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**Nayfeh**

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(54) **NATURAL LANGUAGE SEARCH FOR AUDIENCE**

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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 0 days.

6,085,229 A 7/2000 Newman et al.  
6,247,021 B1 6/2001 Himmel et al.  
6,266,649 B1 7/2001 Linden et al.  
6,285,987 B1 9/2001 Roth et al.  
6,292,796 B1 9/2001 Drucker et al.  
6,317,761 B1 11/2001 Landsman et al.  
6,324,519 B1 11/2001 Eldering  
6,356,879 B2 3/2002 Aggarwal et al.  
6,487,538 B1 11/2002 Gupta et al.  
6,692,796 B2 2/2004 Ichinose et al.

(Continued)

**FOREIGN PATENT DOCUMENTS**

EP 1026610 A2 8/2000  
JP 2000228704 A 8/2000

(Continued)

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**G06F 7/00** (2006.01)

(52) **U.S. Cl.** ..... **707/783**

(58) **Field of Classification Search** ..... 707/736, 707/748, 751, 783, 784, 785, 786, 787, 789  
See application file for complete search history.

**OTHER PUBLICATIONS**

All you wanted to know about online advertising (and were afraid to ask)(sic). "The Cost of Advertising on Web," www.cs.northwestem.edu/~paritosh/links/online.html, Feb. 18, 2000, Accessed Jul. 25, 2005.

(Continued)

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(57) **ABSTRACT**

A facility for defining a group of people is described. The facility provides a visual user interface containing a control for receiving a query string. The facility receives a query string via the control, and uses an index on a body of documents to identify documents of the body that satisfy the received query string. The facility accesses a record indicating which documents of the body were accessed by each of a population of people during a foregoing time period to identify people among the population that accessed at least a threshold number of the identified documents during the foregoing time period. The facility displays within the visual user interface, in conjunction with the control, information characterizing the people identified.

**20 Claims, 7 Drawing Sheets**

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

5,414,838 A \* 5/1995 Kolton et al. .... 705/36 R  
5,740,425 A 4/1998 Povilus  
5,873,056 A 2/1999 Liddy et al.  
5,918,014 A 6/1999 Robinson  
5,974,398 A 10/1999 Hanson et al.  
5,974,413 A 10/1999 Beauregard et al.  
5,974,451 A 10/1999 Simmons  
6,029,165 A 2/2000 Gable  
6,029,195 A \* 2/2000 Herz ..... 725/116  
6,070,160 A 5/2000 Geary  
6,078,866 A 6/2000 Buck et al.

