet IP network, intranet, local area network (LAN), wide area network (WAN), the internet, Wi-Fi, LTE network, CDMA network, 5G and the like. Further, network 110 can either be a dedicated network or a shared network. The shared

network represents an association of the different types of networks that use a variety of protocols, for example, Hypertext Transfer Protocol (HTTP), Transmission Control Protocol/Internet Protocol (TCP/IP), Wireless Application Protocol (WAP), and the like, to communicate with one another. Further network 112 can include a variety of network devices, including routers, bridges, servers, computing devices, storage devices, and the like.

[019] In an embodiment, the smart computing device 102 may receive a user query from a user via a user input interface of the I/O device 108. In an embodiment, the smart computing device 102 may be but is not limited to smart televisions (TVs), smart STBs, a smart phone, a laptop computer, a desktop computer, a workstation, a personal digital assistant, or a mobile device.

[020] By way of an example, the user input interface of the I/O device 108 may include, a mic, a keyboard, a touch enabled display screen, etc. The content management system 120 may be connected to the smart computing device 102 via the network 112 and may be configured to aggregate multimedia content provided by various distribution channels. As per conventional methodologies, the content management system 120 may determine personalized content based on the user query received based on the user profile. In an embodiment, the user preference database 118 may include user profile data comprising a list of users and their corresponding demographic information, metadata corresponding to a historical multimedia content previously viewed. Accordingly, the content management system 120 may provide the personalized content to the smart computing device 102 based on a corresponding user profile. However, such personalized content may not be as per current mood of the user or user preference and may only be based on a viewing history of the user and the user profile comprising user preference of multimedia content as define by the user.

[021] Accordingly, the content management system 120 of the present disclosure may aggregate multimedia content from various distribution sources in a multimedia content database 116. In an embodiment, the multimedia content database 116 may also be communicably connected to the generative AI server 114 via the network 112. The multimedia content database 116 may be enabled in a cloud or a physical database and may store the aggregated data by the content management system 120. The aggregated content may include a list of multimedia content based on its title, rating, meta-data, distribution sources, cost associated, viewing index, popularity index, etc. In an embodiment, the distribution sources may include an associated one or more distribution channels through which each of the

corresponding multimedia content may be accessed. Further, the metadata of the multimedia content may include cast, information, language information, genre information, context information, etc. Context information may include data that identifies a context of the multimedia content, such as a character, a theme, or an emotion associated with a particular portion of the content. In an embodiment, the context information may be derived with the help of Large Language Models (LLMs) or natural language processing (NLP) models.

[022] Further, the smart computing device 102 may perform a first validation of the user query based on a set of predefined validation rules. The predefined set of validation rules may include a predefined set of restricted keywords. In an embodiment, the user query may be validated based on a comparison of each keyword of the user query with respect to the predefined set of restricted keywords using an NLP based model. The NLP based model may be trained to determine a semantic relationship between each of the keywords of the user query and the set of restricted keywords. In an embodiment, the set of restricted keywords may be stored in the memory 106. Further the smart computing device 102, upon success of the first validation, may generate an optimized query based on the user query and the user profile of the user. In an embodiment, the user query may be optimized based on the context information of the user query and the user profile. In an embodiment, the context information may be derived with the help of Large Language Models (LLMs) or natural language processing (NLP) models.

[023] In an embodiment, the user profile may be saved in a user preference database 118. The user preference database 118 may be updated based on user selection of multimedia content for viewing and the query database 110. Further, in some embodiment, the user preference database 118 may be updated based on the set of keywords determined from the historical queries input by the user and saved in the query database 110. In an embodiment, the query database 110 may be enabled in a cloud or a physical database and may store a list of keywords corresponding to historical user queries that may have been input by the user in the past. The optimized query may be generated by adding one or more keywords based on the user profile to the user query and the query database 110.

[024] Further, the smart computing device 102 may input the optimized query to a generative artificial intelligence (AI) model via an application programming interface (API). The smart computing device 102 may be communicably connected to a generative AI server 114 through the network 112. The smart computing device 102 may receive a first output corresponding to the optimized query from the generative artificial intelligence model via the API.

[025] Further, the smart computing device 102 may perform a second validation of the first output based on the set of predefined validation rules. In an embodiment, the smart computing device 102, upon the second validation, may determine a set of multimedia content based on an extraction of a set of keywords from the first output using a deep learning model.

[026] In an embodiment, the deep learning model may be trained to determine the set of multimedia content from the content management system 120 based on a multimedia content database 116. In an embodiment, the set of keywords from the first output may relate to metadata corresponding to the multimedia content. In an embodiment, the set of keywords may be further stored in the query database 110 that may be used by the content management system 120 in determining personalized multimedia content. Accordingly, the content management system 120 may determine the set of multimedia content from the multimedia content database 116 based on the set of keywords.

[027] The smart computing device 102 may further display a second output that may include the set of multimedia content determined by the content management system 120 from the multimedia content database 116. Further, the second output may include one or more distribution channels corresponding to the set of multimedia content on the user interface. Further, the smart computing device 102 may enable connection to the corresponding one or more distribution channels to view one of the set of multimedia content on the user interface. Accordingly, the set of multimedia content may be personalized based on the current mood of the user and not based on the viewing history of the user alone.

[028] Referring now to **FIG. 2,** a functional block diagram of a smart computing device 102, in accordance with some embodiment of the present disclosure is illustrated. In an embodiment, the smart computing device 102 may include a query input module 202, a first validation module 203, an optimized query generation module 204, a generative artificial intelligence module 206, a second validation module 208, a multimedia content determining module 210 and an output displaying module 214.

[029] The query input module 202 may receive a user query inputted by a user via a user interface such as, but not limited to, mic, keyboard, etc. In an embodiment, examples of the user query may be but is not limited to war movies, “best rated movie based on baseball stars”, “what is butterfly migration and do we have any documentary on this topic”, etc. As it can be seen the user query may be a generic expression of user’s current interest. The user query may

be in form of a question based on user's current experience. The query input module 202 may convert user input query into a text format user query.

[030] The first validation module 202 may perform a first validation of the user query based on a first set of predefined validation rules. The predefined set of validation rules may include a predefined first set of restricted keywords. In an embodiment, the predefined first set of restricted keywords may include a predefined first set of restricted words and phrases that may be restricted to be present in the user query based on the user profile and based on pre-defined content guidelines. In an embodiment, the predefined content guidelines may be guidelines defined based on federal content regulatory authorities. In an embodiment, the first set of predefined validation rules may be determined based on demographical information of the user such as, but not limited to, age, gender, location, etc. In an embodiment, the user query may be validated based on a comparison of each keyword of the user query with respect to the predefined first set of restricted keywords using an NLP based model. The NLP based model may be trained to determine a semantic relationship between each of the keyword of the user query and the first set of restricted keywords. In an embodiment, the first set of restricted keywords may be stored in the memory 106. In an embodiment, the first set of restricted keywords may correspond to, but not limited to, restricted content and inappropriate words. Further, the first validation of the user query may be based on a determination if the keywords of the user query relate to media related key words like movie/movies, video, actor, rating, documentary, OTT application, genre etc. In an embodiment, the user query comprising keywords corresponding to non-media content may be restricted.

[031] In case the first validation of the user query fails, the first validation module 202 may display an error message to the user via the user interface. The error message may be in form of a pop-up display message or a voice message to inform user that the user query is not appropriate as per content guidelines. Further, the first validation module 202 may prompt the user to reinput the user query with appropriate keywords. Alternately, in case the first validation of the user query is successful then, the optimized query generation module 204 may generate an optimized query based on the user query and a user profile. In an embodiment, the user profile may correspond to the user and may be saved in a user preference database 118. The user profile may include user demographic information such as, but not limited to, age, gender, location, etc. Further, user preference database 118 may include content viewing history and historical query data. In an embodiment, the user preference database 118 may include user profile data that may include a list of users and their corresponding user profiles. In an

embodiment, a user profile may include historical metadata corresponding to viewing history, demographic information (age, gender, location, etc.), content preference information, social media, etc. The user preference database 118 may be updated based on the selection of multimedia content for viewing by the user. Further, in some embodiment, the user preference database 118 may be updated based on the set of keywords determined from the historical queries input by the user and saved in the query database 110. The optimized query may be generated by adding one or more keywords based on the user profile to the user query and the query database 110.

[032] Further, the query input module 202 may input the optimized query to the generative artificial intelligence (AI) module 206 via an application programming interface (API) enabled in the smart computing device 102. A first output may be output by the API of the generative AI, in response to the optimized query. The first output may be received based on the transmission of the optimized query by the generative AI server 114. The generative AI server 114 may process the optimized query using a generative AI algorithm enabled by the generative AI server 114. In an embodiment, the generative AI server 114 may enable one or more large learning models that may be trained to output text output based on an inputted text query. Accordingly, the first output generated by the generative AI server 114 and received from the API may be a textual output including keywords related to multimedia content related to the optimized query. The smart computing device 102 may further receive a first output corresponding to the optimized query from the generative artificial intelligence module 206 via the API.

[033] Further, the second validation module 208 may perform a second validation of the first output based on a second set of predefined validation rules. In an embodiment, the second set of predefined validation rules may include a second set of predefined keywords related to restricted multimedia content. In an embodiment, the second validation may be performed by filtering or removing from the first output keywords related to the restricted multimedia content. In an embodiment, based on a successful second validation, a validated first output may be determined. Further, the multimedia content determining module 210 may determine a set of multimedia content by extracting a second set of keywords from the validated first output. In an embodiment, the content determining module 210 may use a deep learning module 212 to determine the set of multimedia content based on the second set of keywords extracted from the validated first output. In an embodiment, the second set of keywords may be content

identifiers that identify a show, a season, an episode, a sporting event, or the like, associated with the optimized user query.

[034] In an embodiment, the deep learning module 212 may be trained to determine the set of multimedia content based on the multimedia content database 116. In an embodiment, the multimedia content database 116 may be part of the generative AI server 114. In an embodiment, the multimedia content database 116 may include a plurality of multimedia content each associated to one or more of a plurality of distribution channels such as, but not limited to, Netflix®, Amazon® Prime®, Hotstar®, Youtube®, cable TV, internet protocol (IP) TV, websites, etc.

[035] Further, the output displaying module 214 may generate a second output to be displayed on a display interface of the smart computing device 102. The second output may include, but not limited to, the set of multimedia content determined by the multimedia content determining module 210 and a corresponding link to one or more distribution channel on which a corresponding multimedia can be viewed. Therefore, the output displaying module 214 may enable a user to select a link to a distribution channel associated to a multimedia content from the set of multimedia content. Accordingly, the output displaying module 214 may display the second output that may include the set of multimedia content and the corresponding one or more distribution channels via the user interface. Thus, enabling a connection to the corresponding one or more distribution channels to view the selected multimedia content of the set of multimedia content on the display interface. Accordingly, the smart computing device 102 may provide personalized multimedia content recommendation to the user based on current mood of the user and not only based on the viewing history.

[036] It is to be noted that all such aforementioned modules 202-214 may be represented as a single module or a combination of different modules. Further, as will be appreciated by those skilled in the art, each of modules 202-214 may reside, in whole or in parts, on one device or multiple devices in communication with each other. In some embodiments, each of the modules 202-214 may be implemented as dedicated hardware circuit comprising custom application-specific integrated circuit (ASIC) or gate arrays, off-the-shelf semiconductors such as logic chips, transistors, or other discrete components. Each of the modules 202-216 may also be implemented in a programmable hardware device such as field programmable gate array (FGPA), programmable array logic, programmable logic device, and so forth. Alternatively, each of the modules 202-214 may be implemented in software for execution code may, for

instance, include one or more physical or logical blocks of computer instructions, which may, for instance, include one or more physical or logical blocks of computer instructions, which may, for instance, be organized as an object, procedure, function, or other construct. Nevertheless, the executables of an identified module or component need not be physically located together but may include disparate instructions stored in different locations which, when joined logically together, include the module and achieve the stated purpose of the module. Indeed, a module of executable code could be a single instruction, or many instructions, and may even be distributed over several different code segments, among different applications, and across several memory devices.

[037] As will be appreciated by one skilled in the art, a variety of processes may be employed for determining personalized multimedia content in a smart device. For example, the exemplary system 100 and the associated smart computing device 102 may determine personalized multimedia content by the processes discussed herein. In particular, as will be appreciated by those of ordinary skill in the art, control logic and/or automated routines for performing the techniques and steps described herein may be implemented by the system 100 and the associated smart computing device 102 either by hardware, software, or combinations of hardware and software. For example, suitable code may be accessed and executed by the one or more processors on the system 100 to perform some or all of the techniques described herein. Similarly, application specific integrated circuits (ASICs) configured to perform some, or all of the processes described herein may be included in the one or more processors on the system 100.

[038] Referring now to **FIG. 3,** a flowchart of a method 300 for determining personalised multimedia content in a smart computing device 102 in accordance with some embodiments of the present disclosure is illustrated. In an embodiment, method 300 may include a plurality of steps that may be performed by the processor 104 to determine personalized multimedia content.

[039] **FIG. 3** is explained in conjunction with **FIGs. 1** and **2**. Each step of the method 300 may be executed by various modules of the smart computing device 102.

[040] At step 302, a user query inputted via a user interface of the I/O device 108 may be received by the query input module 202. Further, at step 304, a first validation may be performed of the user query based on a first set of predefined validation rules. In an embodiment, the first set of predefined validation rules may include a predefined first set of

restricted words and phrases that may be restricted to be present in the user query based on the user profile and based on pre-defined content guidelines. In an embodiment, the predefined content guidelines may be guidelines defined based on federal content regulatory authorities. In an embodiment, the first set of predefined validation rules may be determined based on demographical information of the user such as, but not limited to, age, gender, location, etc.

[041] Accordingly, at step 306, in case the user query is determined to be in violation of the predefined validation rules and the first validation may be determined as not successful. Further, an error may be displayed to the user in case the first validation is not successful, and the user may be prompted to enter the user query again as per step 302.

[042] In case of a successful first validation at step 306, an optimized query may be generated based on the user query and a user profile by the optimized query generation module 204 at step 308. In an embodiment, the user preference database 118 may include user profile data comprising a list of users and their corresponding user profiles. In an embodiment, a user profile may include historical metadata corresponding to a historical multimedia content previously viewed by the user, demographic information (age, gender, location, etc.), content preference information, etc. The user preference database 118 may be updated based on the selection of the interface corresponding to the one of the set of multimedia content and the query database 110. The optimized query may be generated by adding one or more keywords based on the user profile to the user query and the query database 110.

[043] Further at step 310, the optimized query may be inputted to a generative artificial intelligence (AI) model via an application programming interface (API) of the generative AI module 206.

[044] Further at step 312, a first output corresponding to the optimized query may be received from the generative artificial intelligence model via the API of the generative AI module 206.

[045] Further at step 314, a second validation of the first output may be performed by the second validation module 208 based on the set of predefined validation rules.

[046] Further at step 316, upon determination of success of the second validation, a set of multimedia content may be determined by extracting a set of keywords from the first output using a deep learning model at step 318. In an embodiment, the deep learning model may be trained to determine the set of multimedia content based on the multimedia content database

116. In an embodiment, the multimedia content database 116 may include a plurality of multimedia content each associated to a plurality of distribution channels.

[047] First at step 320, a second output may be displayed on a display interface by the output displaying module 214. The second output may include the set of multimedia content and the corresponding one or more distribution channels via the user interface.

[048] Thus, the disclosed method and system try to overcome the technical problem of determining personalised multimedia content based on current mood of the user.

[049] As will be appreciated by those skilled in the art, the techniques described in the various embodiments discussed above are not routine, or conventional, or well understood in the art. The techniques discussed above provide for determining personalized multimedia content.

[050] The specification has described method and system for determining personalized multimedia content in a smart device. The illustrated steps are set out to explain the exemplary embodiments shown, and it should be anticipated that ongoing technological development will change the manner in which particular functions are performed. These examples are presented herein for purposes of illustration, and not limitation. Further, the boundaries of the functional building blocks have been arbitrarily defined herein for the convenience of the description. Alternative boundaries can be defined so long as the specified functions and relationships thereof are appropriately performed. Alternatives (including equivalents, extensions, variations, deviations, etc., of those described herein) will be apparent to persons skilled in the relevant art(s) based on the teachings contained herein. Such alternatives fall within the scope and spirit of the disclosed embodiments.

[051] It is intended that the disclosure and examples be considered as exemplary only, with a true scope of disclosed embodiments being indicated by the following claims.

WE CLAIM:

1. A method (300) of determining personalized multimedia content, the method (300) comprising:

receiving (302) by a smart computing device (102), a user query inputted via a user interface (108);

performing (304), by the smart computing device (102), a first validation of the user query based on a set of predefined validation rules;

generating (308), by the smart computing device (102) and upon the first validation, an optimized query based on the user query and a user profile, wherein the user profile is saved in a user preference database (118);

inputting (310), by the smart computing device (102), the optimized query to a generative artificial intelligence (AI) model via an application programming interface (API);

receiving (312), by the smart computing device (102), a first output corresponding to the optimized query from the generative artificial intelligence model via the API;

performing (314), by the smart computing device (102), a second validation of the first output based on the set of predefined validation rules;

determining (318), by the smart computing device (102) and upon the second validation, a set of multimedia content by extracting a set of keywords from the first output using a deep learning model,

wherein the deep learning is trained to determine the set of multimedia content based on a multimedia content database, and

wherein the multimedia content database comprises a plurality of multimedia. content each associated to one or more of a plurality of distribution channels; and

displaying (320), by the smart computing device (102), a second output comprising the set of multimedia content and the corresponding one or more distribution channels via the user interface (108).

2. The method (300) as claimed in claim 1, wherein the predefined set of validation rules comprises a set of restricted keywords.

3. The method (300) as claimed in claim 2, wherein the user query is validated based on a comparison of each keyword of the user query with respect to the set of restricted keywords

using an NLP based model, wherein the NLP based model is trained to determine a semantic relationship between each of the keyword of the user query and the set of restricted keywords.

4. The method (300) as claimed in claim 1, wherein the user preference database (118) comprises historical metadata corresponding to a historical multimedia content previously viewed by the user.

5. The method (300) as claimed in claim 4, wherein the user preference database (118) is updated based on the selection of the interface corresponding to the one of the sets of multimedia content.

6. The method (300) as claimed in claim 1, comprising:

enabling, by the smart computing device (102), connection to the corresponding one or more distribution channels to view the one of the sets of multimedia content on the user interface (108).

7. A system (100) for determining personalized multimedia content, comprising:

a processor (104); and

a memory (106) communicably coupled to the processor (104), wherein the memory (106) stores processor-executable instructions, which, on execution, cause the processor (104) to:

receive a user query inputted via a user interface (108);

perform a first validation of the user query based on a set of predefined validation rules,

generate upon the first validation, an optimized query based on the user query and a user profile, wherein the user profile is saved in a user preference database (118);

input the optimized query to a generative artificial intelligence (AI) model via an application programming interface (API);

receive a first output corresponding to the optimized query from the generative artificial intelligence model via the API;

perform a second validation of the first output based on the set of predefined validation rules;

upon the second validation, determine a set of multimedia content by extracting a set of keywords from the first output using a deep learning model,

wherein the deep learning model is trained to determine the set of multimedia content based on a multimedia content database, and

wherein the multimedia content database comprises a plurality of multimedia content each associated to one or more of a plurality of distribution channels; and

display a second output comprising the set of multimedia content and the corresponding one or more distribution channels via the user interface (108).

8. The system (100) as claimed in claim 7, wherein the predefined set of validation rules comprises a set of restricted keywords.

9. The system (100) as claimed in claim 8, wherein the user query is validated based on a comparison of each keyword of the user query with respect to the set of restricted keywords using an NLP based model, wherein the NLP based model is trained to determine a semantic relationship between each of the keyword of the user query and the set of restricted keywords.

10. The system (100) as claimed in claim 7, wherein the user preference database (118) comprises historical metadata corresponding to a historical multimedia content previously viewed by the user.

11. The system (100) as claimed in claim 10, wherein the user preference database (118) is updated based on the selection of the interface corresponding to the one of the set of multimedia content.

12. The system (100) as claimed in claim 7, wherein the processor is configured to:

enable connection to the corresponding one or more distribution channels to view the one of the set of multimedia content on the user interface (108).

Dated this 14th day of December 2023

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ABSTRACT

METHOD AND SYSTEM OF DETERMINING PERSONALIZED MULTIMEDIA CONTENT IN A SMART DEVICE

A method (300) and system (100) of determining personalized multimedia content in a smart device 102. A processor (104) receives a user query inputted via a user interface (108). A first validation of the user query is performed based on a set of predefined validation rules. An optimized query is generated based on the user query and a user profile. The optimized query is inputted to a generative artificial intelligence (AI) model via an application programming interface (API). A first output is received corresponding to the optimized query from the generative artificial intelligence model via the API. A second validation of the first output is performed. A set of multimedia content is determined. A second output is displayed comprising the set of multimedia content and the corresponding one or more distribution channels via the user interface (108).

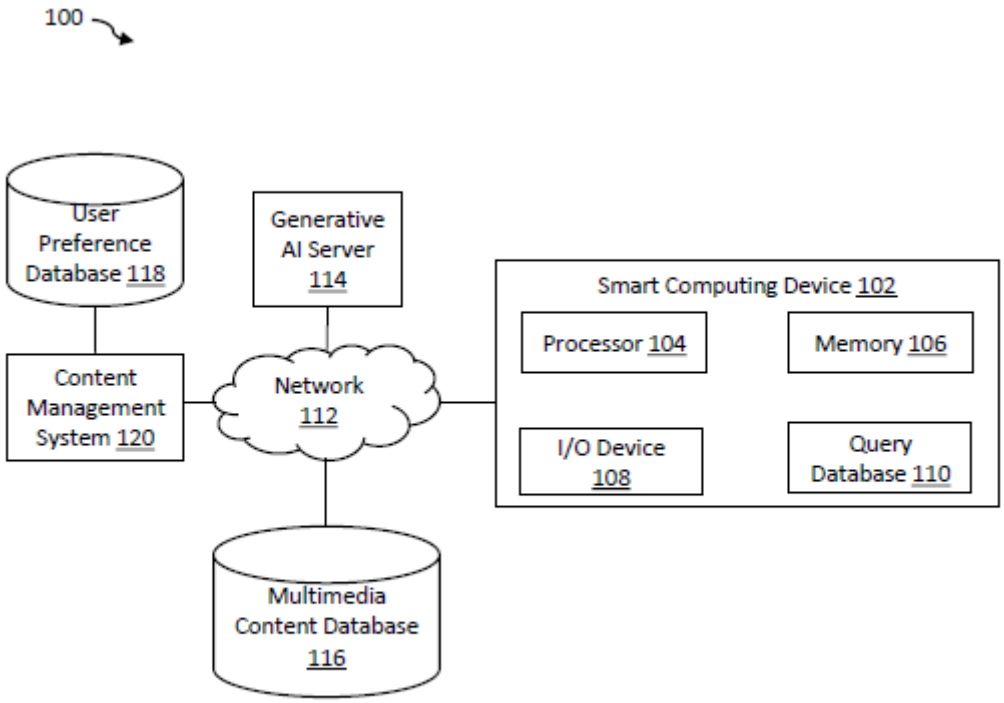

FIG. 1

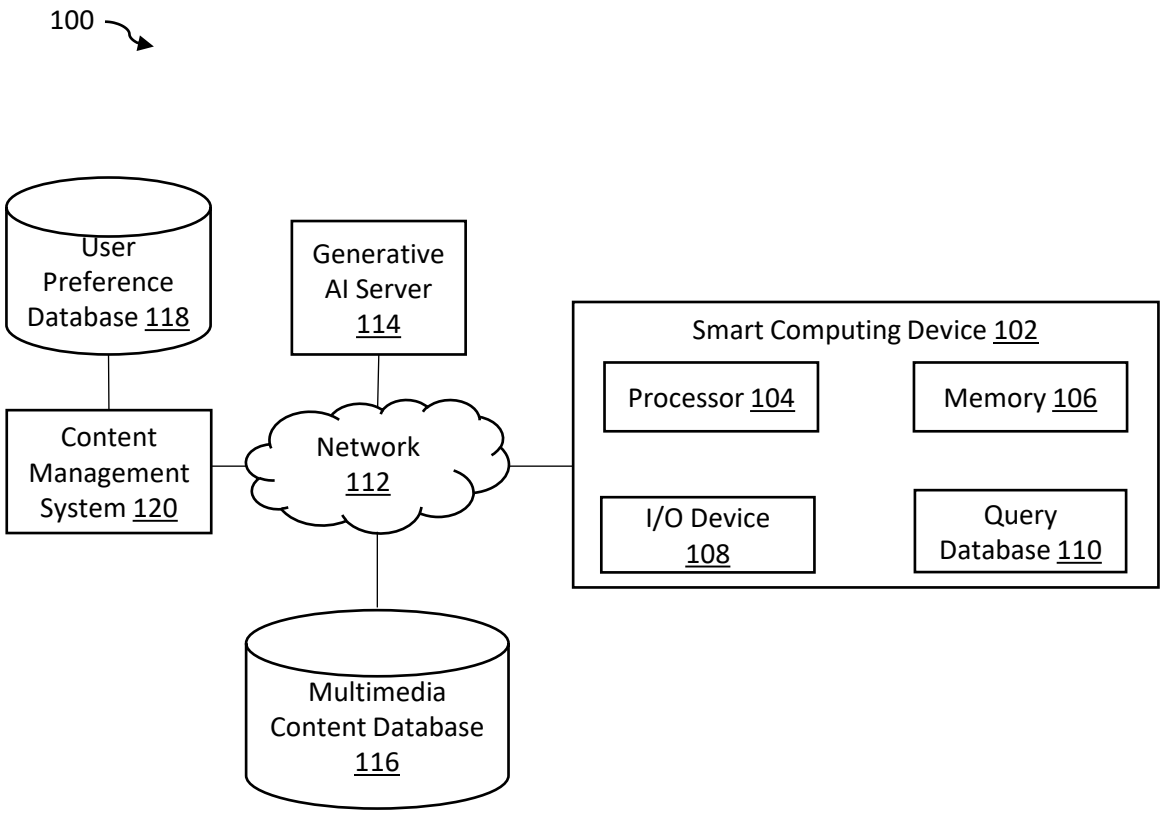

FIG. 1

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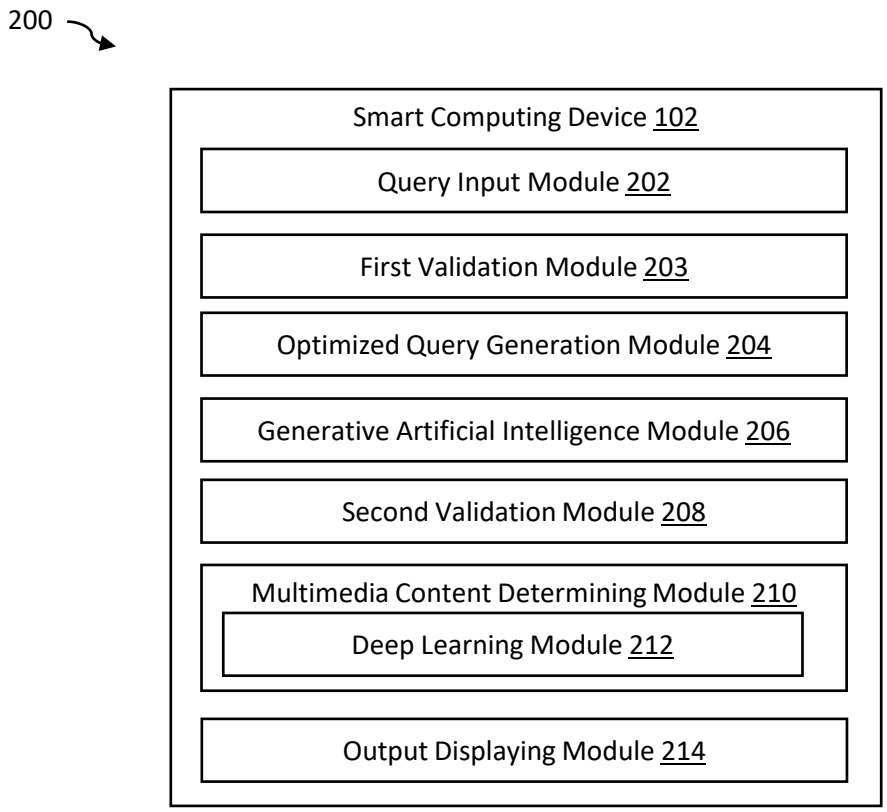

FIG. 2

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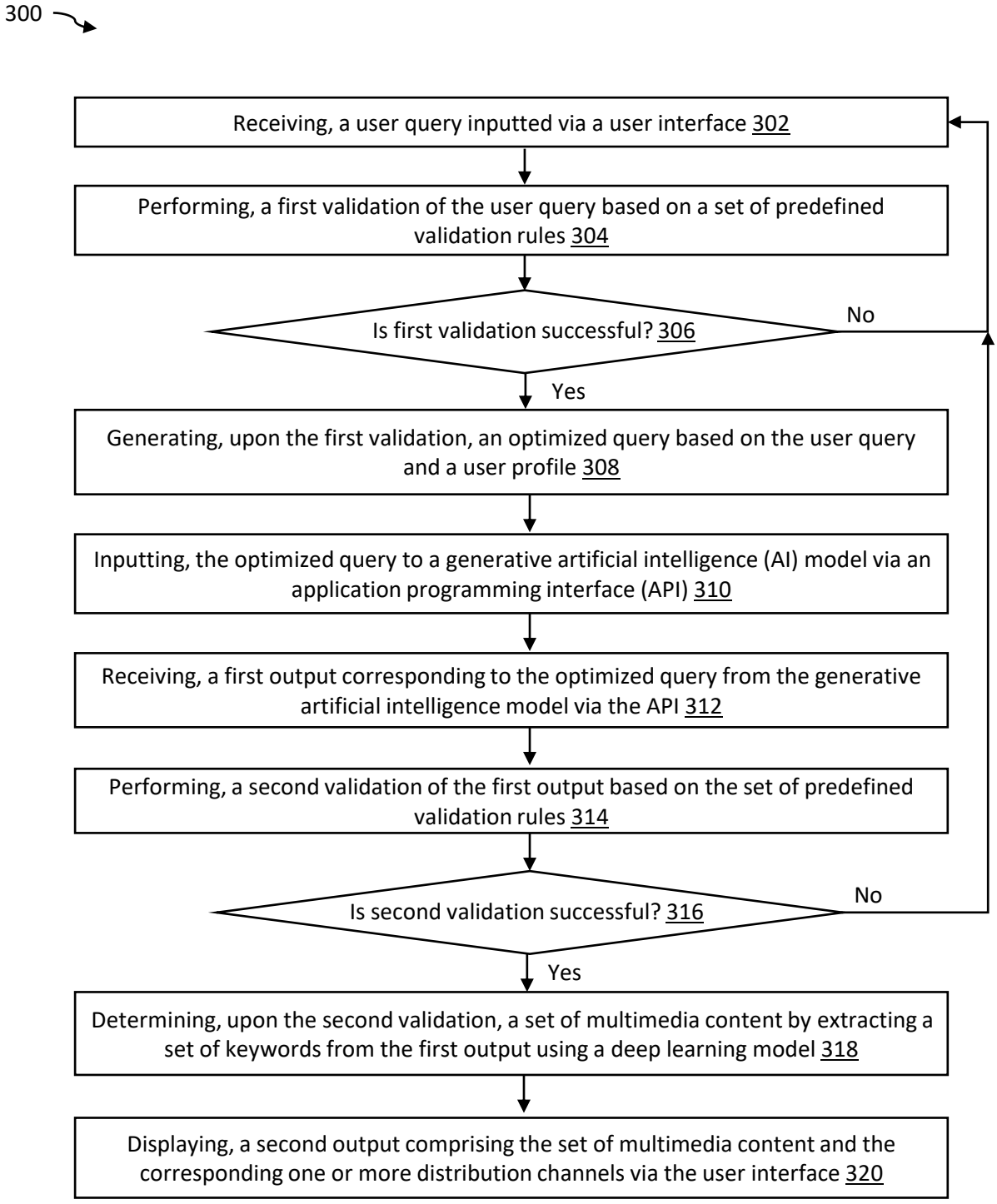

FIG. 3

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