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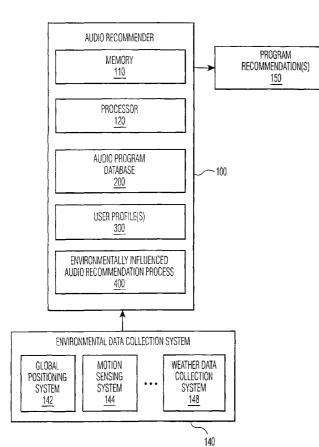
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(54) Title: METHOD AND APPARATUS FOR GENERATING RECOMMENDATIONS BASED ON USER PREFERENCES AND ENVIRONMENTAL CHARACTERISTICS



(57) Abstract: A recommendation system is disclosed that generates recommendations for one or more items based on user preferences and one or more environmental factors. The user's preferences are learned under various environmental conditions using an environmental data collection system. The observed environmental conditions may include, for example, location, characteristics of the location, weather or characteristics of the user's motion, such as a rate of movement. For each positive and negative behavioral example, a number of attributes of the selected item are classified in the user profile together with the prevailing environmental conditions. When recommending an item, the disclosed recommender retrieves the user preferences and evaluates the current environmental conditions. A recommendation score can be generated for each available item based on the user's demonstrated preferences under similar environmental conditions, such as in the same or a similar geographic area or under similar weather conditions.

INTERNATIONAL SEARCH REPORT

Interna pplication No PCT/IB 02/01172

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 H04N7/16

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

B. FIELDS SEARCHED

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 practical, search terms used)

EPO-Internal, WPI Data, PAJ

0 - 1 0	Charles of the support with the firstless rule are appropriate of the valencest page 200	Relevant to claim No.
Category °	Citation of document, with indication, where appropriate, of the relevant passages	nejevani to daim no.
Α	US 5 627 549 A (PARK MICHAEL C) 6 May 1997 (1997-05-06) column 6, line 55 -column 7, line 11	1-5, 7-11,13
Α	GB 2 344 009 A (ROKE MANOR RESEARCH) 24 May 2000 (2000-05-24) page 2, line 24 -page 3, line 2 page 5, line 13 -page 6, line 4	1,3,4,7, 9,10
Α	GUTTA S ET AL: "TV CONTENT RECOMMENDER SYSTEM" PROCEEDINGS NATIONAL CONFERENCE ON ARTIFICIAL INTELLIGENCE, XX, XX, 30 July 2000 (2000-07-30), pages 1121-1122, XP008003365 page 1122, right-hand column, paragraph 2	6,12

X Further documents are listed in the continuation of box C.	Patent family members are listed in 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 document but published on or after the international filling 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 filling 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
Date of the actual completion of the international search 20 January 2003	Date of mailing of the international search report 28/01/2003
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer Sindic, G

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Interna plication 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.								
A	US 5 758 257 A (HERZ FREDERICK ET AL) 26 May 1998 (1998-05-26) column 17, line 45 - line 65	1,7								

INTERNATIONAL SEARCH REPORT

Internati pplication No
PCT/IB 02/01172

					101/10 02/011/2	
Patent document cited in search report		Publication date		Patent family member(s)		Publication date
US 5627549	Α	06-05-1997	AU	3167295	Α	04-03-1996
			DE	69502105	D1	20-05-1998
			DE	69502105	T2	06-08-1998
			WO	9604633	A1	15-02-1996
			EP	0772856	A1	14-05-1997
			JP	10505441	T	26-05-1998
			US	5664948	A	09-09-1997
GB 2344009	Α	24-05-2000	NONE			
US 5758257	 А	26-05-1998	 AU	703247	B2	 25-03-1999
			ΑU	4410396	Α	19-06-1996
			CA	2207868	A1	06-06-1996
			EP	0796538	A2	24-09-1997
			US	6020883	Α	01-02-2000
			WO	9617467	A2	06-06-1996
			US	5734720	Α	31-03-1998
			US	5754938	Α	19-05-1998
			US	5754939	Α	19-05-1998
			US	5835087	Α	10-11-1998
			US		Α	11-07-2000
			US		Α	22-02-2000
			US	6460036	R1	01-10-2002