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Declarations under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.1 7(H))

[Continued on nextpage]

(54) Title: FEATURE EMBEDDING IN MATRIX FACTORIZATION

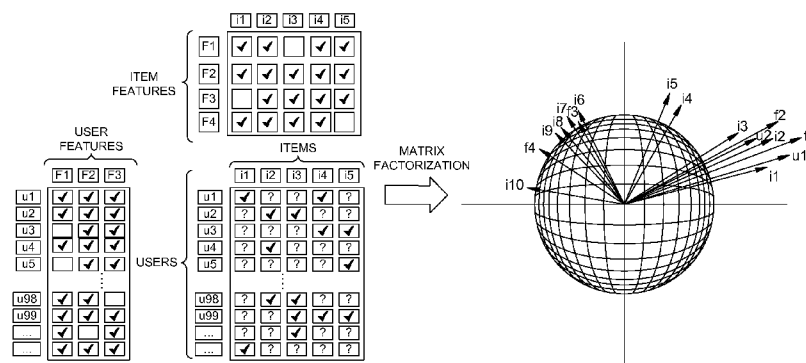


FIG. 3A

(57) Abstract: In various embodiments, systems and methods are provided for enhancing media content recommendations by using feature vectors. An enhanced-matrix having a first portion and a second portion is received. The first portion of the enhanced-matrix includes a user-item matrix and the second portion of the enhanced-matrix includes a feature-item matrix. Each entry in the feature-item matrix is item metadata. An item-stem vector is determined based on a weighted sum of each of the feature vectors associated with the item. An item-latent-trait vector is generated based on the item-stem vector and an item-offset vector. The item-offset vector is an item vector for the item in the user-item matrix. One or more recommended-media content derived based on the item-latent-trait vector is provided.

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— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(Hi))* — *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

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 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)
 G06F G06Q

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

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	Stefan Spiegel : "A Hybrid Approach to Recommender Systems based on Matrix Factorization", 1 January 2009 (2009-01-01) , pages 1-80, XP055136730, Department for Agent Technologies and Telecommunications, TU Berlin Retrieved from the Internet: URL: http://www.mendel ey. com/download/publ ic/9250201/4423709781/a538e9aca2389a5ffe883ld6aa8el6970b9000e6/dl .pdf [retrieved on 2014-08-25] Chapters 1 and 4; figure 4.6 ----- -/- .	1-10

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	"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
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Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer Vi rni k, El ena
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INTERNATIONAL SEARCH REPORT

International application No
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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
L	<p>Stefan Spiegel : "DAI-Labor > Ober uns > Mitarbeiter > Person" , , 1 January 2009 (2009-01-01) , XP055136726, Retrieved from the Internet: URL: http://www.dai-labor.de/team/stephan .s Spiegel [retrieved on 2014-08-27] section 2009</p> <p style="text-align: center;">-----</p>	