US008214764B2

(12) **United States Patent**
Gemmell et al.

(10) **Patent No.: US 8,214,764 B2**
(45) **Date of Patent: Jul. 3, 2012**

(54) **SYSTEM AND PROCESS FOR PRESENTING SEARCH RESULTS IN A HISTOGRAM/CLUSTER FORMAT**

(75) Inventors: **David Gemmell**, Danville, CA (US); **Roger Lueder**, San Francisco, CA (US); **Chester Bell**, San Francisco, CA (US)

(73) Assignee: **Microsoft Corporation**, Redmond, WA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 200 days.

(21) Appl. No.: **12/758,375**

(22) Filed: **Apr. 12, 2010**

(65) **Prior Publication Data**

US 2010/0199205 A1 Aug. 5, 2010

Related U.S. Application Data

(60) Division of application No. 11/932,671, filed on Oct. 31, 2007, now Pat. No. 7,698,657, which is a continuation of application No. 10/684,620, filed on Oct. 14, 2003, now Pat. No. 7,334,195.

(51) **Int. Cl.**
G06F 3/048 (2006.01)

(52) **U.S. Cl.** **715/833**; 715/838; 715/968; 707/706; 707/722

(58) **Field of Classification Search** 715/764, 715/833; 707/722, 706
See application file for complete search history.

(56) **References Cited**

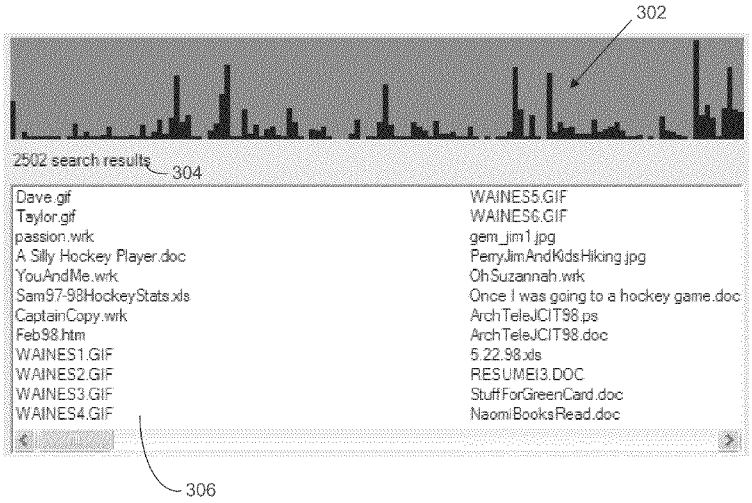
U.S. PATENT DOCUMENTS

5,339,391 A * 8/1994 Wroblewski et al. 345/607
5,495,605 A * 2/1996 Cadot 1/1
5,533,182 A * 7/1996 Bates et al. 715/727
5,644,692 A * 7/1997 Eick 715/833
5,850,531 A * 12/1998 Cox et al. 715/781
5,982,369 A * 11/1999 Sciammarella et al. 715/835
6,147,683 A * 11/2000 Martinez et al. 715/786
6,202,061 B1 * 3/2001 Khosla et al. 1/1
6,240,423 B1 * 5/2001 Hirata 1/1
6,310,633 B1 * 10/2001 Graham 715/839
6,339,437 B1 * 1/2002 Nielsen 715/787
6,366,299 B1 * 4/2002 Lanning et al. 715/738
6,408,301 B1 * 6/2002 Patton et al. 707/741
6,411,730 B1 * 6/2002 Bartell et al. 382/168
6,414,677 B1 * 7/2002 Robertson et al. 345/419
6,434,546 B1 * 8/2002 Williamowski et al. 1/1
6,460,045 B1 * 10/2002 Aboulnaga et al. 1/1
6,486,896 B1 * 11/2002 Ubillos 715/784
6,570,582 B1 * 5/2003 Sciammarella et al. 345/660
6,629,104 B1 * 9/2003 Parulski et al. 382/307
6,647,141 B1 * 11/2003 Li 382/162
6,647,534 B1 * 11/2003 Graham 715/205
6,760,676 B2 * 7/2004 Nygaard, Jr. 702/79
6,813,618 B1 * 11/2004 Loui et al. 1/1
6,839,702 B1 * 1/2005 Patel et al. 1/1
6,947,959 B1 * 9/2005 Gill 715/202
7,062,487 B1 * 6/2006 Nagaishi et al. 707/737
7,185,001 B1 * 2/2007 Burdick et al. 1/1

(Continued)

Primary Examiner — Tuyetlien Tran
(74) *Attorney, Agent, or Firm* — Lyon & Harr, LLP; Richard T. Lyon

(57) **ABSTRACT**

A user interface system and process for graphically displaying the results of a standard search, such as a database search, to a user on a display device via an interactive search results window in which the user views and filters search results items. These results can be presented in either a cluster or histogram format, or both. This allows the user to visualize the results graphically, rather than just displaying a list of the items found. In addition the presentation of the search results can be graphically manipulated to easily filter the results as desired by the user.

18 Claims, 5 Drawing Sheets