(12) **United States Patent**   (10) **Patent No.:**   **US 8,117,202 B1**

Kozyrczak et al.   (45) **Date of Patent:**   *****Feb. 14, 2012**

(54) **USER SEGMENT POPULATION TECHNIQUES**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 217 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **12/640,900**

(22) Filed: **Dec. 17, 2009**

Related U.S. Application Data

(63) Continuation of application No. 11/294,750, filed on Dec. 6, 2005, now Pat. No. 7,676,467, which is a continuation of application No. 11/107,405, filed on Apr. 14, 2005, now abandoned.

(51) **Int. Cl.**
G06F 17/30 (2006.01)

(52) **U.S. Cl.** **707/736**; 707/749; 707/758

(58) **Field of Classification Search** .... None
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,530,939	A	6/1996	Mansfield, Jr et al.
5,721,831	A	2/1998	Waits et al.
5,742,806	A	4/1998	Reiner et al.
5,870,746	A	2/1999	Knutson et al.
6,003,036	A	12/1999	Martin
6,061,658	A	5/2000	Chou et al.
6,078,891	A	6/2000	Riordan et al.
6,112,186	A	8/2000	Bergh et al.
6,272,472	B1	8/2001	Danneels et al.
6,374,263	B1	4/2002	Bunger et al.
6,377,993	B1	4/2002	Brandt et al.
6,430,539	B1	8/2002	Lazarus et al.
6,609,131	B1	8/2003	Zait et al.
6,615,258	B1	9/2003	Barry et al.
6,629,102	B1	9/2003	Malloy et al.
6,694,322	B2	2/2004	Warren et al.
6,785,666	B1	8/2004	Nareddy et al.
6,839,682	B1	1/2005	Blume et al.
6,873,981	B2	3/2005	Nareddy et al.
6,892,347	B1	5/2005	Williams et al.
6,917,972	B1	7/2005	Basko et al.
6,993,529	B1	1/2006	Basko et al.
7,003,476	B1	2/2006	Samra et al.
7,035,925	B1	4/2006	Nareddy et al.
7,107,338	B1	9/2006	Nareddy et al.
7,117,193	B1	10/2006	Basko et al.
7,120,666	B2	10/2006	McCanne et al.

(Continued)

OTHER PUBLICATIONS

U.S. Appl. No. 10/870,688, Kumar et al.

(Continued)

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(57) **ABSTRACT**

A facility for identifying users that have an interest in a selected subject is described. For each of a number of actual users, the facility establishes a user behavior record describing the behavior of the actual user. The facility also establishes a user behavior record describing behavior of a virtual user. The behavior described by the user behavior record for the virtual user is made up of actions each tending to indicate an interest in the selected subject. The facility identifies a proper subset of the actual users whose user behavior records are most similar to the user behavior record of the virtual user as interested in the selected subject.

27 Claims, 7 Drawing Sheets