



US010181116B1

(12) **United States Patent**
Dellovo

(10) **Patent No.:** **US 10,181,116 B1**
(45) **Date of Patent:** **Jan. 15, 2019**

(54) **APPARATUSES, SYSTEMS AND METHODS
FOR DATA ENTRY CORRELATION**

(71) Applicant: **Monster Worldwide, Inc.**, New York, NY (US)

(72) Inventor: **David Dellovo**, North Andover, MA (US)

(73) Assignee: **Monster Worldwide, Inc.**, Weston, MA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **14/244,415**

(22) Filed: **Apr. 3, 2014**

Related U.S. Application Data

(63) Continuation of application No. 13/450,207, filed on Apr. 18, 2012, now Pat. No. 8,732,164, which is a (Continued)

(51) **Int. Cl.**
G06Q 10/10 (2012.01)
G06F 7/00 (2006.01)

(Continued)

(52) **U.S. Cl.**
CPC **G06Q 10/1053** (2013.01); **H04L 67/306** (2013.01)

(58) **Field of Classification Search**
CPC H04L 67/10; H04L 51/04; G06Q 50/01; G06F 11/0709; G06F 11/2007

(Continued)

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,831,403 A 5/1989 Ishida et al.
4,882,601 A 11/1989 Taniguchi et al.

(Continued)

FOREIGN PATENT DOCUMENTS

CN 104001976 8/2014
EP 1085751 12/2002

(Continued)

OTHER PUBLICATIONS

“yahoo!_hotjobs” (webpage, published Apr. 1, 2005 and downloaded from <http://web.archive.org/web/2005040109545/hotjobs.yahoo.com/jobs/> on Dec. 11, 2009.

(Continued)

Primary Examiner — Hoasain T Alam

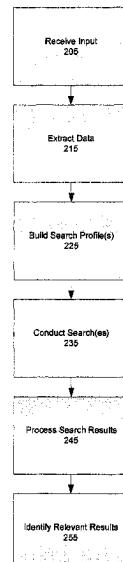
Assistant Examiner — Nicholas Allen

(74) *Attorney, Agent, or Firm* — Hanchuk Kheit LLP;
Walter G. Hanchuk

ABSTRACT

This disclosure details the implementation of systems, methods and apparatuses for providing an integrated process tracking and management. The disclosure provides solutions for initiating, tracking, correlating and managing complex processes. In particular, the disclosure provides systems, methods and apparatuses for process tracking and management particularly suited to job listing matching and management. In an implementation, the system may be configured to receive and extract base data entry metrics from a user designated input, for example a user's resume or a user designated saved job listing. The base data entry metrics may be correlated with user correlation metrics to derive search parameters for identifying supplemental data entries for a particular user.

73 Claims, 23 Drawing Sheets



Related U.S. Application Data

continuation of application No. 11/614,845, filed on Dec. 21, 2006, now Pat. No. 8,195,657, and a continuation-in-part of application No. 11/383,412, filed on May 15, 2006.

(60) Provisional application No. 60/757,781, filed on Jan. 9, 2006.

(51) Int. Cl.

G06F 17/30 (2006.01)
H04L 29/08 (2006.01)

(58) Field of Classification Search

USPC 707/722
See application file for complete search history.

(56) References Cited**U.S. PATENT DOCUMENTS**

4,910,548 A	3/1990	Taniguchi et al.	6,646,604 B2	11/2003	Anderson
4,912,648 A	3/1990	Tyler	6,658,423 B1	12/2003	Pugh et al.
5,023,646 A	6/1991	Ishida et al.	6,661,884 B2	12/2003	Shaffer
5,062,074 A	10/1991	Kleinberger et al.	6,662,194 B1	12/2003	Joao
5,164,897 A	11/1992	Clark et al.	6,678,690 B2	1/2004	Kobayashi et al.
5,168,299 A	12/1992	Taniguchi et al.	6,681,223 B1	1/2004	Sundaresan
5,197,004 A	3/1993	Sobotka et al.	6,681,247 B1	1/2004	Payton
5,218,395 A	6/1993	Taniguchi et al.	6,697,800 B1	2/2004	Jannink et al.
5,416,694 A	5/1995	Parrish et al.	6,701,313 B1	3/2004	Smith
5,539,493 A	7/1996	Kusaka	6,704,051 B1	3/2004	Takahashi
5,663,910 A	9/1997	Ko et al.	6,714,944 B1	3/2004	Shapiro et al.
5,671,409 A	9/1997	Fatseas et al.	6,718,340 B1	4/2004	Hartman et al.
5,740,477 A	4/1998	Kosako et al.	6,757,691 B1	6/2004	Welsh et al.
5,805,747 A	9/1998	Bradford	6,781,624 B1	8/2004	Takahashi
5,832,497 A	11/1998	Taylor	6,782,370 B1	8/2004	Stack
5,884,270 A	3/1999	Walker et al.	6,803,614 B2	10/2004	Takahashi
5,931,907 A	8/1999	Davies et al.	6,853,982 B2	2/2005	Smith et al.
5,950,022 A	9/1999	Hagiwara	6,853,993 B2	2/2005	Ortega
5,978,767 A	11/1999	Christ et al.	6,867,981 B2	3/2005	Murohara
5,978,768 A	11/1999	McGovern et al.	6,873,996 B2	3/2005	Chand
6,006,225 A	12/1999	Bowman et al.	6,904,407 B2	6/2005	Ritzel
6,026,388 A	2/2000	Liddy et al.	6,912,505 B2	6/2005	Linden et al.
6,052,122 A	4/2000	Sutcliffe et al.	6,917,952 B1	7/2005	Dailey et al.
6,144,944 A	11/2000	Kurtzman, II et al.	6,952,688 B1	10/2005	Goldman et al.
6,144,958 A	11/2000	Ortega	6,963,867 B2	11/2005	Ford et al.
6,169,986 B1	1/2001	Bowman et al.	6,973,265 B2	12/2005	Takahashi
6,185,558 B1	2/2001	Bowman et al.	7,016,853 B1	3/2006	Pereless et al.
6,226,630 B1	5/2001	Billmers	7,043,433 B2	5/2006	Hejna
6,247,043 B1	6/2001	Bates et al.	7,043,443 B1	5/2006	Firestone
6,249,784 B1	6/2001	Macke et al.	7,043,450 B2	5/2006	Velez et al.
6,263,355 B1	7/2001	Harrell et al.	7,076,483 B2	7/2006	Preda et al.
6,272,467 B1 *	8/2001	Durand et al. 705/5	7,080,057 B2	7/2006	Scarborough et al.
6,275,812 B1	8/2001	Haq et al.	7,089,237 B2	8/2006	Turnbull et al.
6,289,340 B1	9/2001	Puram et al.	7,096,420 B1	8/2006	Peikes
6,304,864 B1	10/2001	Liddy et al.	7,124,353 B2	10/2006	Goodwin et al.
6,363,376 B1	3/2002	Wiens et al.	7,137,075 B2	11/2006	Huang
6,370,510 B1	4/2002	McGovern	7,146,416 B1	12/2006	Yoo et al.
6,385,620 B1	5/2002	Kurzius	7,191,176 B2	3/2007	McCall et al.
6,401,084 B1	6/2002	Ortega et al.	7,219,073 B1	5/2007	Taylor et al.
6,434,551 B1	8/2002	Takahashi et al.	7,225,187 B2	5/2007	Dumais et al.
6,453,312 B1	9/2002	Goiffon et al.	7,249,121 B1	7/2007	Bharat et al.
6,460,025 B1	10/2002	Fohn et al.	7,251,658 B2	7/2007	Dane et al.
6,463,430 B1	10/2002	Brady et al.	7,292,243 B1	11/2007	Burke
6,492,944 B1	12/2002	Stilp	7,379,929 B2	5/2008	Meteyer
6,502,065 B2	12/2002	Imanaka et al.	7,424,438 B2	9/2008	Vianello
6,516,312 B1	2/2003	Kraft et al.	7,424,469 B2	9/2008	Ratnaparkhi
6,523,037 B1	2/2003	Monahan et al.	7,487,104 B2	2/2009	Sciuk
6,546,005 B1	4/2003	Berkley et al.	7,490,086 B2	2/2009	Joao
6,563,460 B2	5/2003	Stilp	7,512,612 B1	3/2009	Akella
6,564,213 B1	5/2003	Ortega et al.	7,519,621 B2	4/2009	Harik
6,567,784 B2	5/2003	Bukow	7,523,387 B1	4/2009	Greenwald et al.
6,571,243 B2	5/2003	Gupta et al.	7,613,631 B2	11/2009	Walker et al.
6,578,022 B1	6/2003	Foulger	7,668,950 B2	2/2010	Horowitz et al.
6,603,428 B2	8/2003	Stilp	7,702,515 B2	4/2010	Fujino et al.
6,615,209 B1	9/2003	Gomes et al.	7,711,573 B1	5/2010	Obeid
6,636,886 B1	10/2003	Katiyar et al.	7,720,791 B2	5/2010	Hyder
			7,734,503 B2	6/2010	Agarwal et al.
			7,761,320 B2	7/2010	Fliess et al.
			7,778,872 B2	8/2010	Kamangar et al.
			7,827,117 B2	11/2010	MacDaniel et al.
			7,865,451 B2	1/2011	Hyder
			7,881,963 B2	2/2011	Chudnovsky
			8,195,657 B1	6/2012	Dellovo
			8,244,551 B1	8/2012	Mund
			8,321,275 B2	11/2012	Collins et al.
			8,375,067 B2	2/2013	Hyder
			8,433,713 B2	4/2013	Chen
			8,527,510 B2	9/2013	Chen
			8,600,931 B1	12/2013	Wehrle
			8,645,817 B1	2/2014	Fisher
			8,914,383 B1	12/2014	Weinstein
			2001/0034630 A1	10/2001	Mayer et al.
			2001/0037223 A1	11/2001	Beery
			2001/0039508 A1	11/2001	Nagler et al.
			2001/0042000 A1	11/2001	Defoor, Jr.
			2001/0047347 A1	11/2001	Perell et al.
			2001/0049674 A1	12/2001	Talib et al.
			2002/0002479 A1	1/2002	Almog et al.
			2002/0010614 A1	1/2002	Arrowood

(56)	References Cited							
U.S. PATENT DOCUMENTS								
2002/0024539 A1	2/2002	Eleftheriadis et al.	2004/0163040 A1*	8/2004	Hansen	715/505		
2002/0026452 A1	2/2002	Baumgarten et al.	2004/0186743 A1	9/2004	Cordero			
2002/0038241 A1	3/2002	Hiraga	2004/0186776 A1	9/2004	Llach et al.			
2002/0042733 A1	4/2002	Lesandrini	2004/0193484 A1	9/2004	Allen			
2002/0045154 A1	4/2002	Wood	2004/0193582 A1	9/2004	Smyth			
2002/0046074 A1	4/2002	Barton	2004/0210565 A1	10/2004	Lu			
2002/0049774 A1	4/2002	Ritzel	2004/0210600 A1	10/2004	Chand			
2002/0055867 A1	5/2002	Putnam et al.	2004/0210661 A1	10/2004	Thompson			
2002/0055870 A1	5/2002	Thomas	2004/0215793 A1	10/2004	Ryan et al.			
2002/0059228 A1	5/2002	McCall et al.	2004/0219493 A1	11/2004	Phillips			
2002/0072946 A1	6/2002	Richardson	2004/0225629 A1	11/2004	Eder			
2002/0091629 A1	7/2002	Danpour	2004/0243428 A1*	12/2004	Black et al.	705/1		
2002/0091669 A1	7/2002	Puram et al.	2004/0249801 A1*	12/2004	Kapur	707/3		
2002/0091689 A1	7/2002	Wiens et al.	2004/0267554 A1	12/2004	Bowman et al.			
2002/0095621 A1	7/2002	Lawton	2004/0267595 A1	12/2004	Woodings et al.			
2002/0103698 A1	8/2002	Cantrell	2004/0267735 A1	12/2004	Melham			
2002/0111843 A1	8/2002	Wellenstein	2005/0004927 A1	1/2005	Singer			
2002/0116203 A1	8/2002	Cherry	2005/0033633 A1*	2/2005	LaPasta et al.	705/11		
2002/0120506 A1	8/2002	Hagen	2005/0033698 A1	2/2005	Chapman			
2002/0120532 A1	8/2002	McGovern et al.	2005/0050440 A1	3/2005	Meteyer et al.			
2002/0123921 A1	9/2002	Frazier	2005/0055340 A1	3/2005	Dresden			
2002/0124184 A1	9/2002	Fichadia et al.	2005/0060318 A1	3/2005	Brickman			
2002/0128892 A1	9/2002	Farenden	2005/0080656 A1	4/2005	Crow et al.			
2002/0133369 A1*	9/2002	Johnson	2005/0080657 A1	4/2005	Crow et al.			
2002/0143573 A1	10/2002	Bryce et al.	2005/0080764 A1	4/2005	Ito			
2002/0156674 A1	10/2002	Okamoto et al.	2005/0080795 A1	4/2005	Kapur et al.			
2002/0161602 A1	10/2002	Dougherty et al.	2005/0083906 A1	4/2005	Speicher			
2002/0169669 A1	11/2002	Stetson	2005/0096973 A1*	5/2005	Heyse et al.	705/11		
2002/0174008 A1*	11/2002	Noteboom	2005/0097204 A1	5/2005	Horowitz et al.			
2002/0194056 A1	12/2002	Summers	2005/0114203 A1	5/2005	Savitsky et al.			
2002/0194161 A1	12/2002	McNamee et al.	2005/0125283 A1	6/2005	Fan et al.			
2002/0194166 A1	12/2002	Fowler	2005/0125408 A1*	6/2005	Somaroo et al.	707/10		
2002/0195362 A1	12/2002	Abe	2005/0154701 A1	7/2005	Parunak et al.			
2002/0198882 A1	12/2002	Linden et al.	2005/0154746 A1	7/2005	Liu et al.			
2003/0009437 A1	1/2003	Seiler et al.	2005/0170321 A1*	8/2005	Scully	434/219		
2003/0009479 A1	1/2003	Phair	2005/0171867 A1	8/2005	Doonan			
2003/0014294 A1	1/2003	Yoneyama	2005/0177408 A1*	8/2005	Miller	705/8		
2003/0018621 A1	1/2003	Steiner et al.	2005/0192955 A1	9/2005	Farrell			
2003/0023474 A1	1/2003	Helweg-Larsen	2005/0210514 A1	9/2005	Kittlaus et al.			
2003/0033292 A1	2/2003	Meisel et al.	2005/0222901 A1	10/2005	Agarwal et al.			
2003/0037032 A1	2/2003	Neece	2005/0228709 A1*	10/2005	Segal	705/9		
2003/0046139 A1	3/2003	Beman et al.	2005/0240431 A1*	10/2005	Cotter	705/1		
2003/0046152 A1	3/2003	Colas et al.	2005/0273348 A1*	12/2005	Brooks Rix	705/1		
2003/0046311 A1	3/2003	Baidya et al.	2005/0278205 A1*	12/2005	Kato	705/7		
2003/0046389 A1	3/2003	Thieme	2005/0278709 A1	12/2005	Sridhar et al.			
2003/0061242 A1	3/2003	Warmer et al.	2006/0010108 A1	1/2006	Greenberg			
2003/0071852 A1	4/2003	Stimac	2006/0026067 A1	2/2006	Nicholas et al.			
2003/0093322 A1	5/2003	Sciuk	2006/0026075 A1	2/2006	Dickerson et al.			
2003/0125970 A1	7/2003	Mittal et al.	2006/0031107 A1	2/2006	Aihara et al.			
2003/0144996 A1	7/2003	Moore, Jr.	2006/0047530 A1	3/2006	So et al.			
2003/0158855 A1	8/2003	Farnham et al.	2006/0069614 A1	3/2006	Agarwal et al.			
2003/0160887 A1	8/2003	Takahashi	2006/0080321 A1	4/2006	Horn et al.			
2003/0172145 A1	9/2003	Nguyen	2006/0100919 A1	5/2006	Levine			
2003/0177027 A1*	9/2003	DiMarco	2006/0106636 A1	5/2006	Segal			
2003/0182171 A1*	9/2003	Vianello	2006/0116894 A1	6/2006	DiMarco			
2003/0182173 A1*	9/2003	D'Elena et al.	2006/0133595 A1	6/2006	Ravishankar			
2003/0187680 A1	10/2003	Fujino et al.	2006/0155698 A1	7/2006	Vayssiere			
2003/0187842 A1	10/2003	Hyatt	2006/0177210 A1	8/2006	Ichimiya			
2003/0195877 A1	10/2003	Ford et al.	2006/0178896 A1	8/2006	Sproul			
2003/0204439 A1	10/2003	Cullen	2006/0195362 A1	8/2006	Jacobi et al.			
2003/0220811 A1	11/2003	Fan et al.	2006/0206448 A1	9/2006	Hyder et al.			
2003/0229638 A1	12/2003	Carpenter et al.	2006/0206505 A1	9/2006	Hyder et al.			
2004/0015371 A1*	1/2004	Thomas	2006/0206517 A1	9/2006	Hyder et al.			
		606Q 10/1053	2006/0212466 A1	9/2006	Hyder et al.			
		705/321	2006/0229895 A1	10/2006	Rosen et al.			
			2006/0229896 A1	10/2006	Rosen et al.			
			2006/0235884 A1	10/2006	Pfenninger			
			2006/0265266 A1	11/2006	Chen et al.			
			2006/0265267 A1	11/2006	Chen et al.			
			2006/0265268 A1	11/2006	Hyder et al.			
			2006/0265269 A1	11/2006	Hyder et al.			
			2006/0265270 A1	11/2006	Hyder et al.			
			2006/0277102 A1	12/2006	Agliozzo			
			2007/0022188 A1	1/2007	Kohs			
			2007/0033064 A1	2/2007	Abrahamsohn			
			2007/0038636 A1	2/2007	Zanghi et al.			
			2007/0050257 A1	3/2007	Fine			
			2007/0054248 A1	3/2007	Bare			

(56)

References Cited

U.S. PATENT DOCUMENTS

2007/0059671 A1	3/2007	Mitchell
2007/0100803 A1	5/2007	Cava
2007/0162323 A1	7/2007	Gorham
2007/0185884 A1	8/2007	Kantamneni
2007/0190504 A1	8/2007	Schwartz et al.
2007/0203710 A1	8/2007	Habichler et al.
2007/0203906 A1	8/2007	Cone et al.
2007/0218434 A1	9/2007	Habichler et al.
2007/0239777 A1	10/2007	Toomey
2007/0260597 A1	11/2007	Crame
2007/0271109 A1	11/2007	Wang et al.
2007/0273909 A1	11/2007	Chen et al.
2007/0288308 A1	12/2007	Chen et al.
2008/0059523 A1	3/2008	Schmidt
2008/0133343 A1	6/2008	Hyder et al.
2008/0133499 A1	6/2008	Hyder et al.
2008/0133595 A1	6/2008	Hyder et al.
2008/0140430 A1	6/2008	Hyder
2008/0140680 A1	6/2008	Hyder et al.
2008/0155588 A1	6/2008	Roberts et al.
2008/0275980 A1	11/2008	Hansen
2009/0138335 A1	5/2009	Lieberman
2009/0164282 A1	6/2009	Goldberg
2009/0198558 A1	8/2009	Chen et al.
2010/0082356 A1	4/2010	Verma et al.
2011/0060695 A1	3/2011	Boyland
2011/0134127 A1	6/2011	Gundlapalli et al.
2012/0226623 A1	9/2012	Jurney et al.
2014/0244534 A1*	8/2014	Simmons et al. 705/328

FOREIGN PATENT DOCUMENTS

EP	1596535	5/2004
JP	63-246709	10/1988
JP	6-265774	9/1994
JP	6-313844	11/1994
JP	7-287161	10/1995
JP	8-76174	3/1996
JP	61-62011	3/1996
JP	8-292366	5/1996
JP	8-286103	11/1996
JP	10-26723	1/1998
JP	2001-083407	3/2001
JP	2002203030	7/2002
JP	2002251448	9/2002
JP	2004062834	2/2004
JP	2005109370	11/2005
WO	00/26839	5/2000
WO	0148666	2/2001
WO	0146870	6/2001

OTHER PUBLICATIONS

Greg Linden, Brent Smith, Jeremy York, "Amazon.com Recommendations Item-to_item Collaborative Filtering," IEEE Internet Computing, vol. 7, No. 1, Jan./Feb. 2003: 76-80. University of Maryland. Department of Computer Science. Dec. 2, 2009 <<http://www.cs.umd.edu/~samir/498/Amazon-Recommendations.pdf>>.

Bettman, James R., "A Threshold Model of Attribute Satisfaction Decisions." Journal of Consumer Research Policy Board, pp. 30-35, 1974.

Hotjob webpag, published Apr. 1, 2005 and downloaded from <http://web.archive.org/web/20050401095045/hotjobs.yahoo.com/> on Dec. 11, 2009.

Notice of Acceptance on Australian patent application No. 2007249205 dated Mar. 12, 2013.

International search report and written opinion for PCT/US2007/068913 dated Nov. 30, 2007.

International search report and written opinion for PCT/US2007/068914 dated Dec. 7, 2007.

International search report and written opinion for PCT/US2007/068916 dated Feb. 22, 2008.

International search report and written opinion for PCT/US2007/068917 dated Nov. 30, 2007.

Examiner first report on Australian patent application No. 2007249205 dated Jun. 30, 2011.

Examiner's search information statement on Australian patent application No. 2007249205 dated Jun. 29, 2011.

"Commsland: Contractors cut out the middleman." M2 Presswire. Coventry: Nov. 5, 2002, p. 1.

Hallet, Karen Schreier. "Mastering the expanding Lexis-Nexis academic universe," EContent. Wilton: Oct./Nov. 1999. vol. 22, Iss. 5, p. 47.

Hayes, heather B. "Hiring on the Fast Track," Federal Computer Week, Falls Church: Jul. 29, 2002, vol. 16, Iss. 26, p. 26.

"Steve Wynn Begins Search for 9000 Employees fro Wynn Las Vegas." PR Newswire. New York: Nov. 8, 2004. p. 4.

M. Balabanovic et al. (Mar. 1997). "Fab: content-Based, Collaborative Recommendation," Communications of the ACM 40(3): 66-72.

Bettman, James R., "A Threshold Model of Attribute Satisfaction decisions", Joournsumer Research Policy Board, pp. 30-35 (1974). "Key" Oxford English Dictionary Online, located at <<http://dictionary.oed.com>>, last accessed on Sep. 23, 2006 (34 pgs).

Calishan, T. et al., "Google Hacks" First Printing, pp. 18-24, 33, 288-289, 293-297, Feb. 2003.

Dialog Chronolog., "New Features on DialogWeb TM", Sep. 1998 (2 pgs).

Dialog Information Services, "DialogOnDisc User's Guide", Version 4.0 for DOS, (Jan. 1992) pp. v1, (c), 2-1, 2-2, 3-4, 3-5, 3-9, 3-10, 3-11, 3-15, 3-17, 3-19, 3-21, 4-11, 4-21, 4-22, 4-27, 5-2, 5-7, 5-8, 5-9, 2-10, 5-11, c-2.

Dialog Information Services, "DialogLink for the WindowsTM Operating SystemUser's Guide", (May 1995) Version 2.1 pp. 1-2, 1-3, 4-1, 4-2, 5-2, 5-3.

DialogLink, "DialogLink for Windows and Machintosh: User's Guide", Dec. 1993, Version 2.01, P/ (cover sheet), (3-11).

dictionary.oed.com, "Oxford English Dictionary", 1899-1997, retrieved Sep. 23, 2006, 2nd Ed. (34 pgs).

Genova, Z. et al., "Efficient Summarization of URLs using CRC32 for Implementing URL Switching", Proceedings of the 37th Annual IEEE Conference on Local Computer Networks LCN'02, Nov. 2002 (2 pgs.)

Hammami, M. et al., "Webguard: Web Based Adult Content and Filtering System", Proceedings of the IEEE/WIC Conference on Web Intelligence, Oct. 2003 (5 pgs.).

Lam-Adesina, A.M. et al., "Applying Summarization Techniques for Term Selection in Relevance Feedback", SIGIR'01, ACM Press, Sep. 9, 2001 (9 pgs).

Merriam-Webster.com, "Merriam Webster Thesaurus", located at <<http://web.archive.org/web/20030204132348http://www.m-w.com>>, visited on Feb. 4, 2003 (7 pgs).

Netcraft, Site Report for "www.dialogweb.com", (May 10, 1998), located at <http://toolbar.netcraft.com/site_report?url=http://www.dialogweb.com> last visited on Sep. 27, 2006, (1 pg).

OED.com, "Definition of prescribed", Dec. 2003, retrieved Mar. 3, 2008, located at <<http://dictionary.oed.com/cgi/ent...>> (2 pgs).

Salton, G., "Abstracts of Articles in the Information Retrieval Area Selected by Gerald Salton", ACM Portal: 39-50 (1986).

Sherman, C. "Google Power, Unleash the Full Potential of Google", McGraw-Hill/Osbourne, Aug. 23, 2005, pp. 42-47, 77, 80-81, 100-107, 328-329, 421-422

Sugiura, A. et al., "Query Routing for Web search engines: Architecture and Experiments", Computer Networks 2000, pp. 417-429, Jun. 2000, located at www.elsevier.com/locate/comnet.

Thomson Dialog. (2003) "DialogWeb Command Search Tutorial", Dialog Web Version 2.0, located at <http://support.dialog.com/techdocs/dialogweb_commandTutorial.pdf#search=%22dialogweb%22> last visited on Dec. 10, 2002, (23 pgs).

Thomson Products, Extrinsic Evidence of the Common Ownership and Distribution of DialogWeb & DialogOnDisc, located at <<http://dialog.com/contacts/forms/member.shtml>>, <<http://dialog.com/products/platform/webinterface.shtml>>, and <http://dialog.com/products/platform/desktop_app.shtml> last visited on Sep. 27, 2006 (3 pgs).

(56)

References Cited

OTHER PUBLICATIONS

Balabanovic, M. et al. "Fab: Content-Based, Collaborative Recommendation", *Communications of the ACM* 40 (3):66-72, (Mar. 1997).

Kawano, H. et al., "Mondou: Web Search Engine with Textual Data Mining", 0-7803-3905, IEEE, pp. 402-405 (Mar. 1997).

Tanaka, M. et al., "Intelligent System for Topic Survey in MEDLINE by Keyword Recommendation and Learning Text Characteristics", *Genome Informatics* 11:73-82, (2000).

Donath et al., "The Sociable Web" located at <<http://web.web.archive.org/web/19980216205524/http://judith.www.media>> visited on Aug. 14, 2003 (4 pgs).

Liu, Yi et al., "Affinity Rank: A New Scheme for Efficient Web Search", AMC 1-85113-912-8/04/0005, pp. 338-339 (May 2004).

Ji, Minwen, "Affinity-Based Management of Main Memory Database Clusters", *AMC Transactions on Internet Technology*, 2(4):307-339 (Nov. 2002).

Careerbuilder.com "My Job Recommendations," located at <http://www.careerbuilder.com/JobSeeker/Resumes/MyNewJobRecommendationsOrganized.aspx?sc_cmp2=JS_Nav_JobsRecs> visited on Oct. 1, 2007 (2pgs).

Careerbuilder.com "Post Your Resume on Careerbuilder.com," located at <<http://www.careerbuilder.com/JobSeeker/Resumes/PostResumeNew/PostYourResume.aspx?ff=2>> visited Oct. 1, 2007 (3 pgs).

* cited by examiner

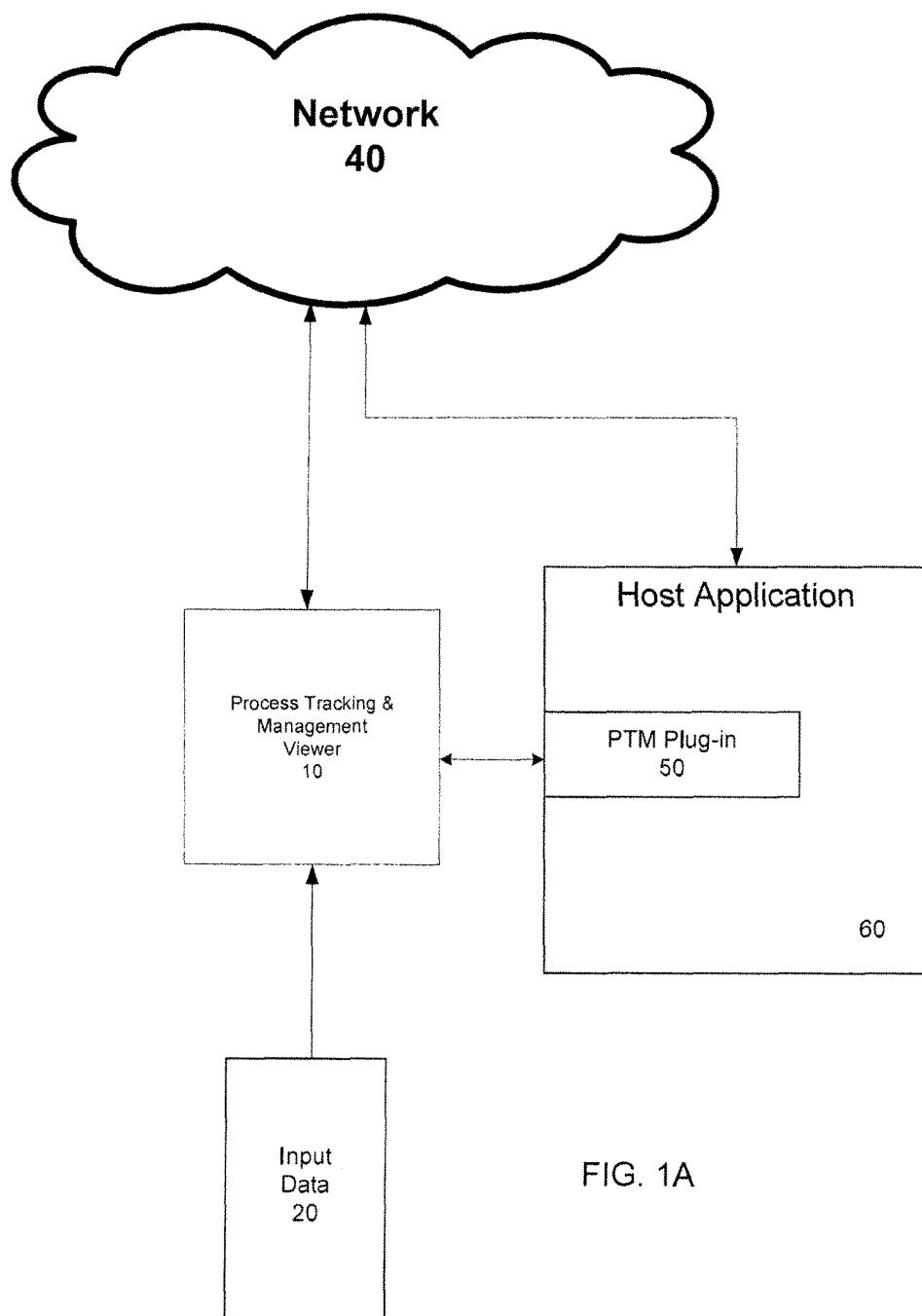
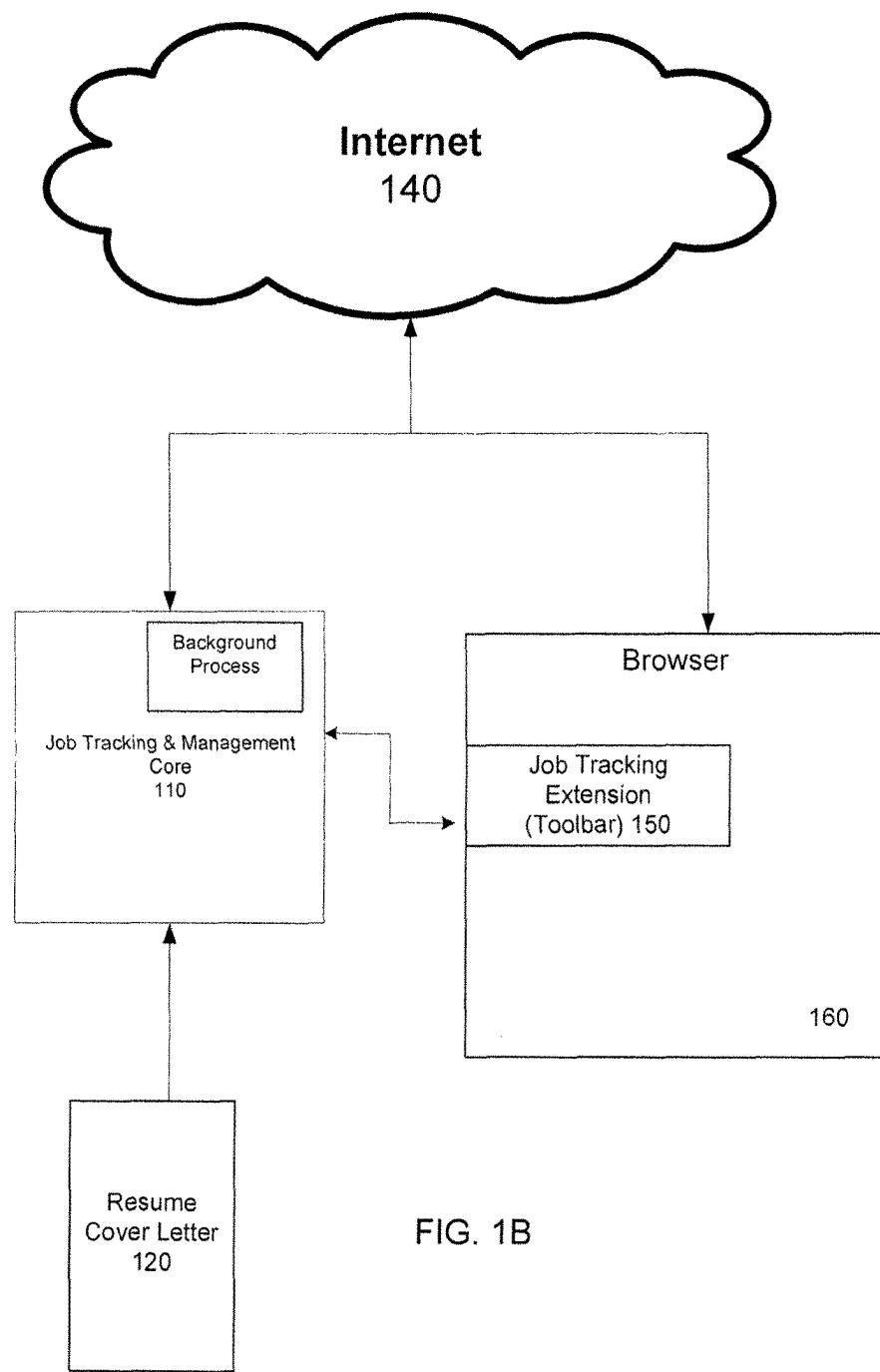


FIG. 1A



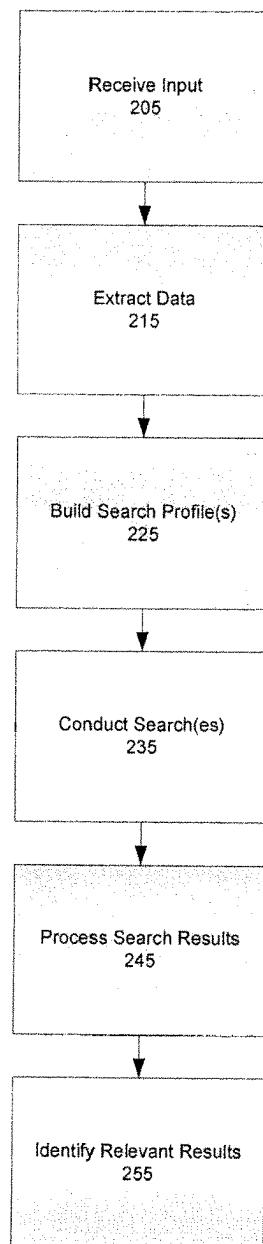


FIG. 2A

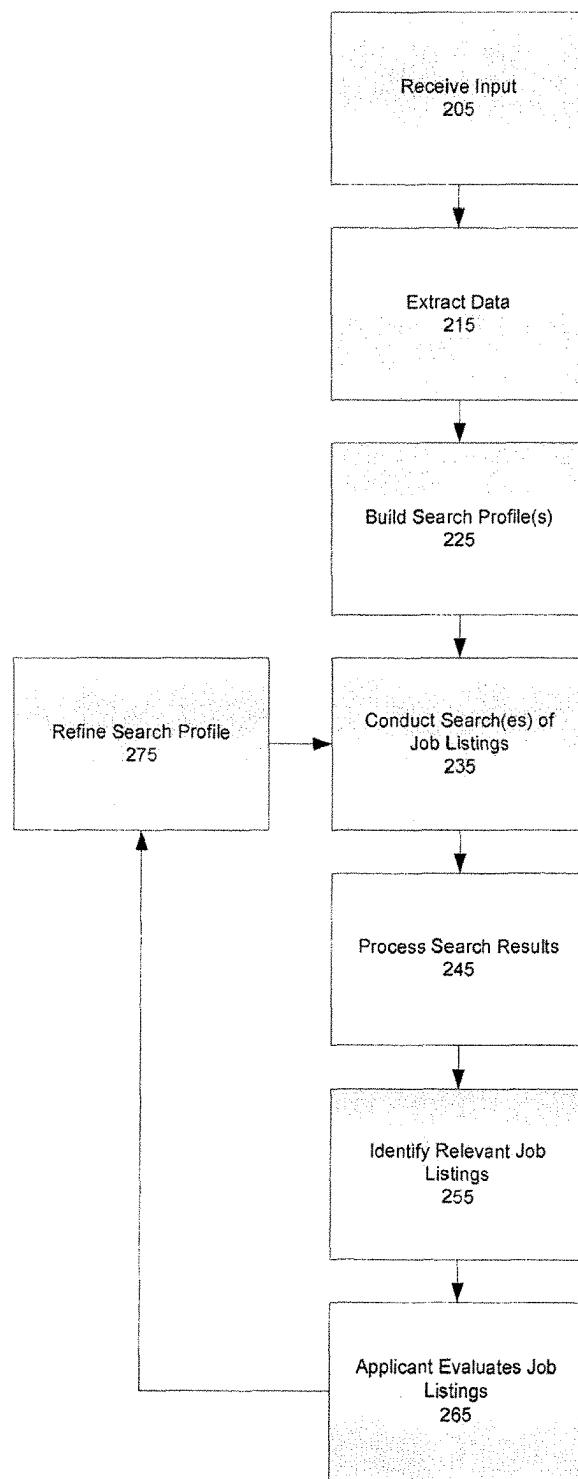


FIG. 2B

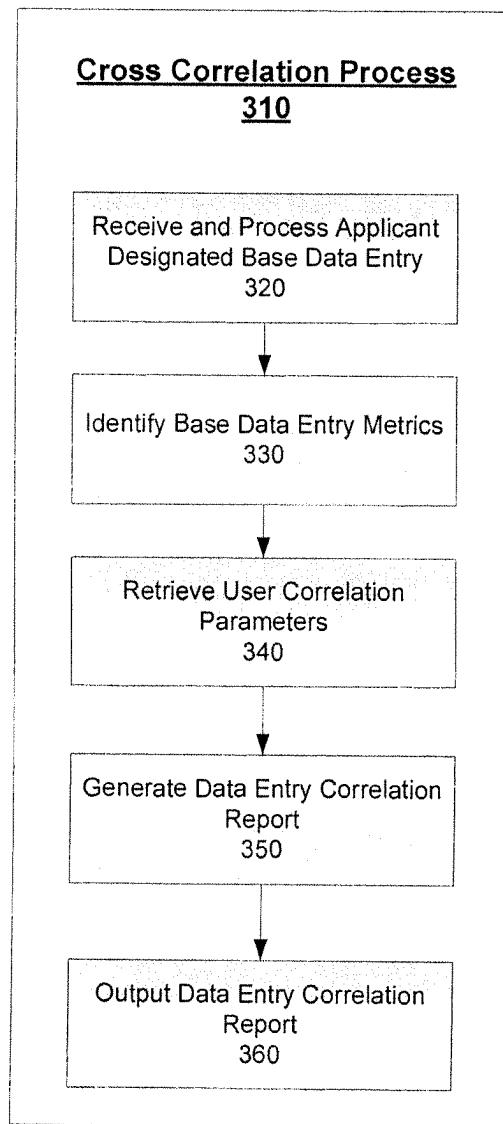


FIG. 3A

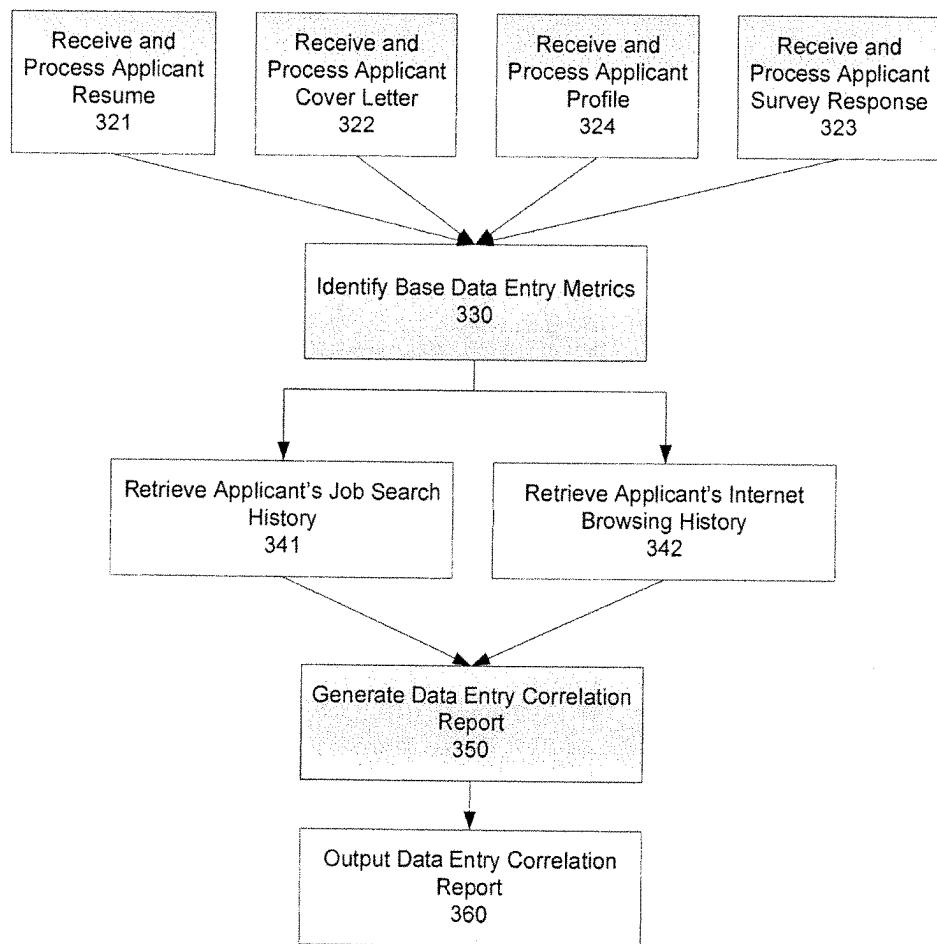


FIG. 3B

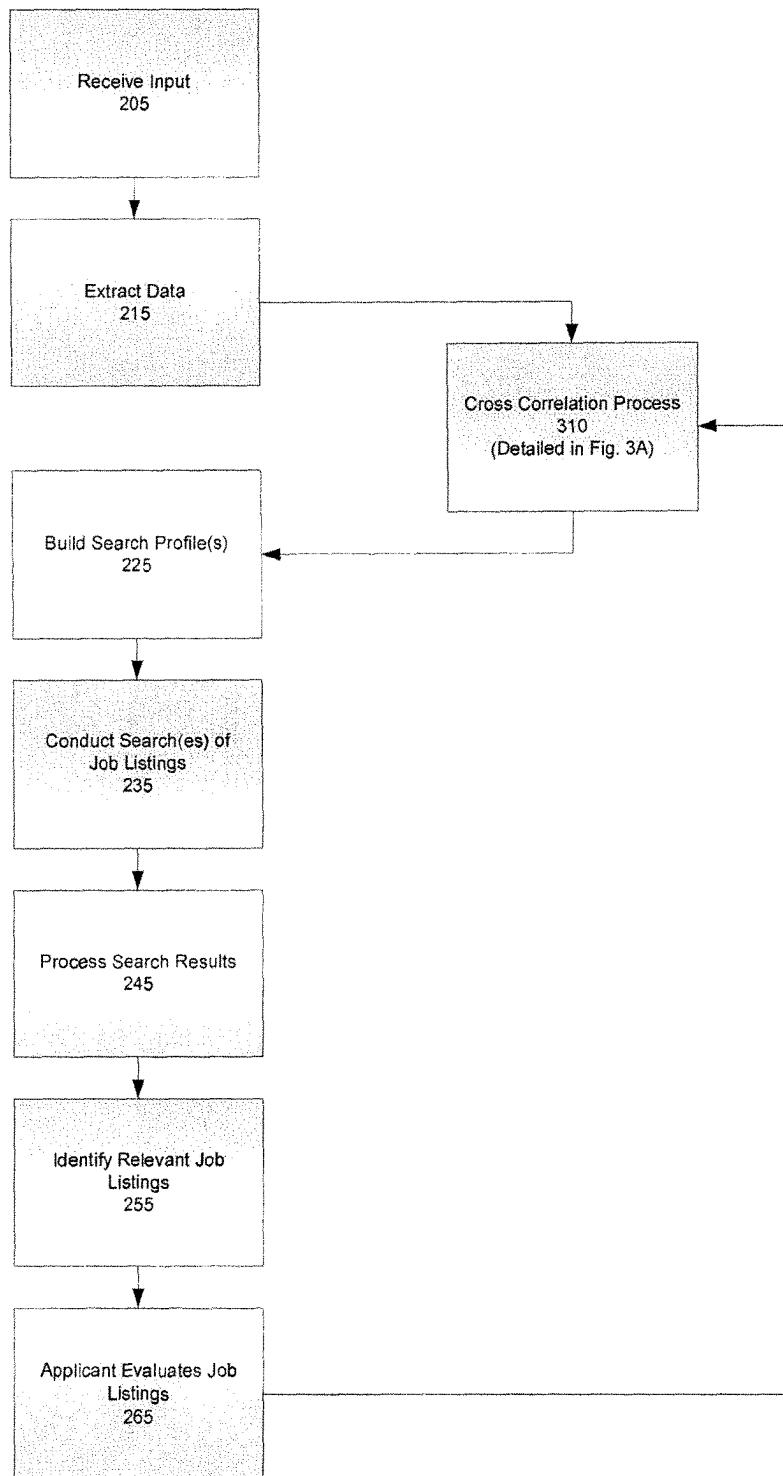


FIG. 3C

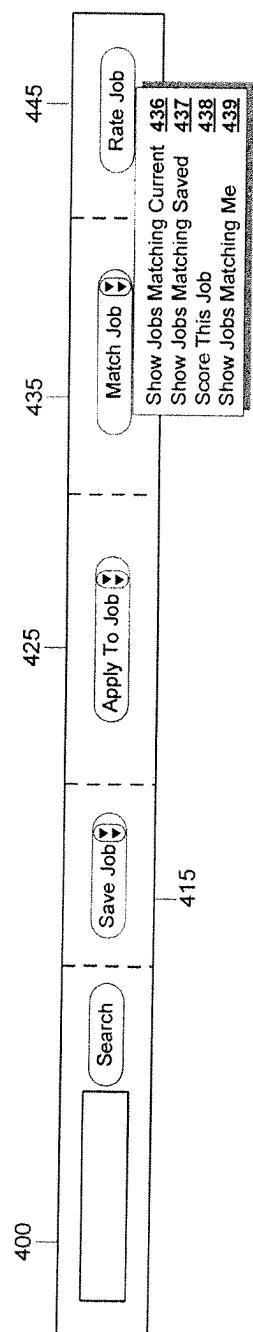


FIG. 4A

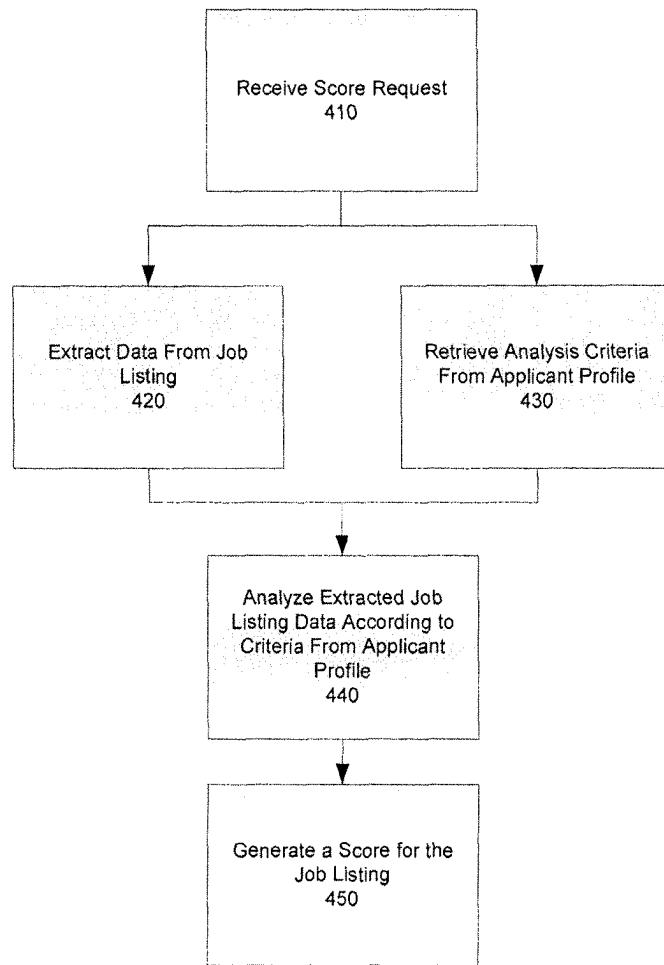


FIG. 4B

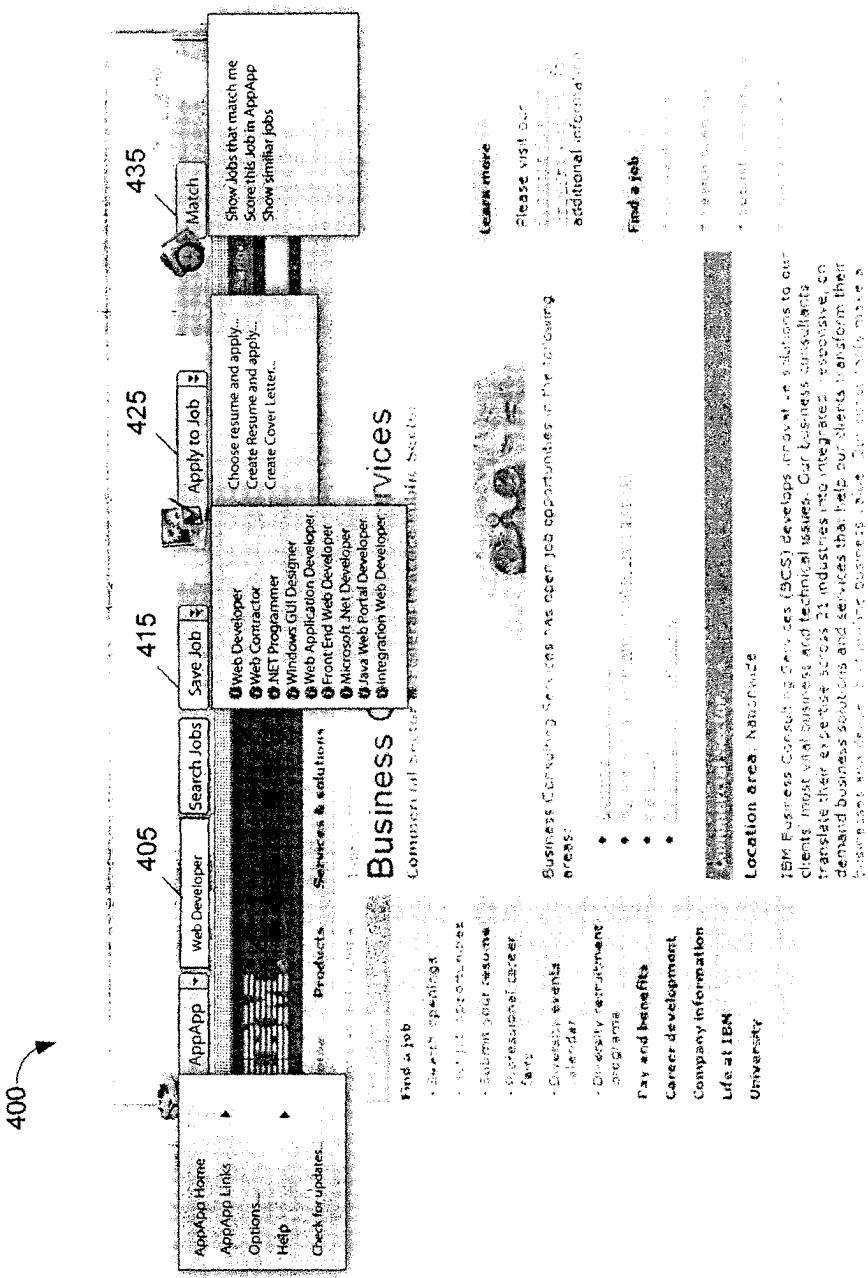


FIG. 4C

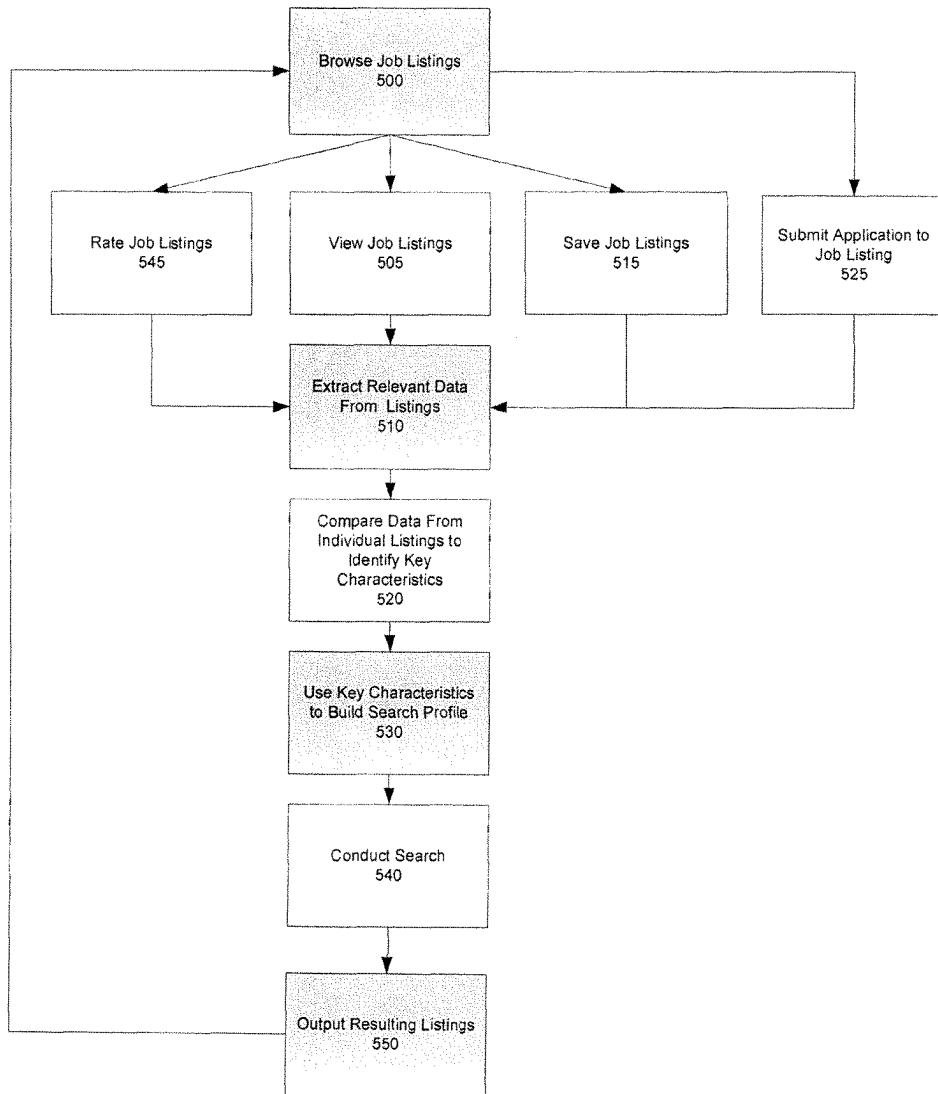


FIG. 5A

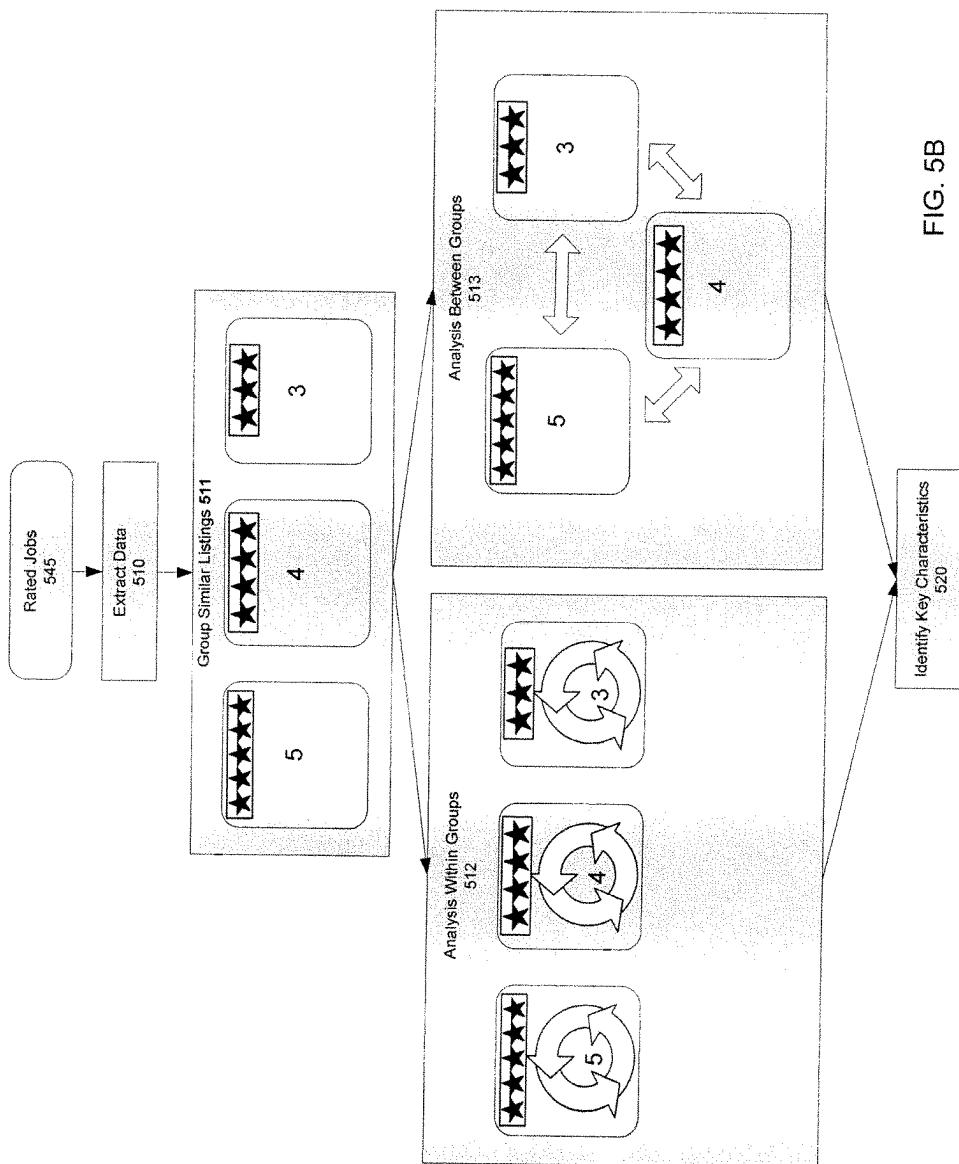


FIG. 5B

Processing Search Results

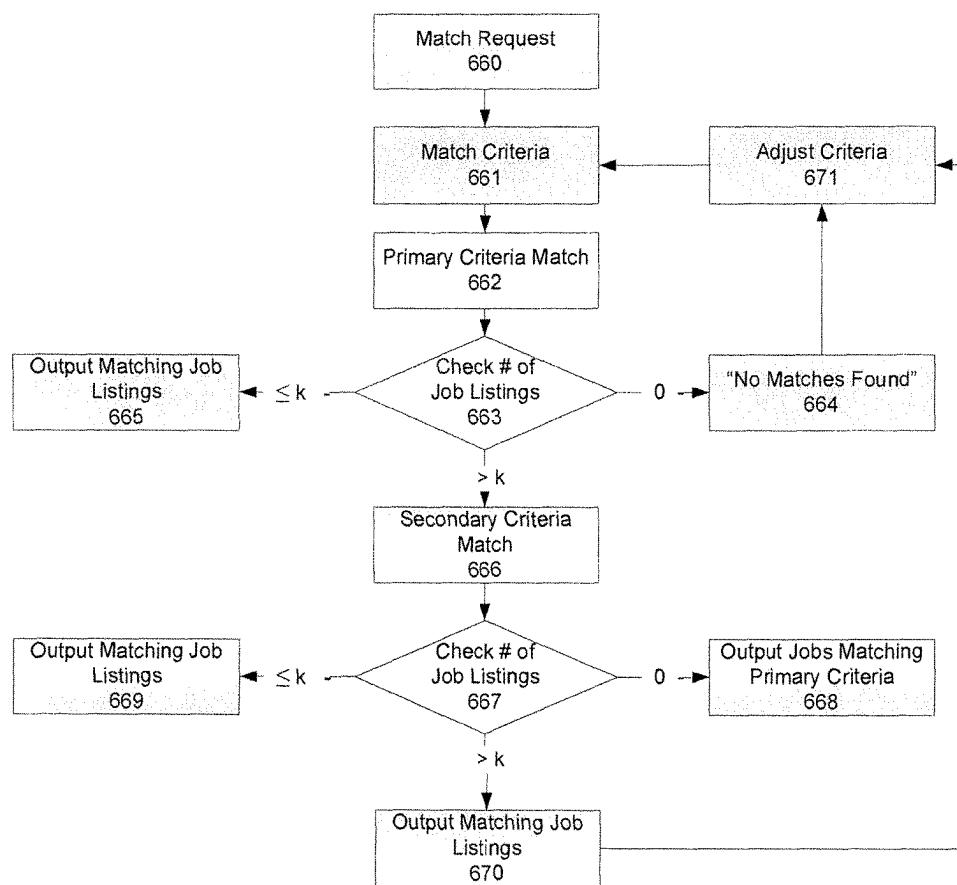


FIG. 6A

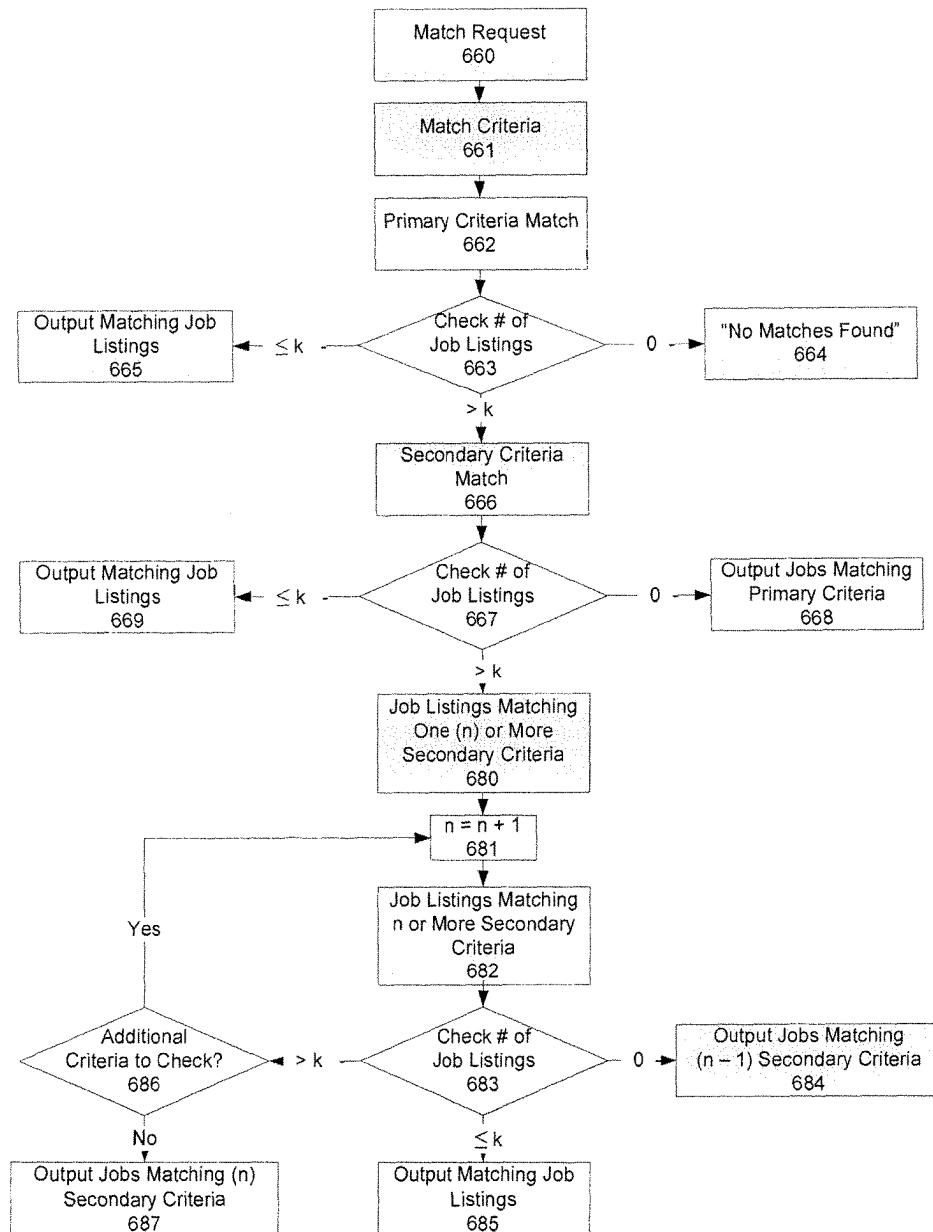


FIG. 6B

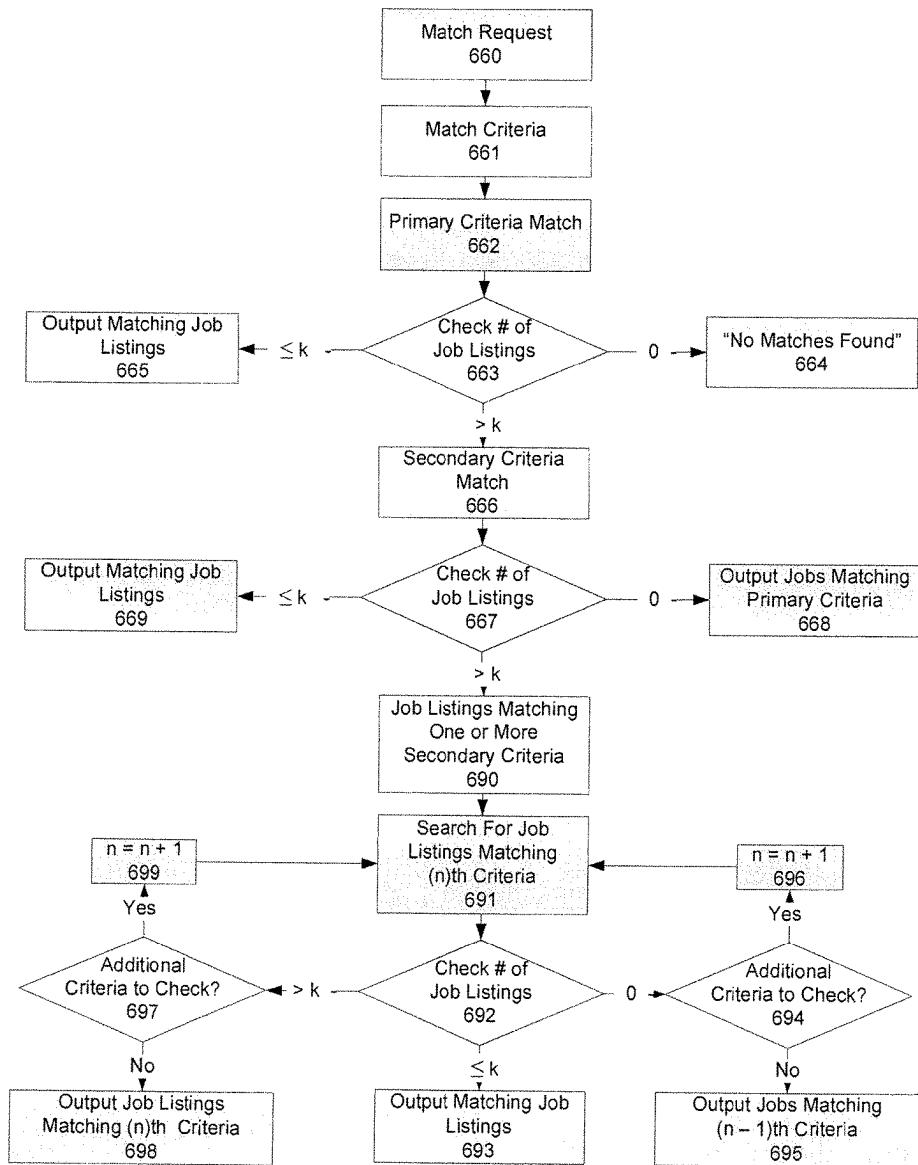


FIG. 6C

FIG. 7A

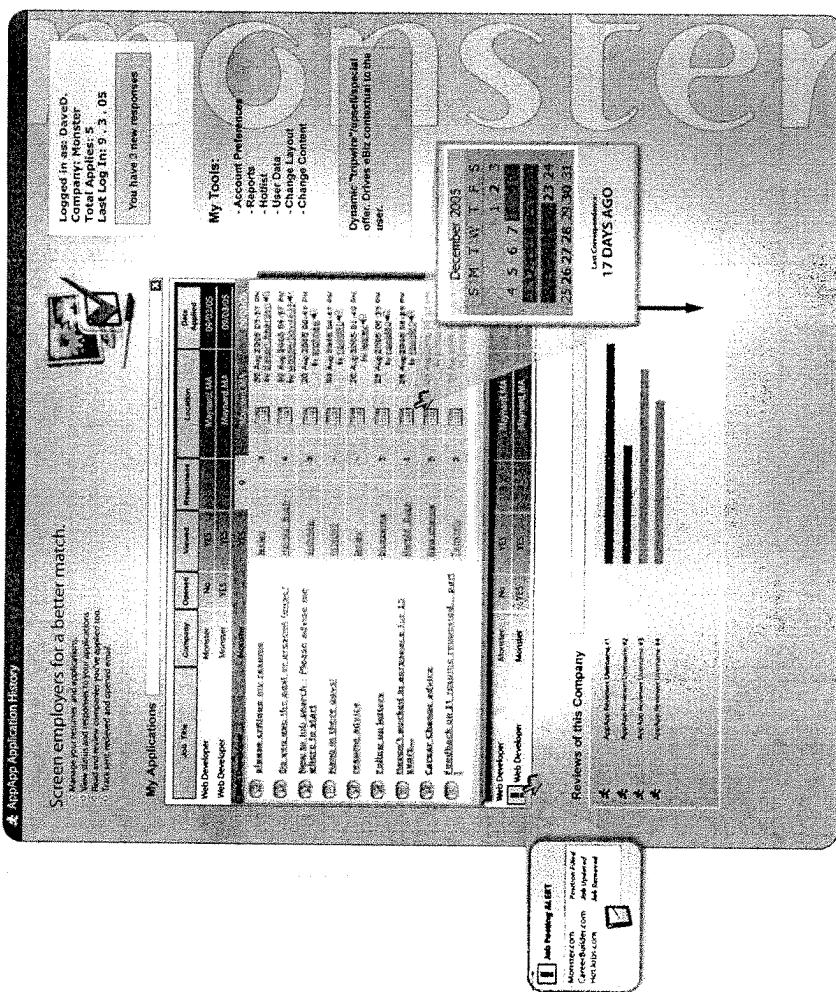


FIG. 7B

The diagram illustrates a user search interface. At the top, a search bar contains the text "Web Developer" and "100". Below the search bar is a table with the following columns: User Rating, Job Title, Company, Location, Date Applied, Corres., Status, and Score. The table contains 15 rows, each representing a search result. The rows are numbered 701 through 715. The "User Rating" column uses a star icon to represent ratings. The "Job Title" column shows "Web Developer" for all rows. The "Company" column shows "Monster" for all rows. The "Location" column shows "Maynard, Ma" for all rows. The "Date Applied" column shows dates ranging from "1/9/05" to "3/15/05". The "Corres." column shows values ranging from "0" to "10". The "Status" column shows "Offer", "HR Rev.", "2nd Int.", "Opened", "Received", and "-----" for the first six rows, and "-----" for the last nine rows. The "Score" column shows values ranging from "95" to "95". Callouts numbered 701 through 707 point to the "Job Title", "Company", "Location", "Date Applied", "Corres.", "Status", and "Score" columns respectively. Callout 745 points to the "User Rating" column.

User Rating	Job Title	Company	Location	Date Applied	Corres.	Status	Score
★★★★★	Web Developer	Monster	Maynard, Ma	1/9/05	10	Offer	95
★★★★★	Web Developer	Monster	Maynard, Ma	1/10/05	7	HR Rev.	95
★★★★★	Web Developer	Monster	Maynard, Ma	1/12/05	3	2 nd Int.	95
★★★★★	Web Developer	Monster	Maynard, Ma	2/15/05	2	Opened	95
★★★★★	Web Developer	Monster	Maynard, Ma	3/15/05	1	Received	95
★★★★★	Web Developer	Monster	Maynard, Ma	-----	0	-----	95
★★★★★	Web Developer	Monster	Maynard, Ma	-----	0	-----	95
★★★★★	Web Developer	Monster	Maynard, Ma	-----	0	-----	95
★★★★★	Web Developer	Monster	Maynard, Ma	-----	0	-----	95
★★★★★	Web Developer	Monster	Maynard, Ma	-----	0	-----	95
★★★★★	Web Developer	Monster	Maynard, Ma	-----	0	-----	95
★★★★★	Web Developer	Monster	Maynard, Ma	-----	0	-----	95
★★★★★	Web Developer	Monster	Maynard, Ma	-----	0	-----	95
★★★★★	Web Developer	Monster	Maynard, Ma	-----	0	-----	95
★★★★★	Web Developer	Monster	Maynard, Ma	-----	0	-----	95

FIG. 7C

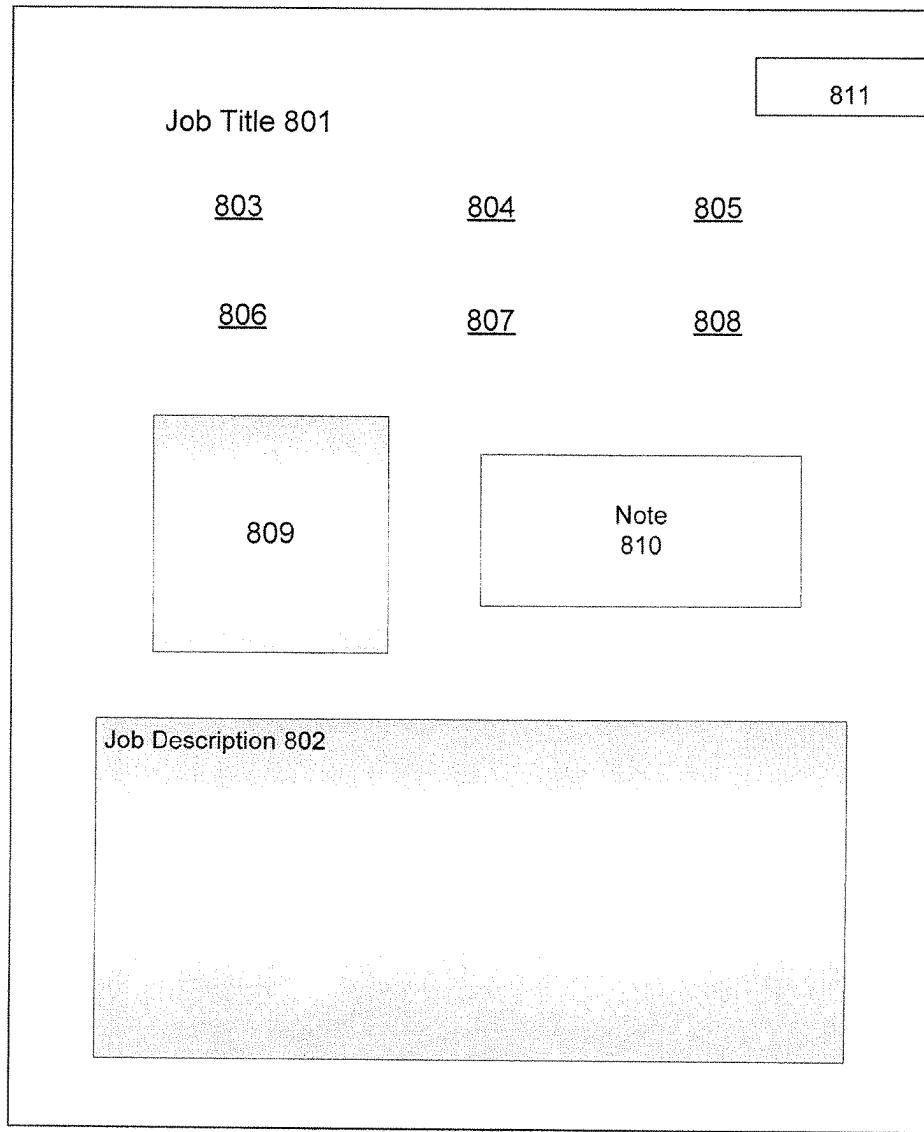


FIG. 8A

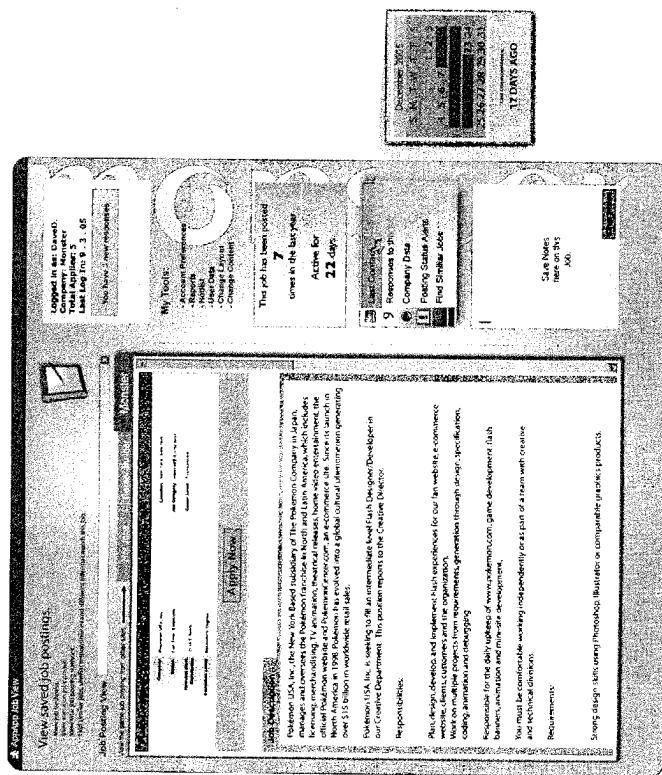


FIG. 8B

monster Search Jobs My Monster For Employers

Software Engineer

Starting Pay: \$100,000

Job Location: New York, New York

ABC Software Co.

812

804

802

803 

Job Description:

Will design, develop and maintain software on Microsoft .Net platform. Serve as technical lead on development efforts, including participating in requirements analysis and design. Will have responsibility for developing solutions for all tiers of the application; code-behinds, controls, middle-tier business components, database layer, etc. Assist in formulating standards and development practices across multiple related teams.

807

808

Qualifications:

- * Two or more years of extensive experience with C# and ASP.NET is ideal.
- * Knowledge in OO development principles, multi-tier web application design and relational database principles required.
- * History of delivering XML-based, Webservice, Component-Based and Multi-Threaded applications to production is desired.
- * Experience working with large project team development environments.
- * Good fundamental and hands on knowledge of with MS SQL Server.
- * Strong Analytical Skills and good problem solving skills.
- * Experience working in a regionally distributed development group.
- * Prior use of NAnt, NUnit, NDoc and CruiseControl.Net, or similar products would be a plus.

813

The Benefits:

Health benefits:

Blue Cross and Blue Shield PPO Program
Guardian DMO and Dental PDO Plans
Vision care
Flexible Spending Accounts
Supplement life insurance for employees and their families
Discounted auto and homeowners insurance

Employer provided benefits:

Life Insurance
Short Term and Long Term Disability Plans
Employee Assistance Plan
Competitive Paid Time Off program
Education Tuition Reimbursement
Plan for Continuing Education

monster [APPLY NOW](#)

FIG. 8C

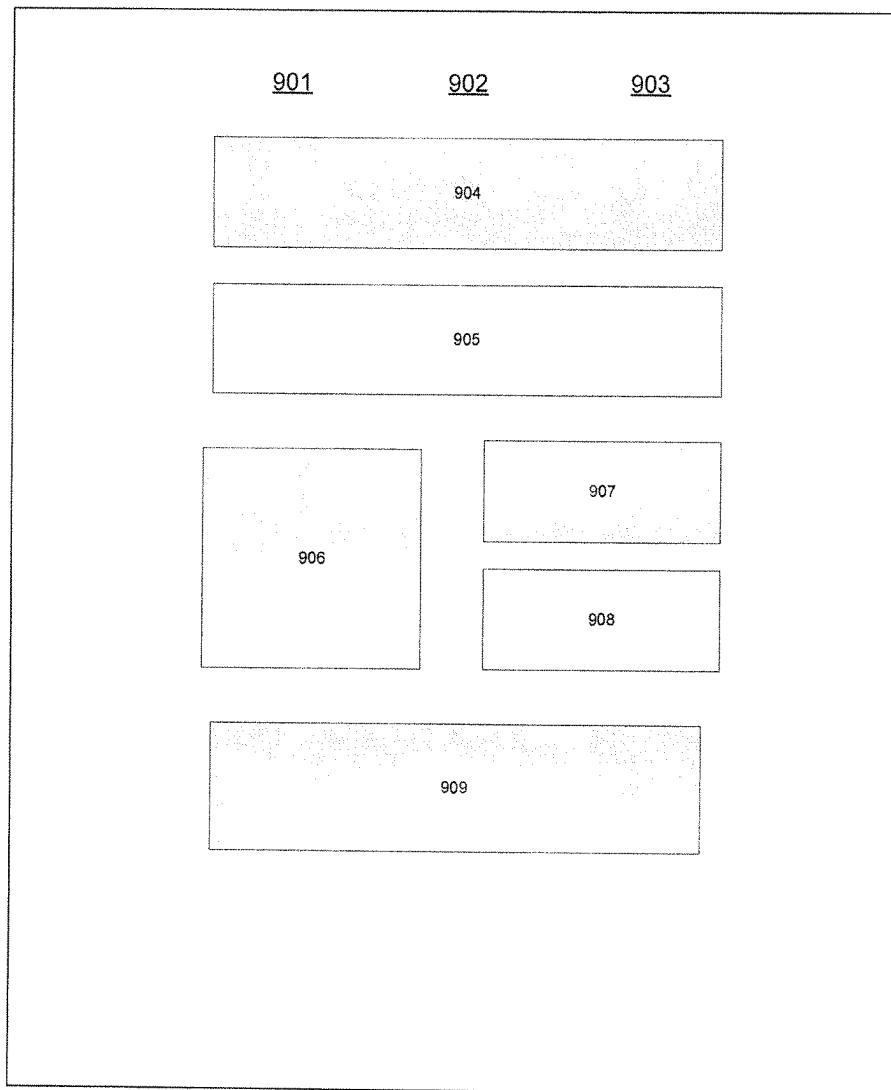


FIG. 9A

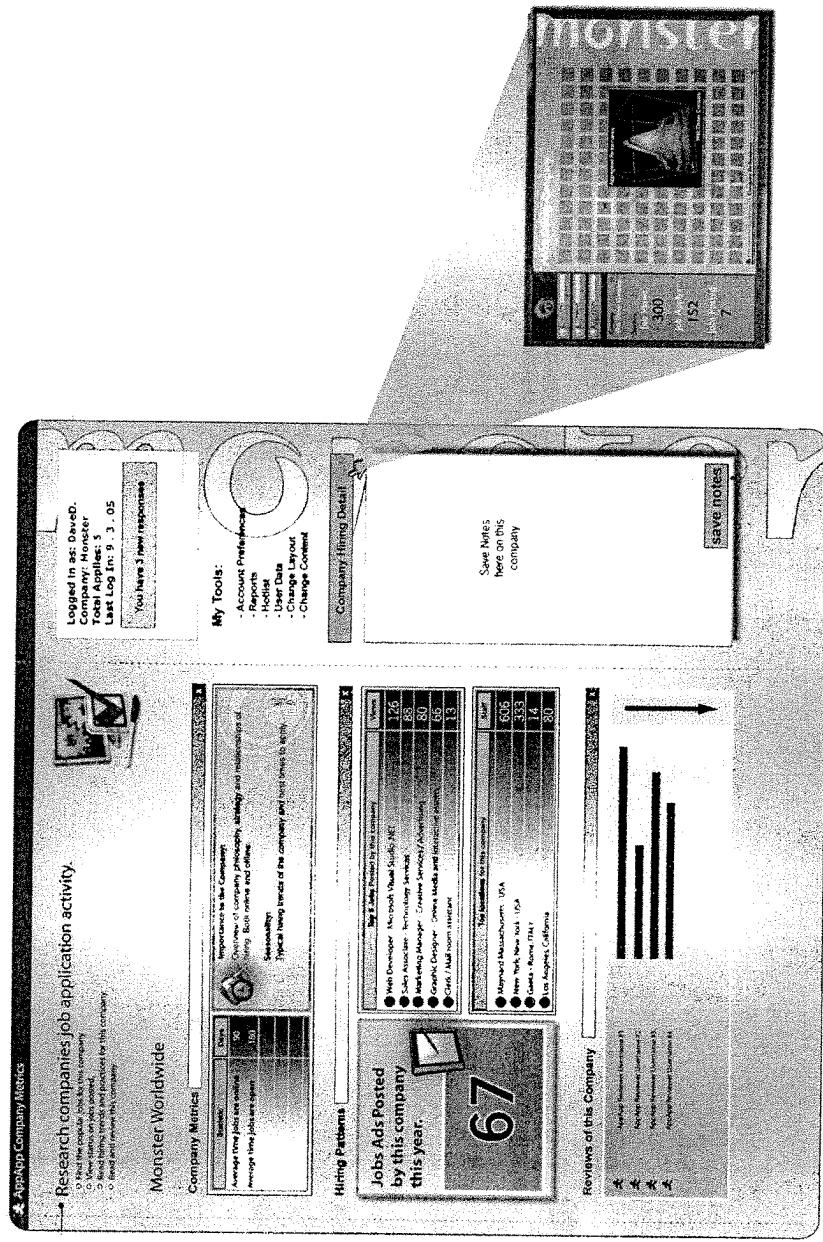


FIG. 9B

1

APPARATUSES, SYSTEMS AND METHODS
FOR DATA ENTRY CORRELATION

RELATED APPLICATIONS

This application is a Continuation-in-part of non-provisional patent application "Job Application Tracking System," Ser. No. 11/383,412, filed May 15, 2006 and priority is claimed to the application under 35 U.S.C. § 120. This application also claims all rights of priority under 35 USC § 119 to provisional patent application "Job Application Tracking System", Ser. No. 60/757,781, filed Jan. 9, 2006. Application titled, "Apparatuses, Systems and Methods for Application Submission Tracking and Management," Ser. No. 11/614,929, filed Dec. 21, 2006 is a co-pending related application. Each of these applications are hereby incorporated by reference.

FIELD

The present disclosure relates generally to data correlation. In particular, the present application provides apparatuses, systems, and methods suited to job application tracking and identifying jobs matching the interests and abilities of an applicant.

BACKGROUND

Complex processes involving numerous steps, voluminous information and multiple parties are often difficult for users to visualize, monitor, correlate, initiate and manage. Individuals are often forced to develop ad hoc systems to manage processes, with varying degrees of success. This problem is particularly acute in situations where the processes are highly information-intensive and involve multiple data sources. As such, it is often a challenging proposition for an individual to simply manage their own data, let alone derive meaningful search criteria from the data or correlate additional data entries based on their data.

SUMMARY

One situation where users are faced with the problem of managing information intensive processes is searching for a new job. Job search is a particularly difficult process for individuals to manage because it is not done very often, it requires interaction with various different systems, and in order to be successful there is little tolerance for error.

Job applicants typically search numerous job listings from any number of job search web sites, classified ads, and employer web sites. The jobs listings discovered in these searches would most likely each have their own application procedures and feedback processes. The searches will also often result in the applicant encountering many jobs not suited to the applicant as well as the same job listing in multiple locations. To effectively and efficiently conduct their job search, applicants must recognize duplicate job listings, manage the various application processes, and receive and respond to application feedback.

In addition to identifying multiple listings to avoid duplicative submissions, it is also advantageous to know about duplicate listings of a single job because the information provided by the various listing sites might differ. For example, one site listing the job might provide information indicating that the position has been filled before the other sites.

2

After the applicant has collected different relevant job listings, the applicant must evaluate the different jobs to determine which best fit the applicant's interests and abilities as well as identify which are the most desirable. As the number of job listings increases managing this evaluation becomes more and more difficult.

Beyond merely identifying relevant job listings, job applicants usually decide to apply to one or many of the jobs discovered in their search. The job applicant must then fill out applications and/or provide resumes for the chosen jobs and coordinate the filing of those applications with the prospective employers. Once filed, the job applicant must monitor the status of the various applications. This monitoring may include scheduling interviews, responding to requests for additional information, checking the status of the employer's review of the application, and/or managing outstanding job offers. The provided status information may assist the job applicant in making important decisions. For example, knowing the progress of outstanding applications through the employers' review and selection may help the applicant decide whether to accept a pending offer or wait for a pending decision from another employer.

In some embodiments of the present invention, a system and method are provided for process tracking and management. In one embodiment, a job application tracking and management system comprises an application tracking and management core and an application tracking and management extension that interfaces with a host application and is in communication with the application tracking and management core. The application tracking and management extension provides a user interface that enables the user of the host application to select listings to be saved, apply to a desired listing and find listings matching a set of criteria pertaining to the applicant. The application tracking and management core provides a user interface to review saved and applied for listings, check the status of applied for listings, identify other instances of the listing and find jobs matching the interests and abilities of the applicant.

In another embodiment of the invention, a browser plug-in is provided to enable job hunters to easily search, save, evaluate, and apply to job listings. In one implementation, the plug-in interacts with a host application providing access to a plurality of job listings. For a current job listing displayed on the host application, one embodiment of the plug-in may provide a save control that stores information relating to the current job listing and, in a further embodiment, an apply control that initiates a job application process for the current job listing.

In another embodiment, the plug-in may facilitate matching jobs control that initiates a search for jobs matching or similar to the current job listing. In a further embodiment, the show matching jobs control initiates a search for jobs according to an analysis of the plurality of jobs saved and/or applied to by the applicant. In another embodiment, the browser plug-in also allows the applicant's browsing history to be incorporated into the process of identifying appropriate job listings for the applicant.

In another embodiment, feedback is provided for a pending job application comprising receiving an application along with a feedback generating object; accessing the application; automatically activating the feedback generating object in response to the accessing of the application; generating a feedback message via the feedback object; and transmitting the feedback message.

In another embodiment, jobs relevant to an applicant are identified by retrieving information pertaining to the applicant, including but not limited to the applicant's desired

location, income expectations, experience level, educational background, and other attributes and preferences of the applicant. One or more job listing services are searched based on the retrieved information. A plurality of job listings are received from the search and the received job listings are scored based on the retrieved information. Based on their respective scores, one or more job listings are identified for an applicant. In one embodiment, job listings that score over a certain threshold (e.g., 90 out of 100) are identified as being appropriate for an applicant. In some embodiments, information pertaining to the applicant may come from the applicant's resume. In one embodiment, jobs relevant to an applicant are identified by an analysis of the jobs saved and/or applied to by the applicant. In some embodiments, jobs relevant to an applicant are identified by analysis of the applicant's profile, which in one embodiment may include an applicants browsing history.

In another embodiment, a method for obtaining job listing information is provided, comprising obtaining information relating to a job listing in a host application; activating a control to save the contents of the job listing; analyzing the job listing and extracting relevant job information including an employer name, a job location, a job title, an experience requirement, and a job description.

BRIEF DESCRIPTION OF THE FIGURES

FIG. 1A discloses an embodiment of a process tracking and management environment in accordance with the present invention.

FIG. 1B discloses an embodiment of a job application tracking and management environment in accordance with the present invention.

FIG. 2A discloses a flow diagram for a job listing search aspect of one embodiment of the present invention.

FIG. 2B discloses a flow diagram for a further embodiment of the job listing search aspect of the present invention.

FIG. 3A discloses a flow diagram for a cross correlation search aspect of one embodiment of the present invention.

FIG. 3B discloses a flow diagram for the cross correlation search aspect of a particular implementation of the present invention.

FIG. 3C discloses a flow diagram for a further implementation of the correlation search aspect of the present invention.

FIG. 4A discloses an embodiment of a job tracking extension in accordance with the present invention.

FIG. 4B discloses an overview of a scoring process for one embodiment of the disclosed invention.

FIG. 4C discloses a particular implementation of a job tracking extension toolbar.

FIG. 5A discloses a flow diagram for the listing match search of one embodiment of the present invention.

FIG. 5B discloses an overview of an analysis aspect of one embodiment of the disclosed invention.

FIGS. 6A, 6B and 6C disclose logic flow diagrams of the results processing match aspect for some embodiments of the present invention.

FIG. 7A discloses an embodiment of an application history screen in accordance with the present invention.

FIG. 7B discloses a particular implementation of an application history screen.

FIG. 7C discloses a further embodiment of an application history screen in accordance with the present invention.

FIG. 8A discloses an embodiment of a job view screen in accordance with the present invention.

FIG. 8B discloses a particular implementation of a job view screen.

FIG. 8C discloses a further embodiment of a job view screen in accordance with the present invention.

FIG. 9A discloses an embodiment of a company metrics screen in accordance with the present invention.

FIG. 9B discloses a particular implementation of a company metrics screen.

DETAILED DESCRIPTION

FIG. 1A discloses an embodiment of a process tracking and management environment aspect of the disclosed invention. The Process Tracking And Management Environment 15 enables the applicant to initiate, manage, and monitor processes of interest to the applicant. The main user interface for the Process Tracking And Management Environment is the Process Tracking And Management Viewer 10. The Process Tracking And Management Viewer can be implemented using a variety of software development techniques known in the art. For example, the Process Tracking And Management Viewer can be a stand-alone application, web-based application, or integrated into another piece of software.

The Process Tracking And Management Viewer allows the applicant to access the functions of the Process Tracking And Management Environment, such as integrating input data 20 or conducting process tracking. The Process Tracking And Management Viewer may connect to a network 40 to receive information concerning the processes being tracked, such as a status update for a particular process.

The Process Tracking And Management Viewer also interacts with the Process Tracking And Management Plug-In 50. The Process Tracking And Management Plug-In 35 provides a mechanism for information to be transferred to and from the Process Tracking And Management Viewer. For example, a monitored process might be generated through the use of another application (i.e., a host application) with which the Process Tracking And Management Plug-In is integrated in order to provide added functionality. In this way, when a new process is started in the host application the Process Tracking And Management Plug-In provides a user interface and communications infrastructure to communicate the relevant information about the new process to the Process Tracking And Management Plug-In. The Process Tracking And Management Plug-In can similarly make relevant information from the Process Tracking And Management Viewer, such as the input data, accessible to the host program.

FIG. 1B depicts an embodiment of the disclosed system specifically used to implement a Job Application Tracking And Management Environment. The Job Application Tracking And Management Environment comprises a Job Tracking And Management Core 110 and a Job Listing Tracking Extension 150. The Job Tracking And Management Core serves as the primary user interface and coordination point for the applicant's use of the Job Application Tracking And Management Environment. The Job Application Tracking And Management Environment can be implemented as a stand-alone application or a web based application. The Job Application Tracking And Management Environment could be implemented using a variety of software development techniques as required by the hardware platform it runs upon, such as, for example, a personal digital assistant, phone, set top box, etc.

An applicant would typically have a unique instance of the Job Application Tracking And Management Environ-

ment for his or her use. Typically this might be accomplished by having one local version of the Job Application Tracking And Management Environment on the applicant's personal computer. Applicants might alternately be provided a unique instance of the Job Application Tracking And Management Environment through the use of user accounts with user-names and passwords. The applicant's unique instance of the Job Application Tracking And Management Environment stores relevant personal information about the applicant and his or her job search. In particular, the Job Tracking And Management Core 110, for example, might take as input the applicant's resume and/or cover letter 120. The resume and cover letter can then be made available to aid in filing job applications for the applicant and/or in finding job listings suitable to the interests and abilities of the applicant. The Job Tracking And Management Core would most likely keep a copy of the applicant's resume and cover letter or a symbolic link to its location. In a web application embodiment the resume and cover letter could be up-loaded to the web application's host server.

Once accessed by the Job Tracking And Management Core, the resume and cover letter information can be parsed by the Job Tracking And Management Core to extract relevant information about the applicant, such as, the applicant's name, address, phone number, email address, educational background, title, work history, etc. This parsed information might be presented to the applicant for confirmation and then used by the Job Tracking And Management Core to create a profile associated with the applicant. In a further embodiment, the applicant could be prompted to provide additional information to expand the profile created by the Job Tracking And Management Core. Alternately, elements of the applicant's profile could be entered by hand or imported from some other source. In some embodiments, key terms associated with the applicant may be extracted from a resume during the creation/upload process. The key terms may be used for as search terms in a job matching application that will be described in greater detail below.

In the job application process, information about job listings is likely to be derived from multiple sources, e.g., various job listing services and various employer listings. Typically, these job listings will come to the attention of the applicant through searches on the World Wide Web, or a similar information-gathering environment. The Job Listing Tracking Extension can be embodied by a web browser plug-in, for example, with the web browser acting as the host application for the Job Listing Tracking Extension. Alternately, it could be a separate utility, a network, e.g. web, interface, or an integrated function of the host application.

In the embodiment of FIG. 1B, the Job Listing Tracking Extension 150 integrates with the applicant's browser 160 to provide a mechanism to transfer information to and from the Job Application Tracking And Management Environment and the browser. In order to allow the Job Application Tracking And Management Environment to record and transfer information when the Job Tracking And Management Core 110 is not actively running, a background process 111 may be provided to provide the Job Listing Tracking Extension 150 a connection interface. The background process could be embodied, for example, as a daemon or windows background process. In the alternative, the information used by the system can be stored on a network accessible data storage device that is accessible by both the Job Listing Tracking Extension and the Job Tracking And Management Core. The Job Listing Tracking Extension 150 integrates with its host application browser 160, which connects to the internet 140. One implementation of the Job

Listing Tracking Extension 150 may be a web browser toolbar, while an alternative extension embodiment might incorporate menu commands for implementing Job Listing Tracking Extension functions to the host application browser.

FIG. 2A discloses a flow diagram for a job listing search aspect of one embodiment of the present invention. The method disclosed, which in some embodiments is implemented on a processor and executed by the Job Listing Tracking Extension 150 and/or the Job Tracking And Management Core 110, allows for receiving input 205 relevant to a job listing search such as, by way of non-limiting example, location, skill(s) and/or education, experience level and compensation. In some embodiments, the input 205 may come directly from an applicant, such as an applicant's entered job parameters, an applicant's response to job related queries, and/or a submitted resume. In another embodiment, the input 205 could include information not specific to a particular applicant, such as a job description or listing.

Relevant data is extracted 215 from the received input, for example, if the input were a resume, the extraction could include parsing and analyzing the resume to distill the key data relevant to the job listing search. The relevant data is used to build a search profile 225 that may then be utilized, either in whole or in part, in generating and conducting a job listing search or searches 235. The results of the search or searches are processed 245, which in some embodiments may include a further analysis and/or refinement of the search results, and from the processing, relevant results (i.e., a plurality of job listings corresponding to the input 205) are identified 255.

In a further embodiment, shown in FIG. 2B, the above method may be iteratively refined. As in the previous figure, an initial search profile 225 is utilized in conducting job listing searches 235, the results of the searches are processed 245, and relevant job listings are identified 255. The identified job listings are then presented to an applicant who may evaluate 265 the job listings based on any number of user-rating metrics. For example, the user may rate the job listings according to how well suited the listings are to the applicant's employment interests, the listings meet the applicant's qualifications or desired income goals. The applicant's feedback and/or evaluation 265 may then be used to refine the search profile 275, which may be used in place or in addition to the initial search profile 225 in conducting subsequent searches of job listings 235. The above method may be iterated multiple times to further refine the job listings identification of job listings relevant to an applicant.

FIG. 3A discloses a flow diagram for data entry correlation according to an embodiment of the disclosed invention. The method disclosed allows for receiving and processing applicant designated base data entries and correlating the base data entries with supplementary data entries, as well as generating and outputting a data entry correlation report. In some embodiments, the cross correlation process 310 is implemented on a processor by the Job Listing Tracking Extension 150 and/or the Job Tracking And Management Core 110. The data entry correlation report may be utilized in searching and identifying supplemental data entries (e.g., job listings) matching an applicant. An applicant designated base data entry is received and processed 320 to determine base data entry metrics 330. User correlation parameters are retrieved 340 that match the base data entry metrics 330, wherein matching user correlation parameters correspond to the base data entry metrics 330. From the retrieved user correlation parameters 340, a data entry correlation report is

generated 350. Some embodiments of the disclosed invention may output the data entry correlation report 360, and in a further embodiment, the data entry correlation report may be associated with the applicant's profile. In some embodiments, user correlation parameters may be retrieved from internal and/or external data bases.

In some embodiments, the base data entry and/or user correlation parameters may be direct input, such as an applicant's response(s) to one or more brief and/or in-depth surveys as discussed in FIG. 3B. Survey methodologies may include multiple choice, short answer, rating, ranking, free response and/or the like. In one embodiment, the surveys are directly related to job finding. In a further embodiment, the surveys include additional matter (e.g., personality tests) that, after being analyzed, may be useful in finding job listings that are especially well matched to an applicant.

In one embodiment, the relevant user correlation parameters may include an applicant's historical information. In some embodiments, the historical information may include an applicant's search for job listings, viewing of job listings, responses to job listings, aspects of the applicant's profile, application submission to job listings, and/or saved job listings. In another embodiment, the historical information includes the applicant's web site viewing and/or web search history.

In one implementation, shown in FIG. 3B, the applicant designated base data entry or entries may include an applicant's resume 321, cover letter 322, survey response(s) 323 and/or profile 324. The base data entry or entries are received and processed to extract base data entry metrics 330. User correlation parameters including the applicant's job search history 341 and/or internet/web browsing history 342 are retrieved and correlated with the base data entry metrics 330 and a data entry correlation report is generated 350. In a further embodiment, the Job Listing Tracking Extension and/or the Job Tracking And Management Core utilizes a data entry correlation rating module for an applicant to refine and target searches for job listings matching the applicant.

For example, in one embodiment, the analysis of a particular applicant's base data entry (in this case the applicant's resume) may yield base data entry correlation metrics that correspond to skills, education, work history and other details relevant to software engineering. User correlation metrics corresponding to the applicant (in this case the job search terms used by the applicant on a job listing site, such as job locations searched) are retrieved and correlated to the base data entry metrics and a data entry correlation report is generated. In this case, the metrics may indicate that the applicant has a certain level of experience in software engineering and has previously worked in the southwest (from analysis of the base data entry), but has been searching for jobs in the northwest (from the user correlation parameters). This data entry correlation report may then be utilized to better target and serve the applicant's interest by, for example, providing matching software engineering jobs in the northwest.

In another embodiment, the base data entry may be selected by the applicant, but is not necessarily applicant specific, including but not limited to a job listing. For example, if a job listing is the base data entry, the job listing would be processed to extract the relevant base data entry metrics. In some embodiments, the correlation metrics may include the metrics mentioned above, and may be extracted from the base data entries previously listed (e.g., resumes, cover letters, survey responses, profiles). In one embodiment, the data entry correlation report may be useful in

finding job listings similar to the job listing used as the base data entry that are especially well suited to an applicant.

For example, for the case where a job listing is the base data entry, the correlation metrics may be based on the applicant's web or internet browsing history. If the job listing selected is for a general software engineer with C/C++ programming experience, and the applicant's browsing history shows indicates an interest in video game development as well as a particular geographic region, the data entry correlation report would reflect the potential correlation. The data entry correlation metrics could then be used in finding and/or evaluating job listings for the applicant, i.e., a job listing for a video game programmer requiring C++ programming abilities in applicant's geographic region of interest would be identified as being a good match for the applicant.

FIG. 3C illustrates one embodiment of the disclosed invention in which the cross correlation process 310 is incorporated in the listing search method. As detailed in the above discussions of FIGS. 2A and 2B, the listing search method may receive input 205 relevant to searching job listings and extract relevant data 215 from the received input. The extracted data may then be used as the applicant designated base data entry in the cross correlation process 310 and the resulting data entry correlation report 350 is utilized in constructing the search profiles 225 used to conduct job listing searches 235. As before, the results of the searches are processed 245, relevant job listings are identified 255, and the identified job listings are presented to the applicant for evaluation 265. In some embodiments the applicant's evaluation 265 may be incorporated into the cross correlation process 310 to refine the correlation of the base data entry metrics with the supplemental data entries and in a further embodiment, the process is iterated to progressively enhance cross correlation and the job listing search.

One implementation of the Job Listing Tracking Extension 150 may be a web browser toolbar. An implementation of a Job Listing Tracking Extension toolbar 400 is shown in FIG. 4A. In operation, the Job Listing Tracking Extension toolbar of FIG. 4A provides user accessible controls to implement job application tracking functions and retrieve information from the Job Application Tracking And Management Environment. For example, if the applicant encounters a web page containing a job listing that the applicant is interested in, the Save Job control 415 can be activated. Activating the Save Job control will cause the Job Listing Tracking Extension to transfer information about the job listing to the Job Tracking And Management Core where it is stored or to a shared data repository accessible by the Job Tracking And Management Core. In particular, the Job Tracking And Management Core might save the URL of the web page containing the job listing. In the alternative, or in addition, information about the job might be extracted from the web page and saved in a database accessible by Job Tracking And Management Core and the Job Tracking extension.

The Job Listing Tracking Extension can also retrieve information from the Job Tracking And Management Core for use in its host program (e.g., a web browser). For example, if the applicant discovers a listing for a job of interest while browsing, he or she can use the Apply To Job control 425, to initiate the application process. The Apply To Job control can display a menu with a number of different options for application purposes. For example, if the on-line job application has an on-line web form, selecting the Apply To Job option can use information from the Job Tracking

And Management Core to auto-populate the web form. If the job listing provides an email address for application submissions, the Choose Resume And Apply option can open the applicant's email client and format an email with the applicant's cover letter content in the body of the email and the applicant's resume attached to the email. In the alternative, the Apply To Job control might generate a cover letter document for transmission to the prospective employer. The Apply To Job control can also be configured to provide a one-click apply feature. For example, if the applicant has provided sufficient information to the system and the currently viewed job listing is in a known format. The process could be configured to effectuate application with only one user action, such as clicking on an automatic apply button.

In some embodiments of the disclosed invention, the Job Listing Tracking Extension may also submit information to the Job Tracking And Management Core from its host program. For example, if the applicant is browsing a web site, particularly a web site listing jobs, the Job Listing Tracking Extension can communicate this information to the Job Tracking And Management Core, which may store the information and in a further embodiment, use it to modify the applicant's profile. For example, if an applicant frequently goes to a particular company's job site, that information could be sent from the Job Listing Tracking Extension to the Job Tracking And Management Core, which could indicate the applicant's interest in employment at the particular company.

The FIG. 4A embodiment of the Job Listing Tracking Extension also includes a Match control 435 that provides job listing search assistance actions. For example, in one embodiment, if the applicant discovers a job listing of interest, the Show Jobs Matching Current 436 option can be activated. In a further embodiment, the Show Jobs Matching Current may be provided to the user as a one-click function. In one embodiment, the Job Listing Tracking Extension will then activate processes to analyze the current page and extract relevant job description terms. The Job Listing Tracking Extension uses the extracted terms to initiate a search for similar jobs, the results of which are provided to the applicant, for example, jobs from the same employer, same area, same job description, or a combination of these. In a further embodiment, the identification of similar jobs can be enhanced if express categorization information is provided on the current page in a way that is easily manipulated by the Job Listing Tracking Extension. One such mechanism would be to format the data using an XML markup and associated schema that provides tags identifying the relevant information.

Another option provided by the Match control 435 in some embodiments of the disclosed invention is Show Jobs Matching Saved 437 option, which allows the applicant to find jobs similar to jobs previously saved using the Save Job control 415. The Job Listing Tracking Extension will then activate processes to analyze the plurality of saved jobs and extract the common and relevant job description terms. The Job Listing Tracking Extension uses the extracted terms to initiate a search for similar jobs, the results of which are provided to the applicant, by way of non-limiting example, jobs from the same area, jobs with the same skills and/or educational requirements, same job description, or a combination of these.

In another embodiment the Match control 435 provides an option to Score This Job 438, which in some embodiments may be provided as a one-click function. In one embodiment, shown in FIG. 4B, when an applicant selects the Score This Job option, the Job Listing Tracking Extension and/or

Job Tracking And Management Core receive(s) the score request 410, parses and extracts the job listing data on the current page 420 and retrieves analysis criteria from the applicant's profile 430. The Job Listing Tracking Extension and/or Job Tracking And Management Core analyzes and compares 440 the extracted job listing data to the criteria from the applicant's profile. For example, in the case of an online job listing, contents of the web page (e.g., HTML page) are parsed and the parsed contents of the job listing are compared to criteria from the applicant's profile and/or resume. The correspondence between the job listing and the applicant's profile can then be used to generate a score 450 (a number or other indicia) of the job's relative merits. For example, in one embodiment, if the job listing and the applicant's profile have matching data elements such as skills, education, location, experience and the like, such correspondence would be reflected in the score.

In one embodiment, the results of selecting Score This Job 438 option can be provided to the applicant via the Job Listing Tracking Extension toolbar 400, as a number or some other relative indicia of the job's suitability for the applicant (e.g., the job listing is an 86% match for the applicant). The applicant can score other job listings and use the resulting indicia to compare different jobs and/or further refine the applicant's profile. In some embodiments, the Job Tracking And Management Core may further enhance the process of creating the score by receiving, storing and analyzing the applicant's goals, criteria, and preferences. Some embodiments of the invention enhance the scoring process by analyzing aspects of an applicant's browsing or surfing history, such as job listings viewed as well as companies sites, news sites and retailer sites visited. In one embodiment, a data entry correlation report related to an applicant may be utilized in the scoring process.

This information could then be provided to the Job Listing Tracking Extension and taken into account when performing the job scoring routine. In one embodiment, the scoring process is iterative and may be refined by receiving additional information and/or feedback from the applicant. For example, based on the applicant's interests, the applicant may raise or lower the provided score of a particular job, and this adjustment may then be incorporated when performing the job scoring routine. In terms of implementation, the actual job scoring processes could reside in the Job Tracking And Management Core with the Job Listing Tracking Extension passing the Job Tracking And Management Core the relevant data and the Job Tracking And Management Core providing the score back to the Job Listing Tracking Extension and/or storing for later reference by the applicant. The function could also be implemented on a remote server that processes the job scoring request.

Another option provided by the Match control 435 is Show Jobs Matching Me 439, shown in FIG. 4A. Like the Score This Job option, the Show Jobs Matching Me option uses information about the applicant indeed much of the information used may be identical. However, rather than using the applicant's information to score a pre-determined job listing, the applicant's information is used to find job listings. In other words, this option finds high scoring jobs, and in one embodiment, jobs scoring over a certain threshold (e.g., jobs scoring 90 or more out of 100). The applicant's information is used to create a search query or series of search queries that will locate job listings relevant to the applicant. In one embodiment, the Show Jobs Matching Me option is provided to the user as a one-click function. The Show Jobs Matching Me 439 option can cause searches to be performed upon multiple different job listing databases

and/or via a general internet search. The search function can be implemented by either the Job Listing Tracking Extension or the Job Tracking And Management Core.

The FIG. 4A embodiment of the Job Listing Tracking Extension also includes a Rate Job control 445 that facilitates user feedback and response actions. For example, if an applicant discovers a job listing of interest, the Rate Job control 445 option can be activated allowing the applicant to submit feedback in the form of some relative indicia, such as a "star" rating, indicating the applicant's interest in the listing and/or particular aspects of the listing. The applicant can rate multiple job listings and use the resulting indicia to compare different jobs and in a further embodiment, the Job Tracking And Management Core may receive, store and analyze the applicant's ratings of job listings to further refine the applicant's profile. In one embodiment, the job listing ratings provided by an applicant may be incorporated in the generation of an associated data entry correlation report.

FIG. 4C shows a particular implementation of a Job Tracking And Management Extension as a web browser toolbar 400. This implementation includes a key word search jobs interface 405, a save jobs interface 415, an apply to job interface 425 and a match job interface 435. As shown in the figure, the save job interface 415 provides a drop down list of previously saved jobs. Also, the apply to job interface 425 allows the applicant to choose a resume and apply to a job. The resumes that the applicant chooses could be stored locally on the applicant's machine or could be stored on a network server. The create apply to job interface also includes a create resume and create cover letter options, which allow the applicant to create resumes and cover letters tailored to the job for which they are applying. The match user interface 435 allows the applicant to perform a search for jobs matching the applicant, score the job currently being viewed and search jobs similar to the current job.

In another embodiment of the disclosed invention, the Job Listing Tracking Extension and/or the Job Tracking And Management Core may continue to search for matching job listings and notify an applicant if a job listing is found that is especially well matched to the applicant (e.g., the job listing represents the applicant's ideal job). Similarly, an applicant may be notified if a particular listing has an especially high score according to the applicant's profile. In some embodiments the system keeps searching for matching job listings for the applicant even if the applicant has stopped actively looking for a job. In one embodiment, the notification may be provided to an applicant regardless of whether or not the applicant is currently searching for a job. For example, take an applicant who had previously searched for jobs but was unable to find a job listing that was a perfect match. The system could continue searching for matching listings, and if at some future time the system found a job listing that was especially well-suited to the applicant and/or the applicant's profile, the system would notify the applicant that a good match had been found.

FIGS. 5A-5B provide flow diagrams representing overviews of methods for dynamically providing matched job listings to an applicant in one embodiment of the disclosed invention. In some embodiments, the methods disclosed may be implemented on a processor by the Job Listing Tracking Extension 150 and/or the Job Tracking And Management Core 110, and in further embodiments may utilize the Job Listing Tracking Extension toolbar 400 as disclosed in the above discussion of FIG. 4A. In one embodiment, shown in FIG. 5A, via the described method an applicant may browse job listings 500 and view 505, save 515, rate 545 and/or submit an application 525 to job listing. When an

applicant views a job listing 505, the listing, key terms from the listing, and the amount of time it was viewed by the applicant are retained. In a further embodiment, when saving 515, rating 545 and/or submitting an application 525 to job listing, the applicant may utilize the Save Job control 415, Rate Job control 435, and Apply To Job control 425 respectively, as disclosed in FIG. 4A.

Each user initiated action yields a respective action group of listings from which relevant data may be extracted 510. The extracted data from individual listings may be compared with extracted data from other listings in each group and/or, across groups, to identify key common/distinguishing job listing characteristics 520. In a further embodiment, comparisons within and across sub-groupings, such as rated job listings sub-grouped according to ratings or viewed job listings sub-grouped according to view times, may be utilized in identifying key characteristics. The key characteristics identified may then be used to build a search profile 530 from which job listings searches are conducted 540. The job listings resulting from the searches 550 may then be presented to the applicant for browsing 500, and in a further embodiment, the process repeated to provide the applicant with progressively more relevant job listings. In a further embodiment, the method disclosed is used to dynamically update the job listings browsed by an applicant.

FIG. 5B provides an overview of the group comparison process for one embodiment of the invention. Rated job listings 545 for an applicant may have the relevant data extracted 510, wherein the extracted data is associated with the respective individual job listing. The rated job listings and associated data are grouped according to applicant designated rating 511: Group 5 for job listing the applicant has given a 5 star rating, Group 4 for job listings the applicant has given a 4 star rating, and Group 3 for job listings the applicant has given a 3 star rating. The extracted data from individual listings is then analyzed within each group 512 and/or between groups 513 in order to identify key characteristics 520, which may be used to build a search profile. Other embodiments of the disclosed invention may use the same or similar method in processing groups and/or subgroups of job listings.

FIGS. 6A, 6B and 6C illustrate flow diagrams for the match screening aspect of the matching process associated with some embodiments of the invention. Certain embodiments of the disclosed invention may use these or similar processes in scoring jobs for an applicant. The input for the match screening process is a Match request 660 for a plurality of job listings. The Match criteria 661 for the job search may come from a number of sources including but not limited to the following: analysis of the applicant's profile, applicant's resume 120, a particular job listing selected by the applicant, a data entry correlation report, analysis of the plurality of job listings saved by the applicant, job listings applied to by the applicant, analysis of the applicants browsing history, applicant feedback and/or the like.

Next an iterative match screening of job listings is performed. The queries discussed can be performed through a variety of methods. In some embodiments, the iterative match screening begins with a primary criteria matching 662 of the job listings to obtain a first pool of potential matches for the applicant. The primary criteria match screening 662 uses match criteria that are essential to finding an appropriate match for the applicant, such as skills and/or qualifications required. In some embodiments, required skills and qualifications are fundamental criteria and provide a solution

for narrowing down the list of jobs (i.e., the job at least requires skills and qualifications similar to the applicant's skills and qualifications).

In one embodiment, aspects of a data entry correlation report related to an applicant may be included in the primary criteria and/or used in selecting primary criteria. In one embodiment, the applicant may also be allowed to indicate required criteria. For example, if an applicant is interested in finding a job with a particular schedule, salary and/or location, the applicant might designate one of these parameters as required criteria. Any such identified required criteria would be added to the primary criteria matching 662.

The results of the primary criteria matching 662 are passed to a decision block 663 where a check is made to determine if any matching job listings were identified. If no job listings meeting the primary criteria were found, a "no matches found" error 664 is generated and communicated. The criteria may then be adjusted 671 to update the primary match criteria 661 for the screen or start a new Match request 660, and in a further embodiment, update the search criteria. In a further embodiment, the match screen and/or search criteria may be saved and the search be re-run at a later date when the job listings information may have been supplemented or modified. If the matching job listings are only a small number of entries (i.e., the number of entries is < k, where k may be set by the applicant, the system, etc.), the information for those job listings is output 665 to the applicant. If the matching job listings has many entries (number of entries > k), the process continues on to the secondary criteria match screening.

A screen of the remaining job listings is performed to determine which job listings meet one or more of the secondary criteria 666. The results of this match screen are passed to a decision block 667. If none of the jobs meet any of the secondary criteria, the job listings meeting the primary criteria may be reported to the applicant 668. If only a small number of job listings meet any of the secondary criteria, the information for those job listings is output 669 to the applicant. If many job listings meet one or more of the secondary criteria further refinement of the screen can be performed as follows.

In one embodiment, all job listings meeting at least a specified number of secondary criteria can then be presented to the applicant for review 670. This approach works particularly well when the secondary criteria are not ordered in terms of importance. In other words, if there are a number of secondary criteria without an indication that some of those criteria are more preferred than others, it might be best to give the applicant the information for all the job listings that meet their primary criteria plus the specified number of their secondary criteria.

The applicant can then review the job listings to see how each meet their secondary criteria and choose whichever they feel is the best match. In one embodiment, the applicant may rate some or all of the provided job listings and/or select job listings that the applicant feels are a good match and in a further embodiment, the rated and/or selected job listings may be used to refine or adjust criteria 671 and update the match criteria 661 used to select job listings for the applicant. For example, if the applicant gives a low rating for a particular employer or type of job, the criteria would be modified to screen against the particular employer or job type. In one embodiment, an applicant's screen criteria and/or modified screen criteria may be reflected in subsequent data entry correlation reports for an applicant.

The approach described above could be refined, as shown in FIG. 6B, by iterating over the job listings meeting one or

more criteria to find the jobs meeting the most categories of secondary criteria. This approach begins with the list of jobs meeting one or more of the applicant's secondary criteria 680. To determine if any of the jobs meet more than one criteria the value n, starting at one, is incremented by adding one to itself 681. The list of jobs 680 is screened for jobs that meet n criteria 682 (i.e., two) during the first iteration of the process. The number of jobs remaining after this matching is checked 683. If no job listings remain, the list of jobs meeting n-1 criteria is output 684. If only a small number of job listings remain, those jobs' information is output 685. If more than a small number of job listings remain, a determination is made to decide whether there are still more secondary applicant criteria to check 686. If there are not, the list of jobs meeting n criteria is output 687. If there are secondary criteria remaining, the process increments n again 681 and the filtering process continues.

The process as described above will result in job listings that meet the highest number of the applicant's criteria. In other words, if twenty jobs meet any five of the applicant's criteria, but none of the jobs meet six of the criteria, this match process will identify those twenty job listings. This procedure, however, does not value any of the secondary criteria more than the rest. Accordingly, if some of the applicant's secondary criteria are more important than others a different process might be advisable.

FIG. 6C discloses a flow diagram for matching job listings such that they are identified according to the importance of the secondary criteria. This flow requires the secondary criteria to be ordered as to their importance, with the most important criteria listed first, the second most important second and so on. This ordering can either be identified by the applicant, the Job Listing Tracking Extension 150, the Job Tracking And Management Core 110, be inherently programmed into the system, generated using other aspects of the disclosed invention, etc. For example, if the criteria for the search were generated by analysis of the job listings saved by the applicant using the save jobs interface 415, the criteria could be ordered according to the which criteria was most common to the saved job listings (e.g., if all the jobs require a particular skill, that skill would be the first listed criteria; if most of the jobs were in a certain location, that would be a subsequently listed criteria). In another embodiment, the criteria for the search for a particular applicant may be identified and/or ordered according to a data entry correlation report corresponding to the particular applicant.

The process begins with job listings meeting one or more of the secondary criteria 690. These are screened for job listings matching the (n)th most important secondary criteria 691, i.e., the first most important criteria in the first iteration of the process, etc. The results derived from the match screen are checked to determine the number of matching job listings 692. If only a small number of job listings remain after the matching, those job listings are output 693. If no job listings remain after the matching, a determination is made to discover whether there are other criteria to check 694. If not, the job listings found after the screen for matches for the (n-1)th criteria are output 695. If other criteria remain to be screened, the value of n is incremented 696. The job listings remaining after the previous matching are now screened again at 691 to determine if any of those job listings match the new (n)th criteria and the iterative process continues. If multiple job listings are found to meet the (n)th criteria at decision 692, a determination 697 is made to find whether there are any criteria remaining to be screened. If no criteria remain, the job listings meeting the (n)th criteria are output 698. If other criteria remain to be screened, the value of n is

incremented 699. The job listings remaining after the previous matching are now screened again at 691 to determine if any of those job listings match the new (n)th criteria and the iterative process continues.

Alternatively, the matching systems disclosed in FIGS. 6A, 6B and 6C could be combined. For example, a hybrid approach might use the 6B approach to narrow the field of job listings to job listings meeting at least three secondary criteria and then use the 6C approach to test for secondary criteria in a preferred order. In another embodiment, primary criteria are reused as secondary criteria. For example, it might be advisable to use skills and/or responsibilities required as primary criteria to exclude job listings outside the applicant's interest area. Then after narrowing down job listings based upon a number of secondary criteria it might be beneficial to reuse the skills and/or responsibilities required to find the job listings best suited to the applicant.

In addition to screening for matching job listings, in some embodiments of the disclosed invention the above methods may be similarly utilized in scoring job listings for an applicant. For example, the more criteria a job listing met, the higher the relative score of the job listing would be. As discussed above, the scoring could similarly incorporate different priority levels and/or weights for different criteria in calculating a job listing's score. Also, some level of iterative screening may be implemented as part of the search process.

Job listings saved and/or applied for by the applicant using the Job Listing Tracking Extension are recorded by the Job Tracking And Management Core. The Job Tracking And Management Core allows the applicant to access this information. For example, the Job Tracking And Management Core can provide a history screen listing the applicant's saved and applied for jobs, along with relevant information about each saved job. For example, the embodiment of FIG. 7A lists job title 701, company 702, location 703, the date the job was applied for 704, the number of correspondence between the applicant and the employer 705, the status of the application 706, and the job's score 707. The date applied for field shows the date applications were provided to the employer note that listings without dates indicate saved job listings that have not yet been applied for. The correspondence field of the history report can act as a control that when activated displays the history of correspondence between the applicant and the employer. The job application history screen might also provide a mechanism for highlighting applications in which some activity has occurred.

In one embodiment, the applicant may rate the stored jobs according to their preferences, as shown in FIG. 7C. In one embodiment, the job ratings may be incorporated into the applicant's profile and/or utilized when matching and/or scoring additional jobs. In a further embodiment, the applicant may rate individual aspects of a stored job, such as the job title 701, company 702, and/or location 703. In some embodiments, the ratings of the individual aspects may be associated with or incorporated into the applicant's profile and utilized when matching and/or scoring additional jobs.

The Job Tracking And Management Core can also provide a Job View screen that provides detailed information about the applicant's saved jobs. This screen could, for example, be accessed by selecting a job from the history screen. One embodiment of a Job View screen is shown in FIG. 8A. The Job View screen provides details about a particular job. The job title 801 and detailed description of the job 802 can be provided, as well as, the company 803, location 804, job type 805 (full-time, part-time, freelance, etc.), job category 806, work experience required 807, and education level

required 808. The Job View screen might also display meta-data about the job listing 809, such as, how many times the same job has been posted in the last year or how many days the job listing has been active. The Job View screen may also include a note entry area 810 for use by the applicant and controls to allow the applicant to access data about the employer and find other similar jobs.

As it is advantageous for the applicant to know whether the same job is listed elsewhere, the Job View screen can 10 also include controls identifying other web sites containing the same job listing 811, which also allow the applicant to view the job listing as it appears on that site. This could be accomplished by integrating a browser window showing the job listing as it appears on the various listing sites or by 15 retrieving and reformatting the information from the various listing sites. The Job Tracking And Management Core can independently search out these duplicate listings or they can be identified through the applicant's search process, such the Job Tracking And Management Core recognizes when to 20 retrieved jobs are in fact identical.

FIG. 8B shows a particular implementation of a Job View screen. This particular Job View screen is implemented as part of a Job Tracking And Management Core embodied as stand-alone application. As can be seen, other potential 25 features of the toolbar are shown in the Figure.

Additionally, as with the job history screen, in some embodiments the Job View Screen may also allow the applicant to rate aspects of the job displayed on the Job View Screen, as shown in FIG. 8C. Aspects of the job listing such 30 as the detailed description of the job 802, the company 803, location 804, qualifications (including work experience 807 and education 808), starting salary 812 and benefits 813. In a further embodiment, certain sub-categories of the provided information, such as certain aspects of the detailed description 35 of the job 802 may also be rated. For example, if a job description includes a list of technical skills desired, an applicant might give one desired technical skill a high rating (indicating that it is a skill the applicant is interested and/or proficient in), but give another desired technical skill desired 40 a low rating (indicating the applicant is not interested in performing and/or lacks proficiency in that skill). The ratings may be associated with and/or incorporated into the applicant's profile and utilized when matching and/or scoring additional jobs.

45 The Job Tracking And Management Core 110 can also provide a Company Metrics screen such as is shown in FIG. 9A. The Company Metrics screen will allow the applicant to research employers and, in a further embodiment, allow the applicant to rate employers. The Company Metrics screen can include the company name 901, the number of jobs posted by the employer in the last year 902, the average 50 amount of time the employer's job listings stay open 903, other applicant's reviews of the employer and its hiring process 904, the top jobs posted by the employer 905, the 55 most common locations of jobs posted by the employer 906, links to information about the employer's industry 907, and seasonal hiring patterns for the employer 908. Like the Job View the Company Metrics screen might also include an area for entering and saving notes made by the applicant 909. In some embodiments, the Company Metrics screen 60 may also allow the applicant to rate each company as well as particular aspects of the company. The applicant's ratings may be stored and/or incorporated into the applicant's profile, and may further be utilized when matching and/or scoring additional jobs.

FIG. 9B shows a particular implementation of a company metrics screen. A system user may access the company

metrics module of the system in order to conduct research on a company of interest. The module may be populated with additional corporate information supplied by the company, extracted from corporate documents and/or provided by other system users. This particular company metrics screen is implemented as part of a Job Tracking And Management Core embodied as stand-alone application. As can be seen, other potential features of the toolbar are shown in the Figure.

The entirety of this disclosure (including the Cover Page, Title, Headings, Field, Background, Summary, Brief Description of the Drawings, Detailed Description, Claims, Abstract, Figures, and otherwise) shows by way of illustration various embodiments in which the claimed inventions may be practiced. The advantages and features of the disclosure are of a representative sample of embodiments only, and are not exhaustive and/or exclusive. They are presented only to assist in understanding and teach the claimed principles. It should be understood that they are not representative of all claimed inventions. As such, certain aspects of the disclosure have not been discussed herein. That alternate embodiments may not have been presented for a specific portion of the invention or that further undescribed alternate embodiments may be available for a portion is not to be considered a disclaimer of those alternate embodiments. It will be appreciated that many of those undescribed embodiments incorporate the same principles of the invention and others are equivalent. Thus, it is to be understood that other embodiments may be utilized and functional, logical, organizational, structural and/or topological modifications may be made without departing from the scope and/or spirit of the disclosure. As such, all examples and/or embodiments are deemed to be non-limiting throughout this disclosure. Also, no inference should be drawn regarding those embodiments discussed herein relative to those not discussed herein other than it is as such for purposes of reducing space and repetition. For instance, it is to be understood that the logical and/or topological structure of any combination of any program modules (a module collection), other components and/or any present feature sets as described in the figures and/or throughout are not limited to a fixed operating order and/or arrangement, but rather, any disclosed order is exemplary and all equivalents, regardless of order, are contemplated by the disclosure. Furthermore, it is to be understood that such features are not limited to serial execution, but rather, any number of threads, processes, services, servers, and/or the like that may execute asynchronously, concurrently, in parallel, simultaneously, synchronously, and/or the like are contemplated by the disclosure. As such, some of these features may be mutually contradictory, in that they cannot be simultaneously present in a single embodiment. Similarly, some features are applicable to one aspect of the invention, and inapplicable to others. In addition, the disclosure includes other inventions not presently claimed. Applicant reserves all rights in those presently unclaimed inventions including the right to claim such inventions, file additional applications, continuations, continuations in part, divisions, and/or the like thereof. As such, it should be understood that advantages, embodiments, examples, functional, features, logical, organizational, structural, topological, and/or other aspects of the disclosure are not to be considered limitations on the disclosure as defined by the claims or limitations on equivalents to the claims.

The invention claimed is:

1. A processor-implemented method for providing application submission tracking to a job seeker, comprising:

generating by a processor a job seeker application submission package, wherein the job seeker application submission package is associated with a historical applicant job search tracking record for a job seeker; populating by a processor the job seeker application submission package with applicant specific application data for a job seeker; incorporating by a processor a job provider submission status tracking software component into the job seeker application submission package; providing by a processor the job seeker application submission package to a job provider, wherein a job provider accessing the job seeker application submission package automatically activates the job provider submission status tracking software component and wherein the job provider submission status tracking software component records tracking data that follows the progress of a job application through an employer's review and selection process; receiving by a processor a trigger to obtain job seeker application submission package status data; obtaining by a processor job seeker application submission package status data from the activated job provider submission status tracking software component for the job seeker application submission package; correlating by a processor at least one of characteristics data of the action of the job provider and the obtained status data with the historical applicant job search tracking record; processing by a processor at least one of the characteristics data of the action of the job provider and the obtained status data to determine the status of the submitted application package; and providing by a processor the status of the submitted application package to the job seeker.

2. The method of claim 1 wherein the job provider is an employer.
 3. The method of claim 1 wherein the job provider is a recruiter.
 4. The method of claim 1, wherein the action of the job provider comprises at least one of accessing, receiving, viewing, forwarding, saving, and deleting the provided application submission package.

5. The method of claim 1 wherein the progress of a job application through an employer's review and selection process includes data in the following categories: submission received, submission opened, submission under HR review, interview status and offer status.

6. A processor-implemented method for application submission tracking, comprising:
 generating by a processor a job seeker application submission package, wherein the job seeker application submission package is associated with a historical applicant job search tracking record for a job seeker configured to record action characteristics data of an action of the job provider; populating by a processor the job seeker application submission package with applicant specific application data; incorporating by a processor a job provider submission status tracking software component comprising at least one trigger into the job seeker application submission package, wherein the job provider submission status tracking software component is automatically activated by a job provider accessing the job seeker application submission package and wherein the job provider submission status tracking software component records

19

tracking data that follows the progress of a job application through an employer's review and selection process; and
 transferring by a processor the job seeker application submission package to a distribution module for distribution to at least one job provider.
 7. The method of claim 6, wherein the application submission package incorporates applicant job application data.
 8. The method of claim 6, wherein the submission status tracking software component is a status tracking object.
 9. The method of claim 8, wherein the status tracking object is a passive tracking element.
 10. The method of claim 9, wherein the passive tracking element incorporates a data tag for data stored on a server.
 11. The method of claim 8, wherein the status tracking object is an active tracking element.
 12. The method of claim 11, wherein the active tracking element is configured as a survey.
 13. The method of claim 6, wherein the distribution module further comprises hosting the application submission package on an application submission host.

14. The method of claim 6, wherein the status tracking software component also includes a status request query element.

15. The method of claim 6 wherein the progress of a job application through an employer's review and selection process includes data in the following categories: submission received, submission opened, submission under HR review, interview status and offer status.

16. A processor-implemented method for providing submitted application status to a job seeker comprising:

obtaining job seeker application submission status data from an activated job provider submission status tracking software component for a submitted job seeker application submission package, wherein the job provider submission status tracking software component is automatically activated by a job provider accessing the job seeker application submission package and wherein the job provider submission status tracking software component records tracking data that follows the progress of a job application through an employer's review and selection process;

correlating via a processor at least one of characteristics data of the action of the job provider and the obtained status data with a historical applicant job search tracking record;

receiving a trigger to retrieve the status of the submitted job seeker application package;

processing at least one of the characteristics data of the action of the job provider and the obtained status data to determine the status of the submitted job seeker application package; and

providing the status of the submitted application to the job seeker.

17. The method of claim 16, wherein the obtained application submission status data is generated by a status tracking object.

18. The method of claim 17, wherein the status tracking object is a passive tracking element.

19. The method of claim 18, wherein the passive tracking element incorporates a data tag for data stored on a server.

20. The method of claim 17, wherein the obtained application submission status data further comprises interaction information associated with the application submission package.

21. The method of claim 17, wherein the status tracking object is an active tracking element.

20

22. The method of claim 21, wherein the application submission status data is configured as responses to a survey.

23. The method of claim 17, wherein the status tracking object is activated when the application submission package is accessed.

24. The method of claim 23, wherein the activated status tracking object collects interaction information for the accessed application submission package and transmits the collected interaction information, wherein the transmitted interaction information is application submission status data.

25. The method of claim 16, wherein the application submission status data further comprises interaction information associated with a hosted application submission package.

26. The method of claim 16, wherein the application submission status data further comprises a response to a status request query.

27. The method of claim 16, wherein the status of the submitted application is provided to the job seeker via email.

28. The method of claim 16, wherein the status of the submitted application is provided to the job seeker via a user interface environment.

29. The method of claim 16 wherein the progress of a job application through an employer's review and selection process includes data in the following categories: submission received, submission opened, submission under HR review, interview status and offer status.

30. A system for application submission tracking, comprising:

a processor;
 a memory in communication with the processor and containing program instructions;
 an input and output in communication with the processor and memory;
 wherein the processor executes program instructions contained in the memory and the program instructions comprise:

generating a job seeker application submission package, wherein the job seeker application submission package is associated with a historical applicant job search tracking record for a job seeker configured to record action characteristics data of an action of the job provider;

populating the job seeker application submission package with applicant specific application data;

incorporating a job provider submission status tracking software component comprising at least one trigger into the job seeker application submission package, wherein the job provider submission status tracking software component is automatically activated by a job provider accessing the job seeker application submission package and wherein the job provider submission status tracking software component records tracking data that follows the progress of a job application through an employer's review and selection process; and

transferring the job seeker application submission package to a distribution module for distribution to at least one job provider.

31. The system of claim 30, wherein the application submission package incorporates applicant job application data.

32. The system of claim 30, wherein the submission status tracking software component is a status tracking object.

33. The system of claim 32, wherein the status tracking object is a passive tracking element.

34. The system of claim 33, wherein the passive tracking element incorporates a data tag for data stored on a server.

35. The system of claim 32, wherein the status tracking object is an active tracking element.

36. The system of claim 35, wherein the active tracking element is configured as a survey.

37. The system of claim 30, wherein the distribution module further comprises hosting the application submission package on an application submission host.

38. The system of claim 30, wherein the status tracking software component also includes a status request query element.

39. The system of claim 30 wherein the progress of a job application through an employer's review and selection process includes data in the following categories: submission received, submission opened, submission under HR review, interview status and offer status.

40. A system for providing submitted application status to a job seeker comprising:

a processor;

a memory in communication with the processor and containing program instructions;

an input and output in communication with the processor and memory;

wherein the processor executes program instructions contained in the memory and the program instructions comprise:

obtaining job seeker application submission status data from an activated job provider submission status tracking software component for a submitted job seeker application submission package, wherein the status tracking component is automatically activated by a job provider accessing the job seeker application submission package and wherein the job provider submission status tracking software component records tracking data that follows the progress of a job application through an employer's review and selection process;

correlating at least one of characteristics data of the action of the job provider and the obtained status data with a historical applicant job search tracking record;

receiving a trigger to retrieve the status of the submitted job seeker application package;

processing at least one of the characteristics data of the action of the job provider and the obtained status data to determine the status of the submitted job seeker application package; and

providing the status of the submitted application to the job seeker.

41. The system of claim 40, wherein the obtained application submission status data is generated by a status tracking object.

42. The system of claim 41, wherein the status tracking object is a passive tracking element.

43. The system of claim 42, wherein the passive tracking element incorporates a data tag for data stored on a server.

44. The system of claim 41, wherein the obtained application submission status data further comprises interaction information associated with the application submission package.

45. The system of claim 41, wherein the status tracking object is an active tracking element.

46. The system of claim 45, wherein the application submission status data is configured as responses to a survey.

47. The system of claim 41, wherein the status tracking object is activated when the application submission package is accessed.

48. The system of claim 47, wherein the activated status tracking object collects interaction information for the accessed application submission package and transmits the collected interaction information, wherein the transmitted interaction information is application submission status data.

49. The system of claim 40, wherein the application submission status data further comprises interaction information associated with a hosted application submission package.

50. The system of claim 40, wherein the application submission status data further comprises a response to a status request query.

51. The system of claim 40, wherein the status of the submitted application is provided to the job seeker via email.

52. The system of claim 40, wherein the status of the submitted application is provided to the job seeker via a user interface environment.

53. The system of claim 40 wherein the progress of a job application through an employer's review and selection process includes data in the following categories: submission received, submission opened, submission under HR review, interview status and offer status.

54. A system for providing application submission tracking to a job seeker, comprising:

a processor;

a memory in communication with the processor and containing program instructions;

an input and output in communication with the processor and memory;

wherein the processor executes program instructions contained in the memory and the program instructions comprise:

generating a job seeker application submission package, wherein the job seeker application submission package is associated with a historical applicant job search tracking record for the job seeker;

populating the job seeker application submission package with applicant specific application data for the job seeker;

incorporating a job provider submission status tracking software component into the job seeker application submission package;

providing the job seeker application submission package to a job provider, wherein a job provider automatically activates the job provider submission status tracking software component and wherein the job provider submission status tracking software records tracking data that follows the progress of a job application through an employer's review and selection process;

receiving by a processor a trigger to retrieve job seeker application submission package status data;

obtaining job seeker application submission package status data from the activated job provider submission status tracking software component for the job seeker application submission package;

correlating by a processor at least one of characteristics data of the action of the job provider and the obtained status data with the historical applicant job search tracking record;

processing by a processor at least one of the characteristics data of the action of the job provider and the obtained status data to determine the status of the submitted application package; and

providing the status of the submitted application package to the job seeker.

55. The system of claim **54** wherein the progress of a job application through an employer's review and selection process includes data in the following categories: submission received, submission opened, submission under HR review, interview status and offer status. 5

56. A processor-implemented method, comprising: receiving, by a processor, one or more user actions 10 regarding one or more user-browsed job listings; formulating, by the processor, a plurality of job listing groups, wherein each said job listing group corresponds to at least one of the user actions; one or more of: 15 performing by the processor, with respect to each of one or more of the job listing groups, within-group analysis of extracted data corresponding to job listings of the job listing group; or performing by the processor, with respect to two or 20 more of the job listing groups, between-group analysis of extracted data corresponding to job listings of the two or more job listing groups; identifying by the processor, based on one or more of the 25 within-group analysis or the between-group analysis, at least one of common job listing characteristics or distinguishing job listing characteristics; building by the processor, using the identified job listing characteristics, at least one search profile, wherein the building of at least one search profile comprises building using user profile data; automatically generating a user resume based on user 30 profile data; performing by the processor, via employ of one or more of the built search profiles, job listing search; and performing by the processor, user presentation of one or 35 more job listings resulting from the performed job listing search.

57. The method of claim **56**, wherein the user actions include job listing rating.

58. The method of claim **56**, wherein the user actions include viewing a job listing for a duration of time.

59. The method of claim **56**, wherein the building of one or more of the search profiles comprises building using user-specific historical data.

60. The method of claim **59**, wherein the historical data comprises at least one of: previous search data, job listing views data, job listing response data, job listing application data, saved job listing data, web site viewing data, or web search history data.

61. The method of claim **56**, wherein the user profile data comprises information on a web site.

62. The method of claim **56**, wherein the user profile data comprises information on a user resume.

63. The method of claim **56**, further comprising: receiving, by the processor, user indication to apply for at least one of the job listings resulting from the performed job listing search; and submitting, by the processor, a user resume to the indicated at least one job listing. 55

64. The method of claim **63**, wherein the user resume is user-uploaded.

65. A system, comprising: a processor; a memory in communication with the processor and containing program instructions; an input and output in communication with the processor and memory; wherein the processor executes program instructions contained in the memory and the program instructions comprise: receiving one or more user actions regarding one or more user-browsed job listings; formulating a plurality of job listing groups, wherein each said job listing group corresponds to at least one of the user actions; one or more of: 10 performing, with respect to each of one or more of the job listing groups, within-group analysis of extracted data corresponding to job listings of the job listing group; or performing, with respect to two or more of the job listing groups, between-group analysis of extracted data corresponding to job listings of the two or more job listing groups; identifying, based on one or more of the within-group analysis or the between-group analysis, at least one of common job listing characteristics or distinguishing job listing characteristics; building, using the identified job listing characteristics, at least one search profile, wherein the building of at least one search profile comprises building using user profile data; automatically generating a user resume based on user profile data; performing, via employ of one or more of the built search profiles, job listing search; and 15 performing, user presentation of one or more job listings resulting from the performed job listing search. 30 **66.** The system of claim **65**, wherein the user actions include job listing rating. **67.** The system of claim **65**, wherein the user actions include viewing a job listing for a duration of time. 35 **68.** The system of claim **65**, wherein the building of one or more of the search profiles comprises building using user-specific historical data. **69.** The system of claim **68**, wherein the historical data comprises at least one of: previous search data, job listing views data, job listing response data, job listing application data, saved job listing data, web site viewing data, or web search history data. 40 **70.** The system of claim **65**, wherein the user profile data comprises information on a web site. **71.** The system of claim **65**, wherein the user profile data comprises information on a user resume. **72.** The system of claim **65**, wherein the program instructions further comprise: receiving user indication to apply for at least one of the job listings resulting from the performed job listing search; and 45 submitting a user resume to the indicated at least one job listing. **73.** The system of claim **72**, wherein the user resume is user-uploaded. 60