US 20080015928A1

(19) **United States**

(12) **Patent Application Publication** (10) **Pub. No.: US 2008/0015928 A1**

Chandra (43) **Pub. Date: Jan. 17, 2008**

(54) **BUSINESS RATING METHOD**

(75) Inventor: **Bobby A. Chandra**, Saratoga, CA (US)

Correspondence Address:
PATENT LAW OFFICES OF DAVID MILLERS
1221 Sun Ridge Road
Placerville, CA 95667

(73) Assignee: **Grayboxx, Inc.**

(21) Appl. No.: **11/825,773**

(22) Filed: **Jul. 9, 2007**

Related U.S. Application Data

(60) Provisional application No. 60/819,945, filed on Jul. 11, 2006.

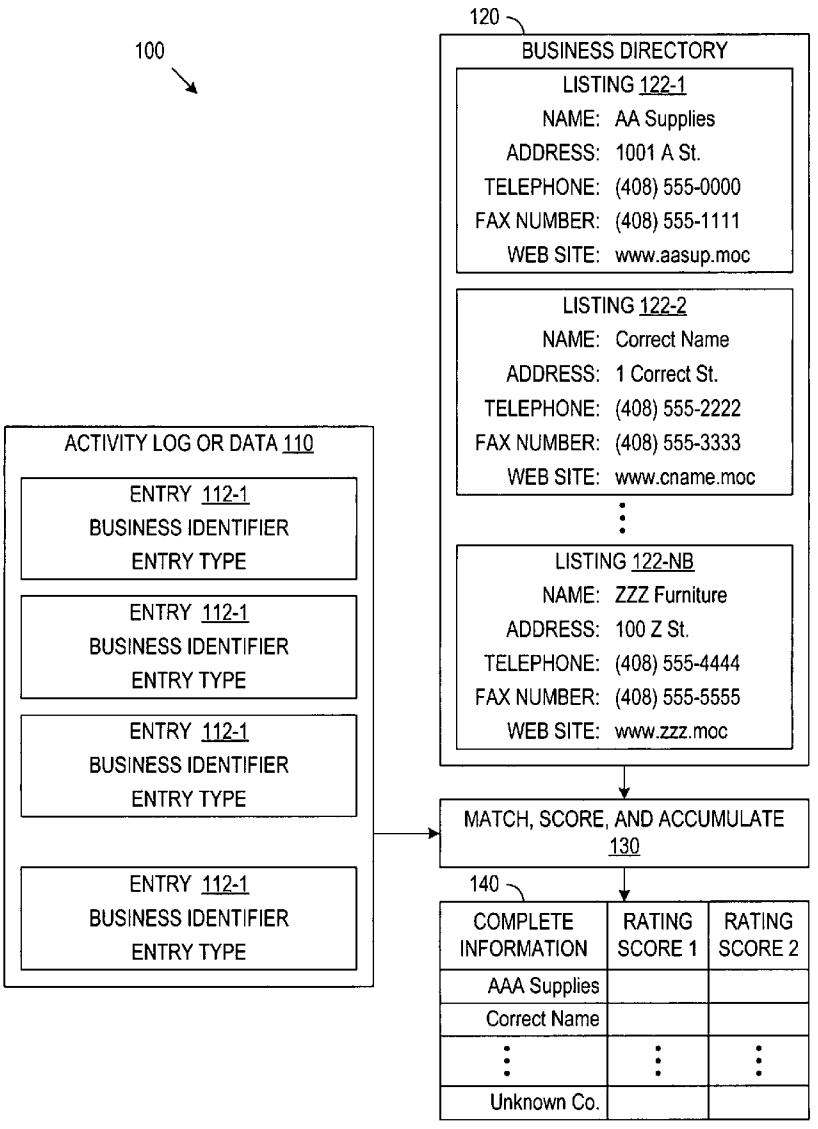
Publication Classification

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

(52) **U.S. Cl.** **705/10**

(57) **ABSTRACT**

Address books, activity logs, or similar data that are normally prepared by people for purposes other than rating businesses can be parsed and processed to rate businesses without requiring users to complete reviews. As a result, a large amount of rating data is available and may provide business ratings and rankings that are more complete and statistically accurate. A local search site can provide users with lists of businesses with rankings or ratings based on community preferences as reflected in user data and activity logs.



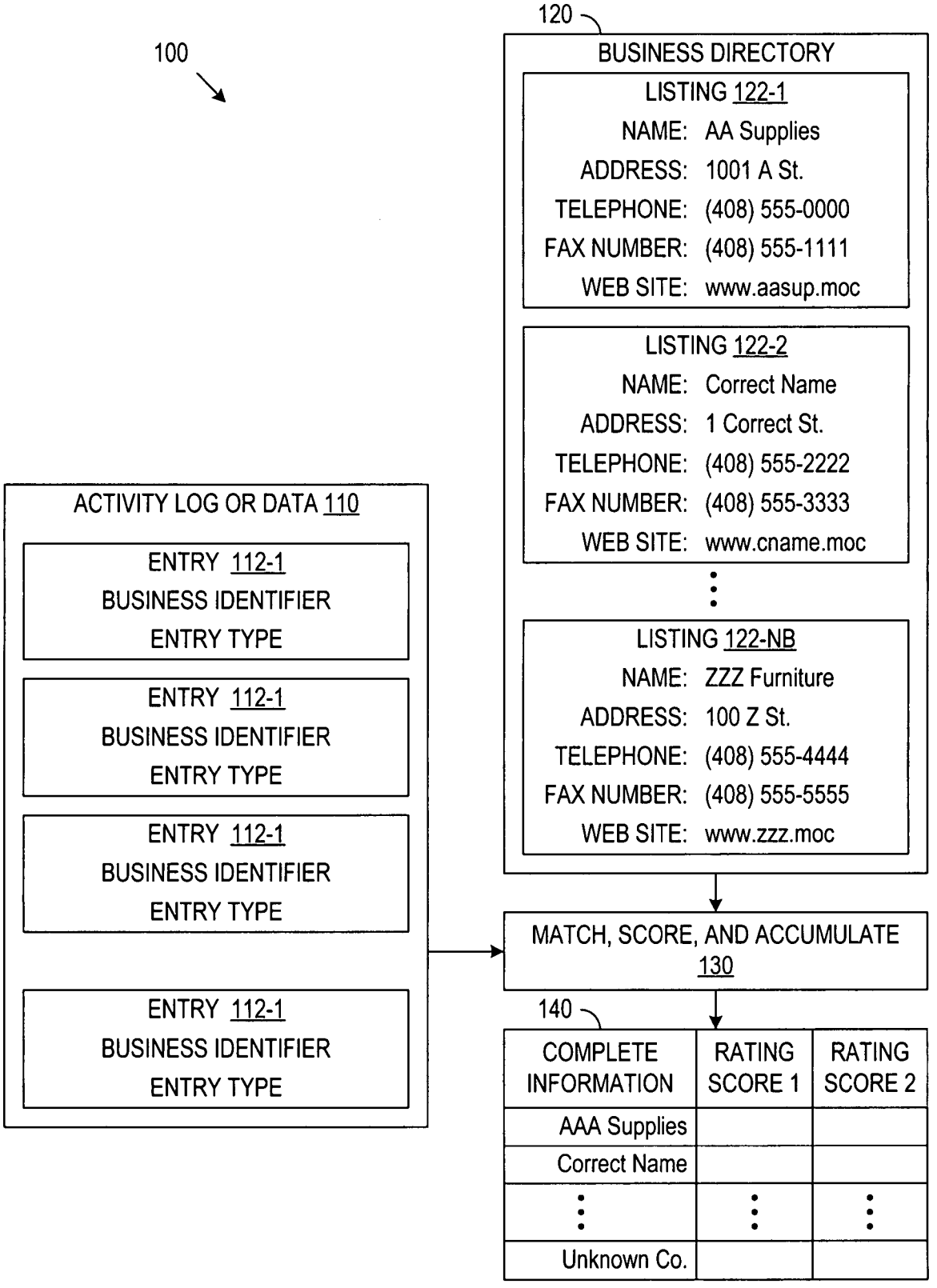

100
120
BUSINESS DIRECTORY
LISTING 122-1
NAME: AA Supplies
ADDRESS: 1001 A St.
TELEPHONE: (408) 555-0000
FAX NUMBER: (408) 555-1111
WEB SITE: www.aasup.moc
LISTING 122-2
NAME: Correct Name
ADDRESS: 1 Correct St.
TELEPHONE: (408) 555-2222
FAX NUMBER: (408) 555-3333
WEB SITE: www.cname.moc
LISTING 122-NB
NAME: ZZZ Furniture
ADDRESS: 100 Z St.
TELEPHONE: (408) 555-4444
FAX NUMBER: (408) 555-5555
WEB SITE: www.zzz.moc
ACTIVITY LOG OR DATA 110
ENTRY 112-1
BUSINESS IDENTIFIER
ENTRY TYPE
ENTRY 112-1
BUSINESS IDENTIFIER
ENTRY TYPE
ENTRY 112-1
BUSINESS IDENTIFIER
ENTRY TYPE
ENTRY 112-1
BUSINESS IDENTIFIER
ENTRY TYPE
MATCH, SCORE, AND ACCUMULATE 130
140
COMPLETE INFORMATION
RATING SCORE 1
RATING SCORE 2
AAA Supplies
Correct Name
Unknown Co.

FIG. 1A

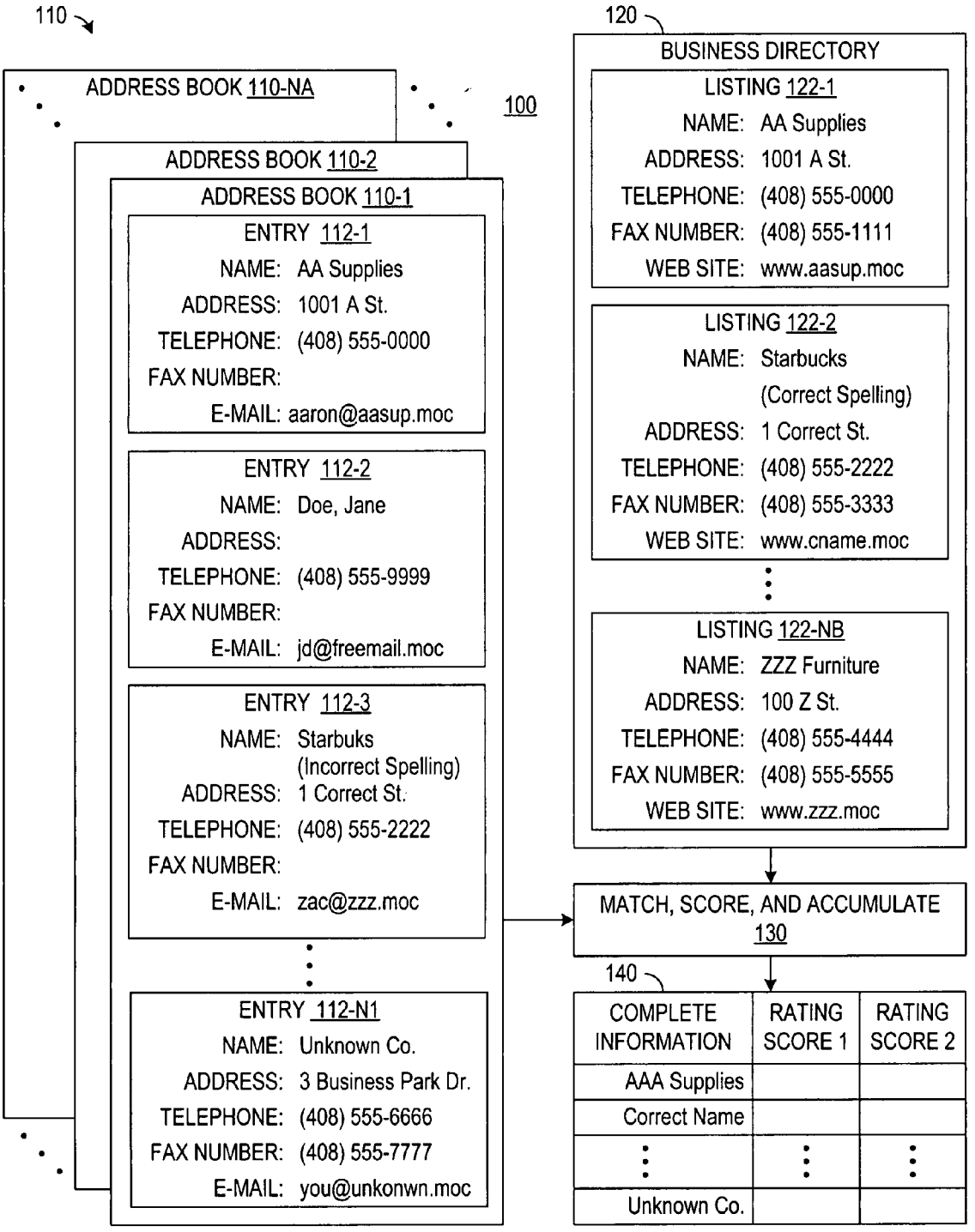

110
ADDRESS BOOK 110-NA
100
ADDRESS BOOK 110-2
ADDRESS BOOK 110-1
ENTRY 112-1
NAME: AA Supplies
ADDRESS: 1001 A St.
TELEPHONE: (408) 555-0000
FAX NUMBER:
E-MAIL: aaron@aasup.moc
ENTRY 112-2
NAME: Doe, Jane
ADDRESS:
TELEPHONE: (408) 555-9999
FAX NUMBER:
E-MAIL: jd@freemail.moc
ENTRY 112-3
NAME: Starbuks
(Incorrect Spelling)
ADDRESS: 1 Correct St.
TELEPHONE: (408) 555-2222
FAX NUMBER:
E-MAIL: zac@zzz.moc
ENTRY 112-N1
NAME: Unknown Co.
ADDRESS: 3 Business Park Dr.
TELEPHONE: (408) 555-6666
FAX NUMBER: (408) 555-7777
E-MAIL: you@unkonwn.moc
120
BUSINESS DIRECTORY
LISTING 122-1
NAME: AA Supplies
ADDRESS: 1001 A St.
TELEPHONE: (408) 555-0000
FAX NUMBER: (408) 555-1111
WEB SITE: www.aasup.moc
LISTING 122-2
NAME: Starbucks
(Correct Spelling)
ADDRESS: 1 Correct St.
TELEPHONE: (408) 555-2222
FAX NUMBER: (408) 555-3333
WEB SITE: www.cname.moc
LISTING 122-NB
NAME: ZZZ Furniture
ADDRESS: 100 Z St.
TELEPHONE: (408) 555-4444
FAX NUMBER: (408) 555-5555
WEB SITE: www.zzz.moc
MATCH, SCORE, AND ACCUMULATE 130
140
COMPLETE INFORMATION
RATING SCORE 1
RATING SCORE 2
AAA Supplies
Correct Name
Unknown Co.

FIG. 1B

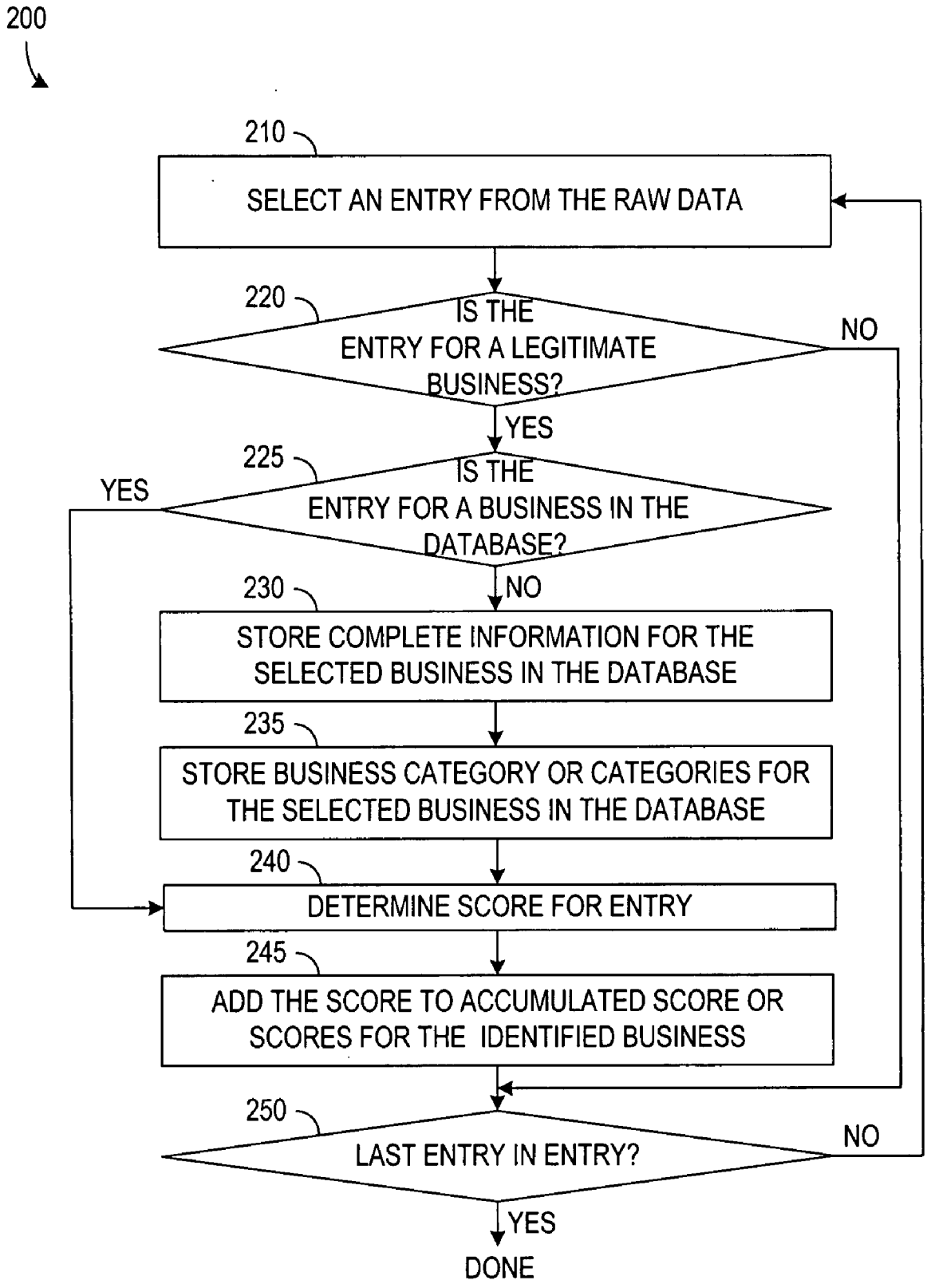

200
210
SELECT AN ENTRY FROM THE RAW DATA
220
IS THE ENTRY FOR A LEGITIMATE BUSINESS?
NO
YES
225
IS THE ENTRY FOR A BUSINESS IN THE DATABASE?
YES
NO
230
STORE COMPLETE INFORMATION FOR THE SELECTED BUSINESS IN THE DATABASE
235
STORE BUSINESS CATEGORY OR CATEGORIES FOR THE SELECTED BUSINESS IN THE DATABASE
240
DETERMINE SCORE FOR ENTRY
245
ADD THE SCORE TO ACCUMULATED SCORE OR SCORES FOR THE IDENTIFIED BUSINESS
250
LAST ENTRY IN ENTRY?
NO
YES
DONE

FIG. 2

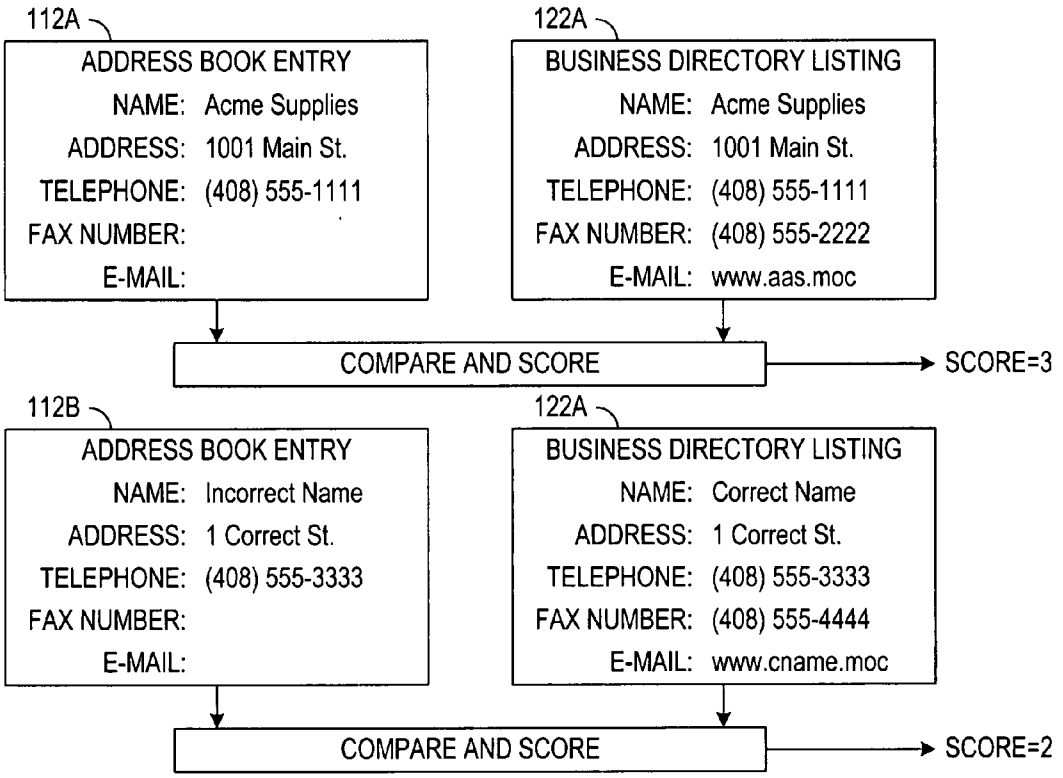

112A
ADDRESS BOOK ENTRY
NAME: Acme Supplies
ADDRESS: 1001 Main St.
TELEPHONE: (408) 555-1111
FAX NUMBER:
E-MAIL:
122A
BUSINESS DIRECTORY LISTING
NAME: Acme Supplies
ADDRESS: 1001 Main St.
TELEPHONE: (408) 555-1111
FAX NUMBER: (408) 555-2222
E-MAIL: www.aas.moc
COMPARE AND SCORE
SCORE=3
112B
ADDRESS BOOK ENTRY
NAME: Incorrect Name
ADDRESS: 1 Correct St.
TELEPHONE: (408) 555-3333
FAX NUMBER:
E-MAIL:
122A
BUSINESS DIRECTORY LISTING
NAME: Correct Name
ADDRESS: 1 Correct St.
TELEPHONE: (408) 555-3333
FAX NUMBER: (408) 555-4444
E-MAIL: www.cname.moc
COMPARE AND SCORE
SCORE=2

FIG. 3

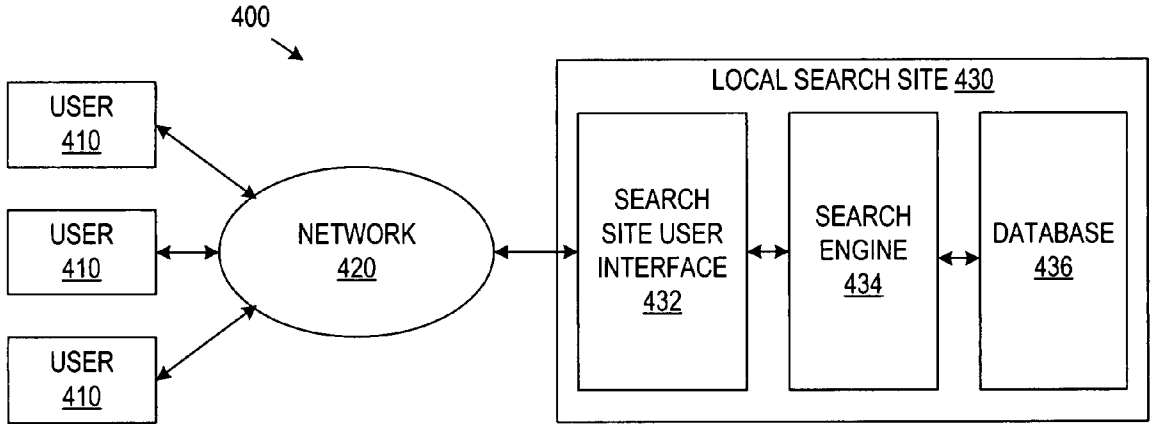

400
USER 410
USER 410
USER 410
NETWORK 420
LOCAL SEARCH SITE 430
SEARCH SITE USER INTERFACE 432
SEARCH ENGINE 434
DATABASE 436

FIG. 4

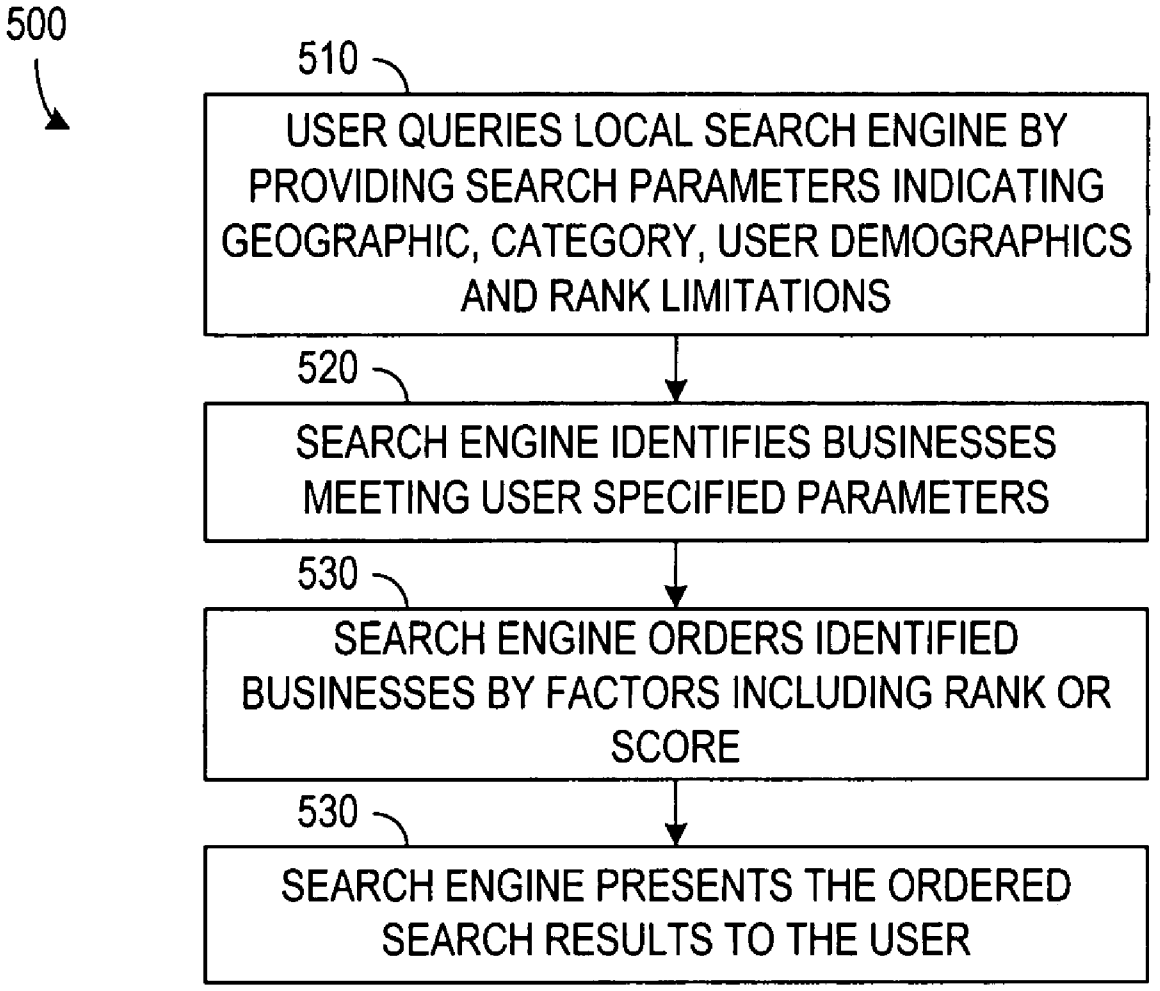

500
510
USER QUERIES LOCAL SEARCH ENGINE BY PROVIDING SEARCH PARAMETERS INDICATING GEOGRAPHIC, CATEGORY, USER DEMOGRAPHICS AND RANK LIMITATIONS
520
SEARCH ENGINE IDENTIFIES BUSINESSES MEETING USER SPECIFIED PARAMETERS
530
SEARCH ENGINE ORDERS IDENTIFIED BUSINESSES BY FACTORS INCLUDING RANK OR SCORE
530
SEARCH ENGINE PRESENTS THE ORDERED SEARCH RESULTS TO THE USER

FIG. 5

BUSINESS RATING METHOD

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This patent document claims benefit of the earlier filing date of U.S. provisional patent application No. 60/819,945, filed Jul. 11, 2006, which is hereby incorporated by reference in its entirety.

BACKGROUND

[0002] Local search sites currently available on the Internet can be used to search for businesses that are geographically close to a user-identified location, e.g., close to a user's home address. To add value to the search results, local search sites have also attempted to provide ratings or rankings of such businesses. However, the common methods for rating businesses have not been completely adequate.

[0003] One rating method relies on customer reviews of the businesses. This method requires customers to manually enter a review of or otherwise rate businesses, e.g., on a scale from 1 to 5. This "business review" method typically fails to provide a sufficient number of ratings to accurately reflect the community's opinion of businesses and often fails to provide any ratings or reviews at all for many businesses. One of the reasons for the shortage of reviews is that customers have little incentive to rate or review businesses, so many businesses go unranked.

[0004] Another rating method rates a business by counting the number of hyperlinks that lead to the business' website. The more links to a business' website, the higher the business is rated or ranked. A shortcoming of this approach is that many small businesses do not have websites and therefore a count of links to the business' website is not possible. Further, it is not clear whether a large number of links indicates a well operated business or an Internet-savvy business.

[0005] In view of the shortcomings of existing technology, systems and methods for rating businesses are sought that do not require users to spend time manually reviewing a business and do not depend on a business to be Internet-savvy or on there being hyperlinks to a business' website. These systems and methods should still able to rank a wide variety of businesses across many categories.

SUMMARY

[0006] In accordance with an aspect of the invention, user activities such as entering contact information in e-mail address books or similar contact lists, requesting driving directions to a business, using a global positioning system (GPS) to locate a business, telephoning a business, requesting information on a business, searching for a specific business, entering data into a digital calendar, or conducting transactions with a business provide data that can be parsed and processed to determine ratings or rankings of businesses. In general, personal decisions such as including a business in an address book, requesting driving directions or GPS information for a business, or telephoning a business indicate interest in or a sufficient level of satisfaction with the businesses that the person would contact, purchase from, or use the businesses. Data, which is recorded or collected for purposes that benefit users and not for rating purposes, can thus provide implicit endorsements of businesses and can be analyzed to produce business ratings or rankings. In contrast, completing reviews require time and effort from people who generally receive no direct benefit from doing so. The business rating process does not require any of the customer's time to complete reviews because customers' choices have already resulted in entry of the raw data for other purposes. As a result, more data is available than with current rating methods, and the larger amount of data may provide ratings and rankings that are more complete and statistically accurate. Further, the nature of the data on which evaluations are based may be sufficient to permit additional evaluations for factors such as the demographics of the users, the timeliness of implicit endorsements, or other user-defined criterion selected to provide ratings customized for the particular user.

[0007] A local search site can provide users with a list of businesses in their area with rankings or ratings based on people's preferences as reflected by the people's activities.

DESCRIPTION OF THE DRAWINGS

[0008] FIG. **1**A is a block diagram illustrating a system that determines ratings in accordance embodiment of the invention using a business directory and entries documenting people's recorded user data.

[0009] FIG. **1**B is a block diagram illustrating relationships of address books, a business directory, and ratings determined in accordance with an embodiment of the invention.

[0010] FIG. **2** is a flow diagram of a process for generating a ratings database in accordance with an embodiment of the invention.

[0011] FIG. **3** illustrates a scoring process that instead of simply counting entries evaluates of the entries in determining a rating or ranking in accordance with an embodiment of the invention.

[0012] FIG. **4** is a block diagram of a system enabling a user interaction with a local search site in accordance with an embodiment of the invention.

[0013] FIG. **5** is a flow diagram of a user interaction with a local search site in accordance with an embodiment of the invention.

[0014] Use of the same reference symbols in different figures indicates similar or identical items.

DETAILED DESCRIPTION

[0015] Rating or ranking of businesses can be performed through parsing and processing user data that records or logs people's actions or activities to determine the popularity of businesses as indicated by actions that provide an implicit endorsement of the business. In general, specific activities such as people using address books to save contact information for a business that they may want to contact again, requesting driving directions to the business, or telephoning the business implies the people have expressed interest in or established an ongoing relationship with a business. Therefore, this provides a tacit endorsement of the business and an indication of the popularity of the business. Accordingly, such user information, which is tabulated or recorded as part of many services that are unrelated to rating businesses, can be processed to produce ratings for businesses.

[0016] FIG. **1**A illustrates a system **100** in which a rating process **130** uses an activity log or user data file **110** and a business directory **120** to construct a database **140** containing business rating or ranking information. Data **110** con-

tains a set of entries **112-1** to **112**-N (generically referred to herein as entries **112**.) Entries **112** are data structures that include user-inputted data or data recorded as the result of some user activities. Such activities include but are not limited to a user saving the contact information for a business in an address book, requesting driving directions to a business, using GPS to locate a business, or telephoning a business. Data **110** may be collected by services or user software that is not directed to rating of business. Some examples of data sources include web services or computer programs for keeping address books, web sites that provide and record requests for driving directions, logs of web searches for specific businesses, logs of telephone or Internet information requests for specific businesses, and any service or business that records user information such as transaction lists or phone logs. Even digital calendar data, text notes, text documents, and tagged digital photographs could be used and evaluated using the techniques disclosed herein to rate businesses.

[0017] Each entry **112** includes some information that can be used to identify a business and may additionally contain data specific to the type of activity recorded. The type of business identifier in an entry **112** will depend on the type of entry in data **110**. For example, if data **110** is a list of user requests for driving directions, the business identifier can be the user-entered destination address. If data **110** is from an address book or a telephone log, the business identifier may be a telephone number. If the data **110** is from a GPS device, the business identifier may be longitude and latitude information.

[0018] FIG. **1**B illustrates a specific embodiment of system **100** in which user data **110** is a set of address books **110-1** to **110**-NA. The phrase "address book" is used here in a general sense and includes any system for recording contact information such as but not limited to contact name, company name, e-mail addresses, and telephone numbers. In this embodiment, each entry **112** indicates user data consisting of recorded contact information. The contact information recorded in address books **110-1** to **110**-NA may correspond to businesses or to personal contacts, but the typical contact information such as name, address, telephone, number, fax number, and e-mail address are identifiers that can be used to distinguish a business entry from a non-business entry.

[0019] Address books **110-1** to **110**-NA (or processed data or entries derived from such address books) can be obtained from a variety of sources. Examples of sources of address books **110-1** to **110**-NA are web sites that provide web mail to the general public and also provide on-line address books or contact lists. In particular, web sites such as Yahoo® and Hotmail® incorporate address and contact lists as part of their web mail service. Personal information manager software such as Microsoft® Outlook® that maintain contact lists on personal computers are also sources of information that can be evaluated by this rating process. Other sources of address books include but are not limited to a mobile phone's contact list, a contact manager address book (i.e., ACT), and a sales-force automation contact list (i.e., Salesforce.com). However, in an exemplary embodiment of the invention described for illustrative purposes, each of address books **110-1** to **110**-NA is an e-mail address book for a different user and contains information that the user entered for their own use.

[0020] Each of address books **110-1** to **110**-NA typically contains multiple entries **112**. For example, one address book **110-1** in FIG. **1**B contains N**1** entries **112-1** to **112**-N**1**. Each entry **112** generally corresponds to a contact that may or may not be associated with a business. Within each entry **112** are multiple fields for information such as contact name, mailing address, telephone numbers, and e-mail address. The exact format of an entry **112**, e.g., the number, arrangement, and types of fields per entry **112**, will depend on the source of the address book. The contents of entries **112** depend on the users and in general do not include information in every field.

[0021] Business directory **120** is a database or text file of businesses which can be referenced digitally to identify entries **112** that correspond to businesses. Business directory **120** can be any available listing of businesses and may, for example, be based on published telephone directories or lists generated by government agencies. Further, while the illustrated embodiment of the invention shows a single business directory **120**, multiple business directory data sources may be utilized or combined when checking whether an entry is a legitimate business and for use in database completion as described further below. In FIG. **1**A or **1**B, business directory **120** includes multiple business listings **122-1** to **122**-NB, which are sometimes generically referred to herein as listings **122**. Each listing **122** includes a set of fields with the fields respectively corresponding to information such as a business name, a business street address, a business telephone, business fax number, a business e-mail address, and a web site URL. The fields in listings **122** of business directory **120** may be the same as the fields in entries **112** of address books **110**, or the fields in listings **122** may differ from the fields in entries **112**.

[0022] Rating process **130**, which is typically implemented by a program and executed by a computer, parses each entry **112** in user data **110** and determines whether the entry **112** matches any listing **122** in business directory **120**. If a match is found, process **130** can then assign a value or score to the match and accumulate the scores for each business in a database **140**. The score for each match in general may depend on the type and quality of the matched entry **112** and/or the extent of the match. For example, an entry corresponding to a request for driving directions may be given a lower score that the score for a matching entry in an address book because an entry in an address book may indicate intent to return to a business while driving directions may indicate a first visit to a business. Also, a higher score may be given to more complete entries if completeness is believed to indicate the value a user places on the contact.

[0023] Entries **112** in some cases may contain a user's personal information that is intended to be kept confidential. However, entries **112** in user data **110** may be untraceable to specific users, and rating process **130** can determine ratings or scores that are aggregated into database **140** without retaining any confidential information that can be traced to any particular user. Additionally, processing of entries **112** can be performed by the party or service entrusted to maintain data **110**, e.g., by the web mail service, so that database **140**, which can be made available to a local search site, does not reveal any personal or confidential information.

[0024] FIG. **2** is a flow diagram illustrating an embodiment of a process **200** for constructing a database for rating or ranking businesses based on user data **110** and business

directory **120** of FIG. **1**A or **1**B. Process **200** begins with a step **210** of selecting an entry **112** from user data **110**. A step **220** then determines whether the selected entry **112** corresponds to a legitimate business. The identification of an entry as corresponding to a legitimate business can be performed by comparing the selected entry **112** to listings **122** in the business directory **120**.

[0025] Identifying the selected entry **112** as corresponding to a business involves comparing information from one or more fields of the selected entry **112** with information from one or more corresponding fields of listings **122** in business directory **120**. The specific comparison performed depends on available fields or the business identifier provided by the entry. For example, a simple check for a match can be run using the telephone number because the telephone number provides a hash value that simplifies identification of a matching listing **122**. If a matching field is found in a listing **122**, the other information (e.g., a business name or address) if available from the selected entry **112** can also be checked against the listing **122** in business directory **120** that has the matching telephone number. If the majority of the information in the selected entry **112** is found to be equivalent to information in the listing **122** in business directory **120**, the contact is considered to be a legitimate business. If the check of business directory **120** does not reveal a match, the contact corresponding to the selected address book entry may be deemed illegitimate, e.g., not a business. Alternatively, the selected entry **112** may be deemed to refer to a legitimate business even if the business is not found in business directory **120**, so that data **110** can be the source of additional businesses that are added to database **140**. To improve efficacy of matching, normalization techniques may be used to facilitate comparisons. These techniques include but are not limited to removing non-numerical characters from the telephone number field, handling abbreviations in the street address fields such as rd for 'road', identifying truncated city names, and concatenating user data such as adding a user's area code to a seven-digit telephone number found in an entry **112**.

[0026] Using the illustrated example of FIG. **1**B, step **220** of FIG. **2**, when comparing entries **112-1** to **112**-N1 from address book **110-1** to business listings **122-1** to **122**-NB, may determine that entries **112-1** and **112-3** match business listings **122-1** and **122-2** and are therefore legitimate businesses. It may be noted that a match can be found even when not all fields in an entry (as for example, in entry **112-1**) are complete if the complete information sufficiently matches the corresponding business listing **122-1**. A match may also be found as with entry **112-3** and listing **122-2** even though not all of the information in the entry **112-3** matches corresponding information in business listing **122-2**. Accordingly, the criterion for determining that an entry **112** matches a business listing **122** does not require a complete match for all corresponding fields. An entry such as entry **112-2** that does not match any business listing **122** in business directory **120** can either be determined not to be a legitimate business or can be evaluated using other techniques.

[0027] If step **220** determines that the selected entry **112** is not a legitimate business (e.g., is a personal contact), process **200** branches from step **220** to a step **250** to select another entry **112** for comparison. Otherwise, process **200** branches to step **225** when step **220** finds a sufficient match to a listing **122** in business directory **120**.

[0028] Step **225** determines whether the matching business has complete identifying information stored in database **140**. The information is complete in the sense that all identifying information necessary for use, e.g., in a local search engine, is stored in database **140**. If so, process **220** can branch to step **240** to determine a score for the match as described further below. If a business identified as legitimate is not in database **140**, step **230** creates an entry in database **140** and/or attempts to store complete identifying information for the business in database **140**. For example, if the business was determined to be legitimate after a comparison with a listing **122** in business directory **120**, the information of that listing **122** can be used to complete identifying information for the corresponding entry in database **140**. For example, if the selected address book entry **112** contains only a telephone number that matches a telephone number in business directory **120**, the corresponding business name, address, and other pertinent information is taken from the matching business listing **122** is added for that business entry in database **140**. The selected address book entry **112** may alternatively provide all or part of the identifying business information if a business is identified as legitimate using techniques other than a match in business directory **120**.

[0029] A step **235** categorizes the businesses in database **140** and may be performed when a new entry in database **140** is created. Business category information can be obtained from business directory **120** or other sources.

[0030] A step **240** determines a score for the selected entry **112** when the selected entry **112** corresponds to a legitimate business. In a simple scoring process, each match between an entry **112** and a business listing **122** increments the score of the business by one. However, in accordance with a further aspect of the invention, scoring of the selected address book entry **112** can be based on the nature of the information in the selected entry **112**. This may entail assessing the type of entry or the completeness and accuracy of the entry **112** for a business.

[0031] FIG. **3** illustrates an example of a scoring process suitable for step **240** for the example of entries in an address book as illustrated in FIG. **1**B. The scoring of FIG. **3** is based on completeness of the selected entry **112**. If the selected entry **112** is more complete and correct, the business receives a higher score than if the entry **112** is relatively incomplete or contains errors. In FIG. **3**, an address book entry **112**A receives a score of 3 because three of the fields in address book entry **112**A are completed and match a corresponding business listing **122**A. Address book entry **112**B receives a score of 2 because only two of the completed fields in the address book entry **112**B match corresponding fields in a corresponding business listing **122**B. This scoring technique may be altered for different embodiments of the invention, for example, a score may be based on a percentage of the fields in address book entries that are complete and match a corresponding business listing **112**, which may be useful when analyzing address books that are from different sources and having different numbers of fields per entry. Also, matches in some fields could create a greater contribution to the score that do matches in other fields, and the score can be linearly or non-linearly related the count or percentage of complete matching fields. Additionally, the existence of incorrect information in a field of an address book entry, e.g., as in entry **112**B of FIG. **3** could cause a subtraction in the score or cause the score to be set to zero.

[0032] Such scoring can provide a better rating result because a user taking more time to record business data often indicates that the user thinks more highly of the business than if the user records less information. More accurate information also indicates greater use of the entry. These scoring techniques illustrate a business' score or rating may not be strictly an aggregate or count of references to the business in address books or other user data but may also be a function of qualities of the data and its author such as how complete the entries were or the age of the author. Additionally, the rating method can use other factors in scoring such as the presence of notes associated with the contact information, characteristics of the person performing the recorded data, the accuracy of data entered, the date of the entry, or any other means of evaluating the grammar, quality, and completeness of the entry.

[0033] Step **245** of process **200** in FIG. **2** combines the score determined in step **240** with a previously accumulated score or scores determined in prior executions of step **245**. A single score in general is sufficient for ranking of a business. However, separate scores can be maintained and distinguished, for example, by the date the entry was created or last modified (reflecting timeliness) or factors such as demographic information of the author or actor corresponding to the entry. Separation of scores in this manner may allow calculation of different scores or ranking of businesses, for example, based on a user's preferences when searching for businesses.

[0034] In step **250**, process **200** branches back to select another entry **112** from data **110** unless process **200** has evaluated the last entry **112** in data **110**. If the last entry has been evaluated, process **200** is done.

[0035] After data **110** of one or more types from one or more sources are scanned for businesses and scored according to the frequency of reference and the quality of the reference (as described above), each identified business has a cumulative rating. As noted above, a party such as a web mail service entrusted with confidential address books can use this approach to provide a list (e.g., database **140** of FIG. **1**A or **1**B) containing rating scores for business to a local search engine or other service without disclosing user confidential information. With the list or database, any set of businesses, e.g., business in a specific category and within a user-selected distance of a location, can be ranked according to their ratings.

[0036] FIG. **4** is a block diagram illustrating a system **400** that uses a database **436** generated from user data or user activity logs collected for other purposes. Users **410** in FIG. **4** are connected to a network **420** such as the Internet. Each user **410** generally operates a computer or other equipment with the necessary software and hardware for accessing a site **430** via network **420**. Site **430**, which can be hosted on a web server or other similar hardware connected to network **420**, provides a user interface **432** that users **410** can use to conduct searches that a search engine **434** can perform on database **436**.

[0037] A user **410** optionally can use the site **430** to submit information for inclusion in database **436** and to perform searches for businesses meeting user-selected criterion. A variety of submission techniques can be employed. For example, user **410** could e-mail an address book to site **430** or set up a webpage or website for data input. Alternatively, user interface **432** can provide an automated means for a user **410** to upload his or her contact lists through a webpage with an "upload file" feature. The user could also import his or her contacts from other online contact lists such as web mail address books. In this case, user interface **432** as presented to a user **410** allows the user to click a button and be prompted to select a file from his or her computer or from an online source. Once the user selects the appropriate file (e.g., an e-mail address book file), the user clicks OK and the file representing the user data or activity is uploaded to the server for the site **430**. The code on the server processes the user data or user activity data, for example, using the techniques described above with reference to FIG. **2**, to determine which contact entries are businesses, score the entries corresponding to businesses, and add scores to database **436**. Additionally, as a service to the user **410**, site **430** can complete and/or update business entries in the e-mail address book and return the enhanced address book file to the submitting user **410**.

[0038] A user **410** can also use site **430** to search database **436** for a particular business (i.e., "Joe's Restaurant" having a zip code "95070") or a kind of business (i.e., "Italian Restaurants" in "St. Louis, Mo."). FIG. **5** illustrates a typical search process **500** in accordance with an embodiment of the invention. Process **500** begins with a user submitting a query to a local search engine by providing search parameters. The search parameters provide boundaries for a search and may indicate, for example, a geographic limitation, a business category, or other criteria.

[0039] The search engine in step **520** then searches the database for businesses meeting the limitations set forth in the search parameters and then in step **530** creates a list of the businesses found in an order that factors in the relevancy of the business, the geographic proximity of the business, and the rating for the business. The rating as indicated above may simply be an accumulated score determined as set forth above or may be a calculated rating based on multiple scores that are kept in the database but distinguished by factors such as timeliness. In step **530**, the search engine presents the ordered list of businesses to the user. Once the user is shown the businesses corresponding to his or her query, the user can note information such as a phone number or click on the result for map directions or to receive more information on that particular business.

[0040] The processes described above, in general, can be embodied in firmware, software, or other instructions that can be processed on a computer and/or stored in a computer readable medium. Such computer readable media include but are not limited to CD-ROM, DVD-ROM, integrated circuit memory, magnetic media, optical media, and other storage devices, which may be directly connected to or incorporated in a computer or accessible through a network such as the Internet. The process may also be embodied in consumer devices such as cell phones.

[0041] Although the invention has been described with reference to particular embodiments, the description is only an example of the invention's application and should not be taken as a limitation. For example, the rating methods described above do not need to be limited to private businesses but can be used to rank other entities such as non-profits, governmental services, state parks, and other service providers. Further, there are a number of variations on how the end-user can access and use a database providing ratings. For example, the end-user could request information on a particular business rather than unspecified businesses in a business category, or the end-user could request the most

popular or highest ranked businesses within varying search parameters. Various other adaptations and combinations of features of the embodiments disclosed are within the scope of the invention as defined by the following claims.

What is claimed is:

1. A process executed on a computing system, comprising:

identifying entries that correspond to businesses in data that represents people's activities or notes that are unrelated to rating of the businesses;

determining respective scores for the entries corresponding to businesses; and

determining a rating for each of the businesses from the scores of the entries that correspond to the business.

2. The process of claim **1**, wherein identifying entries that correspond to businesses comprises for each entry, comparing information from the entry to corresponding information in a listing in a business directory.

3. The process of claim **2**, wherein the information from the entry comprises a telephone number.

4. The process of claim **2**, wherein the information from the entry comprises a street address.

5. The process of claim **1**, wherein the scores are the same for all of the entries corresponding to the businesses, and the ratings correspond to counts of entries corresponding to businesses.

6. The process of claim **1**, wherein for each of the entries corresponding to businesses, the score depends on a set of factors selected from a group consisting of completeness of the entry, accuracy of the entry, characteristics of a person associated with the entry, and a date of the entry.

7. The process of claim **1**, wherein the data includes a plurality of address books that comprises at least one of: an e-mail address book maintained at a web mail service; a contact list maintained by a desktop e-mail program; a contact list maintained by personal information manager software; and a contact list maintained on a mobile telephone.

8. The process of claim **1**, further comprising a user providing at least one of the address books.

9. The process of claim **1**, wherein each of the entries corresponds to a request from one of the people for driving directions.

10. The process of claim **1**, wherein the activity data comprises telephone logs of calls made by the people.

11. The process of claim **1**, wherein the entries correspond to requests to a global positioning system.

12. The process of claim **1**, wherein the entries correspond to requests for information on specific businesses.

13. The process of claim **1**, wherein the entries correspond to searches on the Internet for specific businesses.

14. The process of claim **1**, wherein the entries correspond to transactions with specific businesses.

15. The process of claim **1**, further comprising a search engine using the ratings to rank a list of businesses provided in response to a user query.

16. A computer readable media containing instructions that when executed on a computer performs the process of claim **1**.

17. A process executed on a computing system, comprising:

identifying entries from a plurality of address book that correspond to businesses; and

for each of the entries corresponding to businesses, updating a rating of a business that corresponds to the entry.

18. The process of claim **17**, further comprising:

a user providing search parameters to a site on the Internet; and

the site identifying businesses that corresponding to the search parameter, ranking the businesses according to the ratings, and presenting to the user a list of businesses corresponding to the search parameters in an order that factors in the ranking of the business.

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