

EXHIBIT 1

- Home
- Profile
- Applications
- Developers
- Pages
- Groups
- Countries
- US states**
- Advertising
- Contact

Facebook in California

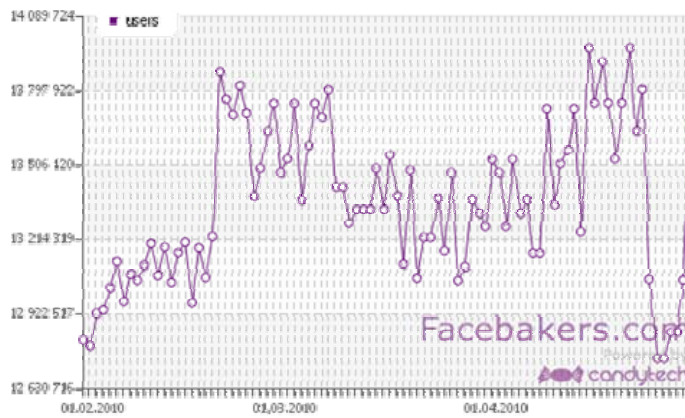
[< Back to United States Facebook Statistics](#)

On this page you can find the Facebook Statistics for California, these numbers are updated on a daily basis that the Facebook Statistics (Advertising) platform gives us for California on the given day.

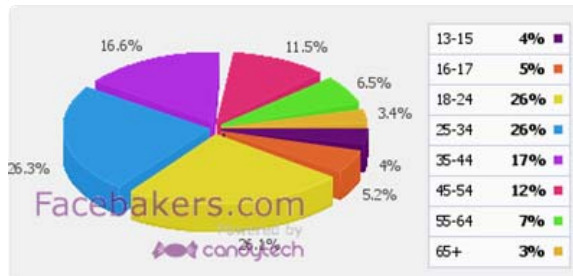
Number of users on Facebook in California: 13 778 780
 Number of male users on Facebook in California: 6 354 520
 Number of female users on Facebook in California: 7 222 540
 Penetration in California: 37.28 %

[last week](#) · [last 2 weeks](#) · [last month](#) · **[last 3 months](#)** · [last 6 months](#)

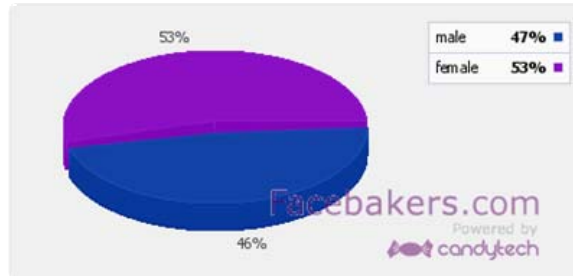
User Growth - Facebook California



User Age Distribution - Facebook California



Male/Female User Ratio - Facebook California



Male/Female User Growth - Facebook California

Facebook application statistics | Facebook statistics | Facebook group statistics | Facebook page statistics

Share

Facebakers.com on Facebook
 Like 5,729

Top 5 countries on Facebook

1	United States	115 276 080
2	United Kingdom	24 712 400
3	Indonesia	22 648 340
4	Turkey	20 236 660
5	France	17 154 040

Highlights



Top media companies on Facebook - TRUST with(out) BUZZ
 Share

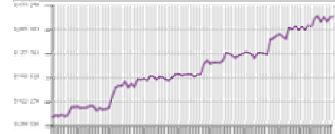


Countries with top Facebook penetration to population
 Share

Subscribe to news on Facebook

Email:

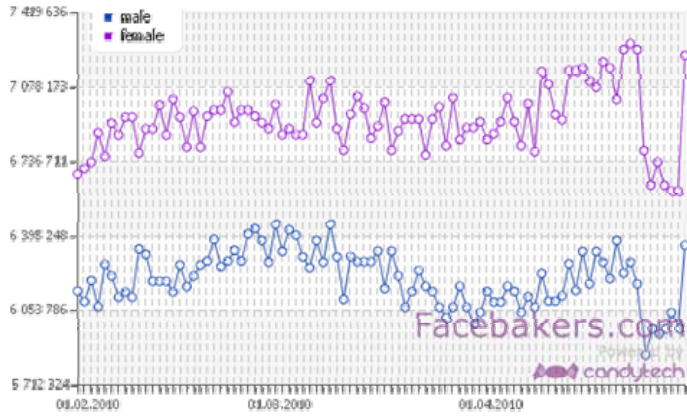
Worldwide Facebook stats



These guys are really tasty

Facebook Developers
 facebook DEVELOPERS





Numbers are estimates based on estimations that the Facebook platform returns us on the certain days.

[< Back to United States Facebook Statistics](#)



EXHIBIT 2

Google™

"Mehul Shah" "Palo Alto" CA

Google Search

I'm Feeling Lucky



"Mehul Shah" "Palo Alto" CA

Search

Advanced Search

Web Show options...

Results 1 - 10 of about 620 for "Mehul Shah" "Palo Alto" CA. (0.12 seconds)

Homepage for Mehul A. Shah

Ajay Gupta, Parthasarathy Ranganathan, Prashant Sarin, **Mehul Shah** ... Address: HP Labs 1501 Page Mill Road, MS 1183. **Palo Alto, CA** 94304 ...
www.hpl.hp.com/personal/**Mehul_Shah/** - [Cached](#) - [Similar](#)

Sinfonia

by MK Aguilera - 2007 - [Cited by 51](#) - [Related articles](#)
Mehul Shah, HP Laboratories, **Palo Alto, CA**. Alistair Veitch, HP Laboratories, **Palo Alto, CA**. Christos Karamanolis, VMware, **Palo Alto, CA** ...
portal.acm.org/citation.cfm?id=1294278 - [Similar](#)

Sinfonia

by MK Aguilera - 2009 - [Cited by 51](#) - [Related articles](#)
Marcos K. Aguilera, Microsoft Research Silicon Valley, Mountain View, **CA** ... **Mehul Shah**, Hewlett-Packard Laboratories, **Palo Alto, CA** ...
portal.acm.org/citation.cfm?id=1629088

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Mehul Shah: ZoomInfo Business People Information

Published on: 4/8/2010 Last Visited: 4/8/2010. **Mehul Shah**, Senior Researcher, Hewlett Packard Laboratories, **Palo Alto, CA** U.S. Government Documents Project ...
www.zoominfo.com/people/Shah_Mehul_349240090.aspx - [Cached](#)

ZoomInfo Open People Directory > Shah, Mehul - Shah, Milind

Mehul Shah, General Chemical Corp. Brighton, Michigan. **Mehul Shah**, Hewlett-Packard Company, **Palo Alto, California**. **Mehul Shah**, Infinity Services Inc ...
www.zoominfo.com/people/level3page235952.aspx - [Cached](#)

Mehul Shah - Email, Address, Phone numbers, everything! 123people.com

US, **Palo Alto, California**. 123people refers to public profiles on social networks such as Myspace, Facebook, Xing and others. Are you **Mehul Shah** and don't ...
www.123people.com/s/mehul+shah

Mehul Shah - Email, News, Images, everything! 123people.ca

Mehul Shah. Researcher, HP Labs, **Palo Alto, CA**. Biography of speaker: **Mehul Shah** graduated from MIT in 1996 with undergraduate degrees in Physics and ...
www.123people.ca/s/mehul+shah

About Us - LOCKSS

... Petros Maniatis, Senior Staff Researcher, Intel Research, Berkeley, **CA** ... **Mehul Shah**, Senior Researcher, Hewlett Packard Laboratories, **Palo Alto, CA** ...
lockss.stanford.edu/lockss/About_Us - [Cached](#) - [Similar](#)

Doctors by Last Name (S): Dr. Shah, Mehul – Dr. Shah, Niraj

Mehul Shah, MD View Dr. Shah's profile. Gastroenterologist, Internist ... 747 52nd St Oakland, **CA**. **Palo Alto** Medical Foundation 3200 Kearney St Fremont, **CA** ...
www.vitals.com/doctors/doctor-s_150.html - [Cached](#)

Mehul Shah, Xerox Corporation, Rochester, New York(NY), Consultant ...


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www.Intelius.com

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Mehul Shah, Xerox Corporation, Rochester, NY - Business Contact Information in Jigsaw's business ... Demo Room Palo Alto. Iqbal Badyal Network Administrator ...
www.jigsaw.com/scid25363122/mehul_shah.shtml - [Cached](#)

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invent

hp labs
Personal web page for Mehul A. Shah

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» People

» Worldwide sites

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**Mehul A. Shah**

Research Scientist
Storage Systems Department
HP Laboratories

My research interests include energy-efficiency of computer systems, database systems, distributed systems, and long-term digital preservation.

Selected Papers

2009

Tracking the Power in an Enterprise Decision Support System.

Justin Meza, Mehul A. Shah, Parthasarathy Ranganathan, Mike Fitzner, and Judson Veazey.
International Symposium on Low Power Electronics and Design (ISLPED), August 2009.

This is not available elsewhere on the ISLPED site, so feel free to link here.

Query Processing Techniques for Solid State Drives.

Dimitris Tsirogiannis, Stavros Harizopoulos, Mehul A. Shah, Janet L. Wiener, and Goetz Graefe.
ACM SIGMOD, July 2009.

Energy Efficiency: The New Holy Grail of Data Management Systems Research.

Stavros Harizopoulos, Mehul A. Shah, Justin Meza, Parthasarathy Ranganathan.
Conference on Innovative Data Systems Research (CIDR), January 2009.

2008

A Pratical Scalable Distributed B-Tree.

Marcos K. Aguilera, Wojciech Golab, and Mehul A. Shah.
International Conference on Very Large Data Bases (VLDB), August 2008.

2007

Sinfonia: A New Paradigm for Building Scalable Distributed Systems.

Marcos K. Aguilera, Arif Merchant, Mehul A. Shah, Alistair Veitch, and Christos Karamanolis.
ACM Symposium on Operating Systems Principles (SOSP), October 2007. Best paper.

JouleSort: A Balanced Energy-Efficiency Benchmark.

Suzanne Rivoire, Mehul A. Shah, Parthasarathy Ranganathan, and Christos Kozyrakis.
ACM SIGMOD, June 2007.

Auditing to Keep Online Storage Services Honest.
Mehul A. Shah, Mary Baker, Jeffrey C. Mogul, and Ram Swaminathan.
HotOS XI, May 2007.

2006

Pip: Detecting the Unexpected in Distributed Systems.
Patrick Reynolds Charles Killian, Janet L. Wiener, Jeffrey C. Mogul, Mehul A. Shah, and Amin Vahdat.
Symp. on Networked Systems Design and Implementation (NSDI), , May 2006.

A Fresh Look at the Reliability of Long-term Digital Storage.
Mary Baker, Mehul A. Shah, David S. H. Rosenthal, Mema Roussopoulos, Petros Maniatis, TJ Giuli, and Prashanth Bungale.
EuroSys, April 2006.

IT Infrastructure in Emerging Markets: Arguing for an End-to-End Perspective.
Ajay Gupta, Parthasarathy Ranganathan, Prashant Sarin, Mehul Shah
IEEE Pervasive Computing, April-June 2006.

Please see my DBLP entry for a more complete list of my pre-2005 publications.

2004

Flux: A Mechanism for Building Robust, Scalable Dataflows.
Mehul A. Shah.
U.C. Berkeley --- PhD Thesis, Fall 2004.
Advisor: Joseph M. Hellerstein .

1997

ReferralWeb: A Resource Location System Guided by Personal Relations.
Mehul A. Shah.
MIT --- MEng Thesis, May 1997.
This was the first work that presented techniques for automatically extracting social networks from the web. Although I am the sole author (as required for all theses), this work was done jointly with Henry Kautz and Bart Selman while I was at AT&T Bell Labs. My thesis advisor (and collaborator) at MIT was David Karger .

You can reach me at:

Email: firstname.lastname@hp.com

Phone: +1-650-857-2320

Fax: +1-650-857-7029

Address: HP Labs
1501 Page Mill Road, MS 1183
Palo Alto, CA 94304

**ReferralWeb: A Resource Location System
Guided by Personal Relations**

by

Mehul A. Shah

Submitted to the Department of Electrical Engineering and Computer
Science

in Partial Fulfillment of the Requirements for the Degree of

Master of Engineering in Electrical Engineering and Computer Science

at the

Massachusetts Institute of Technology

May 1997

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Signature of Author
Department of Electrical Engineering and Computer Science
May 29, 1997

Certified by.....
David R. Karger
Thesis Supervisor

Accepted by
Arthur C. Smith
Chairman, Department Committee on Graduate Theses

ReferralWeb: A Resource Location System Guided by Personal Relations

by

Mehul A. Shah

Submitted to the Department of Electrical Engineering and Computer Science
on May 29, 1997, in partial fulfillment of the
requirements for the Degree of
Master of Engineering in Electrical Engineering and Computer Science

Abstract

We describe the design and implementation of ReferralWeb, a system for identifying experts on keyword queries and generating a path of social relations by which to contact them. This system models and extracts existing social and professional relationships in the computer science community by mining publicly available documents on the internet. Using similar techniques, experts are also isolated from indexed web documents. A user interface combines the reconstructed social network and search engines to allow exploration and visualization of one's local personal network. We describe interviews and experiments which indicate that the current prototype fulfills a need not addressed by other public services. Finally, possible solutions for improved robustness and further evolution are proposed.

Thesis Supervisor: David R. Karger

Title: Assistant Professor, Dept. of Electrical Engineering and Computer Science

EXHIBIT 3

Google scholar

"David L. Gilmour" "Los Altos" CA

Search

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Scholar

Articles and patents

anytime

include citations

Results 1 - 10 of 12. (0.01 sec)

[Method of constructing and displaying an entity profile constructed utilizing input ...](#)

DL Gilmour - US Patent App. 09/271,022, 1999 - Google Patents

... 9,2001 (54) METHOD OF CONSTRUCTING AND DISPLAYING AN ENTITY PROFILE CONSTRUCTED UTILIZING INPUT FROM ENTITIES OTHER THAN THE OWNER (76) Inventor: DAVID L. GILMOUR, **LOS ALTOS HILLS, CA** (US) Correspondence Address: ANDRE L ...

[Cited by 13](#) - [Related articles](#) - [All 6 versions](#)

[Method and system for constructing a knowledge profile of a user having ...](#)

DL Gilmour, HW Wang - US Patent 6,115,709, 2000 - Google Patents

... ACCORDING TO RESPECTIVE LEVELS OF CONFIDENCE OF CONTENT OF THE PORTIONS [75] Inventors: David L. Gilmour, **Los Altos Hills**; Hua ... Sys- tem", Leonard N. Foner, The First International Conference on Autonomous Agents (Agents '97), Marina del Rey, **CA**, 1997. ...

[Cited by 28](#) - [Related articles](#) - [All 2 versions](#)

[Method and apparatus for assigning a confidence level to a term within a user ...](#)

DL Gilmour - US Patent App. 10/114,179, 2002 - Google Patents

... A USER KNOWLEDGE PROFILE (76) Inventor: David L. Gilmour, **Los Altos Hills, CA** (US) Correspondence Address: Sheryl Sue Holloway BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP Seventh Floor 12400 Wilshire Boulevard Los Angeles, **CA** 90025-1026 (US) (21) Appl. ...

[Cited by 10](#) - [Related articles](#) - [All 6 versions](#)

[Method and apparatus for querying a user knowledge profile](#)

DL Gilmour - US Patent 6,205,472, 2001 - Google Patents

... A USER KNOWLEDGE PROFILE (75) Inventor: David L. Gilmour, **Los Altos Hills, CA** (US) (73) Assignee: Tacit Knowledge System, Inc., **Los Altos, CA** (US) (*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 USC 154(b) by 0 days. ...

[Cited by 6](#) - [Related articles](#) - [All 3 versions](#)

[Method, system and apparatus for authorizing access by a first user to a knowledge ...](#)

DL Gilmour - US Patent 6,253,202, 2001 - Google Patents

... Gilmour, **Los Altos Hills, CA** (US) (73) Assignee: Tacit Knowledge Systems, Inc., Palo Alto, **CA** (US) (*) Notice: This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 USC 154(a)(2). ...

[Cited by 5](#) - [Related articles](#) - [All 2 versions](#)

[Method and apparatus for addressing an electronic document for transmission over ...](#)

DL Gilmour, HW Wang - US Patent 6,154,783, 2000 - Google Patents

... FOR ADDRESSING AN ELECTRONIC DOCUMENT FOR TRANSMISSION OVER A NETWORK [75] Inventors: David L. Gilmour, **Los Altos Hills**; Hua ... Sys- tem", Leonard N. Foner, The First International Conference on Autonomous Agents (Agents '97), Marina del Rey, **CA**, 1997. ...

[Cited by 6](#) - [Related articles](#) - [All 5 versions](#)

[Method and apparatus for constructing and maintaining a user knowledge profile](#)

DL Gilmour, E Wang - US Patent App. 10/135,254, 2002 - Google Patents

... David L. Gilmour, **Los Altos Hills, CA** (US); Eric Wang, Milpitas, **CA** (US) Correspondence Address: BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP Seventh Floor 12400 Wilshire Boulevard Los Angeles, **CA** 90025-1026 (US) (73) Assignee: Tacit Knowledge Systems, Inc. ...

[Cited by 6](#) - [Related articles](#) - [All 6 versions](#)

[Method and apparatus for managing user profiles including identifying users based ...](#)

DL Gilmour - US Patent 6,647,384, 2003 - Google Patents

... ON MATCHED QUERY TERM (75) Inventor: David L. Gilmour, **Los Altos Hills, CA** (US) (73)

Assignee: Tacit Knowledge Systems, Inc., Palo Alto, CA (US) (*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 USC 154(b) by 78 days. ...

[Cited by 3](#) - [Related articles](#) - [All 2 versions](#)

[Automatic management of terms in a user profile in a knowledge management ...](#)

DL Gilmour, H Epelman-Wang, JM ... - US Patent App. 10/ ..., 2003 - Google Patents

... 3,2004 (54) AUTOMATIC MANAGEMENT OF TERMS IN A USER PROFILE IN A KNOWLEDGE MANAGEMENT SYSTEM (76) Inventors: David L. Gilmour, **Los Altos Hills, CA (US)**; Hernan Epelman-Wang, Redwood City, **CA (US)**; Jonathan M. Goldberg, San Francisco, **CA (US)** ...


[Related articles](#) - [All 4 versions](#)

[Method, system and apparatus for searchcasting with privacy control](#)

DL Gilmour, JM Goldberg - US Patent App. 11/244,715, 2005 - Google Patents

... 5,2007 (54) METHOD, SYSTEM AND APPARATUS FOR SEARCHCASTING WITH PRIVACY CONTROL (76) Inventors: David L. Gilmour, **Los Altos Hills, CA (US)**; Jonathan M. Goldberg, San Francisco, **CA (US)** Correspondence Address: BLAKELY SOKOLOFF TAYLOR & ...

[All 4 versions](#)

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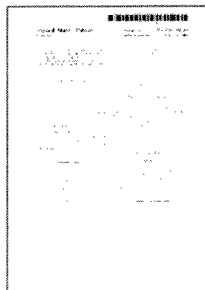
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Method, system and apparatus for authorizing access by a first user to a ... David L. Gilmour

Page images PDF



- [Overview](#)
- > Abstract**
- [Drawing](#)
- [Description](#)
- [Claims](#)

1 - 4

US006253202B1

(12) United States Patent

Gilmour

(io) Patent No.: US 6,253,202 BI (45) Date of Patent: *Jun. 26,2001



(54) METHOD, SYSTEM AND APPARATUS FOR AUTHORIZING ACCESS BY A FIRST USER TO A KNOWLEDGE PROFILE OF A SECOND USER RESPONSIVE TO AN ACCESS REQUEST FROM THE FIRST USER

Patent number: 6253202
Filing date: Sep 18, 1998
Issue date: Jun 26, 2001

(75) Inventor: David L. Gilmour, Los Altos Hills, CA (US)

(73) Assignee: Tacit Knowledge Systems, Inc., Palo Alto, CA (US)

(*) Notice: This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

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.: 09/156,468

(22) Filed: Sep. 18, 1998

(51) Int. Cl.⁷ G06F 17/30

(52) U.S. Cl 707/9; 707/10; 705/37;

713/200

(58) Field of Search 707/9, 10, 1-2, 707/104; 709/217-219; 705/14.1, 35-37, 26, 7-10, 14, 38, 24; 713/200-202

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- 5,051,891 9/1991 MacPhail 364/200
- 5,488,725 1/1996 Turtle et al 395/600
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"VERITY: Verity introduces new Profiler Kit and enhanced Developer's Kit", *M2 Presswire*, Aug. 5, 1998. "A Security Policy Model for Clinical Information Systems", Ross J. Anderson, Security and Privacy, 1996, Proceedings, 1996 Symposium on, May 6-8, 1996, pp 30-43.

"Taking the Byte out of Cookies", Daniel Lin and Michael C. Loui, Proceedings of the Ethics and Social Impact Component on Shaping Policy in the Information Age, May 10-12, 1998, Washington, D.C. pp 39-51. Anonymous Web Page, "Frequently Asked Questions", <http://www.enonymous.com/faq.asp>.

"Yenta: A Multi-Agent, Referral-Based Matchmaking System", Leonard N. Foner, The First International Conference on Autonomous Agents (Agents '97), Marina del Rey, CA, 1997.

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"Political Artifacts and Personal Privacy: The Yenta Multi-Agent Distributed Matchmaking System", Leonard Newton Foner, Apr. 30, 1999, © Massachusetts Institute of Technology, 1999.

Welcome to enonymous.com, Web page, "Be Privacy Aware ... Be enonymous", <http://www.enonymous.com/default.asp>.

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6,052,709	4/2000	Paul	709/202
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This document is a preliminary

PROBABLE PRIOR ART

Search of the prior art

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11. Clustering and Information Sharing in an Ecology of

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Newton Foner, Apr. 30, 1999, © Massachusetts Institute

of Technology, 1999.

14. Welcome to enonymous.com, Web page, "Be Privacy

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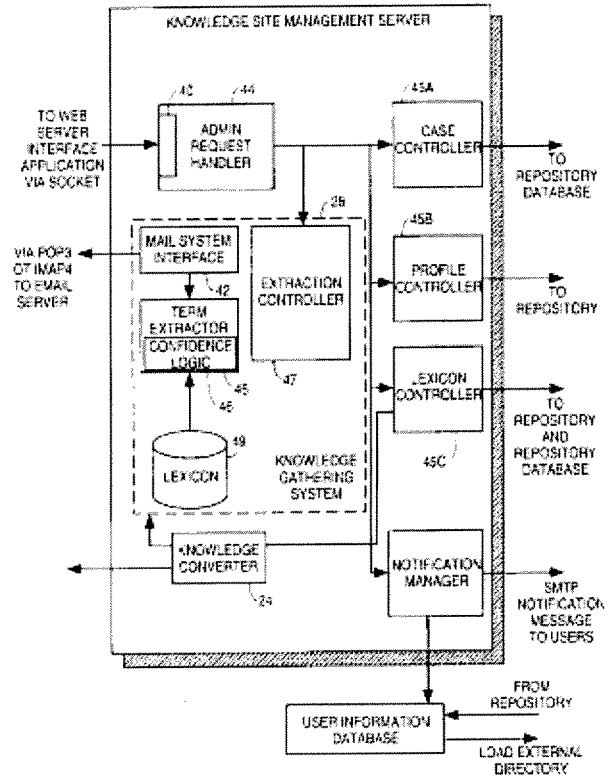
15. Anonymous Web Page, "Why be enonymous?",

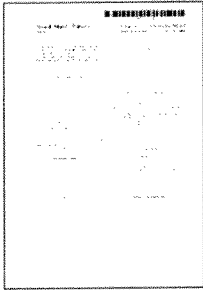
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16. Anonymous Web Page, What is enonymous advisor?,

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29 Claims, 12 Drawing Sheets



Method, system and apparatus for authorizing access by a first user to a ... David L. Gilmour[Page images](#) [PDF](#)[Overview](#)[Abstract](#)[Drawing](#)[Description](#)[Claims](#)

35 - 39

**METHOD, SYSTEM AND APPARATUS FOR
AUTHORIZING ACCESS BY A FIRST USER
TO A KNOWLEDGE PROFILE OF A
SECOND USER RESPONSIVE TO AN
ACCESS REQUEST FROM THE FIRST USER 5****FIELD OF THE INVENTION**

The present invention relates generally to the field of knowledge management and, more specifically, to a method and apparatus for accessing a user knowledge profile within ¹⁰ a database.

BACKGROUND OF THE INVENTION

The new field of "knowledge management" (KM) is receiving increasing recognition as the gains to be realized from the systematic effort to store and export vast knowledge resources held by employees of an organization are being recognized. The sharing of knowledge broadly within an organization offers numerous potential benefits to an organization through the awareness and reuse of existing knowledge, and the avoidance of duplicate efforts.

In order to maximize the exploitation of knowledge resources within an organization, a knowledge management system may be presented with two primary challenges, namely (1) the identification of knowledge resources within the organization and (2) the distribution and accessing of information regarding such knowledge resources within the organization.

The identification, capture, organization and storage of ³⁰ knowledge resources is a particularly taxing problem. Prior art knowledge management systems have typically implemented knowledge repositories that require users manually to input information frequently into pre-defined fields, and in this way manually and in a prompted manner to reveal ³⁵ their personal knowledge base. However, this approach suffers from a number of drawbacks in that the manual entering of such information is time consuming and often incomplete, and therefore places a burden on users who then experience the inconvenience and cost of a corporate knowl- ⁴⁰ edge management initiative long before any direct benefit is experienced. Furthermore, users may not be motivated to describe their own knowledge and to contribute documents on an ongoing basis that would subsequently be re-used by others without their awareness or consent. The manual input ⁴⁵ of such information places a burden on users who then experience the inconvenience and cost of a corporate knowledge management initiative long before any direct benefit is experienced.

It has been the experience of many corporations that ⁵⁰ knowledge management systems, after some initial success, may fail because either compliance (i.e., the thoroughness and continuity with which each user contributes knowledge) or participation (i.e., the percentage of users actively contributing to the knowledge management system) falls to ⁵⁵ inadequate levels. Without high compliance and participation, it becomes a practical impossibility to maintain a sufficiently current and complete inventory of the knowledge of all users. Under these circumstances, the knowledge management effort may never offer an attractive go relationship of benefits to costs for the organization as a whole, reach a critical mass, and the original benefit of knowledge management falls apart or is marginalized to a small group.

In order to address the problems associated with the ⁶⁵ manual input of knowledge information, more sophisticated prior art knowledge management initiatives may presume the existence of a centralized staff to work with users to capture knowledge bases. This may however increase the ongoing cost of knowledge management and requires a larger up-front investment before any visible payoff, thus deterring the initial funding of many an otherwise

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promising knowledge management initiatives. Even if an initial decision is made to proceed with such a sophisticated knowledge management initiative, the cash expenses associated with a large centralized knowledge capture staff may be liable to come under attack, given the difficulty of quantifying knowledge management benefits in dollar terms.

As alluded to above, even once a satisfactory knowledge management information base has been established, the practical utilization thereof to achieve maximum potential benefit may be challenging. Specifically, ensuring that the captured information is readily organized, available, and accessible as appropriate throughout the organization may be problematic.

SUMMARY OF THE INVENTION

According to a first aspect of the invention, there is provided a method of authorizing a user profile access request. An access request, from a first user, to access a user profile of a second user is detected. Responsive to the access request, an authorization request is automatically generated to the second user. The authorization request requests authorization for access to the user profile by the first user.

According to a second aspect of the invention, there is provided apparatus for authorizing a user profile request. A detector detects an access request from a first user to access a user profile of a second user. An organizer, responsive to the access request, automatically generates an authorization request to the second user requesting authorization for access to the user profile by the first user.

Other features of the present invention will be apparent from the accompanying drawings and from the detailed description that follows.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention is illustrated by way of example and not limitation in the figures of the accompanying drawings, in which like references indicate similar elements and in which:

FIG. 1 is a block diagram illustrating a knowledge management system, according to an exemplary embodiment of the present invention.

FIG. 2 is a block diagram illustrating a knowledge site management server, according to an exemplary embodiment of the present invention.

FIG. 3 is a block diagram illustrating a knowledge access server, according to an exemplary embodiment of the present invention.

FIG. 4 is a block diagram illustrating a knowledge converter, according to an exemplary embodiment of the present invention.

FIG. 5 is a block diagram illustrating a client software program, and an e-mail message generated thereby, according to an exemplary embodiment of the present invention.

FIG. 6 is a block diagram illustrating the structure of a knowledge repository, according to an exemplary embodiment of the present invention, as constructed from the data contained in a repository database and a user database.

FIG. 7 is a flowchart illustrating a method, according to an exemplary embodiment of the present invention, of constructing a user knowledge profile.

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FIG. 8 is a flowchart illustrating a high-level method, FIG. 18D illustrates a user dialog, according to an exem

according to an exemplary embodiment of the present plary embodiment of the present invention, through which a

invention, by which terms may be extracted from an elec- list of potential recipients is displayed to an addresser of an

Ironic document and by which confidence level values may e-mail message,

be assigned to such terms. 5 FIG. 19 is a flowchart illustrating a method, according to

FIG. 9A is a flowchart illustrating a method, according to an exemplary embodiment of the present invention, of

exemplary embodiment of the present invention, of deter- managing user authorization to

publish, or permit access to,

mining a confidence level for a term extracted from an a user knowledge profile,

electronic document. FIG 20 is a flowchart illustrating a method, according to

FIG. 9B is a flowchart illustrating a method, according to ¹⁰ an exemplary embodiment of the present invention, of

exemplary embodiment of the present invention, by which a assigning a confidence value, either in the form of a confi

document weight value may be assigned to a document dence level value or a confidence memory value, to a term,

based on addressee information associated with the docu- FIG 21 is a flowchart illustrating a method, according to

ment- an exemplary embodiment of the present invention, of

FIG. 10 illustrates a term-document binding table, accord- determining or identifying a confidence value, either in the

ing to an exemplary embodiment of the present invention. f_{orm} of a confidence level value or a confidence memory

FIG. 11 illustrates a weight table, according to an exem- value, for a term,

plary embodiment of the present invention. FIG 22 illustrates a user-term table, according to an

FIG. 12 illustrates an occurrence factor table, according to ²⁰ exemplary embodiment of the present invention, that is

an exemplary embodiment of the present invention. shown to include a confidence level value column, a con

FIG. 13 illustrates a confidence level table, including fidence memory value column and a time stamp column, initial confidence level values, according to an exemplary FIG 23 is a block diagram illustrating a machine, accordembodiment of the present invention. ing to one exemplarY embodiment, within which software in

FIG. 14 illustrates a modified confidence level table, ²⁵ me form of a series of machine-readable instructions, for

including modified confidence level values, according to an performing any one of the methods discussed above, may be

exemplary embodiment of the present invention. executed

FIG. ISA is a flowchart illustrating a method, according

to an exemplary embodiment of the present invention, of DETAILED DESCRIPTION

constructing a user knowledge profile that includes first and 30 . . . , - . . . ,

, f. A method and apparatus for accessing a user knowledge

second portions. 'j . f &

^ |--T, • n i -11 • , , • profile are described. In the following description, for pur

FIG. 15B is a flowchart illustrating a method, according of lanati numerOus specific details are set forth

to an exemplary embodiment of the present invention, of . . . , , . . . , c . . .

' / . ' ' in order to provide a thorough understanding of the present

storing a term in either a first or a second portion of a user • .. T ^ • , , • , . . . , • n f • , ,

⁶ F invention. It will be evident, however, to one skilled in the

knowledge profile. 35 ^ ^ ^ present invention may be practiced without these

FIG. 16A illustrates a user-term table, constructed accord- specific details ing to the exemplary method illustrated in FIG. ISA.

FIG. 16B illustrates a user-term table, constructed accord- OVERVIEW ing to the exemplary method illustrated in FIG. ISA.

FIG. 17A is a flowchart illustrating a method, according to an exemplary embodiment of the present invention, of capturing knowledge from a user knowledge profile owner or by a dedicated staff, there is provided a method and apparatus for capturing knowledge

FIG. 17B is a flowchart illustrating an alternative method, according to exemplary embodiment of the present invention, of facilitating access to a user knowledge profile.

FIG. 17C is a flowchart illustrating a method, according to exemplary embodiment of the present invention, of per- maintaining continuously and automatically, without requiring that captured knowledge information necessarily be

FIG. 17D is a flowchart illustrating a method, according to an exemplary embodiment of the present invention, of teaching facilitating the user input and modification of a

FIG. 17E is a flowchart illustrating a method, according to an exemplary embodiment of the present invention, of performing a profile modification process.

FIG. 17F is a flowchart illustrating a method, according to an exemplary embodiment of the present invention, of performing a private profile process.

FIG. 17G is a flowchart illustrating a method, according to an exemplary embodiment of the present invention, of performing a profile modification process.

FIG. 17H is a flowchart illustrating a method, according to an exemplary embodiment of the present invention, of performing a profile modification process.

FIG. 17I is a flowchart illustrating a method, according to an exemplary embodiment of the present invention, of performing a profile modification process.

FIG. 17J is a flowchart illustrating a method, according to an exemplary embodiment of the present invention, of performing a profile modification process.

FIG. 17K is a flowchart illustrating a method, according to an exemplary embodiment of the present invention, of performing a profile modification process.

FIG. 17L is a flowchart illustrating a method, according to an exemplary embodiment of the present invention, of performing a profile modification process.

FIG. 17M is a flowchart illustrating a method, according to an exemplary embodiment of the present invention, of performing a profile modification process.

FIG. 17N is a flowchart illustrating a method, according to an exemplary embodiment of the present invention, of performing a profile modification process.

FIG. 17O is a flowchart illustrating a method, according to an exemplary embodiment of the present invention, of performing a profile modification process.

FIG. 17P is a flowchart illustrating a method, according to an exemplary embodiment of the present invention, of performing a profile modification process.

FIG. 17Q is a flowchart illustrating a method, according to an exemplary embodiment of the present invention, of performing a profile modification process.

FIG. 17R is a flowchart illustrating a method, according to an exemplary embodiment of the present invention, of performing a profile modification process.

FIG. 17S is a flowchart illustrating a method, according to an exemplary embodiment of the present invention, of performing a profile modification process.

FIG. 17T is a flowchart illustrating a method, according to an exemplary embodiment of the present invention, of performing a profile modification process.

FIG. 17U is a flowchart illustrating a method, according to an exemplary embodiment of the present invention, of performing a profile modification process.

FIG. 17V is a flowchart illustrating a method, according to an exemplary embodiment of the present invention, of performing a profile modification process.

FIG. 17W is a flowchart illustrating a method, according to an exemplary embodiment of the present invention, of performing a profile modification process.

FIG. 17X is a flowchart illustrating a method, according to an exemplary embodiment of the present invention, of performing a profile modification process.

FIG. 17Y is a flowchart illustrating a method, according to an exemplary embodiment of the present invention, of performing a profile modification process.

FIG. 17Z is a flowchart illustrating a method, according to an exemplary embodiment of the present invention, of performing a profile modification process.

recipients for an e-mail message. knowledge terms. Knowledge terms may furthermore be

stored in either a private or public portion of the user knowledge profile, depending upon the confidence level values thereof.

It will be appreciated that the large volume of e-mail messages traversing an e-mail system over a period of time ⁵ will contain a large number of terms that may be irrelevant to the identification of the knowledge base of a user. With a view to determining which terms are truly indicative of a knowledge base, a number of rules (or algorithms) may be exercised with respect to extracted terms to identify terms ¹⁰ that are candidates for inclusion within a public portion of the user knowledge profile. Further rules (or algorithms) may be applied to an assembled knowledge profile for the purpose of continually organizing and refining the profile.

Corporate e-mail systems have become increasingly pervasive, and have become an accepted medium for idea communication within corporations. Accordingly, the content of e-mail messages flowing within a large organization amounts to a vast information resources that, over the course of time, may directly or indirectly identify knowledge bases ²⁰ held by individuals within the organization.

The present specification also teaches addressing privacy concerns associated with the examination of e-mail messages for the above purposes by providing users with the option selectively to submit originated e-mail messages for examination, or alternatively to bypass the examination and extraction system of the present invention.

There is also taught a computer-implemented method and apparatus for addressing an electronic document, such as an ³⁰ e-mail message, for transmission over a computer network. The e-mail message may be examined to identify terms therein. The identified terms are then compared to a number of user knowledge profiles with a view to detecting a predetermined degree of correspondence between the identified terms and any one or more of the user knowledge profiles. In the event that a predetermined degree of correspondence is detected, the sender of the electronic document is prompted to either accept or decline the proposed recipient as an actual recipient of the electronic document, ⁴⁰ after first being offered an opportunity to inspect the specific basis of the correspondence between the identified terms and the proposed recipients. The e-mail message may also be parsed to extract recipients entered manually by the user. The degree of correspondence between the knowledge profiles of the manually entered recipients and the identified terms of the message is then optionally used as the basis of recommendations to the user that certain manually entered recipients be dropped from the ultimate list of recipients.

This aspect of the present teachings is advantageous in ⁵⁰ that a sender of an e-mail message is presented with a list of proposed recipients, identified according to their knowledge profiles and the content of the e-mail message, who may be interested in receiving the e-mail message. Accordingly, the problems of over-distribution and under-distribution of ⁵⁵ e-mail messages that may be encountered within an organization may be reduced. Specifically, in the overdistribution situation, many users are frequently copied on e-mail messages, resulting in lost productivity as the users struggle to cope with increasing volumes of daily e-mail. ⁶⁰ Further, when the time available to read e-mail messages becomes restricted, users typically begin to defer reading of e-mail messages, and communication efficiency within the organization may be adversely affected. In the underdistribution situation, it may occur that the proper recipients ⁶⁵ of the message are not included in the distribution list, and accordingly fall "out of the loop".

There is also taught a method of facilitating a user profile query or look-up wherein, in response to a match between a query and a user profile, the owner of the user profile may be prompted for authorization to publish all (or a portion) of the user profile to the originator of the query or to others generally. This is advantageous in that it addresses the above mentioned privacy concerns by treating the knowledge profile as a confidential resource under the control of the user. The user is thus also able to control the timing, circumstances and extent to which it is made accessible to others. A further advantage is that the user is prompted for input specifically to satisfy specific, pending requests of others. This relieves the user of the need to remember to modify his or her profile on a regular basis and the need to make decisions concerning the composition of the profile prospectively, prior to any actual use of the profile by others. In this manner the user saves time and effort, since the

determination that manual interaction with the profile is necessary is a function of the present system, not a responsibility of the user.

There is also taught a method of assigning a confidence level value to a term within an electronic document. This confidence level value is based on a first quantitative indicator, derived from the number of occurrences of the term within the electronic document, and a second characteristic indicator, derived utilizing the characteristic of the term.

For the purposes of the present application, the word "term" shall be taken to include any acronym, word, collection of words, phrase, sentence, or paragraph. The term "confidence level" shall be taken to mean any indication, numeric or otherwise, of a level within a predetermined range.

SYSTEM ARCHITECTURE

FIG. 1 is a block diagram illustrating a knowledge management system 10, according to an exemplary embodiment of the present invention. The system 10 may conveniently be viewed as comprising a client system 12 and a server system 14. The client system 12 may comprise one or more clients, such as browser clients 16 and e-mail clients 18, that are resident on terminals or computers coupled to a computer network. In one exemplary embodiment, each of the browser clients 16 may comprise the Internet Explorer client developed by Microsoft Corp. of Redmond, Wash., or the Netscape Navigator client developed by Netscape Communications of Menlo Park, Calif. Each of the e-mail clients 18 may further comprise the Outlook Express, Outlook 97, Outlook 98 or Netscape Communicator e-mail programs. As will be described in further detail below, the browser and e-mail clients 16 are complemented by extensions 19, that enable the e-mail clients 18 to send an electronic message (e.g., either an e-mail or HTML document) to a knowledge server 22 implemented on the server side 14 of the system 10. As shown in FIG. 1, the extensions 19 may be integral with an e-mail client 18, or external to the client 18 and in communication therewith. The clients 16 and 18 may default to sending every communication to a relevant component of the knowledge server 22, while allowing a user specifically to designate a communication not suitable for transmission to the knowledge server 22. The user designation may be facilitated through controls that are installed as software modules which interact with or modify an e-mail client 18, and which cause messages to be copied to a special e-mail address (e.g., a Knowledge Server (KS) mailbox 25 maintained by a e-mail server 23) associated with a knowledge server component. In the case where a client extension 19

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for performing this automatic transmission is not available, the user can manually add the e-mail address of the KS mailbox 25 to the list of recipients for the message. Further details in this regard are provided below. Files embedded within an e-mail message, such as attachments, may also be selectively included or excluded from the capture process and may also be selectively included or excluded from retention in a knowledge repository.

The browser clients 16 are used as an additional means to submit documents to the knowledge server 22 at the discretion of a user. The browser client 16 is used to access an interface application 34, maintained on a web server 20, which transmits documents to the knowledge server 22.

In alternate embodiments, a client may also propagate a list of bookmarks, folders or directories to the knowledge server 22 for the purpose of user knowledge profile construction.

SERVER SIDE ARCHITECTURE

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The server side 14 of the system 10 includes the web server 20, the e-mail server 23 and the knowledge server 22. The web server 20 may be any commercially available web server program such as Internet Information Server (IIS) from Microsoft Corporation, the Netscape Enterprise Server, 25 or the Apache Server for UNIX. The web server 20 includes the interface application 34 for interfacing with the knowledge server 22. The web server 20 may run on a single machine that also hosts the knowledge server 22, or may alternatively run along with the interface application 34 on 30 a dedicated web server computer. The web

server 20 may also be a group of web server programs running on a group of computers to thus enhance the scalability of the system 10. As the web server 20 facilitates access to a local view of a knowledge repository 50, maintained by the knowledge access server 26, by the browser clients 16, the web server interface application 34 implements knowledge application interfaces, knowledge management interfaces, user profile creation and maintenance interfaces, and a server management interface. The web server 20 also facilitates knowledge profile queries, e-mail addressing to an e-mail client 18, and any other access to the knowledge server 22 using the standard HTTP (web) protocol.

The knowledge server 22 includes a knowledge site management server (KSMS) 27 and the knowledge access server (KAS) 26. The knowledge server access 26 includes an interface that provides a local view of a knowledge repository 50, which is physically stored in the user database 56A and a repository database 56B. The knowledge site management server 27 is shown to have access to the local 50 view of the knowledge repository 50 maintained by the knowledge access server 26. The illustrated components of the knowledge server 22 are collectively responsible for the capture (termed "knowledge discovery") of terms indicative of a user knowledge base and for the distribution of user 55 knowledge profile information. Knowledge discovery may be done by the examination and processing of electronic documents, such as e-mail messages, which may be propagated to the e-mail server 23 from an e-mail client 18 via the Simple Mail Transfer Protocol (SMTP), as shown at 32. Alternatively, knowledge discovery may be implemented by the examination of submissions from a browser client 16 via the web server 20.

The knowledge server 22 includes the knowledge access server 26 and the knowledge site management server 27 as two separate and distinct server systems in view of the divergent functions provided by the servers 26 and 27.

Specifically, the knowledge site management server 27 functions primarily to manage non-interactive processing (e.g., the extraction of knowledge from inbound e-mail messages), to manage the user information database 56A, and to implement various centralized system management processes. The knowledge site management server 27 does not communicate interactively with clients 18, or with clients 16 except for administrative functions. The knowledge access server 26, on the other hand, functions primarily to respond to queries and updates from users submitted via clients, typically browser clients 16. Multiple instances of a knowledge access server 26 may be required to support a large corporate environment and to provide appropriate scalability; however only one knowledge site management server 27, one user database 56A, and one repository database 56B typically exist in a working system. In small scale environments, the web server 20, knowledge access server 26, and knowledge site management server 27, and even the e-mail server 23, may all optionally be deployed on the same physical computer.

FIG. 2 is a block diagram illustrating an exemplary embodiment, according to the present invention, of the knowledge site management server 27. The server 27 is shown to include a socket front-end 40 to facilitate communication with the web server 20 for administrative requests, a request handler 44, a knowledge gathering system 28, a knowledge converter 24, and a variety of specialized controller modules 45A-45C. The request handler 44, upon receiving a request from the web server 20 via the interface application 34 and socket front-end 40, starts a session to process the request such as, for example, a request by an authorized systems administrator to configure the behavior of the knowledge gathering system 28.

knowledge gathering system 28 is shown in FIG. 2 to include an extraction controller 47, a mail system interface 42, and a term extractor 46 including confidence logic 45. The extraction controller 47 commands the mail system interface 42 to retrieve messages submitted by the e-mail client extensions 19 to the KS mailbox 25 on the e-mail server 23 for the purpose of extraction and processing. The extraction controller 47 can request this continuously or periodically on a scheduled basis, so that messages can be processed at a convenient time when computing resources are lightly loaded, for example, overnight. The mail system interface 42 retrieves e-mail messages from the e-mail server 23 using the Simple Mail Transfer Protocol (SMTP), Post Office Protocol 3 (POPS), or Internet Message Access Protocol 4 (IMAP4) protocols. The mail system interface 42 propagates electronic documents directly to a term extractor 46, including confidence logic 45, that operates to convert electronic documents into per-user knowledge profiles that are stored in a knowledge repository 50. The term extractor 46 may include any commercially available term extraction

engine (such as "NPTOOL" from LingSoft Inc. of Helsinki, Finland, or "Themes" from Software Scientific) that analyzes the electronic document, recognizes noun phrases in the document, and converts such phrases to a canonical form for subsequent use by the confidence logic 45 as candidate terms in a knowledge profile.

The term extractor 46 performs a variety of the steps when parsing and decoding an electronic document, such as interpreting any special attributes or settings encoded into the header of the message of the e-mail client 18, resolving the e-mail addresses of recipients against either the built-in user database or an external user database, preprocessing the electronic document, extracting noun-phrases from the text as candidates for knowledge terms, processing these knowl

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edge terms, and storing summary information about the document and extraction process in the databases 56A and 56B. The term extractor 46 further detects and strips out non-original texts, attachments and in some cases the entire electronic document based on the document not meeting 5 predetermined minimum criteria. Further details regarding the exact procedures implemented by the term extractor 46 will be provided below. Once the term extractor 46 has extracted the knowledge terms, the knowledge repository 50 is updated. Specifically, new terms are added, and repetitions of known terms are used to update the knowledge repository 50.

The knowledge repository 50 is defined by a hierarchical structure of classes. The objects of these classes represent the knowledge information that includes, inter alia, user 15 profiles (including knowledge profiles) and organizational structure, and are stored in two databases: the user database 56A and the repository database 56B. The repository database 56B contains profile and repository information and can use one of a number of commercial relational database 20 management systems that support the Open DataBase Connectivity (ODBC) interface standard. A database interface 54 provides a logical database-independent class API to access the physical databases and to shield the complete server codes from accessing database native API so that the 25 server process can use any relational database management system (ROMS). Because the repository database 56A is open to inspection by systems administrators, and may be hosted on an existing corporate system, special measures may be taken to enhance the privacy of information in the 30 repository database 56B; for example, the repository database 56B contains no actual user names or e-mail addresses, but instead may use encrypted codes to represent users in a manner that is meaningful only in combination with the user database. The user database 56A is a small commercial 35 RDBMS embedded into the knowledge repository 50 in such a way that it cannot be accessed except through the interfaces offered by the system 10. The user database 56A contains encrypted identifying codes that allow the names of actual users to be associated with e-mail addresses, login 40 IDs, passwords, and profile and repository information in the repository database.

A lexicon controller 45C is responsible for building tables of associated terms. Terms are considered "associated" with each other to the extent that they tend to co-occur in close 45 proximity within the documents of multiple users. The lexicon controller 45C manages the background process of data mining that is used to discover associations between terms and record those in special association tables within the repository database 56B. 50

A profile controller 45B is a module that may optionally be included within the knowledge site management server 27, and manages a queue of pending, compute-intensive operations associated with updating profiles. Since the algorithm for the confidence level value calculation of a term 55 (embodied in the confidence logic 45) depends on the total number of documents profiled, the confidence level value for each and every term in a user's profile is technically obsolete when any document is profiled. The profile controller 45B manages the "recalculation" of profiles. The go actual operation is performed within the knowledge access server 26, which has a knowledge repository 50 interface.

A case controller 45A keeps track of open cases and initiates notifications to users concerning their status. A "case" is a pending request from one user to another, as will 65 be detailed below. For example, if a user requests an expert in a certain field via a client browser client 16, the knowl

edge access server 26 matches the term against both the public and private portions of all user profiles. If a high confidence, but private, match is found, the system cannot reveal the identity of the matched person to the inquirer and must therefore open a "case". The case places a notification in the profile "home" page of the target user and/or transmits an e-mail message with a link back to that page. The target user may then (via a browser):

1. See the identity of the inquirer and the basis of the match.
2. See comments added by the inquirer.
3. Deny the request, at which point the case is closed.
4. Put a block on any further matches from that person or based on that term.
5. Go into the profile and edit the term responsible for the match.
6. Indicate that the case is accepted and provide authorization to reveal the identity of the target to the inquirer. From the perspective of the inquirer, private matches are initially returned with a match strength only and do not reveal the name of the person or document matched. The user can then initiate cases for any or all of these private matches, based on how urgently the information is needed, how good the matches were, and whether the public matches are sufficient. Each case gets an expiration date set by the inquirer and notification options regarding how the inquirer wants to be told about the disposition of the case. Open cases are summarized in the Web area for the inquirer, along with the date and query that generated the return values. If the target denies a case, that status is communicated to the user. The user has no option to send e-mail or otherwise further identify that person. If the target accepts the case, the identity of the target is communicated to the user by updating the case record and the case is closed. Case history retention options are a site administration option.

FIG. 3 is a block diagram illustrating the components that constitute the knowledge access server 26. The knowledge access server 26 is shown to include a socket front-end 40 to facilitate communication with the web server interface application 34. The knowledge access server 26 further includes a request handler 44, a term extractor 46, a knowledge repository 50 and a database interface 54 that function in a manner similar to that described above with reference to the knowledge gathering system 28. The term extractor 46 includes comparison logic 51, the functioning of which will be described below. The knowledge access server 26 functions primarily as an interface between knowledge users and the knowledge repository 50. It provides services to the web server interface application 34, which implements a number of user interfaces as described above for interacting with the knowledge repository 50.

FIG. 4 is a block diagram illustrating the components that constitute the knowledge converter 24. The knowledge converter 24 is shown to include a term extractor 46 that is fed from an array of format converters 60. The knowledge converter 24 is able to access the knowledge repository 50, and to import data from other knowledge systems, or export knowledge to other knowledge systems, via each of the format converters 60.

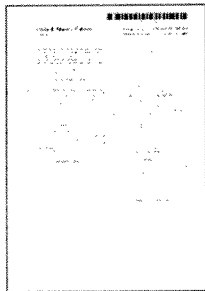
Returning to FIG. 1, the knowledge access server 26 implements the interface to the knowledge repository 50 and the knowledge site management server 27 is shown to access the knowledge repository 50 via the knowledge access server 26. FIGS. 3 and 4 illustrate data for the knowledge

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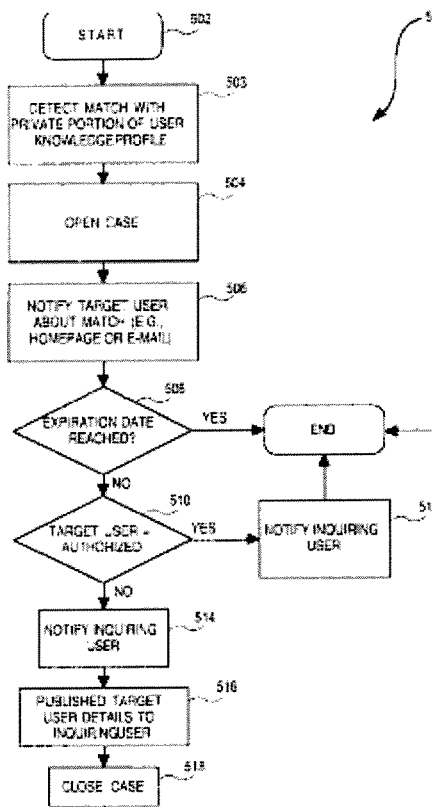


FIG. 19

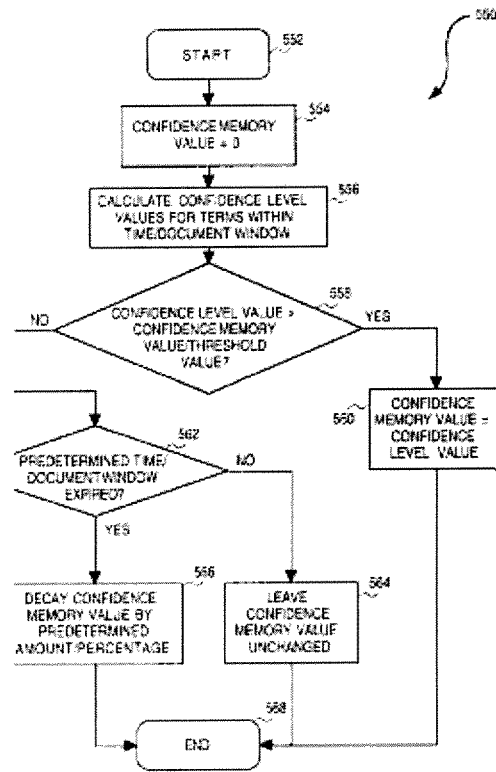


FIG. 20

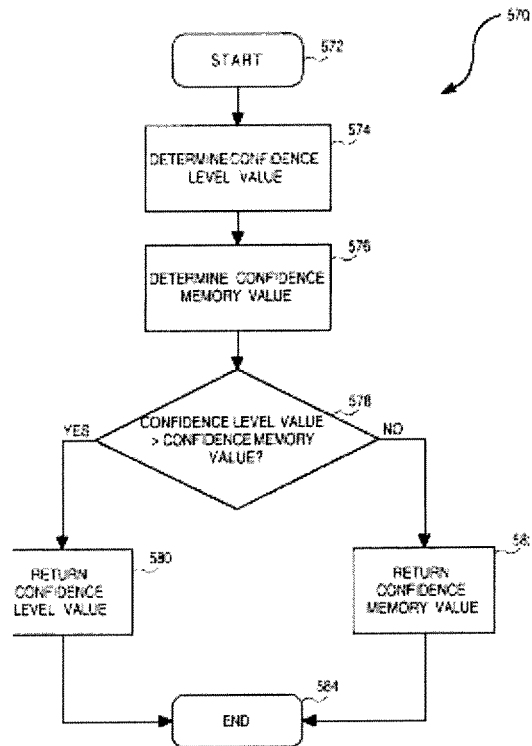


FIG. 21

FIG. 22

SET ID	TEAM ID	CONFIDENCE LEVEL	CONFIDENCE MEASUREMENT	TIME STAMP
1	101	950	981120000	981120000
	106	913	980721400	980721400
	207	850	980511200	980511200
2	07	910	981120100	981120100
	98	903	980716700	980716700
	116	900	9804183000	9804183000
	194	807	980026300	980026300
3	107	908	9811161000	9811161000
	128	888	981201000	981201000
	154	933	981251300	981251300
	5	373	9811181431	9811181431
4	4	900	981221600	981221600
	5	901	981201160	981201160
	26	900	980503160	980503160
5	26	900	9805221147	9805221147
	702	900	9805221147	9805221147

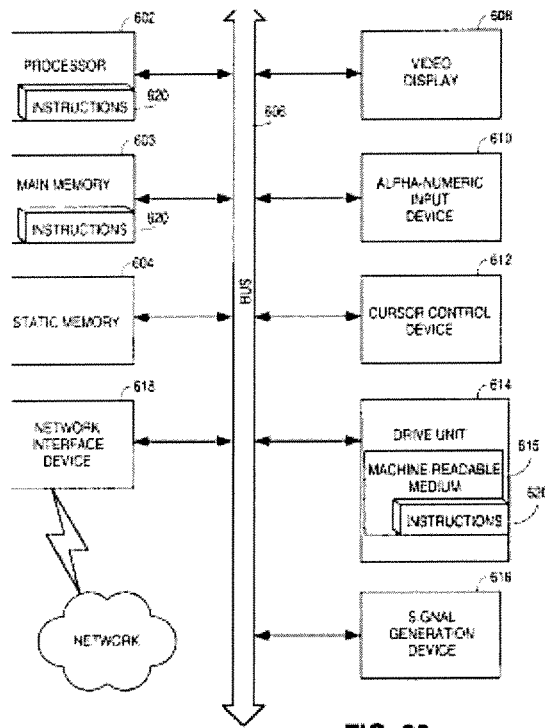
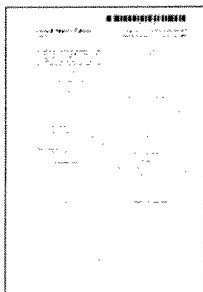


FIG. 23

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Filing date: Sep 18, 1998
Issue date: Jun 26, 2001

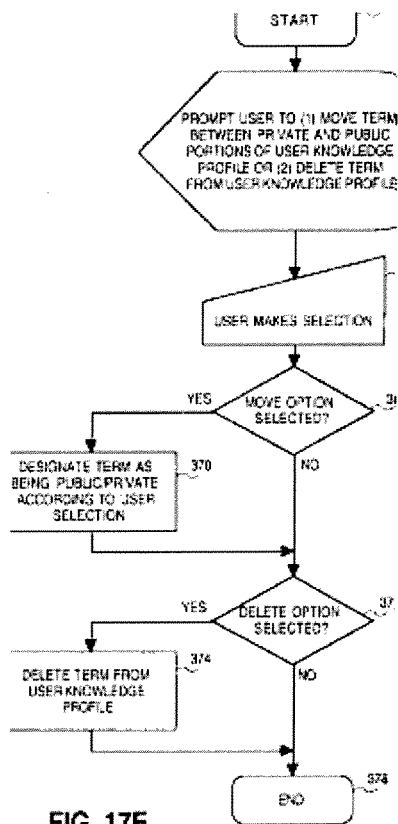


FIG. 17E

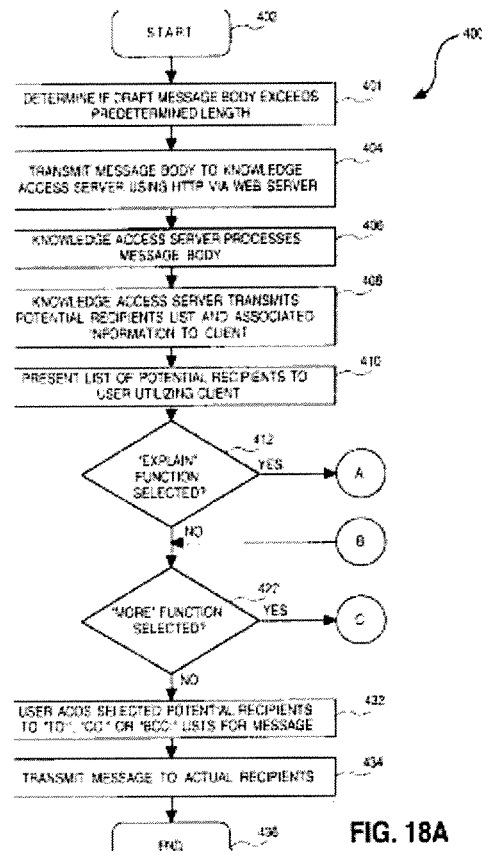


FIG. 18A

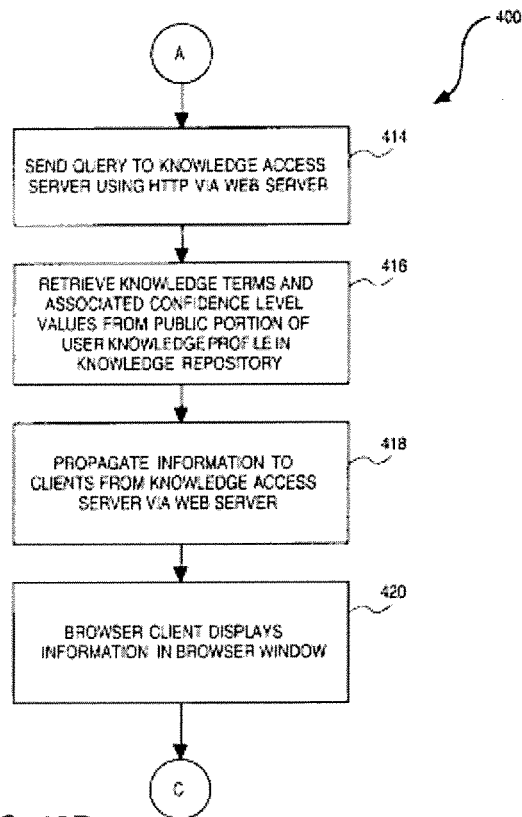


FIG. 18B

TRANSMIT "MORE" REQUEST TO KNOWLEDGE ACCESS SERVER
KNOWLEDGE ACCESS SERVER IDENTIFIES FURTHER POTENTIAL RECIPIENTS

EXHIBIT 4

Google scholar

"Chris Cheah" "San Jose" CA

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Articles and patents

anytime

include citations

Results 1 - 5 of 5. (0.01 sec)

[Audio communications system with built in expansion capability for a desktop ...](#)

C Cheah - US Patent 5,710,821, 1998 - Google Patents

... 20, 1998 Cheah [45] [54] AUDIO COMMUNICATIONS SYSTEM WITH BUILT IN EXPANSION CAPABILITY FOR A DESKTOP COMPUTER [75] Inventor: **Chris Cheah, San Jose**, Calif. [73]

Assignee: Sound Minds Technology, Inc., Campbell, Calif. [21] Appl. ...

[Cited by 4](#) - [Related articles](#) - [All 2 versions](#)

[Method and system for controlled distribution of contact information over a network](#)

C Cheah - US Patent 7,003,546, 2006 - Google Patents

... 21,2006 (54) METHOD AND SYSTEM FOR CONTROLLED DISTRIBUTION OF CONTACT INFORMATION OVER A NETWORK (76) Inventor: **Chris Cheah**, 947 Marble Ct., **San Jose, CA** (US) 95120 (*) Notice: Subject to any disclaimer, the term of this patent is extended or ...

[All 2 versions](#)

[COPYRIGHT NOTICE](#)

C Cheah - freepatentsonline.com

... Still another aspect of the invention is that contact information can be distributed to registered users in a common format. Inventors: Cheah, Chris (**San Jose, CA**, US). Application Number: 11/840968. Publication Date: 01/24/2008. Filing Date: 08/19/2007. View Patent Images: ...

[Method and system for controlled distribution of contact profiles over a network](#)

C Cheah - US Patent 7,277,911, 2007 - Google Patents

... Adamson et al. Eikeland 5,774,117 A 6/1998 Kukkal et al. (76) Inventor: **Chris Cheah**, 947 Marble Ct, San 5,812,865 A 9/1998 Theimer et al. Jose, **CA**(US) 95120 5,815,665

A 5,884,312 A 9/1998 3/1999 Teper et al. Dustan et al. ...

[All 2 versions](#)

[Primary Class](#)

C Cheah, LC Tai, MJ Brosnan - freepatentsonline.com

... presence information on a network Oreizy et al. - November, 2005 - 20050246369.

Inventors: Cheah, Chris (**San Jose, CA**, US). Application Number: 12/258308.

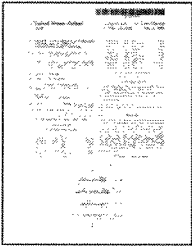
Publication Date: 02/19/2009. Filing Date: 10/24/2008. Export Citation ...

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"Chris Cheah" "San Jose" CA

Search

Method and system for controlled distribution of contact information over a ... Chris Cheah



- Overview
- > **Abstract**
- Drawing
- Description
- Claims

1 [Navigation icons]

Result 1 of 1 in this book for "Chris Cheah" "San Jose" CA

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Clear search X

"Chris Cheah" "San Jose" CA

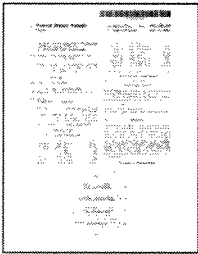
Go

(12) **United States Patent**
Cheah

Patent number: 7003546
Filing date: Oct 13, 1999
Issue date: Feb 21, 2006
Application number: 9/417,456

- (54) **METHOD AND SYSTEM FOR CONTROL
DISTRIBUTION OF CONTACT
INFORMATION OVER A NETWORK**
- (76) **Inventor:** Chris Cheah, 947 Marble Ct., San

Method and system for controlled distribution of contact information over a ... Chris Cheah



- Overview
- > Abstract
- Drawing
- Description
- Claims

1 - 4



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Patent number: 7003546
 Filing date: Oct 13, 1999
 Issue date: Feb 21, 2006
 Application number: 9/417,456

(12) United States Patent
 Cheah

(io) Patent No.: US 7,003,546 BI (45) Date of Patent: Feb. 21, 2006

US007003546B1

(54) METHOD AND SYSTEM FOR CONTROLLED DISTRIBUTION OF CONTACT INFORMATION OVER A NETWORK

(57) Abstract: A method or system for controlled distribution of contact information over a network.

(12) Appl. No. 09/417,456
(22) Filed: Oct. 13, 1999

Related U.S. Applications Data
(60) Provisional application No. 99/045101, filed on Oct. 13, 1999.

(51) Int. Cl. G06F 03/00 (20060101)

(52) U.S. Cl. 709/200; 709/210; 709/211; 709/221; 709/229

(53) Field of Classification Search: 709/200-203; 709/210-214; 709/216-219; 709/221-225; 709/229; 709/240-244; 709/246-247; 709/250-254. See application file for complete search history.

(54) References Cited

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 "vCard: The Electronic Business Card," Version 2.1, Aversit Consortium Specification, Sep. 18, 1996, pp. 1-40.

* cited by examiner

Primary Examiner—Bharat Barot

(74) Attorney, Agent, or Firm—Beyer Weaver & Thomas, LLP

REGISTER A PLURALITY OF USERS WITH THEIR CONTACT INFORMATION

ELECTRONICALLY EXCHANGING CONTACT INFORMATION BETWEEN CONSENTING USERS

OCCASIONALLY RECEIVING ALTERED CONTACT INFORMATION FROM THE USERS

ELECTRONICALLY UPDATING PREVIOUSLY EXCHANGED CONTACT INFORMATION

ABSTRACT

An information management and distribution system is disclosed. The information management and distribution system includes a client-side application and a server application that operate in facilities. The client-side application provides a user interface for creating, updating, and deleting contact information. The server-side application provides a user interface for creating, updating, and deleting contact information. The information management and distribution system also includes a database for storing contact information. The information management and distribution system also includes a network for connecting the client-side application and the server application. The information management and distribution system also includes a user interface for creating, updating, and deleting contact information. The information management and distribution system also includes a user interface for creating, updating, and deleting contact information.

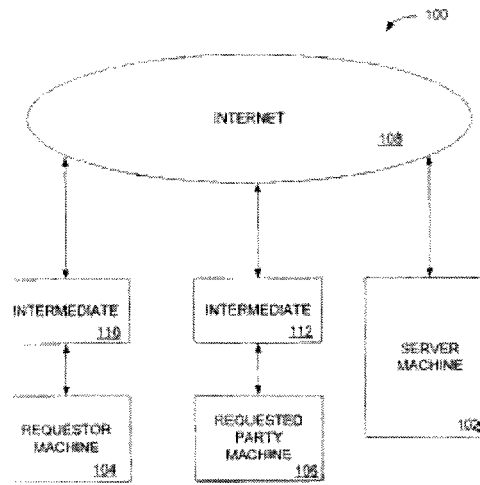


FIG. 1

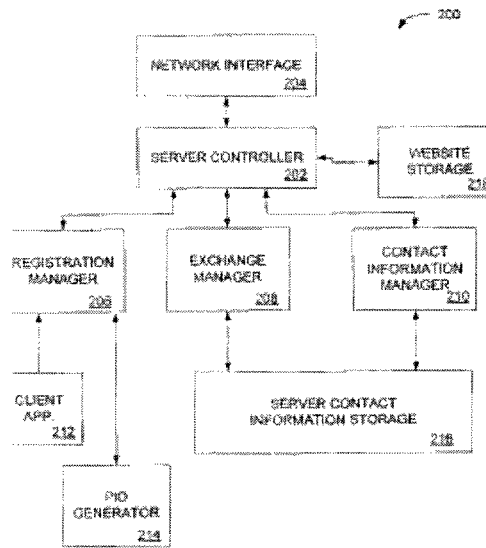


FIG. 2

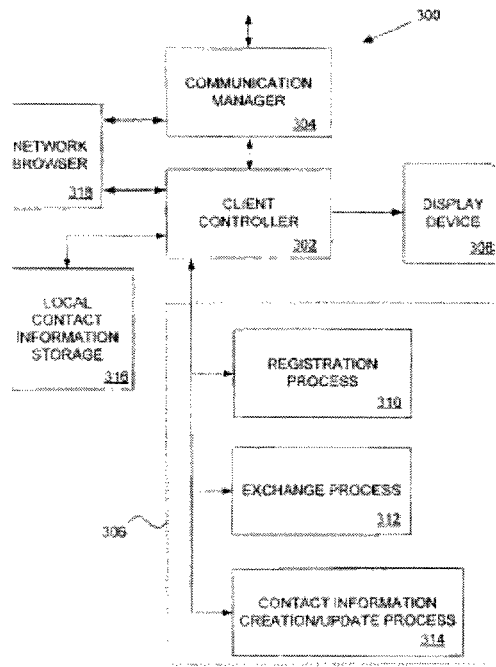
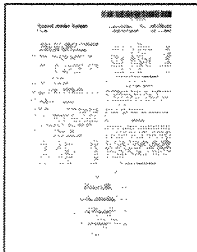


FIG. 3

Method and system for controlled distribution of contact information over a ... Chris Cheah

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- Abstract
- Drawing
- > Description
- Claims

Go

Patent number: 7003546
 Filing date: Oct 13, 1999
 Issue date: Feb 21, 2006
 Application number: 9/417,456

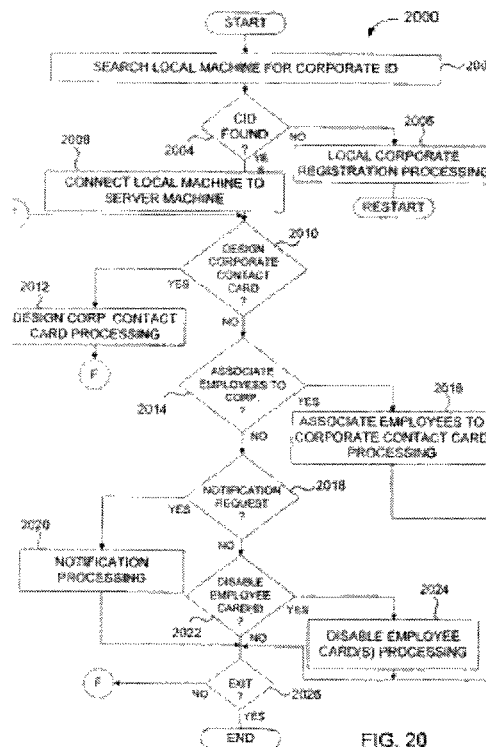
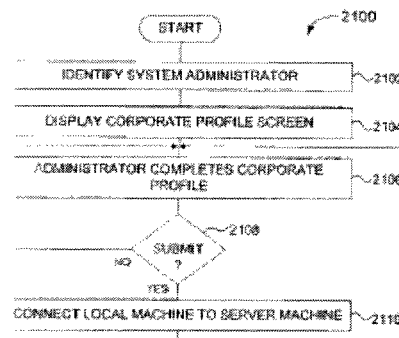


FIG. 20



SEND CORPORATE PROFILE INFORMATION AND SYSTEM ADMINISTRATOR INFORMATION TO SERVER MACHINE

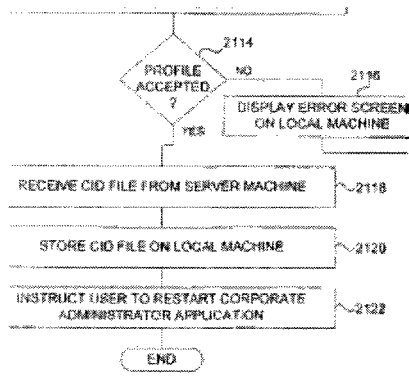


FIG. 21

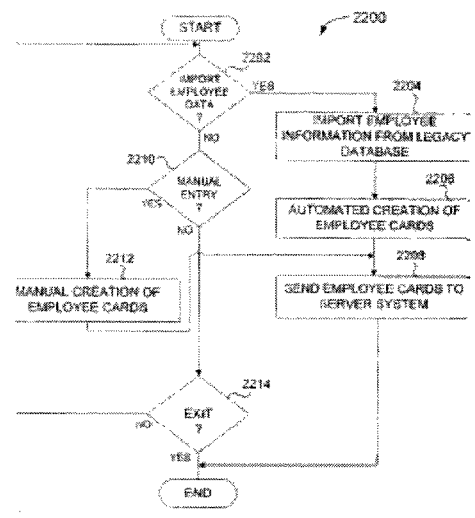


FIG. 22

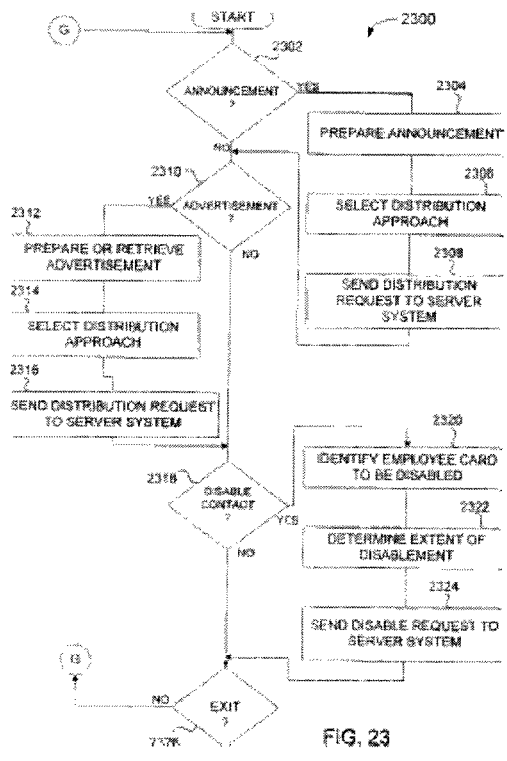


FIG. 23

BACKGROUND OF THE INVENTION 1. Field of the Invention

One problem with conventional approaches to distribut

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METHOD AND SYSTEM FOR CONTROLLED

DISTRIBUTION OF CONTACT
INFORMATION OVER A NETWORK

CROSS-REFERENCE TO RELATED
APPLICATION

This application claims the benefit of U.S. Provisional Application No. 60/104,311, entitled "METHOD AND SYSTEM FOR CONTROLLED DISTRIBUTION OF INFORMATION OVER A NETWORK", and filed on Oct. 13, 1998, the disclosure of which is incorporated herein by reference for all purposes.

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The present invention relates to the management and exchange of information and, more particularly, to information management and exchange over networks.

2. Description of the Related Art 30

It is very common today for individuals to distribute or exchange business cards with others. Normally, the distribution or exchange of business cards occurs during the course of business; however, such distributions or exchanges can also occur in more personal settings.
35

Business cards contain information pertaining to an individual who is normally associated with a business entity. The information on business cards typically includes a company name, an individual's name, title, phone number, facsimile number, mail address, and email address. Business cards thus record the information that is needed to not only identify but also contact the individuals represented by the business cards.

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ing or exchanging business cards is that the information on the business cards often becomes outdated after their distribution. Typically, business cards become outdated when the individuals move offices, change employers, obtain promotions, etc. When the information on a particular business card does become outdated, the information no longer facilitates the contacting of the individual associated with the particular business card. The outdated information is often misleading. In general, the persons receiving the business cards cannot determine from the business cards whether the information on the business cards is still accurate.

Another problem with conventional business cards is that their distribution is manual. As a result, for one's business card to be distributed, the business card needs to be physi- 60 cally handed to another person. Also, when a revised business card with updated information is to

be distributed, often there is no way to know who currently holds an older version of the business card. As a result, inaccurate business cards remain in circulation long after being outdated. 65

Thus, there is a need for improved approaches to automatically distribute and update contact information.

SUMMARY OF THE INVENTION

Broadly speaking, the invention pertains to an information management and distribution system. The information management and distribution system include a client-side application and a server application that interact to facilitate the controlled exchange of contact information over a network. The client-side application can provide creation and design, rolodex, exchange, and update features. The information management and distribution system can also include a corporate administrator application.

One aspect of the invention pertains to techniques for electronically distributing contact information over a network in a controlled manner. In one embodiment, the contact information includes information that is useful for identifying or contacting a registered user (e.g., person or entity). As an example, the contact information for a registrant can include name, telephone number, facsimile number, mail address, and email address. When the registration pertains to a business, the contact information can also include a title, business name, and a Universal Resource Locator (URL) to an associated business website. A registered user that has received contact information pertaining to another registered user can contact the registered user using the contact information.

Additionally, since contact information is dynamic and needs to be maintained, another aspect of the invention is the automatic update of the previously distributed contact information. Hence, should the contact information change after its distribution to certain registered users, then the updated contact information is able to be distributed to the certain registered users in an automated manner.

Still another aspect of the invention is that contact information can be distributed to registered users in a common format. A common format for the distributed contact information can be used to facilitate a consistent type of contact information as well as a consistent presentation of the contact information to registered users. In one example, the common format is provided by a business card arrangement. Further, the common format facilitates the association or attachment of additional information to the basic contact information. This additional information can include a wide variety of items. For example, the additional information can include text, data, hyper links, audio objects, video objects, etc. The additional information can also be used for a variety of purposes, including announcements, messages, notifications, and advertisements.

Yet another aspect of the invention is the corporate administrator application. The corporate administrator application enables an administrator to control the use of corporate (i.e., business entity) information. The corporate administrator application can include many of the features associated with the client-side application, including creation and design, rolodex, exchange, and update features. For example, the administrator may wish to update the corporate information that has been previously distributed or exchanged. In addition, the corporate administrator application can facilitate registration of employees of a business entity with the information management and distribution system. The corporate administrator application can also disable certain employees from further use of the corporate information.

The invention can be implemented in numerous ways, including as a method, an apparatus, a computer readable medium, and a computer system. Several embodiments of the invention are discussed below.

As a computer-implemented method for exchanging certain profile information over a network, the profile informa

EXHIBIT 5

E-service to manage contact information and track contact location

JG Douvikas, TR Sheehy, CWT ... - US Patent App. 10/679,373, 2003 - Google Patents
... 15,2004 (54) E-SERVICE TO MANAGE CONTACT INFORMATION AND TRACK CONTACT
LOCATION (76) Inventors: **James G. Douvikas, Danville, CA** (US); Terry R. Sheehy, Mountain
View, **CA** (US); Christopher WT McKay, Paddington (AU) Correspondence Address ...

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E-service to manage and export contact information

JG Douvikas, TR Sheehy, CWT McKay - US Patent 6,633,311, 2003 - Google Patents
... 14,2003 (54) E-SERVICE TO MANAGE AND EXPORT CONTACT INFORMATION (75) Inventors:
James G. Douvikas, Danville, CA (US); Terry R. Sheehy, Mountain View, **CA** (US); Christopher
WT McKay, Paddington (AU) (73) Assignee: Hewlett-Packard Company, LP, Houston ...

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E-service to manage contact information with privacy levels

JG Douvikas, TB Sheehy, CWT ... - US Patent App. 11/035,249, 2005 - Google Patents
... 18,2005 (54) E-SERVICE TO MANAGE CONTACT INFORMATION WITH PRIVACY LEVELS
(76) Inventors: **James G. Douvikas, Danville, CA** (US); Terry B. Sheehy, Mountain View, **CA** (US);
Christopher WT McKay, Paddington (AU) Correspondence Address: HEWLETT ...

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Compressed data structure for a database

CWT McKay, S Skillcorn, JG ... - US Patent App. 10/350,326, 2003 - Google Patents
... Christopher WT McKay, Auckland (NZ); Steven Skillcorn, Queenstown (NZ); James G. Douvikas,
Danville, CA (US) Correspondence Address: HEWLETT-PACKARD COMPANY Intellectual
Property Administration PO Box 272400 Fort Collins, CO 80527-2400 (US) (21) Appl. ...

[All 2 versions](#)

E-service to manage contact information and signature ECards

JG Douvikas, TR Sheehy, CWT McKay - US Patent 7,017,109, 2006 - Google Patents
... 21,2006 (54) E-SERVICE TO MANAGE CONTACT INFORMATION AND SIGNATURE ECARDS
(75) Inventors: **James G. Douvikas, Danville, CA** (US); Terry R. Sheehy, Mountain View, **CA** (US);
Christopher WT McKay, Paddington (AU) (73) Assignee: Hewlett-Packard ...

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Representative Image

JG Douvikas, TB Sheehy, CWT Mckay - freepatentsonline.com
... February, 2005 - 20050027706. Representative Image: E-service to manage contact
information with privacy levels. Inventors: Douvikas, James G. (**Danville, CA**, US) Sheehy,
Terry B. (Mountain View, **CA**, US) Mckay, Christopher WT (Paddington, AU). ...

[All 2 versions](#)

Compressed data structure for extracted changes to a database and method of ...

CWT McKay, S Skillcorn, JG ... - US Patent App. 10/350,356, 2003 - Google Patents
... Christopher WT McKay, Auckland (NZ); Steven Skillcorn, Queenstown (NZ); James G. Douvikas,
Danville, CA (US) Correspondence Address: HEWLETT-PACKARD COMPANY Intellectual
Property Administration PO Box 272400 Fort Collins, CO 80527-2400 (US) (21) Appl. ...

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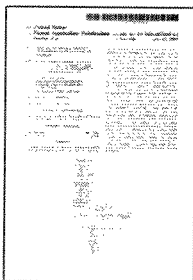
"James G. Douvikas" Danville CA

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E-service to manage contact information and track contact location James G. Douvikas et al



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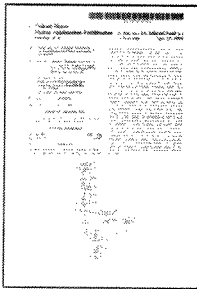


(19) **United States**
 (12) **Patent Application Pub**
Douvikas et al.

Application number: 10/679,373
Publication number:
 US 2004/0073869 A1
Filing date: Oct 7, 2003

(54) **E-SERVICE TO MANAGE CONTACT
 INFORMATION AND TRACK CONTACT
 LOCATION**

(76) **Inventors:** James G. Douvikas, Danville, CA

E-service to manage contact information and track contact location James G. Douvikas et al

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Application number: 10/679,373
Publication number:
 US 2004/0073869 A1
Filing date: Oct 7, 2003

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US 20040073869A1

(19) United States

(12) Patent Application Publication (io> Pub. No.: US 2004/0073869 AI

Douvikas et al. (43) Pub. Date: Apr. 15,2004

(54) E-SERVICE TO MANAGE CONTACT

INFORMATION AND TRACK CONTACT
LOCATION

(76) Inventors: James G. Douvikas, Danville, CA
 (US); Terry R. Sheehy, Mountain
 View, CA (US); Christopher W. T.
 McKay, Paddington (AU)

Correspondence Address:
 HEWLETT-PACKARD COMPANY
 Intellectual Property Administration
 P.O. Box 272400
 Fort Collins, CO 80527-2400 (US)

(21) Appl. No.: 10/679,373

(22) Filed: Oct. 7, 2003

Related U.S. Application Data

(63) Continuation of application No. 09/507,043, filed on Feb. 18, 2000, now Pat. No.
 6,691,158.

Publication Classification

(51) Int. Cl.⁷ G06F 17/00

(52) U.S. Cl. 715/507

(57) **ABSTRACT**
 A method of providing an electronic business card (EEC) access and organization service on the Web. The cardholder

database is accessible and searchable from any browser connected to the Internet or the EEC service may be installed behind a conventional firewall and thus accessible only to intranet users. The service thus provides easy access to cardholder contact information with privacy assured by use of integrated access restrictions. Access to and delivery of contact information by the service is not limited to a Web browser interface as commonly known today. The service provides multi-mode access and/or data delivery interfaces. The service also provides an export feature that formats search results into a pre-defined file structure readable by a conventional contact management programs. Custom export file formats may also be defined provide even wider connectivity and cross-platform utility. Access to individual records is controlled at both the record level and the field level, with multiple privacy levels for each field, in addition to the well-known "public" and "private" levels. Users having certain permissions are permitted to read a defined group of records, though not necessarily all fields in each record. A location tracking feature is also provided to allow the cardholder to rapidly designate a pre-defined contact location. Alternately, the cardholder may define a temporary contact location not normally stored in the database system. Electronic mail sent by the cardholder is automatically formatted to contain a signature hypertext link directing recipients of the email to the EEC service. This hyperlink enables the recipient of the email to rapidly access the EEC system to locate the cardholder and/or

obtain additional information.

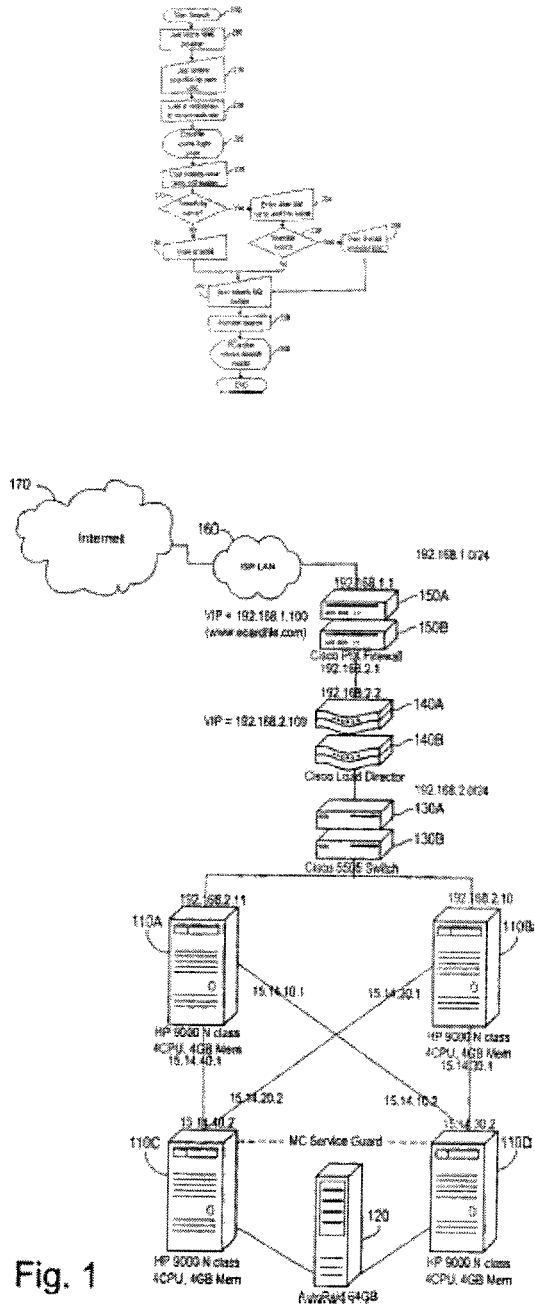


Fig. 1

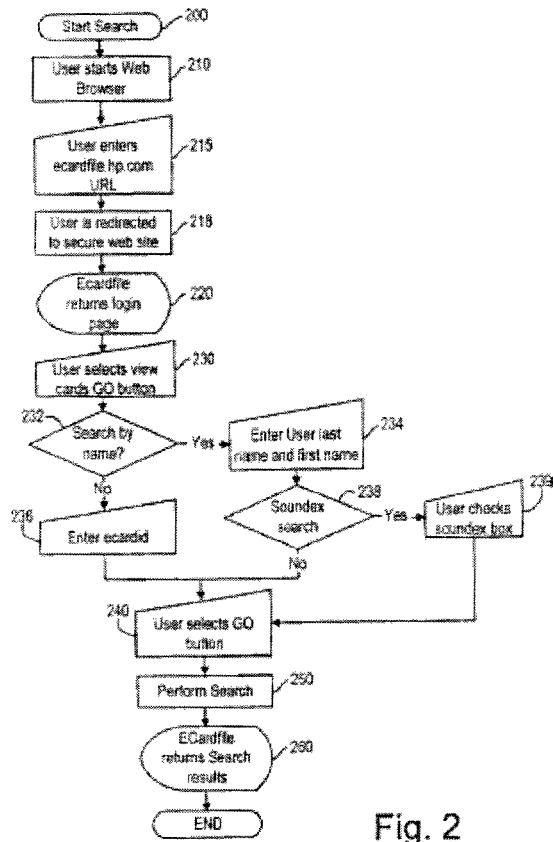


Fig. 2

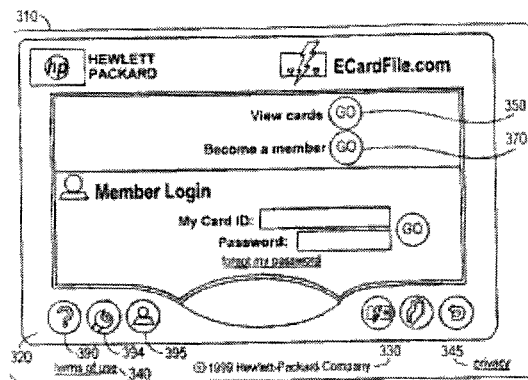


Fig. 3A

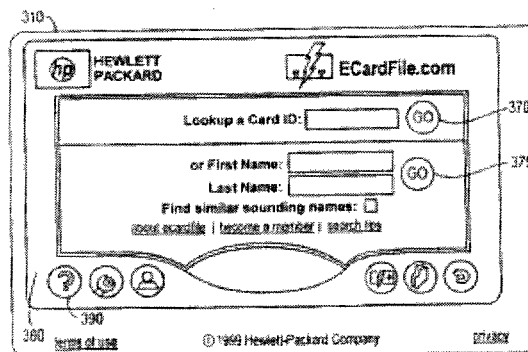
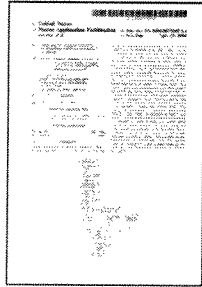


Fig. 3B

E-service to manage contact information and track contact location James G. Douvikas et al



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- [Abstract](#)
- [Drawing](#)
- [Description](#)
- [Claims](#)

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Application number: 10/679,373
 Publication number:
 US 2004/0073869 A1
 Filing date: Oct 7, 2003

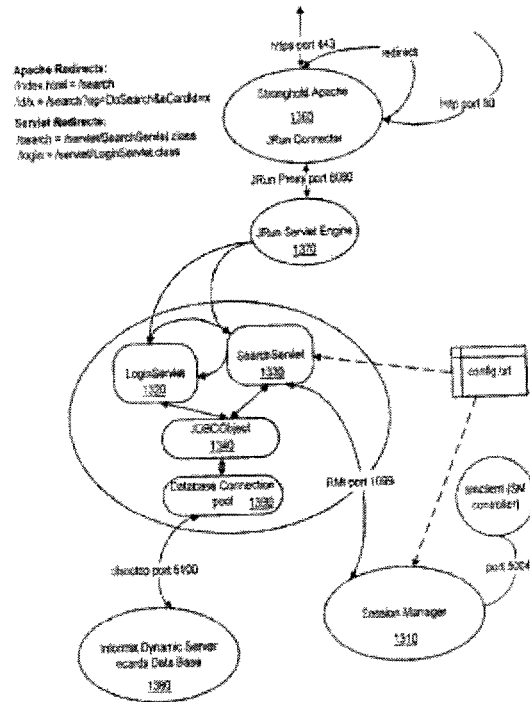


Fig. 18

Database Schema

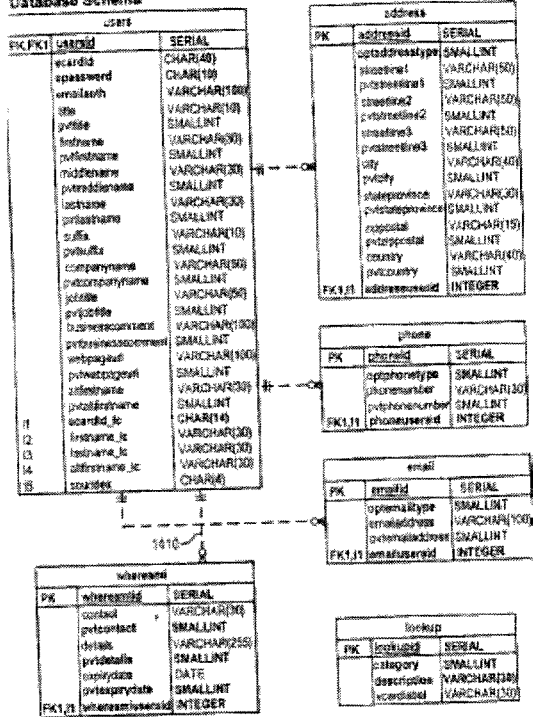


Fig. 19A

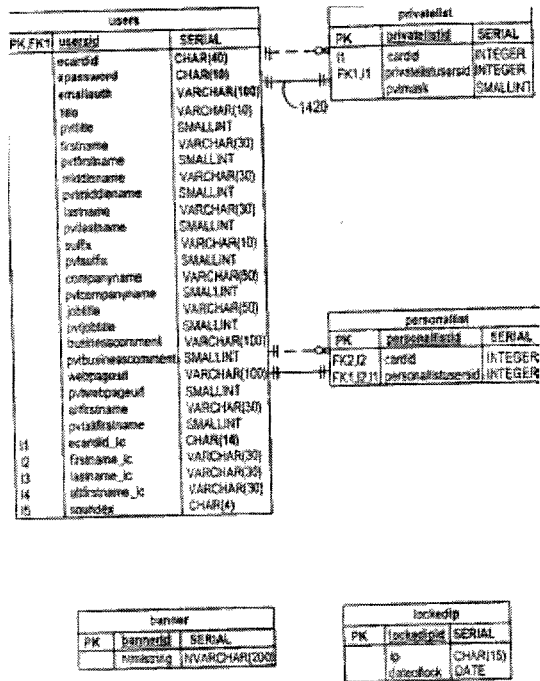


Fig. 19B

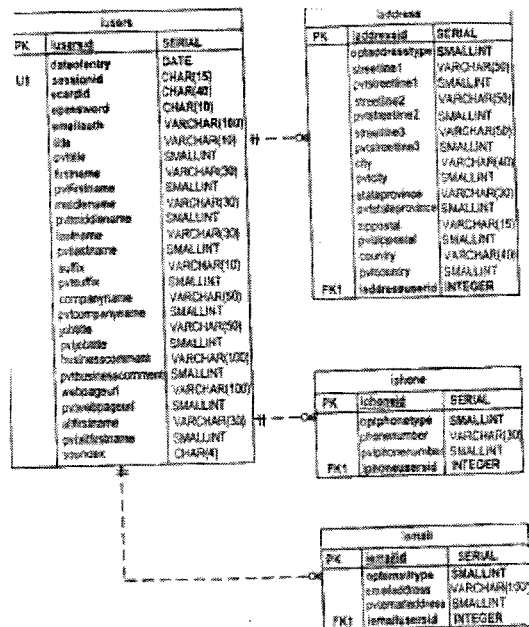


Fig. 19C

E-SERVICE TO MANAGE CONTACT
 INFORMATION AND TRACK CONTACT
 LOCATION
 CROSS-REFERENCE TO MICROFICHE
 APPENDIX

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BACKGROUND OF THE INVENTION [0002] 1. Field of the Invention

[0003] The present disclosure relates to electronic commerce, more specifically electronic storage and retrieval of information.

[0004] 2. Description of the Related Art

[0005] The ordinary paper business card has become ubiquitous worldwide. Social rituals have even developed concerning the exchange and scrutiny of these small slips of cardboard. By some estimates, billions of business cards change hands every day, yet the cards themselves have numerous shortfalls. Each business card contains only static information on the cardholder, i.e., the person for whom the card was printed and whose name is on the card. Business cards must be reprinted every time any cardholder information (such as a phone number, electronic mail [email] address, or title) changes. Business cards consume not inconsequential amounts of space, yet lack an inherent card-to-card organization. Thus, it can be difficult to retrieve information from a stack of cards, especially if that stack numbers in the hundreds or thousands of cards.

[0006] Privacy of information is also a growing issue among modern business people. By definition, the information on a card is public, yet other information (such as a mobile or home phone number) is necessarily shared with some acquaintances. In such situations, the cardholder or recipient must fumble for a pen and the additional data must be dictated and captured.

[0007] Dynamic access to the cardholder by others is not addressed by the prior art

business card, as it only shows static location information as of the last printing of the card. Thus, if a business person is based in Huntington, N.Y. but happens to be traveling to San Jose, Calif., that person's business card will not reflect the California address or phone numbers.

[0008] Electronic means of capturing and storing conventional business card data are currently known. Examples of this technology include card scanners, personal digital assistant (PDA) devices and related software, electronic address books, commercial email programs such as Microsoft® Outlook having their own electronic address books, "smart phones" or PDA/wireless communication device hybrids, Internet (also referred to as the World Wide Web, or simply "Web") based contact organizers, and the like. This technology all suffers from the same limitation in that it generally lacks multi-level privacy for users and cardholders, it

cannot help locate the cardholder, it (generally) lacks the ability to seamlessly export to or import from other database systems, and (with the possible exception of some prior art Web-based contact organizers) it lacks centralized control and universal access.

[0009] What is needed is a widely-accessible electronic service and method for organizing contact information entered by cardholders, including but not limited to all of the information on a standard business card. This service must provide for the ability to export data to standard databases. Privacy of information should be configurable at an information record and field level by the cardholder so that access to some records and some fields in all records can be denied to certain people while access to other records and fields is still allowed. A location feature to allow service users to determine how to best reach a listed cardholder at a given time is also desirable. A dynamic electronic link, such as the well-known Internet hyperlink, is also needed to connect the recipients of email from a cardholder to the service.

SUMMARY

[0010] In one embodiment of the present invention, an electronic business card (EEC) access and organization system operates from a Web-based computer system that includes a database and software for managing access, data privacy, and dynamic updates. The cardholder database, i.e., the database containing records of each registered cardholder (or "Member" of the EEC system), is accessible from any Web browser connected to the Internet. Examples of such common Web browsers are Microsoft's Internet Explorer and Netscape® Navigator®. In an alternate embodiment, the EEC system may be installed behind a conventional network "firewall" security device and thus made accessible only to browsers connected to and authorized to use the intranet defined by and behind the firewall.

[0011] Access to and delivery of contact information in the EEC system is not limited to a Web browser interface as commonly known today. Some embodiments of the present invention provide multi-mode access interfaces, including but not limited to interfaces using voice-controlled and conventional wireless PDA and/or cell phones, two-way pagers, and wireless access protocol (WAP)-enabled devices. Further embodiments of the present invention provide data delivery interface embodiments using, for example, the common alphanumeric pager, wireless markup language (WML), or voice delivery (e.g., audio playback) systems commonly used in the art.

[0012] A location tracking feature is provided in some embodiments by a rapid update service, accessible only to the cardholder (or his designee). Protected by password, this feature allows the cardholder to rapidly designate one of a pre-defined set of contact locations described by physical (i.e., meatspace) address, phone number, FAX number, and/or email address. Alternately, the cardholder may define a temporary contact location not normally stored in the database system. These embodiments thus allow more rapid communications between users seeking cardholders by eliminating the need for users to place repetitive phone calls, FAXes, or emails in an attempt to locate a cardholder.

EXHIBIT 6

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"Daniel L. Ahlberg" "Pleasanton" CA

Google Search

I'm Feeling Lucky



"Daniel L. Ahlberg" "Pleasanton" CA

Search

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Results 1 - 2 of 2 for "Daniel L. Ahlberg" "Pleasanton" CA. (0.16 seconds)

[5506 Blackbird Drive, Pleasanton, California 94566 | BlockShopper ...](#)

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Daniel L Ahlberg, Lorna Ahlberg. N/A on April 26, 2004 ...

sf.blockshopper.com/property/946-3313.../5506_blackbird_drive/ - [Cached](#)

[Structure for accessing and populating community websites - Google Patents Result](#)

US Pat. App 10251174 - Filed Sep 20, 2002

Block, Sudbury, MA (US); **Daniel L. Ahlberg, Pleasanton, CA** (US); John Feldmeier, Palo

Alto, CA (US); Elliot M. Katzman, North Andover, MA (US) ...

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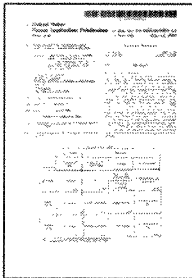
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(19) **United States**
 (12) **Patent Application Publ**
Block et al.

"Daniel L. Ahlberg" "Pleasanton" CA

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Application number: 10/251,174

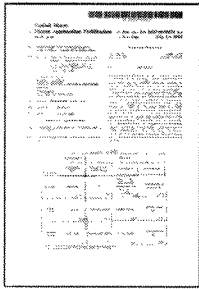
Publication number:

US 2003/0050976 A1

Filing date: Sep 20, 2002

(54) **STRUCTURE FOR ACCESSING AND
 POPULATING COMMUNITY WEBSITES**

Structure for accessing and populating community websites David A. Block et al



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US 20030050976A1

- (19) United States
- (12) Patent Application Publication (io> Pub. No.: US 2003/0050976 A1
 Block et al. (43) Pub. Date: Mar. 13,2003
- (54) STRUCTURE FOR ACCESSING AND
 POPULATING COMMUNITY WEBSITES
- (75) Inventors: David A. Block, Sudbury, MA (US); Daniel L. Ahlberg, Pleasanton, CA (US);
 John Feldmeier, Palo Alto, CA (US); Elliot M. Katzman, North Andover, MA (US)
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 Suite 250
 75 Enterprise
 Aliso Viejo, CA 92656 (US)
- (73) Assignee: Myteam.com, Woburn, MA
- (21) Appl. No.: 10/251,174
- (22) Filed: Sep. 20, 2002

Related U.S. Application Data

- (63) Continuation of application No. 09/546,000, filed on Apr. 10, 2000.
- (60) Provisional application No. 60/172,983, filed on Dec. 10, 1999.

A website structure for populating the registration database of a website, and for providing access to information contained within various community areas that comprise the website. A plurality of community areas are provided via website pages which contain information pertaining to a community interest. Each registered user will have a home page with personal information. Other overlying community areas might provide group information to which a user belongs, or organizational information to which a group belongs, and so forth. The information within the community areas can be viewed and shared by various users of the website, with access to the information controlled by the status of the user. The membership database for the website is built via invitations from member users to non-member users. An identification can be assigned to each relationship. Access to various information within the community areas is thereby controlled by the status of the user, or the relationship the user has with other member users. The database can thereby be populated by known or trusted persons of current members.

Publication Classification	
Int. Cl.	G06F 15/16
U.S. Cl.	709/200; 709/220
(57) ABSTRACT	

myteam.com Site Map

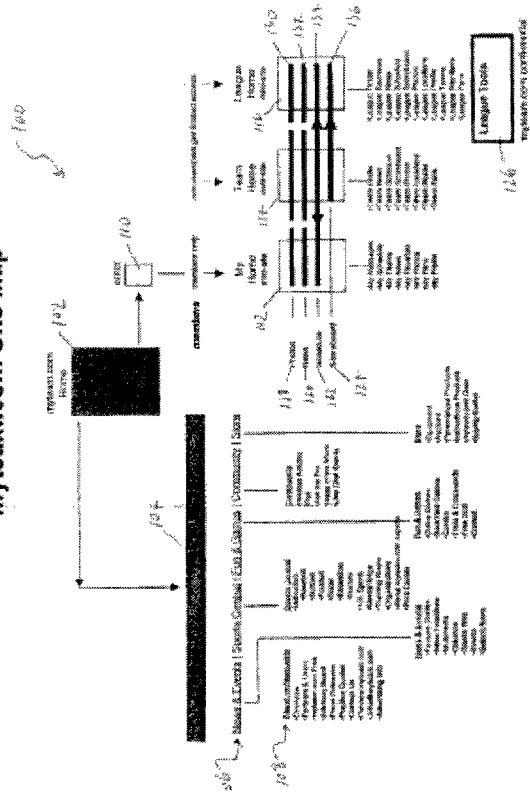


Fig. 1

Access Level Chart

X = access	Non-Members		Members	
	Anonymous Visitor	Invited Guest (Fan/Friend)	Participant	Administrator
My Home	no access 202	X 204	IND - unless verified family member such as Parent or Guardian 210	X (That individual that owns it) 208
Team Home	X (Invited) 210	X (can see more) 212	X (can more) 214	X (See and edit all) 216
League Home	X (Invited) 218	X (can see more) 220	X (can more) 222	X (See and edit all) 224

* Can be expanded to include Fan Like and so forth

Access Level Chart

X = access	Non-Members	Members		
	Anonymous Visitor	Invited Guest (Fan/Friend)	Participant	Administrator
My Home	no access 202	X 204	(NO - unless verified family member such as Parent or Guardian) 206	X (That individual that owns it) 208
Team Home	X (limited) 210	X (can see more) 212	X (Still more)* 214	X (See and edit all) 216
League Home	X (limited) 218	X (can see more) 220	X (still more) 222	X (See and edit all) 224

* Can be expanded to include Fan Lists, and ad fronts

Figure 2

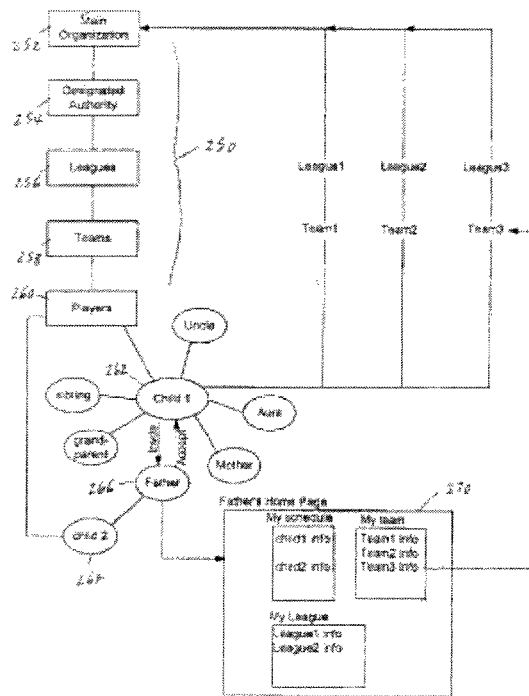
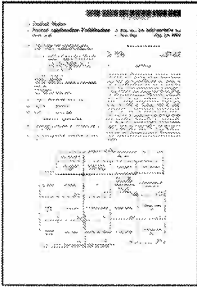


Figure 2A

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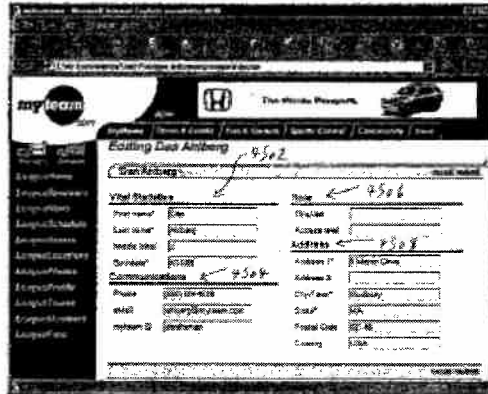


Figure 45

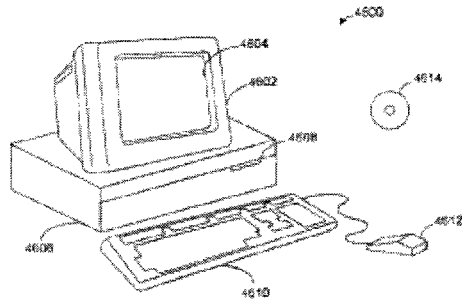


Figure 46A

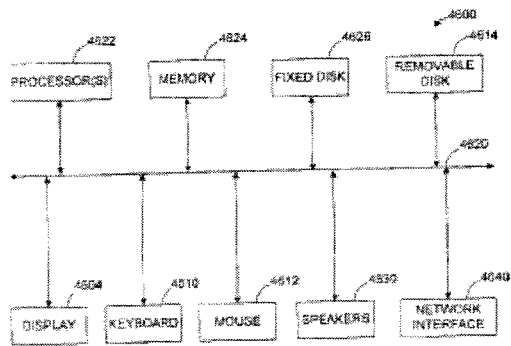


Figure 46B

STRUCTURE FOR ACCESSING AND POPULATING COMMUNITY WEBSITES

RELATED APPLICATIONS

[0001] This application claims priority under 35 USC 119(e), to the Provisional application entitled "Structure and Method For Accessing and Populating Community Websites," which was filed on Dec. 10, 1999, and assigned application No. 60/172,983 (Attorney Docket No. MYTEP001P), and which is hereby incorporated by reference.

[0002] This application is related to: U.S. patent application Ser. No. (Attorney Docket No. MYTEP002),

entitled "Methods For Accessing and Populating Community Websites," and U.S. Provisional patent application

No. (Attorney Docket No. MYTEP004P), entitled

"Tools and Functionality For Community Website Structures and Methods Thereof," all filed on the same date herewith, and which are hereby incorporated by reference.

FIELD OF THE INVENTION

[0003] The present invention relates generally to a network system, or website structure thereon, used for the provision of access by an individual to information that relates to multiple website communities in which the individual is a participant. More specifically, the present invention provides website structures for summarizing access to the information pertaining to an individual's involvement in these multiple communities. The extent of access to the website information for a specific community is based upon the security level of the individual in relation to the community, and which is granted to them by other members of that community.

BACKGROUND OF THE INVENTION

[0004] Computer networks provide an efficient means for transporting data between workstations or terminals on (or connected to) the network. Such networks can consist of Local Area Networks (LANs), which are generally restricted to one geographical area or location. Such networks can also include Wide Area Networks (WANs) which connect a

number of machines over a larger geographic area. The Internet is also an example of one such network. The Internet is a worldwide system of computer networks—or a network of networks—wherein users at any one computer can, if they have permission, get information from any other computer. The Internet was conceived by the Advanced Research Projects Agency (ARPA) of the U.S. government in 1969 and was first known as the ARPANet. The original aim was to create a network that would allow users of a research computer at one university to be able to "talk to" research computers at other universities. Aside benefit of the ARPANet design provided that messages can be routed or rerouted in more than one direction, and that the network can continue to function even if parts of it were destroyed in the event of a military attack or other disaster (including simple down-time of component parts).

[0005] Today, the Internet is a public, cooperative, and self-sustaining facility accessible to hundreds of millions of people worldwide. The Internet is providing ever increasing opportunities for persons across the world to interact with each other via a relatively cheap medium of communication.

A person might use a computer to pull up a website and see information that might pertain to an organization to which that person belongs, or is affiliated. Many such websites require a registration procedure to be completed, wherein the user provides certain personalized information and is assigned an identifier to use when accessing the site. Through this identifier, the user can access personal, or private information from a database or the like associated with the website. The personalized identifier generally prevents such information from being accessed by other users of the website.

[0006] Many Internet sites also have community aspects associated with them.

[0007] Community aspects provide the ability for a member to interact with a variety of other members on the site who share a commonality. For instance, the user might post and/or retrieve information from a website, or certain areas of a website. Depending upon the nature of the information being posted or retrieved, security issues become important in discerning who will be allowed to become a member of any given community and thereby retrieve and/or post specific information.

[0008] In present Internet sites, an impetus is placed on personalization of an individual's experience on a website by providing them easy access to only the information that is relevant to the interests that they have identified. The information then provided is a subset of the significant amount of information that is available on the website. Such tailoring of information to the individual can provide incentive for people to join a website, and thereby increase the size of the registration databases as quickly as possible. Larger registration databases and the ability to target messages to groups of members with definable demographics provides the ability for websites to charge higher advertising rates. Additionally, larger registration databases generally lead to a higher relative valuation for the website company. Internet sites with registration systems are generally populated by various users coming to the site for the content and communities contained therein. Typically, a certain amount of content and limited access, if any, to communities is provided to casual visitors to the site. Increased access to content and communities is offered thereafter upon completion of the registration process. Membership in more than one website community requires that the individual have a separate membership identifier and password for each community they are part of. This results in the need for the individual to log-in separately to each website community in order to access the information contained therein. The information in each website must be manually reviewed and consolidated in order to get a comprehensive summary of all of the activities and responsibilities the individual has in their different communities.

[0009] The combination of privacy concerns about undesired use of user registration information, and security concerns about access to information in a user community often makes it difficult to expand a registration database. In such situations where registration is required, many users are dissuaded from joining because of the requirement to provide certain personal information. Such users believe that their privacy is being violated, as many websites will thereafter forward (or sell, or datamine) a user's information, for marketing purposes and the like. This is particularly true where the community information involves children, or other family members, or a particular user. To overcome the concerns of privacy and security, a website must provide a significant benefit to the member in exchange for the

risks that are perceived. Such opportunities often occur with website communities involving sporting events, school events, or the like. For instance, an individual may be a participant in multiple sport teams, events or organizations, each having a separate schedule of events. Such information in a website might include scheduled events and games and specifics on their locations, news about teams and events, and so forth. Aparent or guardian may likewise have several children, each of whom participate in multiple teams, events or organizations, yet are dependent on their parents for transportation and other means of involvement. The management and consolidation of information across multiple community websites for several family members can be very tedious and subject to error.

[0010] Accordingly, what is needed in the field is a method and apparatus that allows a user to have a more efficient means access to all of the website information that is relevant to their participation in multiple communities (games, organizations, and events). This should also include access to the different communities that their children may also participate in. This should include a means by which access to the information contained within multiple communities can be accomplished through a single member identifier and password. A structured level of access to various community information should be provided, wherein a user's access to information is based upon a security access level granted by other members of that community. This could result in an individual's access to different communities to vary, even though a single member identifier and password is used to access them.

SUMMARY OF THE INVENTION

[0011] To achieve the foregoing, and in accordance with the purpose of the present invention, certain information structures are provided for forming information structures which will allow for more secure development of the information structure, and for more secure and user-flexible methods of providing access to post/retrieve information in the structure. The most common example of such an information structure includes a website, as comprised of webpages. For discussion purposes, the present invention will be described in terms of a website structure, with the present invention not being limited to this example structure.

[0012] A community of inter-related users is created through the website structure, with the community growing through members of the site selectively adding individuals to the community and sending out invitations for them to join the website and the specific community. These invitations are sent to known and trusted individuals who are either not yet members of the website or who are members of the website but not yet a part of the specific community. The invitees who are not yet a member of the website can thereafter choose to register with the website, and become a part of the Community. Existing members of the website can accept their invitation into their current website membership. The subsequent access to other communities that are part of the greater website, and those to which the existing website member is invited will be facilitated through the initial member identifier and password.

[0013] Communities relating to the Internet generally provide a method of sharing information between a large number of persons who might be interested in one topic. Such communities might include sports teams, school activities, clubs, or the like.

[0014] Information within such a community might include personal schedules, pictures, or other items having a personal nature. In certain instances, it will be desirable to share such personal information with other members of the community. The level of sharing will often depend upon the role (or status) of the person associated with the particular community.

[0015] The present invention is described in terms of a sports-oriented website, namely myteam.com and its owned websites (www.dixie.org, etc). This site includes a multitude of web pages, some of which are restricted to viewing only by Members and their selected invitees. A given page may be viewable in two or more versions, with elements on the page appearing or being hidden from view depending on the access level that the individual has in relation to the page. Many of the elements on the page are contained within capsules that show a summary of the information that is displayed on the page that is linked to the capsule.

[0016] Three (3) types of Communities are described, and access to the list of each Community's members is available only to the owner (or administrator) of the Home pages which are associated with each Community. A first type of Community includes a Members

own Home page, and contains personalized material pertaining to that Member and summary information from the community websites in which the Member is an invited participant. A second type of Community includes a Team Home page, and contains Team information. A third type of Community includes a League Home page, and contains League information. These particular Communities are presented by way of example, and the present invention is not intended to be limited to these three example Communities. The same functionality has wide applicability to families, schools, community groups, scouting organizations and the like. A school implementation could, but is not necessarily restricted to, be organized around a specific school, which may or may not have a shared affiliation with other schools, and also around its classes and the students. An implementation for a family could, but is not necessarily restricted to, be organized around an extended family or a family-oriented organization, such as a church or community group, and also around a family, extended or immediate, and the individual members of that family. A implementation for a community group could, but is not necessarily restricted to, be organized around a specific organization or church which sponsors it, and which may have shared affiliation with other groups and organizations, and also around the group itself and the individual members of the group. An implementation for scouting could, but is not necessarily restricted to, be organized around a specific regional scouting group, which may or may not have an affiliation with a larger organization, and also around a troop, its sponsor, and the individuals of the troop. The spirit and scope of the present invention includes, among other things, the inter-related nature of the communities, along with selectable access being provided based upon the status of any particular user of the website.

[0017] By expanding the registration base of the website, and/or access to personal information through invitations to trusted persons, a website can be expanded in a relatively secure manner. Persons joining the community will be a friend or trusted person of at least one other person in that community. Even with this structure, an undesirable person might enter a community (or be invited to enter) through an ill-advised invitation. As a result, the Administrator at any particular level will ultimately have overriding power in determining who will be allowed to join a Community, or who will be removed from having trusted access to a Community. An individual can be listed as a member of a Community without being granted trusted access to information on the website. This enables a Community on the website, that also has a non-website presence, to represent its total membership, not all of whom may have joined the Community on the website.

[0018] Within the interacting (and overlying) structures of the various Communities—i.e. League/Team/Personal (or My) Community structure—persons can have access to different information based upon the particular access level assigned to that person in relation to a specific community. The person can request a change of access from the administrator in order to be allowed to see more information on one or many of the various sites. If deemed appropriate, the administrator will then invoke that particular change of status in the myteam.com system.

[0019] When an individual is added to the community listing and subsequently invited, they are given a pre-defined level of access to that community and any directly-related community (i.e., when invited to a team, access is also granted to the league within which the team plays). Each member of the Community will have a different access level based upon their role or status in the website structure. Some members have access to edit/change/post information while others only have access to view the information. The level of access granted is pre-defined by the access level of the current community member who invited them and the role in the community to which they have been added.

[0020] As an example, when a parent is added to the information for a child, they are automatically granted access to the child's home page and to any team or league that the child is a participant in. When an individual is unassigned to a team or is assigned to a team, the access of their parents, and non-parental contacts are changed to match the relationship of the child to those communities. An individual cannot invite someone to have an access level higher than they themselves have. An individual's access to a community is enabled once they have accepted the invitation. An administrator for the community can alter the level of access granted to the individual, either before or after an individual accepts the invitation.

[0021] An Administrator will monitor membership of such community members and can completely remove, or just deny trusted access, to any member whose conduct on the

website does not fit the desired standards of the community. To facilitate website communities that are components of organizations that also have a non-website presence, individuals can be added to a community's listing without being invited to join the community as a member on the website. This can include (for example) members who once had trusted access to the community, but subsequently had it removed by a community administrator.

[0022] The website structure provides for multiple communities to be present, some of which may have a relation

ship to each other. For example one community may be a subset of a larger community, and membership in the subset community may include membership in the larger community. Additionally, a given member may themselves be a member of multiple communities, and may have responsibility for family members who themselves are members of communities.

[0023] The information that is posted and viewable on one community's pages may also automatically be made available to view on another community's pages, when the communities have a superset/subset relationship. For example a game scheduled by the league will appear on the schedule for the teams that are playing in the game. Likewise, the score of a game entered by a team will appear on the Scoreboard for the league that the team is in. If a team administrator enters a player into the team roster, the player will also appear on the league's roster.

[0024] Each individual who registers with the website gets a personal home page. This page is the first page viewed when the member provides their unique member identifier and a password. This page provides links to the different communities that the individual is part of, including teams, leagues, and the home pages of other individuals who have been granted trusted access to this individual's home page. The individual also has the ability to remove oneself from having trusted access to a community, unless they are the only "owner" or administrator for that community.

[0025] The personal home page, and the pages linked behind it, display summaries of the information to which the individual has access, in the communities of which they are a member. This includes schedule information for communities that an individual's children are members of. All schedule information from all of their communities is displayed together on a personal schedule page, with the most current upcoming events being displayed on a schedule capsule on the personal home page. All messages from all of their communities are displayed together on a personal messages page. When clicking on a specific message or schedule item, the ability for the individual to see or edit the detail on that item is the same as would be possible by accessing the information through the home page for the respective community.

[0026] The personal home page provides convenient access to many different communities in one viewing location. As such a parent with children can use the home page for convenient access to all of the communities in which the children of the parent might participate. One example of such convenience would be to therefore observe all practice and/or game schedules for all children in one viewable location. Such schedules might be uploaded or downloaded to other devices, such as PDAs or the like.

[0027] The communities within the framework of the present invention readily provide for flow of information from one community to another. Relatedly, information flows from a community in which the individual is a participant onto their personal home page.

[0028] Additionally, the website might employ a device (software, hardware, or a like device) to provide for autogeneration of an access level for an invited person based upon the role that the person retained when they were added to the website (as a registrant).

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EXHIBIT 7

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"John Feldmeier" "Palo Alto" CA

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[jacmp.org](#) [PDF]

Z Zhang, EI Parsai, JJ Feldmeier - JOURNAL OF APPLIED CLINICAL ..., 2007 - jacmp.org
... The source geometry was that of the VariSource wire model VS2000 (Varian Medical Systems, **Palo Alto, CA**). The concentration of the iodine-based solution was varied from 5% to 25% by volume, a range recommended by the balloon's manufacturer. ...

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[HTML] [A 3-D Quantitative Dose Reduction Analysis in MammoSite Balloon by ...](#)

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Z Zhang, E Parsai, JJ Feldmeier - Journal of Applied Clinical ..., 2007 - journals.sfu.ca
... The source geometry was that of the VariSource wire model VS2000 (Varian Medical Systems, **Palo Alto, CA**). The concentration of the iodine-based solution was varied from 5% to 25% by volume, a range recommended by the balloon's manufacturer. ...

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CONTENT SWITCH MANAGEMENT

A Bigian, JT Feldmeier, CY Yang - 2008 - freepatentsonline.com
... type to configure each content switching device. Inventors: Bigian, Armond (San Jose, **CA, US**) Feldmeier, John T. (**Palo Alto, CA, US**) Yang, Connie Y. (Saratoga, **CA, US**).
Application Number: 11/616731. Publication Date: 07/03 ...

[PDF] [Effect of Slit Scan Imaging Techniques on Image Quality in Radiotherapy ...](#)

[ohiolink.edu](#) [PDF]

DR Walton - 2008 - etd.ohiolink.edu
... I also wish to acknowledge Dr. Ishmael Parsai and Dr. **John Feldmeier**, the other members of my research committee, for the time invested and guidance they provided. iii ... Systems, **Palo Alto, CA**). 2. A 0.147 cm² IC-10 ionization chamber with a 4 mm diameter spherical volume ...

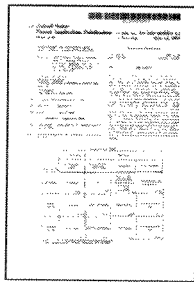
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Structure for accessing and populating community websites

DA Block, DL Ahlberg, J Feldmeier, EM ... - US Patent App. 10/ ..., 2002 - Google Patents
... Date: Mar. 13,2003 (54) STRUCTURE FOR ACCESSING AND POPULATING COMMUNITY WEBSITES (75) Inventors: David A. Block, Sudbury, MA (US); Daniel L. Ahlberg, Pleasanton, **CA** (US); **John Feldmeier, Palo Alto, CA** (US); Elliot M. Katzman, North Andover, MA (US ...

"John Feldmeier" "Palo Alto" CA

Structure for accessing and populating community websites David A. Block et al.



- Overview
- > Abstract
- Drawing
- Description
- Claims



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Result 1 of 1 in this book for "John Feldmeier" "Palo Alto" CA

Clear search



(19) **United States**
 (12) **Patent Application Pub**
Block et al.

"John Feldmeier" "Palo Alto" CA



Application number: 10/251,174

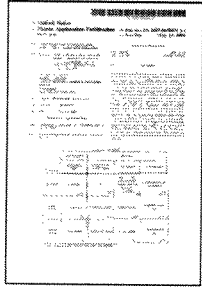
Publication number:

US 2003/0050976 A1

Filing date: Sep 20, 2002

(54) **STRUCTURE FOR ACCESSING AND
 POPULATING COMMUNITY WEBSITES**

Structure for accessing and populating community websites David A. Block et al



- [Overview](#)
- > Abstract**
- [Drawing](#)
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US 20030050976A1

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 (54) STRUCTURE FOR ACCESSING AND POPULATING COMMUNITY WEBSITES
 (75) Inventors: David A. Block, Sudbury, MA (US); Daniel L. Ahlberg, Pleasanton, CA (US); John Feldmeier, Palo Alto, CA (US); Elliot M. Katzman, North Andover, MA (US)
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 (73) Assignee: Myteam.com, Woburn, MA
 (21) Appl. No.: 10/251,174
 (22) Filed: Sep. 20, 2002

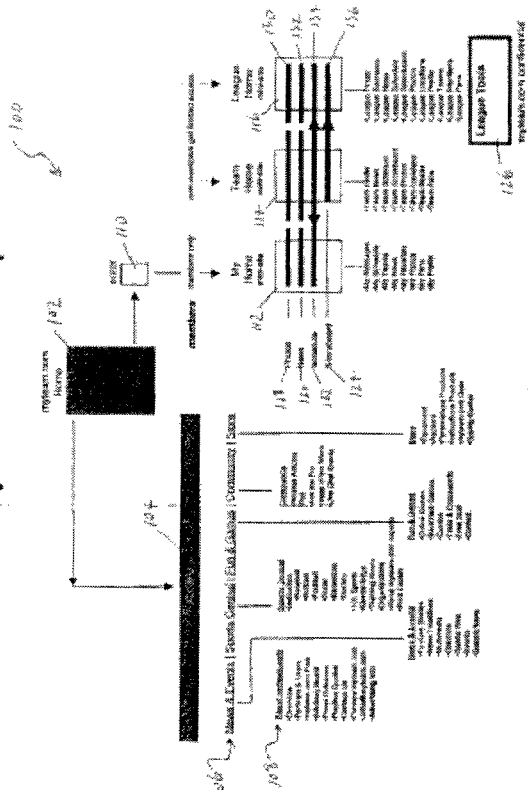
Related U.S. Application Data

- (63) Continuation of application No. 09/546,000, filed on Apr. 10, 2000.
- (60) Provisional application No. 60/172,983, filed on Dec. 10, 1999.

A website structure for populating the registration database of a website, and for providing access to information contained within various community areas that comprise the website. A plurality of community areas are provided via website pages which contain information pertaining to a community interest. Each registered user will have a home page with personal information. Other overlying community areas might provide group information to which a user belongs, or organizational information to which a group belongs, and so forth. The information within the community areas can be viewed and shared by various users of the website, with access to the information controlled by the status of the user. The membership database for the website is built via invitations from member users to non-member users. An identification can be assigned to each relationship. Access to various information within the community areas is thereby controlled by the status of the user, or the relationship the user has with other member users. The database can thereby be populated by known or trusted persons of current members.

Publication Classification	
(51) Int. Cl.	G06F 15/16
(52) U.S. Cl.	709/200; 709/229
(57)	ABSTRACT

myteam.com Site Map



Access Level Chart

X = access	Non-Members		Members	
	Anonymous Visitor	Invited Guest (Fan/Friend)	Participant	Administrator
My Home	no access 207	X 208	(NO) - unless verified family member (parent or Guardian) 209	X (That individual that owns it) 210
Team Home	X (limited) 211	X (can see more) 212	X (still more)* 213	X (See and edit all) 214
League Home	X (limited) 215	X (can see more) 216	X (still more) 217	X (See and edit all) 218

* Can be expanded to include Fan Life and so forth

Access Level Chart

X = access	Non-Members		Members	
	Anonymous Visitor	Invited Guest (Family Friend)	Participant	Administrator
My Home	no access 202	X 207	[NO -- unless verified family member such as Parent or Guardian] 206	X (That individual that owns it) 208
Team Home	X (limited) 210	X (can see more) 212	X (Still more)* 214	X (See and edit all) 216
League Home	X (limited) 218	X (can see more) 219	X (still more) 222	X (See and edit all) 224

* Can be expanded to include Fan List, and so forth

Figure 2

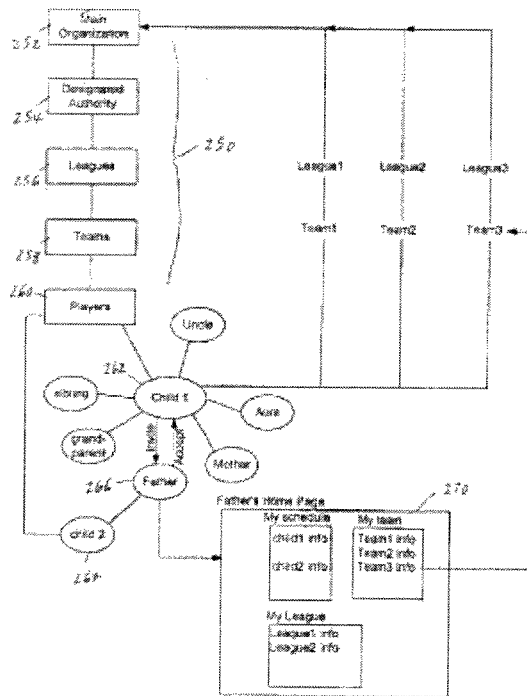


Figure 2A

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Figure 8.2

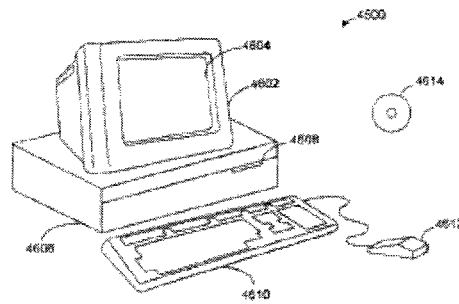


Figure 46A

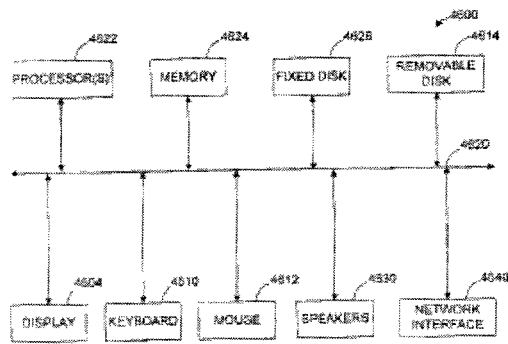


Figure 46B

STRUCTURE FOR ACCESSING AND POPULATING COMMUNITY WEBSITES

RELATED APPLICATIONS

[0001] This application claims priority under 35 USC 119(e), to the Provisional application entitled "Structure and Method For Accessing and Populating Community Websites," which was filed on Dec. 10, 1999, and assigned application No. 60/172,983 (Attorney Docket No. MYTEP001P), and which is hereby incorporated by reference.

[0002] This application is related to: U.S. patent application Ser. No. (Attorney Docket No. MYTEP002),

entitled "Methods For Accessing and Populating Community Websites," and U.S. Provisional patent application

No. (Attorney Docket No. MYTEP004P), entitled

"Tools and Functionality For Community Website Structures and Methods Thereof," all filed on the same date herewith, and which are hereby incorporated by reference.

FIELD OF THE INVENTION

[0003] The present invention relates generally to a network system, or website structure thereon, used for the provision of access by an individual to information that relates to multiple website communities in which the individual is a participant. More specifically, the present invention provides website structures for summarizing access to the information pertaining to an individual's involvement in these multiple communities. The extent of access to the website information for a specific community is based upon the security level of the individual in relation to the community, and which is granted to them by other members of that community.

BACKGROUND OF THE INVENTION

[0004] Computer networks provide an efficient means for transporting data between workstations or terminals on (or connected to) the network. Such networks can consist of Local Area Networks (LANs), which are generally restricted to one geographical area or location. Such networks can also include Wide Area Networks (WANs) which connect a

number of machines over a larger geographic area. The Internet is also an example of one such network. The Internet is a worldwide system of computer networks—or a network of networks—wherein users at any one computer can, if they have permission, get information from any other computer. The Internet was conceived by the Advanced Research Projects Agency (ARPA) of the U.S. government in 1969 and was first known as the ARPANet. The original aim was to create a network that would allow users of a research computer at one university to be able to "talk to" research computers at other universities. Aside benefit of the ARPANet design provided that messages can be routed or rerouted in more than one direction, and that the network can continue to function even if parts of it were destroyed in the event of a military attack or other disaster (including simple down-time of component parts).

[0005] Today, the Internet is a public, cooperative, and self-sustaining facility accessible to hundreds of millions of people worldwide. The Internet is providing ever increasing opportunities for persons across the world to interact with each other via a relatively cheap medium of communication.

A person might use a computer to pull up a website and see information that might pertain to an organization to which that person belongs, or is affiliated. Many such websites require a registration procedure to be completed, wherein the user provides certain personalized information and is assigned an identifier to use when accessing the site. Through this identifier, the user can access personal, or private information from a database or the like associated with the website. The personalized identifier generally prevents such information from being accessed by other users of the website.

[0006] Many Internet sites also have community aspects associated with them.

[0007] Community aspects provide the ability for a member to interact with a variety of other members on the site who share a commonality. For instance, the user might post and/or retrieve information from a website, or certain areas of a website. Depending upon the nature of the information being posted or retrieved, security issues become important in discerning who will be allowed to become a member of any given community and thereby retrieve and/or post specific information.

[0008] In present Internet sites, an impetus is placed on personalization of an individual's experience on a website by providing them easy access to only the information that is relevant to the interests that they have identified. The information then provided is a subset of the significant amount of information that is available on the website. Such tailoring of information to the individual can provide incentive for people to join a website, and thereby increase the size of the registration databases as quickly as possible. Larger registration databases and the ability to target messages to groups of members with definable demographics provides the ability for websites to charge higher advertising rates. Additionally, larger registration databases generally lead to a higher relative valuation for the website company. Internet sites with registration systems are generally populated by various users coming to the site for the content and communities contained therein. Typically, a certain amount of content and limited access, if any, to communities is provided to casual visitors to the site. Increased access to content and communities is offered thereafter upon completion of the registration process. Membership in more than one website community requires that the individual have a separate membership identifier and password for each community they are part of. This results in the need for the individual to log-in separately to each website community in order to access the information contained therein. The information in each website must be manually reviewed and consolidated in order to get a comprehensive summary of all of the activities and responsibilities the individual has in their different communities.

[0009] The combination of privacy concerns about undesired use of user registration information, and security concerns about access to information in a user community often makes it difficult to expand a registration database. In such situations where registration is required, many users are dissuaded from joining because of the requirement to provide certain personal information. Such users believe that their privacy is being violated, as many websites will thereafter forward (or sell, or datamine) a user's information, for marketing purposes and the like. This is particularly true where the community information involves children, or other family members, or a particular user. To overcome the concerns of privacy and security, a website must provide a significant benefit to the member in exchange for the

risks that are perceived. Such opportunities often occur with website communities involving sporting events, school events, or the like. For instance, an individual may be a participant in multiple sport teams, events or organizations, each having a separate schedule of events. Such information in a website might include scheduled events and games and specifics on their locations, news about teams and events, and so forth. Aparent or guardian may likewise have several children, each of whom participate in multiple teams, events or organizations, yet are dependent on their parents for transportation and other means of involvement. The management and consolidation of information across multiple community websites for several family members can be very tedious and subject to error.

[0010] Accordingly, what is needed in the field is a method and apparatus that allows a user to have a more efficient means access to all of the website information that is relevant to their participation in multiple communities (games, organizations, and events). This should also include access to the different communities that their children may also participate in. This should include a means by which access to the information contained within multiple communities can be accomplished through a single member identifier and password. A structured level of access to various community information should be provided, wherein a user's access to information is based upon a security access level granted by other members of that community. This could result in an individual's access to different communities to vary, even though a single member identifier and password is used to access them.

SUMMARY OF THE INVENTION

[0011] To achieve the foregoing, and in accordance with the purpose of the present invention, certain information structures are provided for forming information structures which will allow for more secure development of the information structure, and for more secure and user-flexible methods of providing access to post/retrieve information in the structure. The most common example of such an information structure includes a website, as comprised of webpages. For discussion purposes, the present invention will be described in terms of a website structure, with the present invention not being limited to this example structure.

[0012] A community of inter-related users is created through the website structure, with the community growing through members of the site selectively adding individuals to the community and sending out invitations for them to join the website and the specific community. These invitations are sent to known and trusted individuals who are either not yet members of the website or who are members of the website but not yet a part of the specific community. The invitees who are not yet a member of the website can thereafter choose to register with the website, and become a part of the Community. Existing members of the website can accept their invitation into their current website membership. The subsequent access to other communities that are part of the greater website, and those to which the existing website member is invited will be facilitated through the initial member identifier and password.

[0013] Communities relating to the Internet generally provide a method of sharing information between a large number of persons who might be interested in one topic. Such communities might include sports teams, school activities, clubs, or the like.

[0014] Information within such a community might include personal schedules, pictures, or other items having a personal nature. In certain instances, it will be desirable to share such personal information with other members of the community. The level of sharing will often depend upon the role (or status) of the person associated with the particular community.

[0015] The present invention is described in terms of a sports-oriented website, namely myteam.com and its owned websites (www.dixie.org, etc). This site includes a multitude of web pages, some of which are restricted to viewing only by Members and their selected invitees. A given page may be viewable in two or more versions, with elements on the page appearing or being hidden from view depending on the access level that the individual has in relation to the page. Many of the elements on the page are contained within capsules that show a summary of the information that is displayed on the page that is linked to the capsule.

[0016] Three (3) types of Communities are described, and access to the list of each Community's members is available only to the owner (or administrator) of the Home pages which are associated with each Community. A first type of Community includes a Members

own Home page, and contains personalized material pertaining to that Member and summary information from the community websites in which the Member is an invited participant. A second type of Community includes a Team Home page, and contains Team information. A third type of Community includes a League Home page, and contains League information. These particular Communities are presented by way of example, and the present invention is not intended to be limited to these three example Communities. The same functionality has wide applicability to families, schools, community groups, scouting organizations and the like. A school implementation could, but is not necessarily restricted to, be organized around a specific school, which may or may not have a shared affiliation with other schools, and also around its classes and the students. An implementation for a family could, but is not necessarily restricted to, be organized around an extended family or a family-oriented organization, such as a church or community group, and also around a family, extended or immediate, and the individual members of that family. A implementation for a community group could, but is not necessarily restricted to, be organized around a specific organization or church which sponsors it, and which may have shared affiliation with other groups and organizations, and also around the group itself and the individual members of the group. An implementation for scouting could, but is not necessarily restricted to, be organized around a specific regional scouting group, which may or may not have an affiliation with a larger organization, and also around a troop, its sponsor, and the individuals of the troop. The spirit and scope of the present invention includes, among other things, the inter-related nature of the communities, along with selectable access being provided based upon the status of any particular user of the website.

[0017] By expanding the registration base of the website, and/or access to personal information through invitations to trusted persons, a website can be expanded in a relatively secure manner. Persons joining the community will be a friend or trusted person of at least one other person in that community. Even with this structure, an undesirable person might enter a community (or be invited to enter) through an ill-advised invitation. As a result, the Administrator at any particular level will ultimately have overriding power in determining who will be allowed to join a Community, or who will be removed from having trusted access to a Community. An individual can be listed as a member of a Community without being granted trusted access to information on the website. This enables a Community on the website, that also has a non-website presence, to represent its total membership, not all of whom may have joined the Community on the website.

[0018] Within the interacting (and overlying) structures of the various Communities—i.e. League/Team/Personal (or My) Community structure—persons can have access to different information based upon the particular access level assigned to that person in relation to a specific community. The person can request a change of access from the administrator in order to be allowed to see more information on one or many of the various sites. If deemed appropriate, the administrator will then invoke that particular change of status in the myteam.com system.

[0019] When an individual is added to the community listing and subsequently invited, they are given a pre-defined level of access to that community and any directly-related community (i.e., when invited to a team, access is also granted to the league within which the team plays). Each member of the Community will have a different access level based upon their role or status in the website structure. Some members have access to edit/change/post information while others only have access to view the information. The level of access granted is pre-defined by the access level of the current community member who invited them and the role in the community to which they have been added.

[0020] As an example, when a parent is added to the information for a child, they are automatically granted access to the child's home page and to any team or league that the child is a participant in. When an individual is unassigned to a team or is assigned to a team, the access of their parents, and non-parental contacts are changed to match the relationship of the child to those communities. An individual cannot invite someone to have an access level higher than they themselves have. An individual's access to a community is enabled once they have accepted the invitation. An administrator for the community can alter the level of access granted to the individual, either before or after an individual accepts the invitation.

[0021] An Administrator will monitor membership of such community members and can completely remove, or just deny trusted access, to any member whose conduct on the

website does not fit the desired standards of the community. To facilitate website communities that are components of organizations that also have a non-website presence, individuals can be added to a community's listing without being invited to join the community as a member on the website. This can include (for example) members who once had trusted access to the community, but subsequently had it removed by a community administrator.

[0022] The website structure provides for multiple communities to be present, some of which may have a relation

ship to each other. For example one community may be a subset of a larger community, and membership in the subset community may include membership in the larger community. Additionally, a given member may themselves be a member of multiple communities, and may have responsibility for family members who themselves are members of communities.

[0023] The information that is posted and viewable on one community's pages may also automatically be made available to view on another community's pages, when the communities have a superset/subset relationship. For example a game scheduled by the league will appear on the schedule for the teams that are playing in the game. Likewise, the score of a game entered by a team will appear on the Scoreboard for the league that the team is in. If a team administrator enters a player into the team roster, the player will also appear on the league's roster.

[0024] Each individual who registers with the website gets a personal home page. This page is the first page viewed when the member provides their unique member identifier and a password. This page provides links to the different communities that the individual is part of, including teams, leagues, and the home pages of other individuals who have been granted trusted access to this individual's home page. The individual also has the ability to remove oneself from having trusted access to a community, unless they are the only "owner" or administrator for that community.

[0025] The personal home page, and the pages linked behind it, display summaries of the information to which the individual has access, in the communities of which they are a member. This includes schedule information for communities that an individual's children are members of. All schedule information from all of their communities is displayed together on a personal schedule page, with the most current upcoming events being displayed on a schedule capsule on the personal home page. All messages from all of their communities are displayed together on a personal messages page. When clicking on a specific message or schedule item, the ability for the individual to see or edit the detail on that item is the same as would be possible by accessing the information through the home page for the respective community.

[0026] The personal home page provides convenient access to many different communities in one viewing location. As such a parent with children can use the home page for convenient access to all of the communities in which the children of the parent might participate. One example of such convenience would be to therefore observe all practice and/or game schedules for all children in one viewable location. Such schedules might be uploaded or downloaded to other devices, such as PDAs or the like.

[0027] The communities within the framework of the present invention readily provide for flow of information from one community to another. Relatedly, information flows from a community in which the individual is a participant onto their personal home page.

[0028] Additionally, the website might employ a device (software, hardware, or a like device) to provide for autogeneration of an access level for an invited person based upon the role that the person retained when they were added to the website (as a registrant).

EXHIBIT 8

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Personal information security and exchange tool

KP O'neil, GR Seidman - US Patent 7,289,971, 2007 - Google Patents
... 395/200.31 5.887.171 A * : 3/1999 Tada et al 719/317 (76) Inventors: Kevin P. O'Neil, 3540 Seaborn Cm, San Diego, CA (US) 92130; Glenn R. Seidman, 830 W. California Way, Woodside, CA (US) 94062 (*) Notice: Subject to any disclaimer, the term of this patent is extended or ...
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System for enterprise-wide work flow automation

LK Poindexter, GR Seidman, SR Timm, BA ... - US Patent ..., 2009 - Google Patents
... Continued) EP 0 457 684 A2 11/1991 EP 0 793 184 A2 9/1997 (54) SYSTEM FOR ENTERPRISE-WIDE WORK FLOW AUTOMATION (75) Inventors: Luen Kimball Poindexter, Laguna Beach, CA (US); Glenn R. Seidman, Woodside, CA (US); Stephen R. Timm, Long Beach, ...
[Cited by 3](#) - [Related articles](#) - [All 6 versions](#)

Communication component manager and associated components

GR Seidman, HR Velani - US Patent App. 09/877,328, 2001 - Google Patents
... (43) Pub. Date: Jan. 16,2003 (54) COMMUNICATION COMPONENT MANAGER AND ASSOCIATED COMPONENTS (75) Inventors: Glenn R. Seidman, Woodside, CA (US); Hetal R. Velani, Mountain View, CA (US) Correspondence Address: MICHAEL B. EINSCHLAG, ESQ. ...

Multilevel queuing system for distributing tasks in an enterprise-wide work flow automation

LK Poindexter, GR Seidman, SR Timm, BA ... - US Patent ..., 2006 - Google Patents
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[Related articles](#) - [All 2 versions](#)

Tracking component manager

GR Seidman - US Patent App. 09/884,505, 2001 - Google Patents
... Date: Jan. 2,2003 (54) TRACKING COMPONENT MANAGER (75) Inventor: Glenn R. Seidman, Woodside, CA (US) Correspondence Address: MICHAEL B. EINSCHLAG, ESQ. 25680 FERNHILL DRIVE LOS ALTOS HILLS, CA 94024 (US) (73) Assignee: Verano (21) Appl. ...
[All 2 versions](#)

Workflow automated task component manager

GR Seidman - US Patent App. 09/877,153, 2001 - Google Patents
... NO.: US 2002/0188644 A1 Seidman (43) Pub. Date: Dec. 12,2002 (54) WORKFLOW AUTOMATED TASK COMPONENT MANAGER (75) Inventor: Glenn R. Seidman, Woodside, CA (US) Correspondence Address: MICHAEL B. EINSCHLAG, ESQ. ...
[All 2 versions](#)

Method and apparatus for selling with short-bidding on goods

GR Seidman, S Perleschi - US Patent 7,587,340, 2009 - Google Patents
... 8, 2009 (54) METHOD AND APPARATUS FOR SELLING WITH SHORT-BIDDING ON GOODS (76) Inventors: Glenn R. Seidman, 830 W. California Way, Wood Side, CA (US) 94062; Shawn Perleschi, 229 Arroz PL, Fremont, CA (US) 94536 (*) Notice: Subject to any disclaimer ...
[All 4 versions](#)

Enterprise content management network-attached system

DS Whelan - US Patent App. 11/741,688, 2007 - Google Patents

... 8,2007 (54) ENTERPRISE CONTENT MANAGEMENT NETWORK-ATTACHED SYSTEM (75)

Inventors: Daniel S. WHELAN, Dana Point, CA (US); Charles R. FAY, Newport Beach, CA(US)

Correspondence Address: KONRAD RAYNES & VICTOR, LLP ATTN: IBM54 315 ...

[All 6 versions](#)

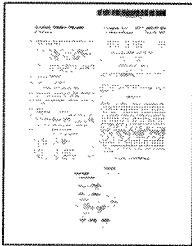
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Personal information security and exchange tool Kevin P. O'Neil et al.



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"Glenn R. Seidman" CA



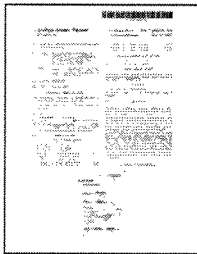
Patent number: 7289971
Filing date: Jul 15, 1999
Issue date: Oct 30, 2007
Application number: 9/354,287

(12) **United States Patent**
O'Neil et al.

(54) **PERSONAL INFORMATION SECURITY, EXCHANGE TOOL**

(76) **Inventors:** Kevin P. O'Neil, 3540 Seahorn Cir., San Diego, CA (US) 92130; Glenn R

Personal information security and exchange tool Kevin P. O'Neil et al



- Overview
- > Abstract
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Patent number: 7289971
Filing date: Jul 15, 1999
Issue date: Oct 30, 2007
Application number: 9/354,287

US507289971B1
United States Patent
 O'Neil et al.
 Patent No.: **US 7,289,971 B1**
 Date of Patent: **Oct. 30, 2007**

(76) Inventors: Kevin P. O'Neil, 3540 Seaborn Cm, San Diego, CA (US) 92130; Glenn R. Seidman, 830 W. California Way, Woodside, CA (US) 94062

(* 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.: 09/354,287
 (22) Filed: Jul. 15, 1999

Related U.S. Application Data

(63) Continuation of application No. 08/898,160, filed on Jul. 22, 1997, now Pat. No. 5,987,440.

(60) Provisional application No. 60/022,035, filed on Jul. 22, 1996.

(51) Int. Cl.
 G06Q 30/00 (2006.01)

(52) U.S. CI 705/44; 705/39; 380/23

(58) Field of Classification Search 705/39,
 705/44,51,64; 361/91; 380/23; 707/9 See application file for complete search history.

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3,445,191 A * 12-1996 Deane et al
Utilization of the E-Metro Community and Personal Information Agents assure an

effective and comprehensive agent rule based command and control of informational assets in a networked computer environment. The concerns of informational privacy and informational self-determination are addressed squarely by the invention affording persons and entities a trusted means to author, secure, search, process, and exchange personal and/or confidential information in a networked computer environment. The formation of trusted electronic communities wherein members command and control their digital persona, exchanging or brokering for value the trusted utility of their informational assets is made possible by the invention. The present invention provides for the trusted utilization of personal data in electronic markets, providing both communities and individuals aggregate and individual rule-based control of the processing of their personal data.

13 Claims, 34 Drawing Sheets

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 Primary Examiner—Richard Adams
 (75) Attorney, Agent or Firm—Cantor, Ladd & Pritchard, LLP
 (57) ABSTRACT



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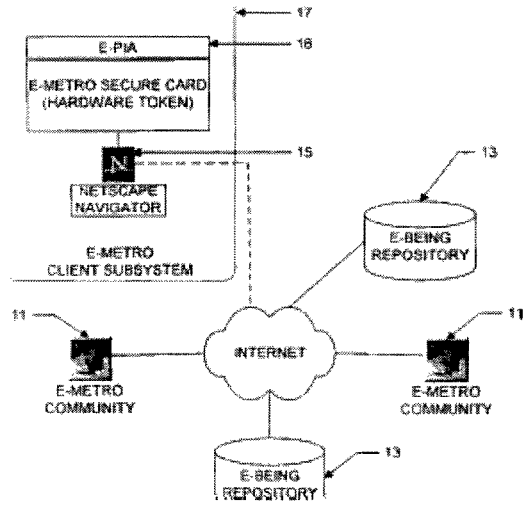
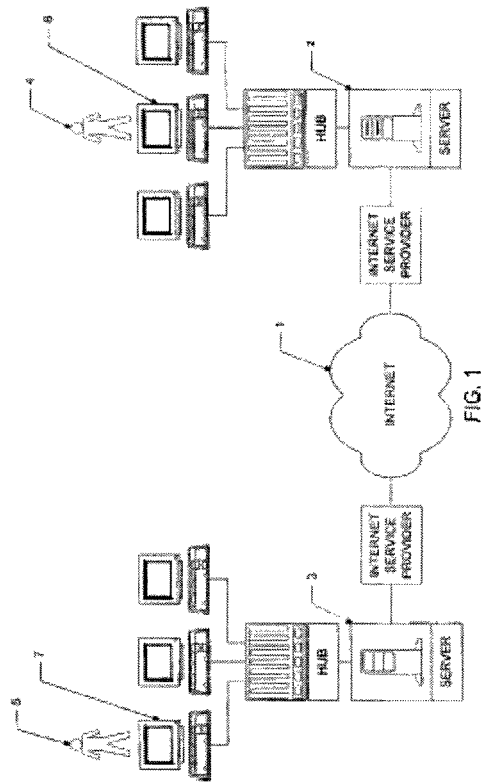
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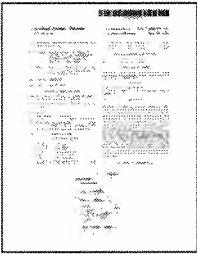
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Personal information security and exchange tool Kevin P. O'Neil et al

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- > Description
- Claims

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Patent number: 7289971
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 Application number: 9/354,287



FIG. 33

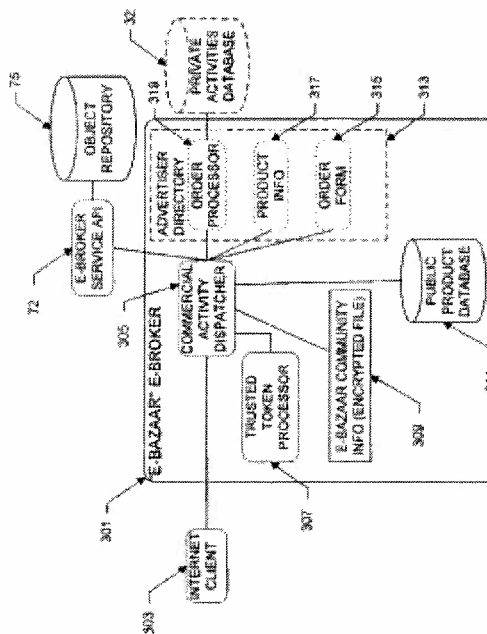


FIG. 34

PERSONAL INFORMATION SECURITY AND
EXCHANGE TOOL

RELATED APPLICATION INFORMATION

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This application is a continuation of application Ser. No. 08/898,160, filed on Jul. 22, 1997 now U.S. Pat. No. 5,987,440, which is a continuing application of U.S. Provisional Application Ser. No. 60/022,035, filed on Jul. 22, 1996, both of which are hereby incorporated by reference as ¹⁰ if set forth fully herein.

FIELD OF INVENTION

BACKGROUND OF THE INVENTION

15

The present invention relates to the software management of information within a network computing environment. More specifically, the present invention relates to a software system operating on the Internet that creates a virtual private network where a user may author, secure, search, exchange and process personal information in a trusted and controlled manner. This software system encapsulates trusted communities and their members, where a trusted authority certifies the identity and the informational-self of community members. Once a user is registered with a trusted community, the user can author and secure at will the hypermedia content, command and control the rule-based presentation and processing of their personal information.

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The introduction and accelerating use of the Internet has resulted in an explosion of both the quantity and availability of personal information. Unfortunately, since the Internet is largely unregulated, there is no assurance that all this ³⁵ information is accurate or reliable, and often the source of the data is not even ascertainable. Additionally, unless particular precautions are taken, anything sent via the Internet is subject to interception and misuse. These joint concerns for data reliability and data protection can be com- ⁴⁰ bined into a multifaceted concept of a trusted information utility. Data reliability or trustworthiness is present if the data is accurate and can be authenticated and/or corroborated. Trusted utilization is when data is available for access or processing only by those approved by the owner of the ⁴⁵ data, and assurance of continued command and control according to rules established by the owner is present. Trusted utilization or trusted processing is especially critical when dealing with personal data. Personal information, such as an individual's credit worthiness, medical history, ⁵⁰ employment background, or lifestyle is now finding its way on to the Internet. It is likely that law enforcement agencies, credit bureaus, landlords, and others will be using this information to assist in making decisions. Since all these groups make decisions that dramatically impact an individu- ⁵⁵ al's life, using incorrect data, or information that they shouldn't even have, can be devastating.

Thus, people realize that something must be done to protect a person's personal information and as more individuals join the Internet, there will be more pressure to ⁶⁰ collect, use, and market the available personal information, and the individual will want to participate in, command, and control this activity. Collectively, these ideas cannot be properly implemented with the Internet tools presently available, and no tool can efficiently incorporate these ideas. ⁶⁵ Thus, there is a need to provide an Internet utility or tool for the security and exchange of personal information.

It is therefore an object of the present invention to assist in the trusted utilization of personal information on the Internet by 1) providing a mechanism for individuals or entities securely author and encapsulate personal data and processing rules governing the presentation and processing of personal information, while 2) empowering the individual or entity, at will, command and control of their personal information within network computing environments.

SUMMARY OF THE INVENTION

The present invention is a software system for operating on network servers, with

supporting applications operating on an individual user's personal computer system, inclusive of wire-line and wireless tele-computing devices. This invention is directed to a system for allowing an individual or entity to protect, command, control, and process personal information on a computer network, including the Internet. Specifically, this invention facilitates the formation and use of networked Trusted Electronic Communities, hereafter referred to as E-Metro Communities, where each E-Metro Community comprises several members meeting common admission requirements. Preferably, it is the E-Metro Community that sets registration rules and verifies member identity itself or facilitates the use of other trusted Certificate Authorities. The informational identity of each member is encapsulated within the E-Metro Community as electronic personal information agents, hereafter referred to as E-PIAs, with each E-PIA representing a member's information and behavior, with some of the information supplied by each member and some of the information coming from trusted sources external to the member's E-Metro Community. By establishing and enforcing registration rules and performing accountable and audited verifications of member identity, and if so chosen, personal information certification, the E-Metro Community builds a community wherein each of its members can belong and participate in a electronic domain where the rights and responsibilities of privacy and informational self-determination are realized. Thus, it is through the association and certification by a trusted E-Metro Community that a member becomes trusted and reliable in other transactions, but more importantly gains control of their data.

Once a user is a member of an E-Metro Community, the member can assign access rules to each piece of personal information. These access rules set the requirements that must be met before an individual piece of information can be processed. Additionally, the E-Metro Community may get minimum standards for all transactions which must be met. When a request for a particular piece of information is received, E-Metro Community standards and the rule attached to that piece of information is checked by a processes specific to the E-Metro Community, hereafter referred to as the E-Metro Community's E-Broker. The E-Broker is the actual process that checks to see if the requester and the situation meet the requirement of the rule. If so, the E-Broker allows the requested information to be processed; if not, the E-Broker does not allow the information to be processed. Additionally, the information may be transport packaged with transitive privilege rules attached, that is, rules that define the requirements for processing by anyone other than the original member. Using these transitive privilege rules, a member can maintain command and control on third party dissemination and processing of their personal information.

A member may also create an agent, hereafter referred to as an E-AutoPIA, to interact with other members in any E-Metro Community, or even with data external to any E-Metro Community. This agent contains a subset of the personal information on the member, plus contains an itinerary that directs the activity of the agent. Thus, the agent is able to interact with the personal information of other 5 members as directed in its itinerary.

BRIEF DESCRIPTION OF THE DRAWINGS

The foregoing and other objects, features, and advantages 10 of the invention will become more readily apparent upon reference to the following detailed description of a presently preferred embodiment, when taken in conjunction with the accompanying drawings in which:

FIG. 1 shows users connected to network servers access- 15 ing the Internet.

FIG. 2 shows how a user of the preferred embodiment views other E-Communities on the Internet.

FIG. 3 shows the components of a digital certificate, e.g., Verisign's Digital ID. 20

FIG. 4 shows how RSA Public-key cryptography works and how a digital signature is created and attached to a document to assure authorship.

FIG. 5 shows an E-AutoPIA operating outside the E-Metro Community. 25

FIG. 6 shows an E-AutoPIA that has collected several informational E-PIAs from several E-Metro Communities.

FIG. 7 shows several network servers, a user's personal computer connected into the Internet plus a wireless communicator. 30

FIG. 8 shows several E-Metro Community systems along with other resources

interconnected by the Internet.

FIG. 9 shows the architecture of the E-Metro Trusted Server.

FIG. 10 details the DORMS subsystem in the E-Metro 35 Trusted Server, which is shown in FIG. 9.

FIG. 11a-d detail the storage mechanism for several objects used in the preferred embodiment.

FIG. 12 details the messaging subsystem used in the DORMS subsystem, which is shown in FIG. 10. 40

FIG. 13 is a Booch diagram of the E-Metro Community object.

FIG. 14 is a Booch diagram of the E-Broker object.

FIG. 15a is a Booch diagram of the E-PIA object.

FIG. 15b is a Booch diagram of the informational E-PIA 45 object.

FIG. 16 is a Booch diagram of the E-AutoPIA object.

FIG. 17 is a Booch diagram of the itinerary object.

FIG. 18 is a Booch diagram of the Interact Instruction object. 50

FIG. 19 is a Booch diagram of the Interact Protocol object.

FIG. 20 is a Booch diagram of the rule object.

FIG. 21 is a Booch diagram of the parameter object.

FIG. 22 describes the relationship of the various classes of 55 objects used within the preferred embodiment.

FIG. 23 shows the basic Booch symbols employed in the object model descriptions within the preferred embodiment.

FIG. 24 shows that the communication external to an E-Metro Community are all done with RSA-type security go and encryption.

FIG. 25 is the user interface to the preferred embodiment showing the initial screen.

FIG. 26 is the user interface to the preferred embodiment showing the log-in screen. 65

FIG. 27 is the user interface to the preferred embodiment showing the community listings screen.

FIG. 28 is the user interface to the preferred embodiment showing how E-Metro Community members construct and execute searches displaying search results.

FIG. 29 is the user interface to the preferred embodiment showing the initial page of an E-Metro Community registration object being authored.

FIG. 30 is the user interface to the preferred embodiment showing the selected E-Being performing a trusted presentation of their personal information, with certain components and their attributes indicating secured or locked status because the requesting viewer does not meet the requirements set by the E-Metro Community and E-Metro Community member.

FIG. 31 is the user interface to the preferred embodiment presenting additional personal information indicating attributes with disclosed and undisclosed access-processing rules.

FIG. 32 is the user interface to the preferred embodiment presenting rule authoring and assignment of rules to both particular personal information attributes and particular groups or sub-communities of a community.

FIG. 33 is the user interface to the preferred embodiment presenting rule authoring governing what criteria a processor of information must meet to access-process the user's information.

FIG. 34 details the E-Bazaar E-Broker subsystem.

DETAILED DESCRIPTION OF THE INVENTION

The preferred embodiment of the invention primarily operates on a network server, with supporting applications operating on the individual's personal computer system. To a user,

the preferred embodiment appears as a Web site, so it may be accessed simply by knowing its Web site address, but it is a Web site with comprehensive security safeguards: firewalls, proxy servers, SSL enabled Web servers and clients, digital certificates, hardware tokens, security policies and procedures. Not only will the Web site typically require certificate-based identification for access, but all communications between E-Metro Communities and members and other E-Metro Communities will be encrypted. For additional assurance of user identification, an optional hardware token or secure card security system may be implemented. This security system will be discussed in a later section.

As discussed earlier, trusted processing of information has two components: reliability of content and controlled processing, and each is addressed by the preferred embodiment of the invention. It is easiest and most clear to discuss the preferred embodiment using a metropolis analogy. Just as in a city, the Internet provides an individual a place to meet others, share information, seek entertainment, do work, and shop. Likewise, every individual on the Internet has an address where correspondence may be sent. In the city, caution must be used when meeting someone for the first time as it may be unwise to give too much information to someone who is untrustworthy. Also, business transactions with a new person must be done carefully as the quality of goods, standard of support, or origin of the product is not known. These same concerns appear with new encounters and transactions on the Internet.

In the city, people use an unfamiliar person's associations to lower the risk of these new encounters and transactions. For example, if someone is wearing a police uniform, we will typically be more likely to give them our drivers license number, home address, and other personal information. If someone is seated in an attorney's office and hands us a business card with the title of "Attorney," we are more likely to expose confidential information. Also, if someone lives in our same community, maybe even our neighbor, we too will be more likely to share information and feel safe conducting a transaction. On the Internet, if a person has an address that ends in .gov, we may feel safer doing business with them, as some government agency has allowed them access to the Internet from a government network server, thus giving that user an air of trustworthiness. If that user conducts a bad transaction, the agency that allowed their access to the Internet can be contacted, and the agency is likely to sanction that user. However, the vast majority of users on the Internet will be from network servers that provide no hint as to their trustworthiness. Therefore, the preferred embodiment of the present invention provides a method to reduce the risk in new interactions, and increase the probability that the other user is who they say they are: the preferred embodiment creates agent-rule based trusted electronic communities. 20

In the city, citizens belong to several communities. Some communities are defined by geography, ethnic background, religion, alma mater, employment, or hobbies. Commonly, people get a great deal of self-identification and satisfaction from choosing the communities to which they belong. It is quite common for someone to refer to themselves as an employee of a company, as a member of a religion, or as an expert at a hobby. Belonging to a community is not only personally satisfying to the member, but allows the reputation of the E-Metro Community to lower the risk of dealing with any one of its members.

In the preferred embodiment, a user may join one or more E-Metro Communities. Each of these E-Metro Communities is independently operated by an administrator that sets admission requirements, authenticates membership, issues digital certificates, and sets the services available to members. The E-Metro Communities are actually implemented as Web sites on the Internet, but are special Web sites as they have a great deal of intelligence and utility. FIG. 2 diagrams a user's view of the Internet using the preferred embodiment. The user will be a member of one or more E-Metro Communities and be aware there are several other E-Metro Communities on the Internet. The user will use a Web Browser such as Netscape Navigator running on their personal computer to access the Internet and attempt to become a member of one or more E-Metro Communities. When desiring to become a member of an E-Metro Community, it is possible to retrieve an unregistered or empty E-Being object from the E-Metro Community or from a public E-Being repository that will need to be initialized with identity information and certified in order to become a member. An unregistered E-Being may be retrieved prior to visiting the E-Metro Community desired to be joined. Once a user is authorized to join an E-Metro Community, the user becomes a member of that E-Metro Community and can use the services the E-

Metro Community administrator has provided. Services may include links to other E-Metro Communities, shopping, or access to information. Besides the standard Netscape Navigator 15, the member will also need some additional support programs at their local computer, the client subsystem 17. These client subsystem 17 support programs are processes that allow the Netscape Navigator to have specific functionality in support of specific E-Metro Communities. These programs will be provided as part of the preferred embodiment, but will be configurable by the E-Metro Community administrator or even the user to provide specific functionality. These pro

grams could be created in any language, but Java is presently preferred. It should be a goal of each E-Metro Community, however, to not require additional software besides standards based browsers, as this maintains a much easier to support client software subsystem. Additionally, the member may desire to gain privilege or access to specific E-Metro Community services to which it does not have rights. The E-Metro Community may require further information to be filled out in forms that must be submitted for approval. These forms are stored in an E-Being repository 13, and can be set up as an independent Web site, an FTP site, or any other storage mechanism allowed on the Internet.

Remembering that trusted processing comprises reliability and controlled processing, in the preferred embodiment, trusted processing of personal data is improved by two means. First, the personal information that is processed is authored and monitored by the individual. The information can also be verified by third parties who issue digital certificates which corroborate the facts claimed by the individual. The information stored is transparent to the individual. Additionally, the users themselves can request trusted certificate authorities to verify and assert the reliability of the personal information. The Certificate Authorities issue digital certificates asserting the reliability of the data. An example would be a credit union, which will certify personal financial or loan data. As an E-Metro Community's reputation for reliability and user-centric control of personal information processing increases, the informational value and mutual trust of its users will also increase.

The other aspect of trusted processing, protection of data, is improved in two ways by the preferred embodiment of the present invention. First, the preferred embodiment uses state-of-the-art techniques, such as public-key cryptography, to securely store and transmit information. Public-key cryptography is discussed in more detail in a later section. These techniques assure that the data can not be deciphered if intercepted during transmission, and only the intended reader can decrypt and understand the information. The second security feature of the preferred embodiment is designed to place controls on the amount of information processed and to limit the utilization of data to recipients meeting criteria established by the user. This security feature allows the user to set rules that govern the processing and utilization of personal information. For example, one rule may state that it is acceptable to release legal history information to a user that is from the American Bar Association E-Metro Community. Another rule may state it is acceptable to utilize a home phone number by a user that is single, from a particular geographic area, and also agrees to have their home number utilized in a controlled manor. By setting sufficient rules, an individual can control the utilization of personal information by only trusted users. Additionally, the user may set transitive rules that attach to information that control electronic distributed processing of the information. Thus, when a user authorizes trusted remote processing of personal information, the information is utilized in a manner that allows the user to maintain command and control of how the information is subsequently utilized.

The preferred embodiment additionally allows an individual to set rules for processing personal information for money or other value. An individual's preferences, physical characteristics, and buying habits have value to those selling products. Traditionally, marketing firms would collect and organize such information and sell those mailing lists to businesses that had a product that may appeal to those on the list. Using the preferred embodiment, an individual can "license" their own personal information to a business

EXHIBIT 9

Google scholar

"Kevin O'Neil" "San Diego" CA inventor

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Personal information security and exchange tool

KP O'neil, GR Seidman - US Patent 7,289,971, 2007 - Google Patents

... 395/200.31 5.887.171 A * : 3/1999 Tada et al 719/317 (76) **Inventors:** Kevin P. O'Neil, 3540 Seaborn Cm, **San Diego, CA** (US) 92130; Glenn R. Seidman, 830 W. **California** Way, Woodside, **CA** (US) 94062 (*) Notice: Subject to any disclaimer, the term of this patent is extended or ...

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PORTABLE DEVICE WITH PRIORITY BASED POWER SAVINGS CONTROL AND ...

B PLOTNICK, M ALEKSIC, A BALATSOS, K O' ... - WO Patent WO/2008/ ..., 2008 - wipo.int

... IPC: H02J 9/00 (2006.01). Applicants: QUALCOMM INCORPORATED [US/US]; 5775 Morehouse Drive, **San Diego, CA** 92121-1714 (US) (All Except US). PLOTNICK, Bruce [US/US]; (US) (US Only). **Inventors:** PLOTNICK, Bruce; (US). ALEKSIC, Milivoje; (**CA**). ...

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Standards for Internet-based experimenting

[unizh.ch](#) [PDF]

UD Reips - Experimental Psychology (formerly" Zeitschrift für ..., 2002 - Hogrefe & Huber

... Their early work was conducted soon after the **invention** of forms on Web pages established user-server interaction (Musch & Reips ... I would like to thank Tom Buchanan, William C. Schmidt, Jochen Musch, **Kevin O'Neil** and an anonymous reviewer for very helpful comments on ...

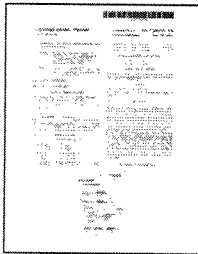
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Personal information security and exchange tool Kevin P. O'Neil et al



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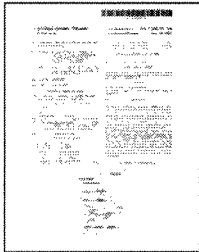
Patent number: 7289971
Filing date: Jul 15, 1999
Issue date: Oct 30, 2007
Application number: 9/354,287

(12) **United States Patent**
O'Neil et al.

(54) **PERSONAL INFORMATION SECURITY AND EXCHANGE TOOL**

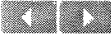
(76) Inventors: **Kevin P. O'Neil**, 3540 Seahorn Cir., San Diego, CA (US) 92130; **Glenn I. ...**

Personal information security and exchange tool Kevin P. O'Neil et al



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US07289971B1

United States Patent
 O'Neil et al

Patent No.: **US 7,289,971 B1**
 Date of Patent: **Oct. 30, 2007**

PERSONAL INFORMATION SECURITY AND EXCHANGE TOOL

(76) Inventors: Kevin P. O'Neil, 3540 Seaborn Cm, San Diego, CA (US) 92130; Glenn R. Seidman, 830 W. California Way, Woodside, CA (US) 94062

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

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(22) Filed: Jul. 15, 1999

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(60) Provisional application No. 60/022,035, filed on Jul. 22, 1996.

(51) Int. Cl.

G06Q 30/00 (2006.01)

(52) U.S. CI 705/44; 705/39; 380/23

(58) Field of Classification Search 705/39,

705/44,51,64; 361/91; 380/23; 707/9 See application file for complete search history.

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**Utilization of the E-Metro
 Community and Personal
 Information Agents assure an**

effective and comprehensive agent rule based command and control of informational assets in a networked computer environment. The concerns of informational privacy and informational self-determination are addressed squarely by the invention affording persons and entities a trusted means to author, secure, search, process, and exchange personal and/or confidential information in a networked computer environment. The formation of trusted electronic communities wherein members command and control their digital persona, exchanging or brokering for value the trusted utility of their informational assets is made possible by the invention. The present invention provides for the trusted utilization of personal data in electronic markets, providing both communities and individuals aggregate and individual rule-based control of the processing of their personal data.

13 Claims, 34 Drawing Sheets

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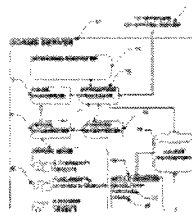
JP 0840223 10/1996
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FIELD OF INVENTION

This document is intended to be read in conjunction with the abstract and the full text of the patent document.

Primary Examiner: Richard Abner
 1745 Attorney: Agnew, Foy, & Pines, LLP
 1745

ABSTRACT



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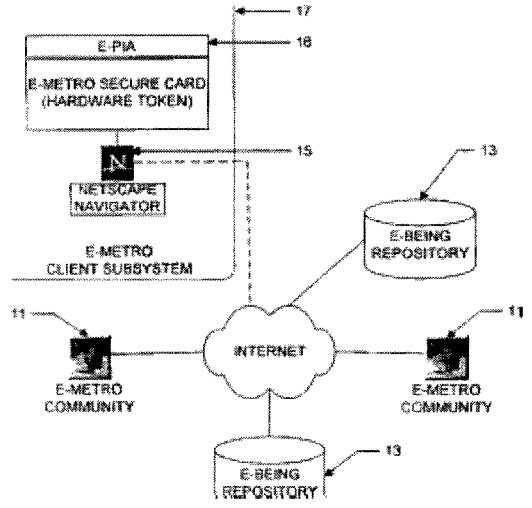
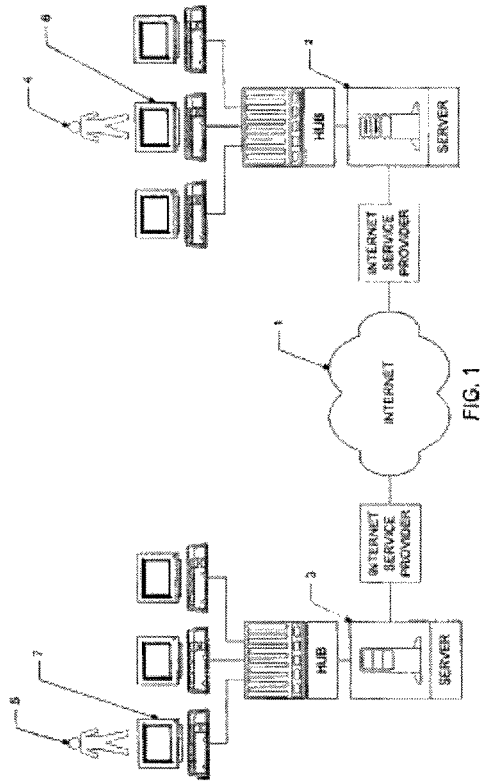
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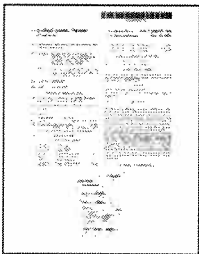
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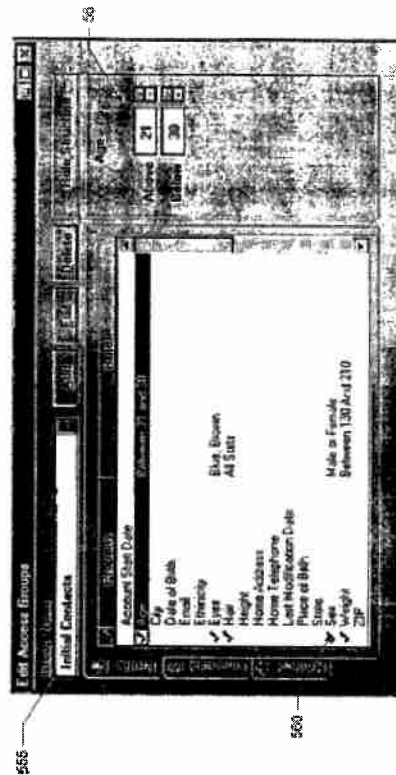


FIG. 33

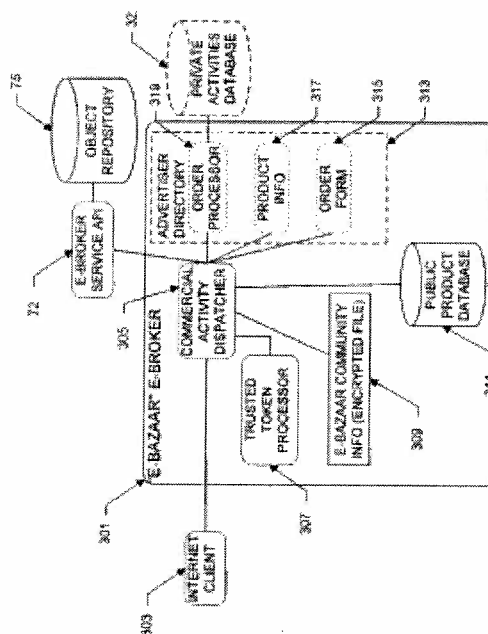


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The present invention relates to the software management of information within a network computing environment. More specifically, the present invention relates to a software system operating on the Internet that creates a virtual private network where a user may author, secure, search, exchange and process personal information in a trusted and controlled manner. This software system encapsulates trusted communities and their members, where a trusted authority certifies the identity and the informational-self of community members. Once a user is registered with a trusted community, the user can author and secure at will the hypermedia content, command and control the rule-based presentation and processing of their personal information.

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The introduction and accelerating use of the Internet has resulted in an explosion of both the quantity and availability of personal information. Unfortunately, since the Internet is largely unregulated, there is no assurance that all this ³⁵ information is accurate or reliable, and often the source of the data is not even ascertainable. Additionally, unless particular precautions are taken, anything sent via the Internet is subject to interception and misuse. These joint concerns for data reliability and data protection can be com- ⁴⁰ bined into a multifaceted concept of a trusted information utility. Data reliability or trustworthiness is present if the data is accurate and can be authenticated and/or corroborated. Trusted utilization is when data is available for access or processing only by those approved by the owner of the ⁴⁵ data, and assurance of continued command and control according to rules established by the owner is present. Trusted utilization or trusted processing is especially critical when dealing with personal data. Personal information, such as an individual's credit worthiness, medical history, ⁵⁰ employment background, or lifestyle is now finding its way on to the Internet. It is likely that law enforcement agencies, credit bureaus, landlords, and others will be using this information to assist in making decisions. Since all these groups make decisions that dramatically impact an individu- ⁵⁵ al's life, using incorrect data, or information that they shouldn't even have, can be devastating.

Thus, people realize that something must be done to protect a person's personal information and as more individuals join the Internet, there will be more pressure to ⁶⁰ collect, use, and market the available personal information, and the individual will want to participate in, command, and control this activity. Collectively, these ideas cannot be properly implemented with the Internet tools presently available, and no tool can efficiently incorporate these ideas. ⁶⁵ Thus, there is a need to provide an Internet utility or tool for the security and exchange of personal information.

It is therefore an object of the present invention to assist in the trusted utilization of personal information on the Internet by 1) providing a mechanism for individuals or entities securely author and encapsulate personal data and processing rules governing the presentation and processing of personal information, while 2) empowering the individual or entity, at will, command and control of their personal information within network computing environments.

SUMMARY OF THE INVENTION

The present invention is a software system for operating on network servers, with

supporting applications operating on an individual user's personal computer system, inclusive of wire-line and wireless tele-computing devices. This invention is directed to a system for allowing an individual or entity to protect, command, control, and process personal information on a computer network, including the Internet. Specifically, this invention facilitates the formation and use of networked Trusted Electronic Communities, hereafter referred to as E-Metro Communities, where each E-Metro Community comprises several members meeting common admission requirements. Preferably, it is the E-Metro Community that sets registration rules and verifies member identity itself or facilitates the use of other trusted Certificate Authorities. The informational identity of each member is encapsulated within the E-Metro Community as electronic personal information agents, hereafter referred to as E-PIAs, with each E-PIA representing a member's information and behavior, with some of the information supplied by each member and some of the information coming from trusted sources external to the member's E-Metro Community. By establishing and enforcing registration rules and performing accountable and audited verifications of member identity, and if so chosen, personal information certification, the E-Metro Community builds a community wherein each of its members can belong and participate in a electronic domain where the rights and responsibilities of privacy and informational self-determination are realized. Thus, it is through the association and certification by a trusted E-Metro Community that a member becomes trusted and reliable in other transactions, but more importantly gains control of their data.

Once a user is a member of an E-Metro Community, the member can assign access rules to each piece of personal information. These access rules set the requirements that must be met before an individual piece of information can be processed. Additionally, the E-Metro Community may get minimum standards for all transactions which must be met. When a request for a particular piece of information is received, E-Metro Community standards and the rule attached to that piece of information is checked by a processes specific to the E-Metro Community, hereafter referred to as the E-Metro Community's E-Broker. The E-Broker is the actual process that checks to see if the requester and the situation meet the requirement of the rule. If so, the E-Broker allows the requested information to be processed; if not, the E-Broker does not allow the information to be processed. Additionally, the information may be transport packaged with transitive privilege rules attached, that is, rules that define the requirements for processing by anyone other than the original member. Using these transitive privilege rules, a member can maintain command and control on third party dissemination and processing of their personal information.

A member may also create an agent, hereafter referred to as an E-AutoPIA, to interact with other members in any E-Metro Community, or even with data external to any E-Metro Community. This agent contains a subset of the personal information on the member, plus contains an itinerary that directs the activity of the agent. Thus, the agent is able to interact with the personal information of other 5 members as directed in its itinerary.

BRIEF DESCRIPTION OF THE DRAWINGS

The foregoing and other objects, features, and advantages 10 of the invention will become more readily apparent upon reference to the following detailed description of a presently preferred embodiment, when taken in conjunction with the accompanying drawings in which:

FIG. 1 shows users connected to network servers access- 15 ing the Internet.

FIG. 2 shows how a user of the preferred embodiment views other E-Communities on the Internet.

FIG. 3 shows the components of a digital certificate, e.g., Verisign's Digital ID. 20

FIG. 4 shows how RSA Public-key cryptography works and how a digital signature is created and attached to a document to assure authorship.

FIG. 5 shows an E-AutoPIA operating outside the E-Metro Community. 25

FIG. 6 shows an E-AutoPIA that has collected several informational E-PIAs from several E-Metro Communities.

FIG. 7 shows several network servers, a user's personal computer connected into the Internet plus a wireless communicator. 30

FIG. 8 shows several E-Metro Community systems along with other resources

interconnected by the Internet.

FIG. 9 shows the architecture of the E-Metro Trusted Server.

FIG. 10 details the DORMS subsystem in the E-Metro 35 Trusted Server, which is shown in FIG. 9.

FIG. 11 detail the storage mechanism for several objects used in the preferred embodiment.

FIG. 12 details the messaging subsystem used in the DORMS subsystem, which is shown in FIG. 10. 40

FIG. 13 is a Booch diagram of the E-Metro Community object.

FIG. 14 is a Booch diagram of the E-Broker object.

FIG. 15a is a Booch diagram of the E-PIA object.

FIG. 15b is a Booch diagram of the informational E-PIA object.

FIG. 16 is a Booch diagram of the E-AutoPIA object.

FIG. 17 is a Booch diagram of the itinerary object.

FIG. 18 is a Booch diagram of the Interact Instruction object. 50

FIG. 19 is a Booch diagram of the Interact Protocol object.

FIG. 20 is a Booch diagram of the rule object.

FIG. 21 is a Booch diagram of the parameter object.

FIG. 22 describes the relationship of the various classes of 55 objects used within the preferred embodiment.

FIG. 23 shows the basic Booch symbols employed in the object model descriptions within the preferred embodiment.

FIG. 24 shows that the communication external to an E-Metro Community are all done with RSA-type security and encryption.

FIG. 25 is the user interface to the preferred embodiment showing the initial screen.

FIG. 26 is the user interface to the preferred embodiment showing the log-in screen. 65

FIG. 27 is the user interface to the preferred embodiment showing the community listings screen.

FIG. 28 is the user interface to the preferred embodiment showing how E-Metro Community members construct and execute searches displaying search results.

FIG. 29 is the user interface to the preferred embodiment showing the initial page of an E-Metro Community registration object being authored.

FIG. 30 is the user interface to the preferred embodiment showing the selected E-Being performing a trusted presentation of their personal information, with certain components and their attributes indicating secured or locked status because the requesting viewer does not meet the requirements set by the E-Metro Community and E-Metro Community member.

FIG. 31 is the user interface to the preferred embodiment presenting additional personal information indicating attributes with disclosed and undisclosed access-processing rules.

FIG. 32 is the user interface to the preferred embodiment presenting rule authoring and assignment of rules to both particular personal information attributes and particular groups or sub-communities of a community.

FIG. 33 is the user interface to the preferred embodiment presenting rule authoring governing what criteria a processor of information must meet to access-process the user's information.

FIG. 34 details the E-Bazaar E-Broker subsystem.

DETAILED DESCRIPTION OF THE INVENTION

The preferred embodiment of the invention primarily operates on a network server, with supporting applications operating on the individual's personal computer system. To a user,

the preferred embodiment appears as a Web site, so it may be accessed simply by knowing its Web site address, but it is a Web site with comprehensive security safeguards: firewalls, proxy servers, SSL enabled Web servers and clients, digital certificates, hardware tokens, security policies and procedures. Not only will the Web site typically require certificate-based identification for access, but all communications between E-Metro Communities and members and other E-Metro Communities will be encrypted. For additional assurance of user identification, an optional hardware token or secure card security system may be implemented. This security system will be discussed in a later section.

As discussed earlier, trusted processing of information has two components: reliability of content and controlled processing, and each is addressed by the preferred embodiment of the invention. It is easiest and most clear to discuss the preferred embodiment using a metropolis analogy. Just as in a city, the Internet provides an individual a place to meet others, share information, seek entertainment, do work, and shop. Likewise, every individual on the Internet has an address where correspondence may be sent. In the city, caution must be used when meeting someone for the first time as it may be unwise to give too much information to someone who is untrustworthy. Also, business transactions with a new person must be done carefully as the quality of goods, standard of support, or origin of the product is not known. These same concerns appear with new encounters and transactions on the Internet.

In the city, people use an unfamiliar person's associations to lower the risk of these new encounters and transactions. For example, if someone is wearing a police uniform, we will typically be more likely to give them our drivers license number, home address, and other personal information. If someone is seated in an attorney's office and hands us a business card with the title of "Attorney," we are more likely to expose confidential information. Also, if someone lives in our same community, maybe even our neighbor, we too will be more likely to share information and feel safe conducting a transaction. On the Internet, if a person has an address that ends in .gov, we may feel safer doing business with them, as some government agency has allowed them access to the Internet from a government network server, thus giving that user an air of trustworthiness. If that user conducts a bad transaction, the agency that allowed their access to the Internet can be contacted, and the agency is likely to sanction that user. However, the vast majority of users on the Internet will be from network servers that provide no hint as to their trustworthiness. Therefore, the preferred embodiment of the present invention provides a method to reduce the risk in new interactions, and increase the probability that the other user is who they say they are: the preferred embodiment creates agent-rule based trusted electronic communities.

In the city, citizens belong to several communities. Some communities are defined by geography, ethnic background, religion, alma mater, employment, or hobbies. Commonly, people get a great deal of self-identification and satisfaction from choosing the communities to which they belong. It is quite common for someone to refer to themselves as an employee of a company, as a member of a religion, or as an expert at a hobby. Belonging to a community is not only personally satisfying to the member, but allows the reputation of the E-Metro Community to lower the risk of dealing with any one of its members.

In the preferred embodiment, a user may join one or more E-Metro Communities. Each of these E-Metro Communities is independently operated by an administrator that sets admission requirements, authenticates membership, issues digital certificates, and sets the services available to members. The E-Metro Communities are actually implemented as Web sites on the Internet, but are special Web sites as they have a great deal of intelligence and utility. FIG. 2 diagrams a user's view of the Internet using the preferred embodiment. The user will be a member of one or more E-Metro Communities and be aware there are several other E-Metro Communities on the Internet. The user will use a Web Browser such as Netscape Navigator running on their personal computer to access the Internet and attempt to become a member of one or more E-Metro Communities. When desiring to become a member of an E-Metro Community, it is possible to retrieve an unregistered or empty E-Being object from the E-Metro Community or from a public E-Being repository that will need to be initialized with identity information and certified in order to become a member. An unregistered E-Being may be retrieved prior to visiting the E-Metro Community desired to be joined. Once a user is authorized to join an E-Metro Community, the user becomes a member of that E-Metro Community and can use the services the E-

Metro Community administrator has provided. Services may include links to other E-Metro Communities, shopping, or access to information. Besides the standard Netscape Navigator 15, the member will also need some additional support programs at their local com- 60 puter, the client subsystem 17. These client subsystem 17 support programs are processes that allow the Netscape Navigator to have specific functionality in support of specific E-Metro Communities. These programs will be provided as part of the preferred embodiment, but will be 65 configurable by the E-Metro Community administrator or even the user to provide specific functionality. These pro

grams could be created in any language, but Java is presently preferred. It should be a goal of each E-Metro Community, however, to not require additional software besides standards based browsers, as this maintains a much easier to support client software subsystem. Additionally, the member may desire to gain privilege or access to specific E-Metro Community services to which it does not have rights. The E-Metro Community may require further information to be filled out in forms that must be submitted for approval. These forms are stored in an E-Being repository 13, and can be set up as an independent Web site, an FTP site, or any other storage mechanism allowed on the Internet.

Remembering that trusted processing comprises reliability and controlled processing, in the preferred embodiment, trusted processing of personal data is improved by two means. First, the personal information that is processed is authored and monitored by the individual. The information can also be verified by third parties who issue digital certificates which corroborate the facts claimed by the individual. The information stored is transparent to the individual. Additionally, the users themselves can request trusted certificate authorities to verify and assert the reliability of the personal information. The Certificate Authorities issue digital certificates asserting the reliability of the data. An example would be a credit union, which will certify personal financial or loan data. As an E-Metro Community's reputation for reliability and user-centric control of personal information processing increases, the informational value and mutual trust of its users will also increase.

The other aspect of trusted processing, protection of data, is improved in two ways by the preferred embodiment of the present invention. First, the preferred embodiment uses state-of-the-art techniques, such as public-key cryptography, to securely store and transmit information. Public-key cryptography is discussed in more detail in a later section. These techniques assure that the data can not be deciphered if intercepted during transmission, and only the intended reader can decrypt and understand the information. The second security feature of the preferred embodiment is designed to place controls on the amount of information processed and to limit the utilization of data to recipients meeting criteria established by the user. This security feature allows the user to set rules that govern the processing and utilization of personal information. For example, one rule may state that it is acceptable to release legal history information to a user that is from the American Bar Association E-Metro Community. Another rule may state it is acceptable to utilize a home phone number by a user that is single, from a particular geographic area, and also agrees to have their home number utilized in a controlled manor. By setting sufficient rules, an individual can control the utilization of personal information by only trusted users. Additionally, the user may set transitive rules that attach to information that control electronic distributed processing of the information. Thus, when a user authorizes trusted remote processing of personal information, the information is utilized in a manner that allows the user to maintain command and control of how the information is subsequently utilized.

The preferred embodiment additionally allows an individual to set rules for processing personal information for money or other value. An individual's preferences, physical characteristics, and buying habits have value to those selling products. Traditionally, marketing firms would collect and organize such information and sell those mailing lists to businesses that had a product that may appeal to those on the list. Using the preferred embodiment, an individual can "license" their own personal information to a business

EXHIBIT 10

Google scholar

"Brian D. Robertson" inventor



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Articles and patents

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Results 1 - 8 of 8. (0.01 sec)

Networked personal contact manager

BD Robertson... - US Patent 6,269,369, 2001 - Google Patents

... 31,2001 (54) NETWORKED PERSONAL CONTACT MANAGER (75) **Inventor: Brian D. Robertson**, Cambridge, MA (US) (73) Assignee: Amazon.Com Holdings, Inc., Seattle, WA (US) (*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 ...

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Crossing paths notification service

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... 30,2004 (54) CROSSING PATHS NOTIFICATION SERVICE (75) **Inventors: Brian D. Robertson**, Cambridge, MA (US); Warren W. Adams, Edgartown, MA (US) (73) Assignee: Amazon.com, Inc., Seattle, WA (US) (*) Notice: Subject to any disclaimer, the term of this patent is ...

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SOCIAL NETWORKING SYSTEM

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... 12, 2009 (54) SOCIAL NETWORKING SYSTEM (76) **Inventors: Brian D. Robertson**, Boston, MA (US); Warren W Adams, Edgartown, MA (US) Correspondence Address: KNOBBE MARTENS OLSON & BEAR LLP 2040 MAIN STREET, FOURTEENTH FLOOR IRVINE, CA 92614 ...

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Computer services for assisting users in identifying contacts of their respective ...

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... 20, 2009 (54) COMPUTER SERVICES FOR ASSISTING USERS IN IDENTIFYING CONTACTS OF THEIR RESPECTIVE CONTACTS (75) **Inventors: Brian D. Robertson**, Boston, MA (US); Warren W. Adams, Edgartown, MA (US) (73) Assignee: Amazon Technologies, Inc., Reno ...

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Network-based personal contact manager and associated methods

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... 14,2008 (54) METHOD FOR ESTABLISHING A SOCIAL NETWORK SYSTEM BASED ON MOTIF, SOCIAL STATUS AND SOCIAL ATTITUDE (76) **Inventors: Xu Wei**, Shanghai (CN); Zhou Gang, Shanghai (CN) Correspondence Address: WEINGARTEN, SCHURGIN, GAGNEBIN ...

Comparison of Mycobacterium tuberculosis Genomes Reveals Frequent Deletions ...

BL Timothy... - Comparative and Functional Genomics, 1900 - hindawi.com

Page 1. Research Article Comparison of Mycobacterium tuberculosis genomes reveals frequent deletions in a 20 kb variable region in clinical isolates Timothy BL Ho 1,2 *, Brian D. Robertson

[hindawi.com](#) [PDF]

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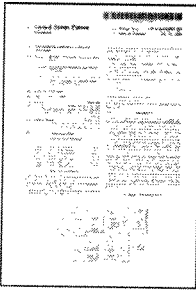
"Brian D. Robertson" inventor

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Networked personal contact manager Brian D. Robertson



- [Overview](#)
- › Abstract**
- [Drawing](#)
- [Description](#)
- [Claims](#)

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[Page images](#) [PDF](#)

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Patent number: 6269369
Filing date: Nov 2, 1997
Issue date: Jul 31, 2001

US006269369B1
 (12) United States Patent
 Robertson
 (i) Patent No.: US 6,269,369 BI (45) Date of Patent: Jul. 31,2001
 (54) NETWORKED PERSONAL CONTACT MANAGER
 (75) Inventor: Brian D. Robertson, Cambridge, MA (US)
 (73) Assignee: Amazon.Com Holdings, Inc., Seattle, WA (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.: 08/962,997
 (22) Filed: Nov. 2, 1997
 (51) Int. Cl.⁷ G06F 3/00
 (52) U.S. CI 707/10; 709/201; 709/202; 709/203; 709/300; 709/217; 709/218; 709/219; 707/1; 707/104; 707/501; 707/513; 707/201; 345/327; 345/331
 (58) Field of Search 709/300, 201, 709/202, 203, 217, 218, 219; 707/1, 104, 501, 513, 10, 201; 345/327, 331
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A network-computer-based personal contact manager system is disclosed wherein users of networked clients maintain and update a set of user information which is stored in a relational database on a networked server. The personal contact manager system allows each user to

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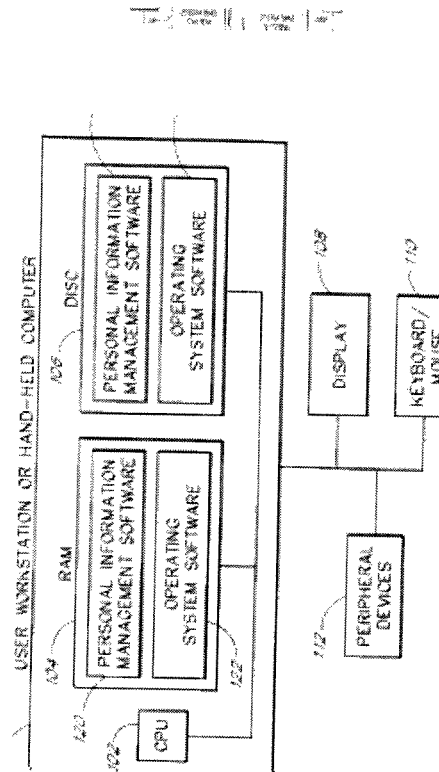
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Primary Examiner—Greg C. Dash
 Assistant Examiner—Hans C. La
 (12) Attorney, Agent, or Firm—Kaufman, Murray, Urban & Gier, LLP

(57) ABSTRACT

specify on an individual basis which of their contacts are permitted to access respective datums of their user information. In some cases, and assuming permission is granted, the system will issue notifications (e.g., by e-mail) to a user's contacts when the user changes his information or when a preset event, such as a birthday, as defined by the user, is to occur. The system also allows users to find contacts based on common group affiliations and notifies users when there are coincidences in their data (e.g., travel plans, astrological compatibility). The personal contact manager system supports the retrieval of information on the contacts of contacts, assuming such as permission has been granted by the contacts and their contacts, and can also be used to synchronize the server database with a PIM database of the user and any contacts of the user whoe have the appropriate permissions.

16 Claims, 14 Drawing Sheets

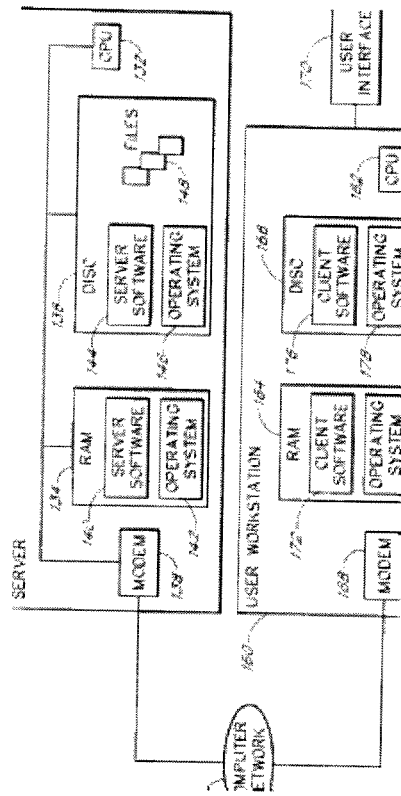


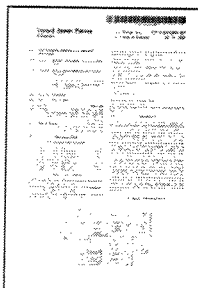
USER INFORMATION

HOME PHONE
WORK PHONE
HOME ADDRESS
WORK ADDRESS
JOB TITLE
BIRTHDAY
GROUP AFFILIATIONS
EMAIL ADDRESS

USER DEFINED PERMISSIONS

- CLASS A AND B CAN SEE BUT NOT CLASS C
- ALL CAN SEE
- CLASS A AND B CAN SEE BUT NOT CLASS C
- ALL CAN SEE
- ONLY CLASS A CAN SEE
- NONE CAN SEE
- ONLY CLASS A CAN SEE
- ALL CAN SEE



Networked personal contact manager Brian D. Robertson[Overview](#)[Abstract](#)[Drawing](#)[Description](#)[Claims](#)

15 - 19

[Page images](#) [PDF](#)**Patent number:** 6269369**Filing date:** Nov 2, 1997**Issue date:** Jul 31, 2001

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NETWORKED PERSONAL CONTACT MANAGER

The present invention relates generally to computer software used to manage contact information—such as 5 mailing addresses, e-mail addresses, phone numbers, and birthdays—and more specifically to a method of creating links between members over a network and providing information to each member based on levels of permission maintained by the other members to which they are linked. 10

BACKGROUND OF THE INVENTION

Several types of prior art for managing contact information exist, including Personal Information Management software applications, Groupware Applications, and Internet- 15 based "White Pages" and e-mail services. Personal Information Management Software

As represented generally in FIG. 1, in a typical prior art Personal Information Management (PIM) software application (e.g., Lotus Organizer, Microsoft Outlook, or U.S. 20 Robotics Palm Pilot), a PIM software application 120, 124 that stores contact information in a database resides on a workstation or handheld computer 100 having a central processing unit 102, a display 108, a keyboard and/or mouse 110, a primary memory 104 (e.g., random access memory) 25 for program execution, a secondary memory 106 (e.g., a hard disc) for program storage, and peripheral devices 112. As is well known, programs, such as the PIM software 120, are executed in the RAM 104 by the CPU 102 under control of the operating system software 122, 126. 30

In the prior art, users themselves enter the contact information that they want to store in the PIM software. A variety of methods exist for entering this contact information. It may be entered manually using the keyboard, imported from an existing file on their computer, or imported via a peripheral 35 device such as a business card scanner. The defining characteristic of this class of prior art is that the input of the contact information is performed by the user of the software and, when the information changes, the user must modify the information himself. What this class of prior art lacks is 40 a means for information to be shared between multiple users and a means for a given user to post changes to his own information for the benefit of others. Groupware Applications

As generally represented in FIG. 2, in a typical prior art 45 Groupware application, (e.g., Lotus Notes), a user workstation 160 accesses information stored on a central server computer 130 over a computer network 150, such as a Local Area Network or Intranet. The server system consists of a central processing unit 132, a primary memory 134 (e.g., 50 random access memory) for program execution, a secondary storage device 136 (e.g., a hard disc) for program storage, and a modem 138 or other device for connecting to the computer network. The user workstation 160 is the same as the user workstation 100 described in reference to FIG. 1 55 with the addition of a modem 162 or other device for connecting to the computer network. The file server or database contains data files 148 that can be accessed only by authorized users. The user uses client software 174, 176 running on the user workstation 160 to access the files 148 60 under the mediation of server software 140, 144 running on the server 130.

Typically, in such a system a central system administrator organizes users into classes and the creator of a file 148 determines what classes of users may view the file. The rules 65 governing which individual users or classes of users have the authorization to view a particular file 148 may be stored

as part of the file itself. Alternatively, these rules are based upon the hierarchical directory

structure of the file server in which the file is stored. That is, a particular user may view files in one directory but not another.

FIG. 3 represents a common deployment of a contact management system based on Groupware. Each user enters information 202 about himself and specifies a set of permissions 204 that define what classes of users are able to view various pieces of the information 202. What this deployment of the prior art lacks is the ability to authorize viewing privileges on a user-by-user basis rather than on a class-by-class basis. For instance, a user would be able to grant access to his home phone number 206 to the Human Resources department of his employer (e.g., Class A) while denying access to the same information to his co-workers (e.g., Class C). The user would not be able to give access to his home phone number selectively to a first co-worker while denying it to a second co-worker if both co-workers were part of the same class of users as organized by the central system administrator. Furthermore, such a system would lack a practical notification methodology. There would be no way for a user to specify "notify me when the first co-worker changes his information but not when the second co-worker changes his information." Internet-Based "White Pages" and E-Mail Directory Services

In a typical prior art "white pages" or e-mail service, client computers and a server computer are connected via the World Wide Web as depicted in FIG. 4. A user subscribes to a White Pages or E-Mail service via a client computer 270 operating a web browser 282 or other software application residing in memory 274 that allows it to display information downloaded from a server computer 230 over the World Wide Web 260. The server computer system accesses a database 240 containing contact information entered by registered users. The service enables users to view contact information entered by other users. The authorization scheme may allow all users to limit certain classes of users from viewing certain parts of their user record as represented in FIG. 3. However, there are no linkages between individual users and thus users cannot restrict the viewing of their information on a user-by-user basis. Furthermore, users cannot be notified when information for particular users has changed.

SUMMARY OF THE INVENTION

The present invention is a computer-network-based contact management system that allows members to create and maintain contact with other members and determine on a person-by-person basis what information to share or withhold. The system is based on a relational database scalable to millions of users that resides on a server computer.

The invention was developed shortly after the advent of the World Wide Web, which promoted millions of people worldwide to connect their computers with a standard protocol, a phenomenon which made the invention practical and beneficial.

When a user becomes a member of the system, the member associates himself with any number of affinity groups and creates a data record for himself by entering information in specific data fields. Based on the affinity groups with which the user has associated himself, the system then informs the user of other members in the same groups and allows the user to establish a link to any of those members on an individual basis.

For each second user to which a first user has established a link, the second user can specify which data fields in his

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data record can be viewed by the first user. Each second user FIG. 11 represents a pseudo graphical user interface that

to which the first user has established a link is informed that provides a first user with specific information that has

a link has been established. The second user can in turn changed about the other users to which the first user is

decide whether or not to establish a link to the first user. If linked;

the second user chooses to establish a link to the first user 5 FIG' u sends a do graphical user interface that

he can specify which data fields in his personal data record ... & first ^ (o ... information and find

out

can be viewed by the first user. In addition, each time a new user associates himself with a group with which an existing user has associated himself, the present invention informs the existing user that the new user has joined that group and allows the existing member to establish a link to the new user. FIG. 13 represents a pseudo graphical user interface that

allows the existing member to establish a link to the new user. FIG. 14 is a data flow diagram of an alternative embodiment

For each first user, the present invention maintains a database of information about the second users to whom the assistant is synchronized with a server database of user

first user has established a link. The personal address book information of the first user contains the information in the data fields

PP.FFFP.P.FF>

that the second users have given the first user permission to view. Whenever a second user changes any information in any data field of his data record, the information in that field is automatically updated in the information database of each embodiment of the invention, examples of which are illustrated

first user whom he has given permission to view the information in that data field. be described in conjunction with the preferred embodiments,

In addition, if a first user has given a second user the it will be understood that they are not intended to limit the proper form of data field permission for the personal data invention to those embodiments. On the contrary, the invention is intended to cover alternatives, modifications and

second user whenever first user's birthday or anniversary is approached, whenever the first user will be travelling in the vicinity of the second user, and whenever the astrological sign of the first user is compatible with the astrological sign follows a standard Internet architecture, in which client

of the second user computers 370 and a server computer 330 are connected via

30 the World Wide Web 360 and modems 338, 378 or other communications channels. A user accesses the server 360

The accompanying drawings, which are incorporated in and form a part of this specification, illustrate embodiments of the invention and, together with the description, serve to

via a client computer 370 operating a web browser 382 or other software application residing in memory 374 that

allows it to display information

downloaded from a server

explain the principles of the invention, wherein: 35 computer 330. The server computer system 330 runs server

... -, , • , j j • i T M i T r software 342, including the network-computer-based per

FIG. 1 depicts a computer loaded with Personal Informa- ... m r ^ of ^ n(^ ^ w £ ch

tion Management software; interacts with the client computers 370 and a user informa

FIG. 2 generally depicts the data schema of a category of tion databas e 340. In a commercial embodiment of the

prior art known as groupware applications; present invention, the personal contact manager 343 is the

FIG. 3 shows a common scheme for authorizing permis- 40 heart of a Web-based personal contact management service

sion to view information in the prior art; called PlanetAll. The database 340 contains contact infor

FIG. 4 depicts two computers interconnected via the mation entered by registered users. The personal contact

Internet, one of which is a server connected to a database and manager 343 in some situations will notify a set of users of

the other of which represents a user's client workstation, updates made to the database 340 by another user to whom

both of which are configured according to the prior art; 45 the notified set is related.

FIG. 5 depicts two computers interconnected via the ^ distinction over the prior art is that the database 340 in

Internet, one of which is a server connected to a database and the present invention is necessarily a relational database

the other of which represents a user's client workstation, built from a pl of relational tables 350. In the conventional

i , 1 r i • i f . - , • , , 1 . manner, both the server 330 and the clients 370 include

both of which are configured according to the present . . . , - , • , * , - * , , - j , - , r

. 50 respective storage devices, such as hard disks 336 and 376

mven ion, anc] OPerate under the control of operating systems 344, 384

FIG. 6 represents an object model of the key tables in the executed in RAM 334, 374 by the CPUs 332, 372. The

relational database maintained on the server computer in the server stOrage device 336 stores program files 346 and the

preferred embodiment of the present invention; operating system 348. Similarly, the client storage devices

FIG. 7 represents a pseudo graphical user interface in 55 376 store the web browser software 386 and the operating

which a user enters information in specific data fields to systems 388. In an alternative configuration, in which the

create a personal data record; client is a personal information manager (PIM), such as the

FIG. 8 represents a pseudo graphical user interface for U.S. Robotics Palm Pilot, the disc 376 can also include a

listing other users with the same group affiliation as that local PIM database 390 and PIM software, which performs

specified by a first user' data management and synchronization functions.

FIG. 9 represents a pseudo graphical user interface for ^ FIG- 6 outlines the data structure of the relational database

specifying what type of data fields from a first user's 340 in the preferred embodiment, in which seven tables 350

personal data record to which the first user wishes to grant ^{are} employed to enable most of the functionality of the

a specific second user access; Present invention:

FIG. 10 represents a pseudo graphical user interface that 65 C¹) Customer Table 440;

displays the information stored in a user's personal address (2) Friend Table 460;

book; (3) Group Table 400;

(4) Affinity Table 420;

(5) Address Table 480;

(6) Phone Table 500; and

(7) Travel Event Table 520;

The Customer Table 440 contains one record for each 5 unique user. The key field in this table is CustomerID 440-2. All information stored in the various database tables relating to a particular member is linked together by a unique number in this field. Other important fields in this table include information used by users to login to the system (Username 10 440-6 and Password 440-8), information which helps users identify each other (First Name 440-10, Last Name 440-12, and E-mail 440-20), information required to provide Birthday Notification (Birthday 440-16) and information required to provide Crossing Paths notification (CityID 440-14). 15 Each record in the Customer Table 440 is time-stamped via the RecordDate field 440-4. Other fields 440-22 can also be included in the Customer Table 440 (and the other tables as well).

The Friend Table 460 is a key to the present invention 20 because it relates users to each other. Each record in the table represents a relationship between one user, identified by CustomerID 460-4, and another, identified by FriendID 460-6, with a certain level of permissions 460-10. The user interface of the present invention provides a multitude of 25 ways for users to view information about other users, and every one of these ways relies on a database query of the Friend Table 460 to determine the list of other users whose information a particular user may see. Each record is timestamped via the RecordDate field 460-8 so that users may be 30 notified when their contacts' records change. Each record is uniquely identified by a RelationID 460-2.

The Group Table 400 contains one record for each unique group with which users may affiliate. Each group is identified by a GroupName 400-4 and GroupType 400-6. 35 Examples of these groups would be GroupName 400-4= "Massachusetts Institute of Technology" (GroupType= "University") and GroupName 400-4="Sigma Chi" (GroupType="Fraternity"). Each record has a time-stamp 400-8 and a unique identifier 400-2. 40

Each record of the Affinity Table 420 relates a user, identified by CustomerID 420-4, to a group, identified by GroupID 420-6. If a user affiliates with six groups, there would be six records in the Affinity Table 420. This table stores information about the time period of a user's affilia- 45 tion with a particular group in the FromYear and To Year fields 420-8, 420-10 so that the system may help users find their contemporaries. Each record is time-stamped 420-12 so that the system may report to users when other users join the group, has a unique identifier 420-2 and can include 50 additional fields 420-14.

The Address Table 480 stores information for any number and kind of addresses for a particular user, identified by CustomerID 480-4. For instance, if a user wants to make his home address, work address and summer home address 55 available to his contacts, there would be three records for that user in the Address Table 480, each being identified in part by an appropriate AddressType 480-8 (e.g., home, work, summer home). Each record is time-stamped 480-16 so that the system can notify users when their contacts have added 60 or modified address information and has a unique identifier 480-2. Address information is conventional, including street Address 480-8, CityID 480-10, Postal code 480-12, and military Base 480-14 fields.

The Phone Table 500 is directly analogous to the Address 65 Table 480, but it stores

telephone and fax number information instead of address information. Each record is identified

by a unique PhoneRecordID 500-2 and includes the CustomerID 500-4 of the user whose phone information is contained in the record, a phone type ID 500-6 indicating, e.g., whether the record is for a telephone or fax, the phone number 500-8 and a time-stamp 500-10.

The Travel Event Table 520 stores information about users' travel plans. This table is required to notify users when their travel plans intersect with the travel plans of their contacts. A record in the Travel Event Table 520 includes the CustomerID 520-4 of the user whose travel information is contained in the record, arrival and departure dates 520-6, 520-8 and a CityID 520-10 identifying the travel destination.

Each record is uniquely identified by a Travel EventID 520-2 and is time-stamped with a RecordDate 520-14.

In the preferred embodiment, a multitude of other tables 540 are used to enable a variety of user services. The Permission Type Table 542 contains one record for each of the varieties of permission levels the system allows members to assign to their contacts in the Friend Table 460. In the preferred embodiment, as illustrated in FIG. 9, permission information is grouped into five categories for the purpose of user interface simplicity (crossing paths notification permission 600-6, personal information 600-8, work information 600-10, birthday notification 600-12, and friends of friends information 600-14). However, the Permission Type table 542 could just as easily be structured to allow members to grant and deny access to information on a field by field basis.

The City Table 550 stores latitude and longitude information for two million cities to enable the system to notify users when their contacts travel within a defined geographical radius. The Zodiac Table 552 allows the system to associate birthdays with signs of the Zodiac and thereby notify which of their contacts have compatible astrological signs on a particular day. The AddressType, Phone Type and GroupType tables 544, 546, 548 define the types of address, phone and group that can be defined in the respective Address, Group and Phone tables 480, 400, 500. The advantage of this normalized relational database architecture is that it permits scaling and speed far in excess of any embodiment of the prior art.

FIGS. 7 through 12 display pseudo software graphical user interfaces (GUIs). In the preferred embodiment, the web server software 342 on the server computer 330 displays these GUIs via the computer communications interface 360 on the user interface 380 of the user workstation computer 370. The database and communications operations necessary to perform the described functions are controlled by the personal contact manager 343, which employs where necessary the services of the web server software 342. For example, the personal contact manager 343 updates the database tables 350 when a user submits a new home address and then determines whether any of that user's contacts need to be notified of the change. If so, the personal contact manager 343 will issue the notifications via the web server software 342. It should be assumed, unless a statement to the contrary is made, that all of the operations described herein which are aspects of the present invention are embodied by the personal contact manager 343.

Referring now to FIG. 7, a pseudo GUI 560 is shown that allows members to enter information about themselves in order to create a personal data record. Users can enter information in this GUI in various data fields. In the preferred embodiment, these fields include: Name 560-2, Home Address 560-4, Home Phone 560-6, Work Address 560-8, Work Phone 560-10, Birthday 560-12, High School 560-14, Year of High School Enrollment 560-16, High School Graduation Year 560-18, College 560-20, Year of College Enrollment 560-22, and College Graduation Year 560-24.

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In certain of these data fields, the user can specify groups with which he wishes to affiliate himself, and the beginning and ending dates of the affiliation. In the preferred embodiment, the data fields High School 560-14 and College 560-20 represent categories of groups. In the data field 5 Year of High School Enrollment 560-16, the user enters the beginning date of the affiliation with the group specified in the data field High School 560-14. In the data field High School Graduation Year 560-18, the user enters the ending date of the affiliation with the group specified in the data 10 field High School 560-14. In the data field Year of

College Enrollment 560-22, the user enters the beginning date of the affiliation with the group specified in the data field College 560-20. In the data field College Graduation Year 560-24, the user enters the ending date of the affiliation with the 15 group specified in the data field College 560-20. In both of these cases, the beginning date and ending date establish a date range during which time the user was affiliated with the group in question.

Once the user of the client computer 370 (FIG. 5) enters 20 information in each data field in the GUI 560 shown in FIG. 7, he clicks the Submit button 560-26 (or performs some equivalent action) and the information entered is transferred via the computer communications network 360 (FIG. 5) to the server computer 330, where the server personal contact 25 manager software 343 stores the information in the appropriate tables 350 of a database 340.

Referring now to FIG. 8, a pseudo GUI 580 is shown that allows a first user to select other users they wish to add to their personal address book. The list of contacts is created 30 based on the group affiliation information the first user enters in the data fields College 560-20, Year of College Enrollment 560-22, and College Year of Graduation 560-24 in the Pseudo Registration GUI 560 shown in FIG. 7. A similar GUI 580 would exist for the group specified in the data field 35 High School 560-14 in the pseudo 560 GUI shown in FIG. 7.

In each version of the GUI 580 shown in FIG. 8, a text description 580-2 at the top of the GUI explains to the first user that other members have been found who had the same 40 affiliation as the first user during the same period of time as the first user. The name 580-6 of the group in which the first and second users share an affiliation is displayed and the date range 580-8 of the first user's affiliation with that group is displayed. 45

If a second user whose personal information is stored in the tables 350 of the database 340 on the server computer 330 has specified the same group affiliation as that specified by the first user in the College 560-20 data field, and that second user has specified a date range for that affiliation that 50 intersects with the date range specified by the first user in the Year of College Enrollment 560-22 and College Graduation Year 560-24 data fields, the Name 580-10 of the second user and the ending date 580-12 of the second user's affiliation with that group are displayed. 55

A second text description 580-4 at the top of the GUI 580 instructs the first user to select any of the second users listed whom the first user wishes to add to his personal address book. If the first user wishes to add a second user to his personal address book, the first user clicks the checkbox 60 580-14 to the left of the Name 580-10 (e.g., "John Doe") for that second user. Once the first user has finished specifying the users he wants to add to his address book, he clicks the Submit button 580-16, and the information entered is transferred via the computer communications network 360 to the 65 server computer 330 where it is stored in the appropriate tables 350 of the database 340.

A pseudocode description of the actions performed by the personal contact manager software 343 to display the group member list is shown in Appendix A. This pseudocode fragment (and the others that follow) is written in a structured English that is similar to computer languages such as Pascal, FORTRAN and C. The pseudocode fragments are not described herein as they are self-explanatory. The tables and fields referred to in the pseudocode fragments correspond to the tables and fields described in reference to FIG. 6.

Referring now to FIG. 9, a pseudo GUI 600 is shown allowing a first user to specify which types of data fields from the first user's personal data record to grant a specific second user permission to view. If a first user specifies a second user whom the first user would like to add to his personal address book, as explained in the description of FIG. 8, the second user will receive notification (issued by the contact manager program 343—FIG. 5) that the first user has "linked" to him. If the second user chooses to return the link to the first user, the preferred embodiment of the present invention will display the pseudo GUI 600 shown in FIG. 9 with the name of the first user 600-5, allowing the second user to set data field permissions for the first user. Unlike the prior art, which does not allow the first user to specify data field permissions for individual other users, the preferred embodiment of the present invention allows the first user to specify permissions separately for each individual other user in whose personal database the first user has chosen to be included.

A text description 600-2 at the top of the pseudo GUI in FIG. 9 instructs the first user to specify which types of data fields from the first user's personal data record to allow to appear

in the personal address book of the second user, whose name 600-4 is shown below. Several types of data field permission are listed, each with a check box to the left enabling the first user to select or deselect the permission type. For example, to grant the second user 600-4 permission to view the information from the first user's personal data record indicated by the permission type denoted "Crossing Paths Notification Permission," the first user would check the box 600-7 to the left of the permission type Crossing Paths Notification Permission 600-6. To deny the second user 600-4 permission to view the information from the first user's personal data record indicated by the permission type denoted "Personal Information," the first user would uncheck the box 600-9 to the left of the permission type Personal Information 600-8.

In the preferred embodiment of the present invention, the levels of permission are as follows: Crossing Paths Notification Permission 600-6, Personal Information 600-8, Work Information 600-10, Birthday Notification 600-12, and Friends of Friends Information 600-14. However, the present invention is not limited to the levels of permission shown in the preferred embodiment. The present invention is flexible to allow permission categories to be modified as needed.

Each permission type allows the second user to view information from the first user's personal data record in specific data fields, according to a specific set of rules. In the preferred embodiment of the present invention, these permission rules are as follows:

If member A links to member B, member A can grant any of the permissions discussed below to member B.

Even if member B does not reciprocate the link to member A, an e-mail forwarding address for member B will be included in the Virtual Address Book for member A. For example, the e-mail address

[« Previous](#)

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EXHIBIT 11

EXHIBIT 12

Query

Search Clues

Case Number

or search by

Case Status: Open Closed All

Filed Date to

Last Entry Date to

Nature of Suit
110 (Insurance)
120 (Contract: Marine)

Cause of Action
02:0431 (02:431 Fed. Election Commission: Failure Enforce Compliance)
02:0437 (02:437 Federal Election Commission)

Last/Business Name (Examples: Desoto, Des*t)

First Name Middle Name

Type

Select A Case

This person is a party in 3 cases.

1:08-cv-00862-JJF-LPS Leader Technologies Inc. v. Facebook Inc. filed 11/19/08

1:09-cv-00705-GMS WhoGlue Inc. v. Facebook Inc. filed 09/21/09 closed 03/02/10

1:09-cv-00745-JAP Mekiki Co. Ltd. et al v. Facebook Inc. filed 10/07/09

PACER Service Center			
Transaction Receipt			
05/04/2010 01:56:54			
PACER Login:	cg0070	Client Code:	309101-211-12931
Description:	Search	Search Criteria:	Last Name: Facebook
Billable Pages:	1	Cost:	0.08