

# Exhibit B



US007496854B2

(12) **United States Patent**  
**Hedloy**

(10) **Patent No.:** **US 7,496,854 B2**  
(45) **Date of Patent:** **Feb. 24, 2009**

(54) **METHOD, SYSTEM AND COMPUTER READABLE MEDIUM FOR ADDRESSING HANDLING FROM A COMPUTER PROGRAM**

**FOREIGN PATENT DOCUMENTS**

EP 0 093 250 A2 9/1983

(75) **Inventor:** **Atle Hedloy, Stabekk (NO)**

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(73) **Assignee:** **Arendi Holding Limited, Grand Cayman (KY)**

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(\* ) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 20 days.

(Continued)

(21) **Appl. No.:** **09/923,134**

*Primary Examiner*—Sy D. Luu  
(74) *Attorney, Agent, or Firm*—Cesari and McKenna, LLP

(22) **Filed:** **Aug. 6, 2001**

(57) **ABSTRACT**

(65) **Prior Publication Data**

US 2002/0054092 A1 May 9, 2002

**Related U.S. Application Data**

(63) Continuation of application No. 09/189,626, filed on Nov. 10, 1998, now Pat. No. 6,323,853.

A method, system and computer readable medium for providing for providing a function item, such as a key, button, icon, or menu, tied to a user operation in a computer, whereby a single click on the function item in a window or program on a computer screen, or one single selection in a menu in a program, initiates retrieval of name and addresses and/or other person or company related information, while the user works simultaneously in another program, e.g., a word processor. The click on the function item initiates a program connected to the button to search a database or file available on or through the computer, containing the person, company or address related data, in order to look up data corresponding to what the user types, or partly typed, e.g., name and/or address in the word processor, the correct data from the database, data related to the typed data, e.g., the name of the person, company, or the traditional or electronic address, or other person, or company, or address related data, and alternatively the persons, companies, or addresses, are displayed and possibly entered into the word processor, if such related data exists.

(51) **Int. Cl.**  
**G06F 3/00** (2006.01)

(52) **U.S. Cl.** ..... **715/780; 715/816**

(58) **Field of Classification Search** ..... **345/700, 345/705, 710, 744, 764, 804, 805, 808, 809, 345/835, 840, 853, 968; 707/1, 3, 500, 501.1, 707/505, 507, 513, 515, 530; 715/500, 501.1, 715/505, 507, 513, 515, 530, 780, 816**  
See application file for complete search history.

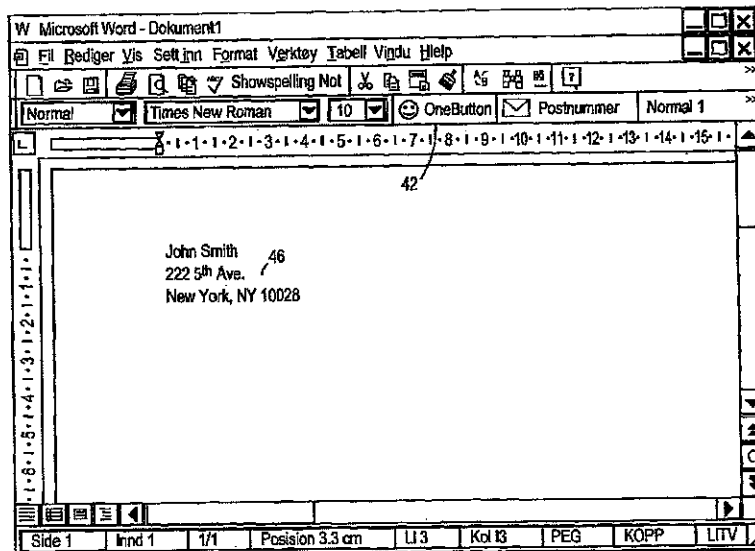
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**101 Claims, 14 Drawing Sheets**



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ONE BUTTON CONTACT AND ADDRESS INVENTION FLOW CHART  
 IN PRINCIPLE: EXACT IMPLEMENTATION MAY VARY  
 DATABASE INTERACTION

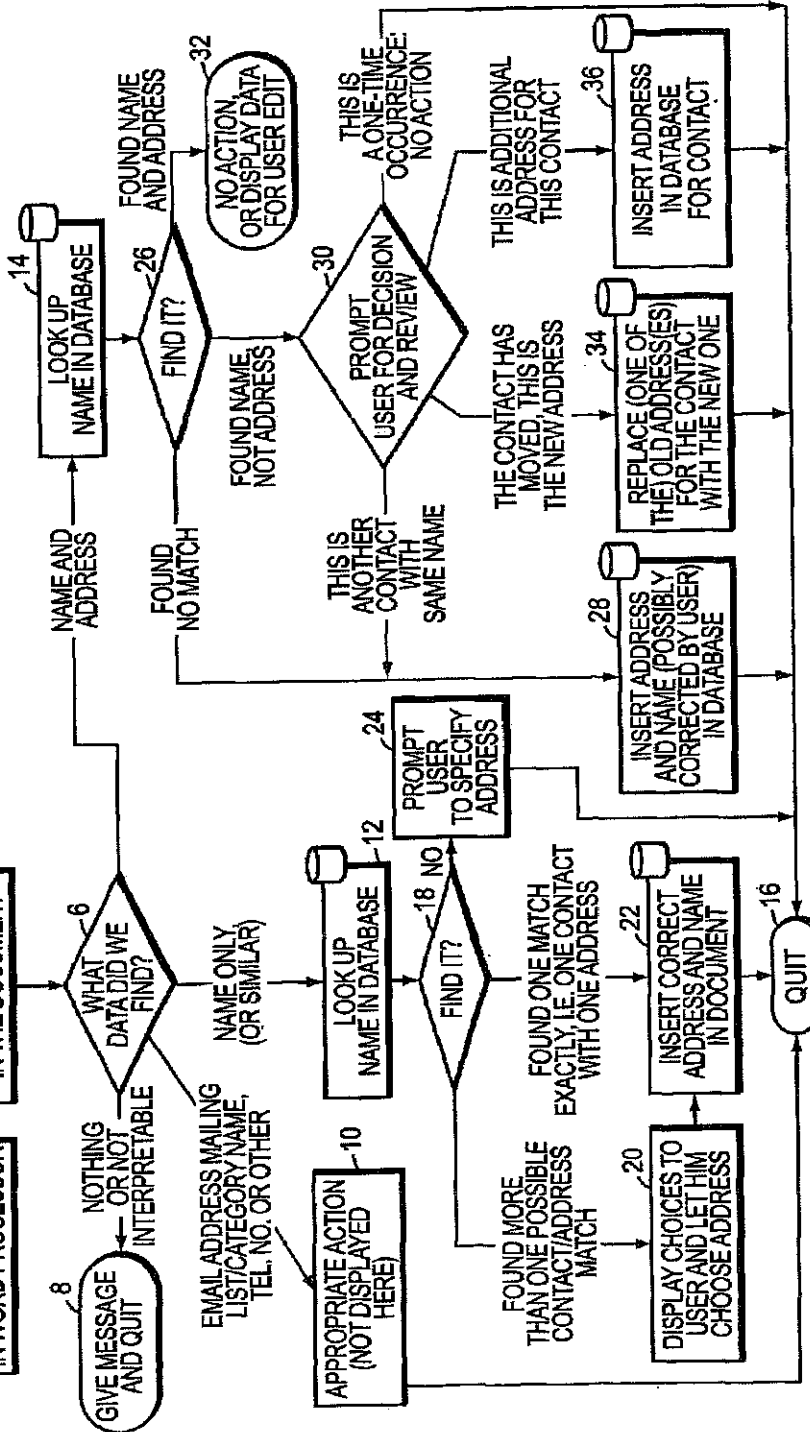


FIG. 1

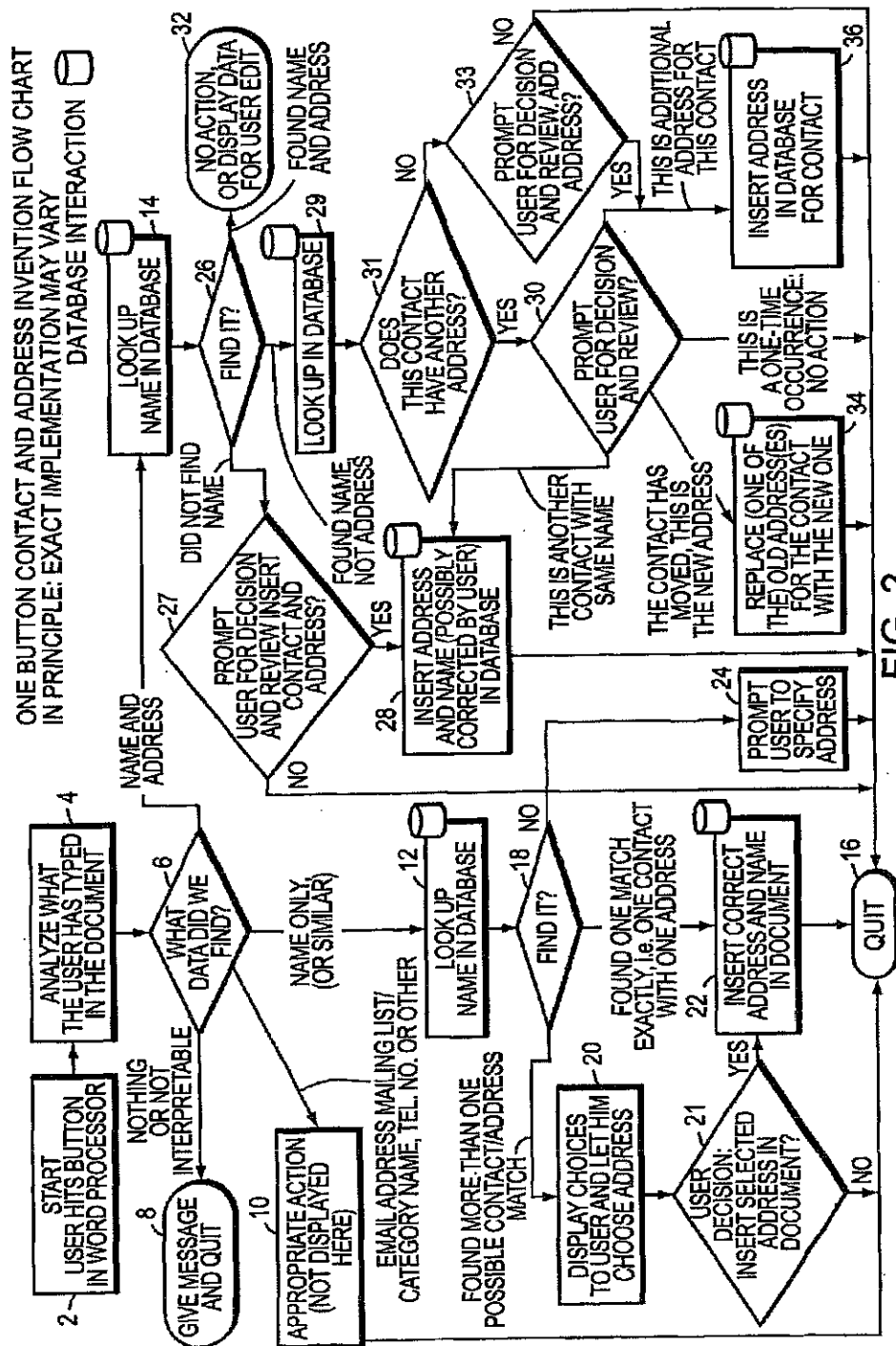


FIG. 2

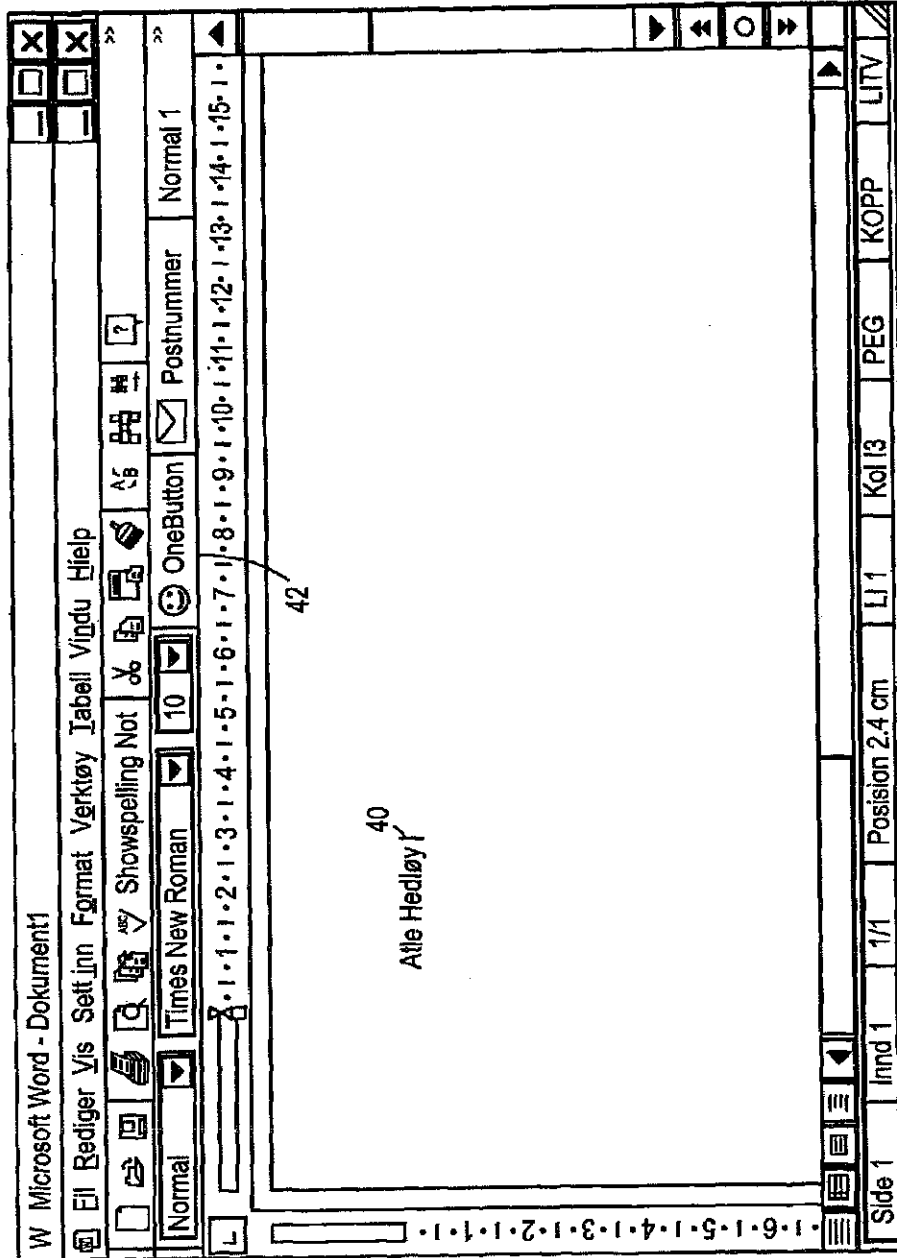


FIG. 3



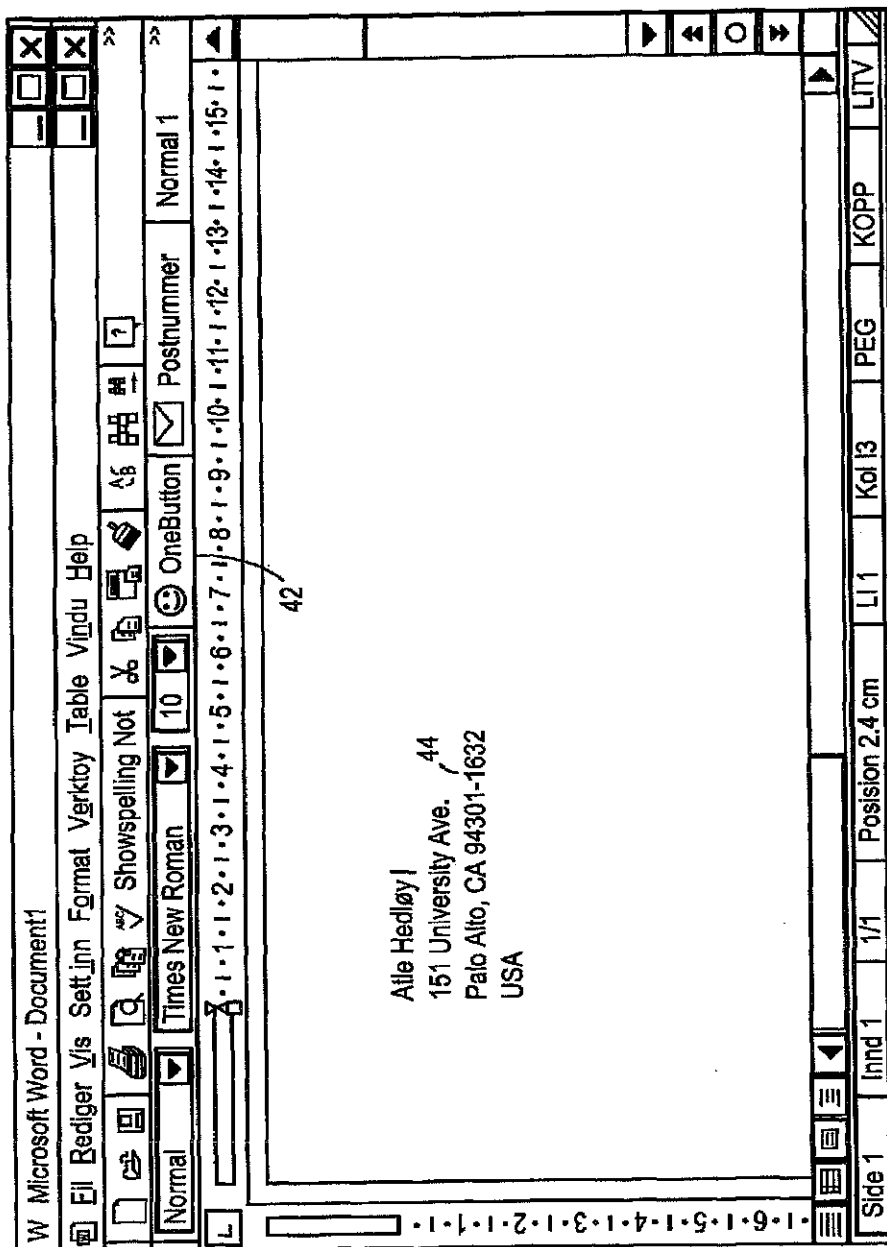


FIG. 4

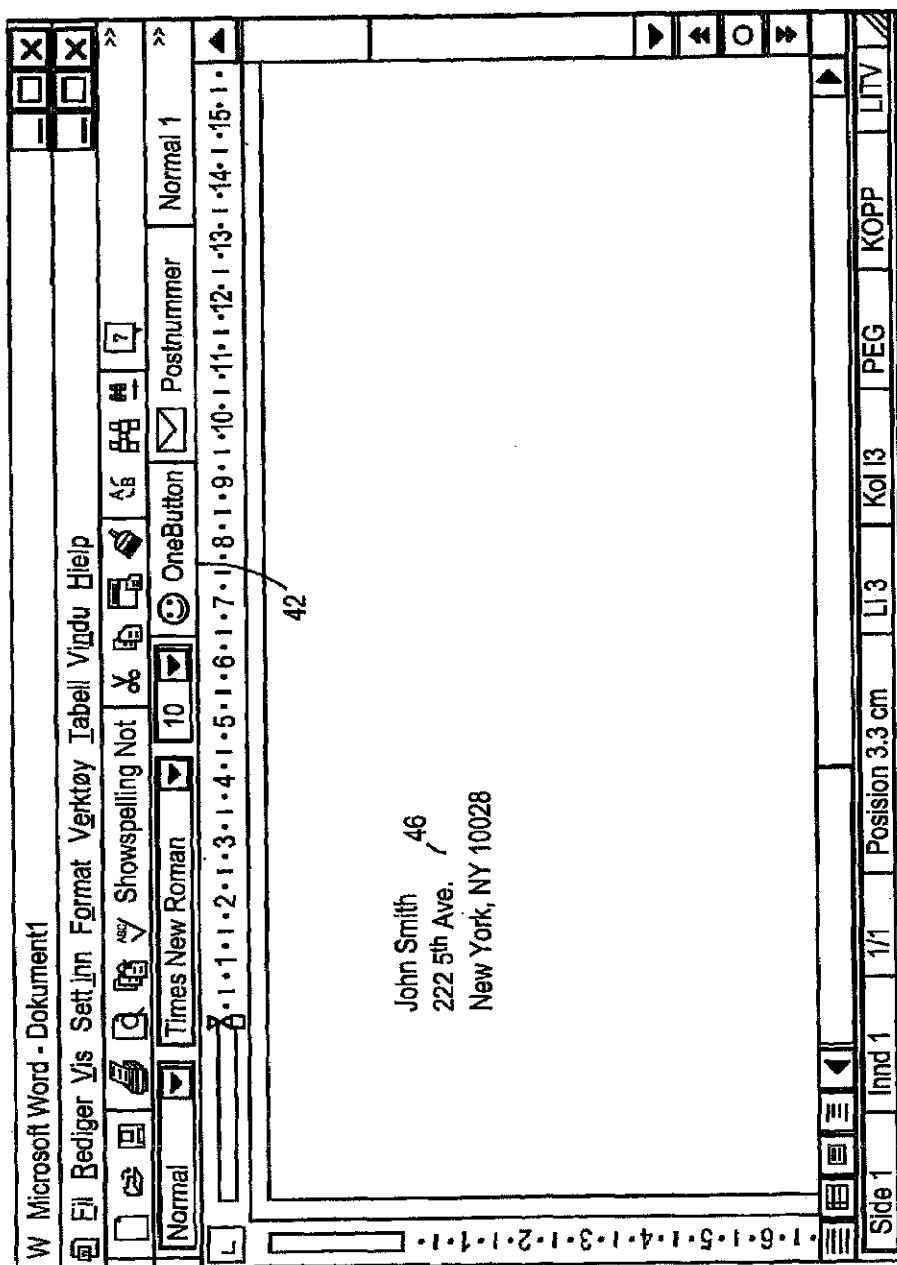


FIG. 5

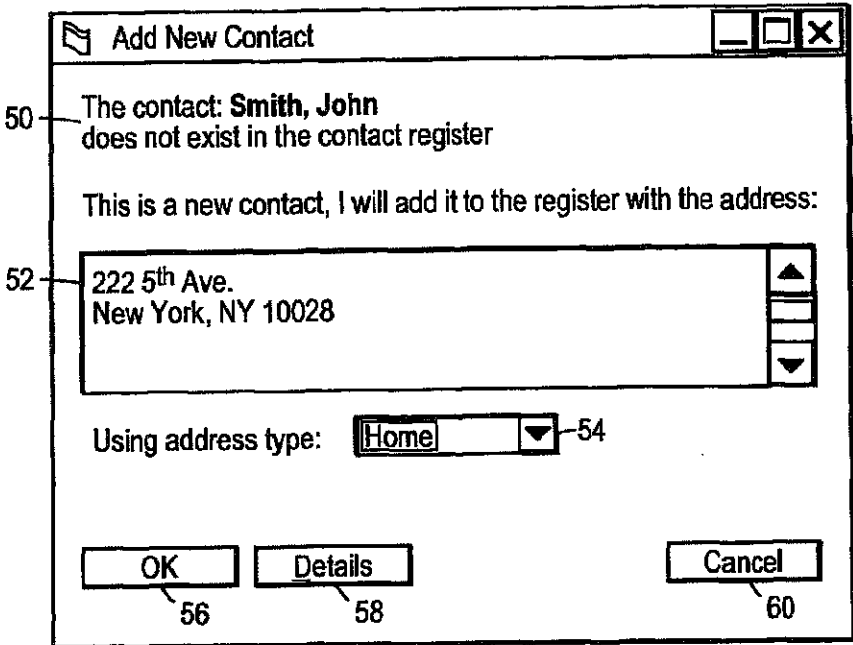


FIG. 6

Arendt OneButton Contact Register

Name

Title: [ ]

First: John

Middle: [ ]

Last: Smith

Suffix: [ ]

Company: [ ]

64 Add and Choose

Address type: Home

Street: 222 5th Ave.

City: New York

State/Province: NY

ZIP/Postal: 10028

Country: [ ]

60 Cancel

66 Options...

Dette er en test

62

FIG. 7

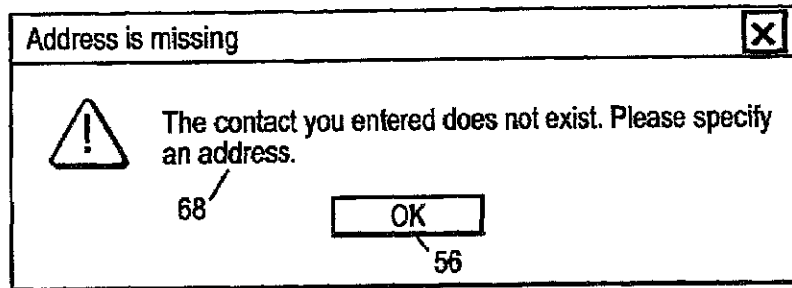


FIG. 8

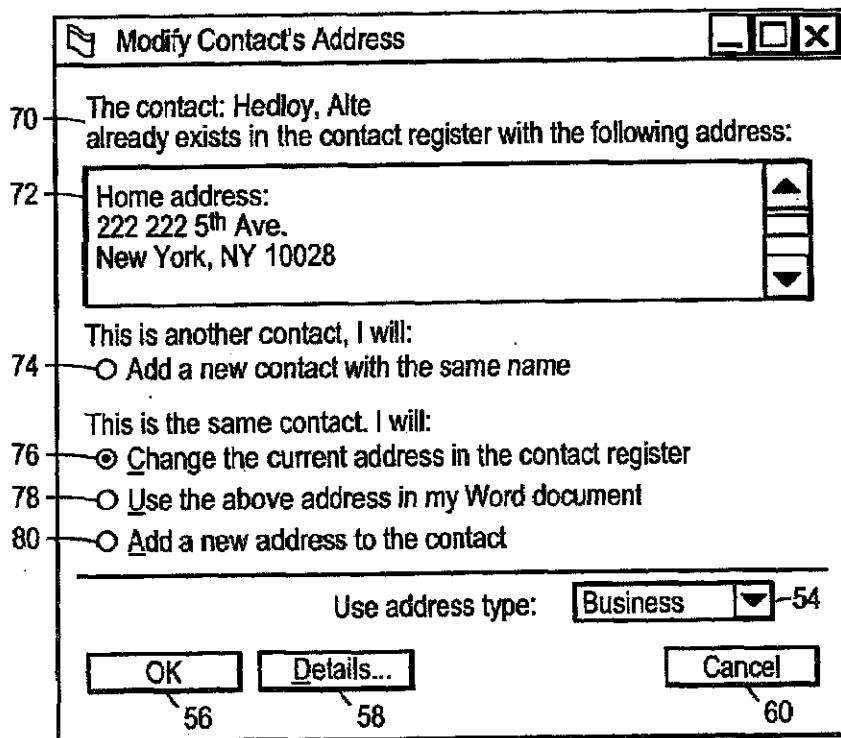


FIG. 9

Arendi OneButton Contact Register

Existing addresses with the same name

Name	Address type	Address	Zip	City	Country
[1]Hedløy Atle	Business	113 Terrasse street	12191-4292	New York	United State of...
	Home	113 113 Jacob Aall street	12191-4292	New York	

82

Name: Atle Hedløy

Address: 113 Terrasse street  
New York, NY 12191-4292  
United States of America

86 Choose

88 Full details...

90 More >>>

Options... 66

Cancel 60

Dette er en test

84

FIG. 10

**Arendi OneButton Contact Register**

Existing addresses with the same name

Name	Address type	Address	Zip	City	Country
[1] Hedløy Atle	Business	113 Terrasse street	12191-4292	New York	United State of...
	Home	113 113 Jacob Aall street	12191-4292	New York	

Name: Atle Hedløy

Address: 113 Terrasse street  
New York, NY 12191-4292  
United States of America

Buttons: Choose, Full details..., More >>>

---

Name: [Dropdown]

Title: [Dropdown]

First: Atle

Middle: [Dropdown]

Last: Hedløy

Suffix: [Dropdown]

Company: [Dropdown]

Address type: Home

Street: 151 University Ave.

City: Palo Alto

State/Province: CA

ZIP/Postal: 94301-1632

Country: USA

Buttons: Add and Choose, Options..., Cancel

Text: Dette er en test

Reference numbers: 82, 84, 62, 54, 88, 90, 64, 66, 92, 60

FIG. 11

Atle Hedløy - Contact

File Edit View Insert Format Tools Contact Help

Save and Close Print Copy Paste Undo Redo Help

General Details Journal All Fields

Full Name... [Atle Hedløy] Job title: Hedløy, Atle

Company: File as:

Address... 113 Terrasse street Phone: Business Home Business Fax Mobile  
New York, NY 12191-4292  
United States of America

This is the mailing address

E-mail Web page:

Categories... Private

94 96 98 100 102 104

FIG. 12



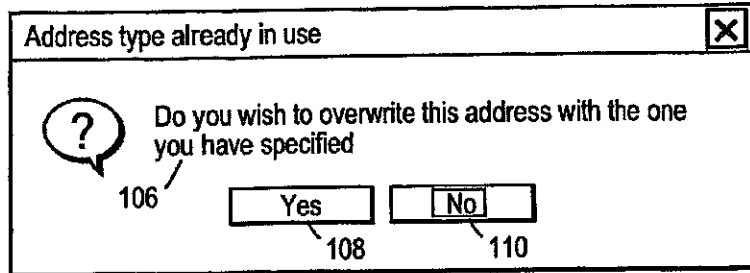


FIG. 13

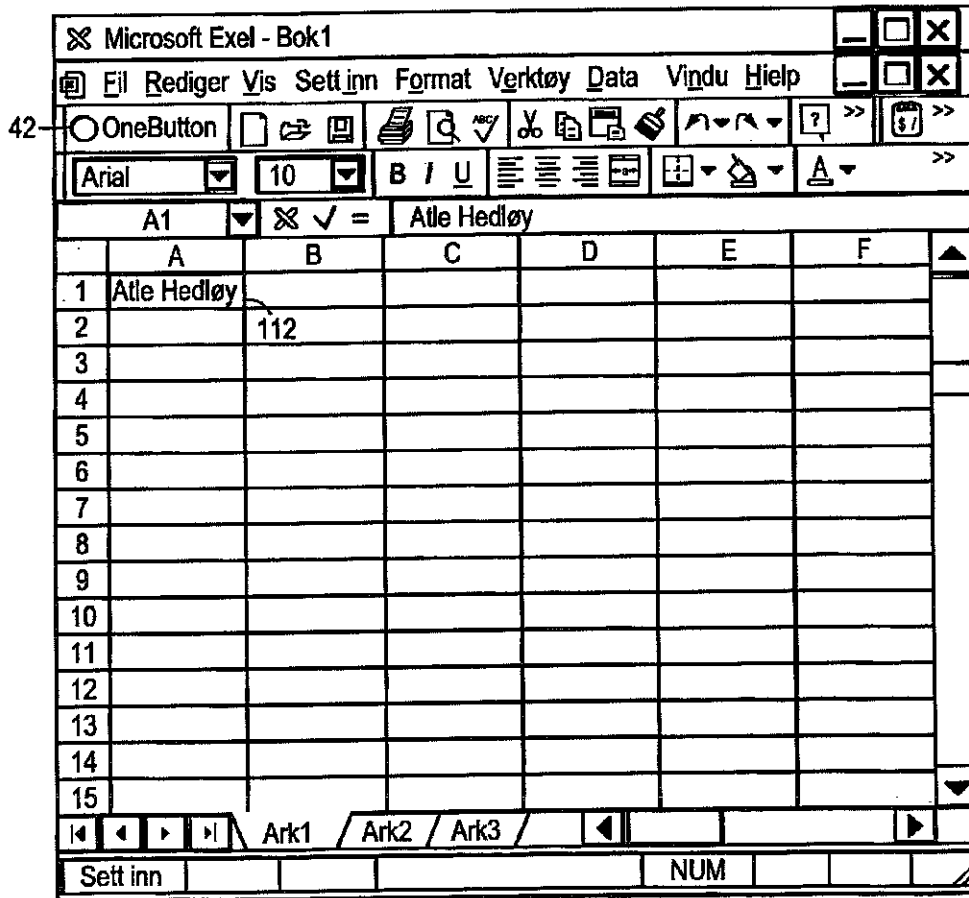


FIG. 14

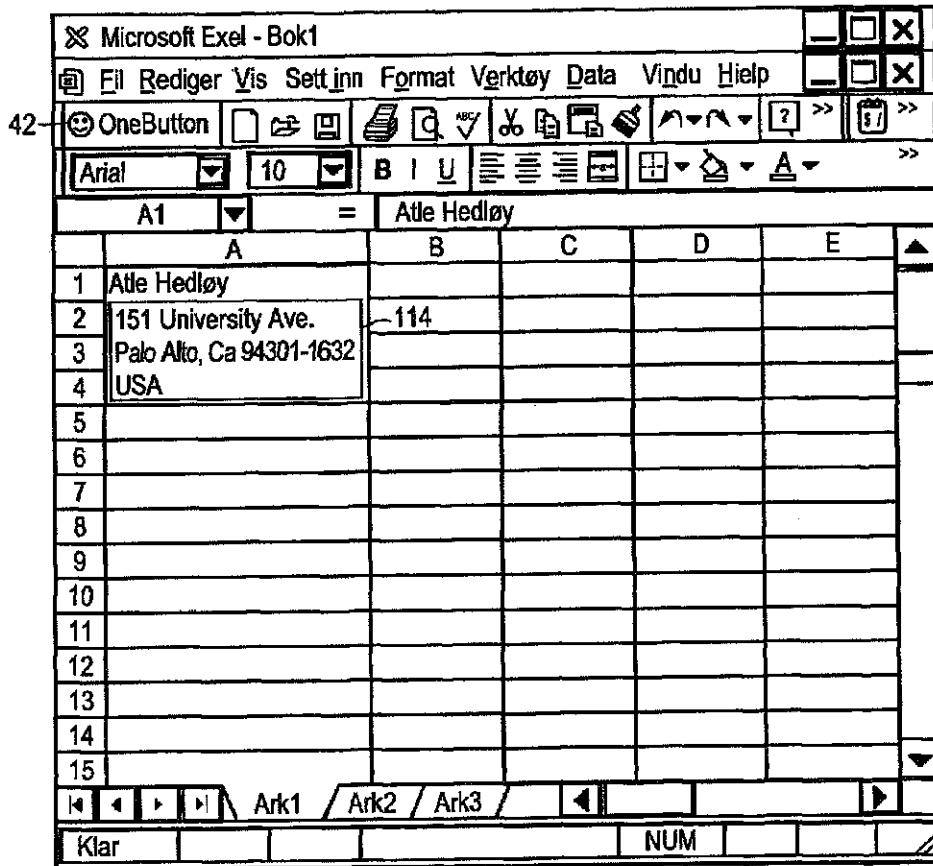


FIG. 15

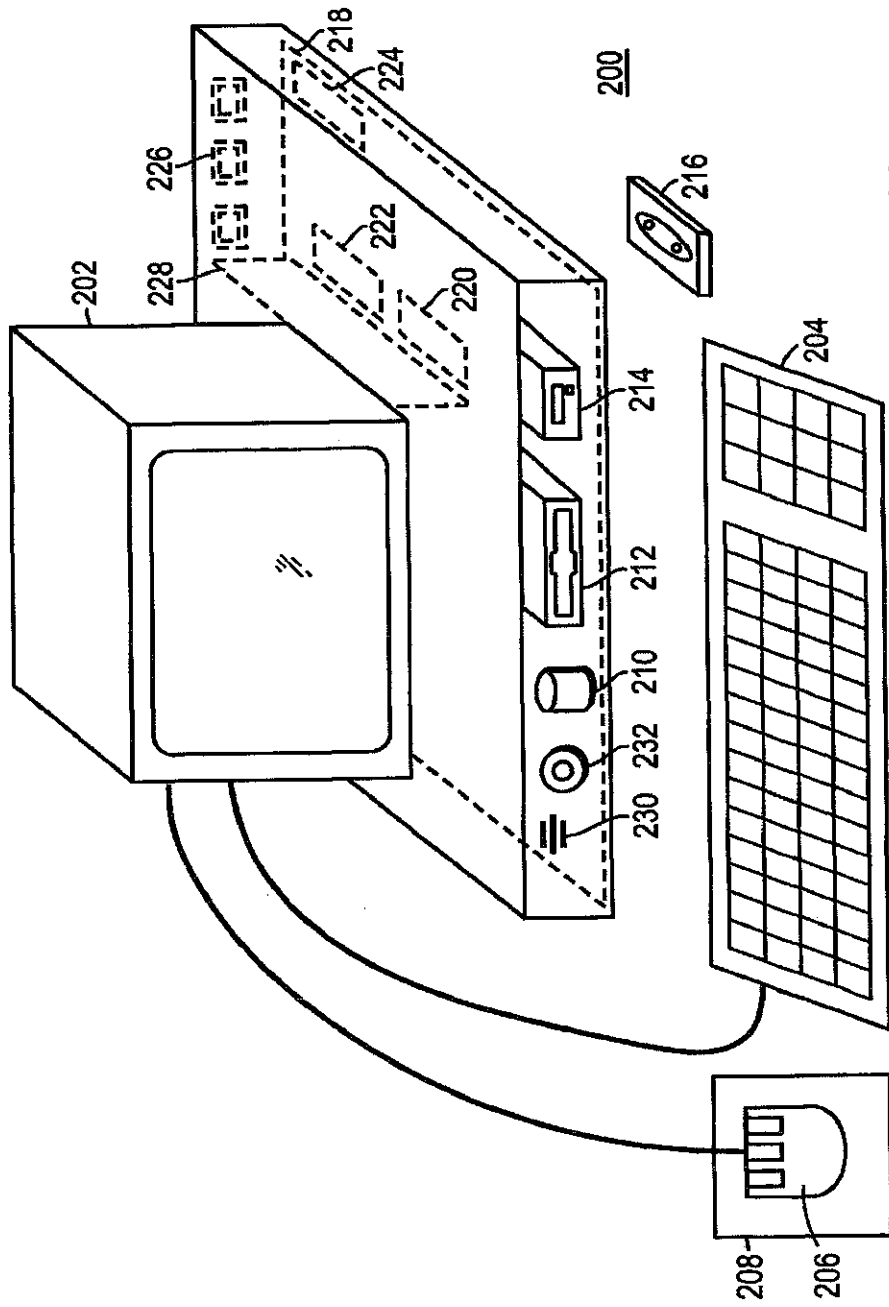


FIG. 16

# METHOD, SYSTEM AND COMPUTER READABLE MEDIUM FOR ADDRESSING HANDLING FROM A COMPUTER PROGRAM

## CROSS-REFERENCE TO RELATED APPLICATIONS

The present application is a continuation of commonly assigned copending U.S. patent application Ser. No. 09/189,626, which was filed on Nov. 10, 1998 now U.S. Pat. No. 6,323,853, by Hedloy for a METHOD, SYSTEM and COMPUTER READABLE MEDIUM FOR ADDRESSING HANDLING FROM A COMPUTER PROGRAM and is hereby incorporated by reference.

## BACKGROUND OF THE INVENTION

### 1. Field of the Invention

This invention relates to a method, system and computer readable medium for name and address handling (hereinafter called "address handling"), and more particularly to a touch screen, keyboard button, icon, menu, voice command device, etc. (hereinafter called "button") provided in a computer program, such as word processing program, spreadsheet program, etc., and coupled to an information management source for providing address handling within a document created by the computer program.

### 2. Background Information

In recent years, with the advent of programs, such as word processors, spreadsheets, etc. (hereinafter called "word processors") users may require retrieval of information, such as name and address information, etc., for insertion into a document, such as a letter, fax, etc., created with the word processor. Typically, the information is retrieved by the user from an information management source external to the word processor, such as a database program, contact management program, etc., or from the word processor itself, for insertion into the document. Examples of such word processors are WORD™, NOTEPAD™, EXCEL™, WORDPAD™, WORDPERFECT™, QUATROPRO™, AMIPRO™, etc., and examples of such information management sources are ACCESS™, OUTLOOK™, ORACLE™, DBASE™, RBASE™, CARDFILE™, etc.

However, the information in the database must constantly be updated by the user. This requires the user to learn how to use and have access to the database. In this case, a change in the information, such as change in address or a name, etc., requires the user of the word processor to implement this change in the database, or alternatively, the change is made to the database centrally by a database administrator.

## SUMMARY OF THE INVENTION

Accordingly, an object of the present invention is to provide a method, system and computer readable medium for address handling within a computer program.

Another object of the present invention is to provide a method, system and computer readable medium for address handling within a computer program, such as a word processing program, spreadsheet program, etc.

Another object of the present invention is to provide a method, system and computer readable medium for address handling within a computer program, such as a word processing program, spreadsheet program, etc., using an input device provided in the computer program.

Another object of the present invention is to provide a method, system and computer readable medium for address

handling within a computer program, such as a word processing program, spreadsheet program, etc., using an input device, such as a touch screen, keyboard button, icon, menu, voice command device, etc., provided in the computer program and coupled to an information management source.

Another object of the present invention is to provide a method, system and computer readable medium for address handling within a computer program, such as a word processing program, spreadsheet program, etc., using an input device such as a touch screen, keyboard button icon, menu, voice command device, etc., provided in the computer program and coupled to an information management source, such as a database program, contact management program, etc.

The above and other objects are achieved according to the present invention by providing a novel method, system and computer readable medium for providing a function item, such as a key, button, icon, or menu, tied to a user operation in a computer, whereby a single click on the function item in a window or program on a computer screen, or one single selection in a menu in a program, initiates retrieval of name and addresses and/or other person or company related information, while the user works simultaneously in another program, e.g., a word processor. The click on the function item initiates a program connected to the button to search a database or file available on or through the computer, containing the person, company or address related data, in order to look up data corresponding to what the user types, or partly typed, e.g., name and/or address in the word processor, the correct data from the database, data related to the typed data, e.g., the name of the person, company, or the traditional or electronic address, or other person, or company, or address related data, and alternatively the persons, companies, or addresses, are displayed and possibly entered into the word processor, if such related data exists.

The present invention also includes a computer readable medium storing program instructions by which the method of the invention can be performed when the stored program instructions are appropriately loaded into a computer, and a system for implementing the method of the invention.

## BRIEF DESCRIPTION OF THE DRAWINGS

The invention description below refers to the accompanying drawings, of which:

FIG. 1 is a flow chart illustrating a method for address handling within a computer program, according to an exemplary embodiment of the present invention;

FIG. 2 is a flow chart illustrating a method for address handling within a computer program, according to another exemplary embodiment of the present invention;

FIG. 3 is a screen shot illustrating the inputting of a name to be searched and an address handling button within a word processor, according to an exemplary embodiment of the present invention;

FIG. 4 is a screen shot illustrating a retrieved address in a word processor, according to an exemplary embodiment of the present invention;

FIG. 5 is a screen shot illustrating the inputting of a name and address to be searched and an address handling button within a word processor, according to an exemplary embodiment of the present invention;

FIG. 6 is a screen shot illustrating an add new contact message window, according to an exemplary embodiment of the present invention;

FIG. 7 is a screen shot illustrating a contact register message window, according to an exemplary embodiment of the present invention;

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FIG. 8 is a screen shot illustrating an address missing message window, according to an exemplary embodiment of the present invention;

FIG. 9 is a screen shot illustrating a modify contact's address message window, according to an exemplary embodiment of the present invention;

FIG. 10 is a screen shot illustrating a select a contact address register message window, according to an exemplary embodiment of the present invention;

FIG. 11 is a screen shot illustrating a more detailed mode of registering an additional address for the contact register of FIG. 9, according to an exemplary embodiment of the present invention;

FIG. 12 is a screen shot illustrating a contact management program window in a full detailed mode, according to an exemplary embodiment of the present invention;

FIG. 13 is a screen shot illustrating an address already in use message window, according to an exemplary embodiment of the present invention;

FIG. 14 is a screen shot illustrating the inputting of a name to be searched and an address handling button within a spreadsheet, according to an exemplary embodiment of the present invention;

FIG. 15 is a screen shot illustrating a retrieved address in a spreadsheet, according to an exemplary embodiment of the present invention; and

FIG. 16 is a schematic illustration of a general purpose computer for performing the processes of the present invention, according to an exemplary embodiment of the present invention.

#### DETAILED DESCRIPTION OF AN ILLUSTRATIVE EMBODIMENT

In an embodiment of the present invention, single button addressing is achieved by providing an input device, such as a touch screen, keyboard, icon, menu, voice command device, etc. (hereinafter called "button"), in a computer program, such as a word processing program, spreadsheet program, etc. (hereinafter called "word processor"), for executing address handling therein.

Accordingly, in a word processor, the button is added and a user types information, such as an addressee's name, or a part of the name, etc. in a document created with the word processor, such as a letter, fax, etc., and then clicks, selects, commands, etc. the button via the appropriate input device, such as a touch screen button, keyboard button, icon, menu choice, voice command device, etc. A program then executes and retrieves the typed information from the document, and searches an information management source, such as a database, file, database program, contact management program, etc. (hereinafter called "database") to determine if the information, such as the name or part of the name typed and searched by the program exists in the database. If the program does not find stored information, such as a name, corresponding to the name or part of the name typed, the user is asked by the program whether the information, such as the name that was not found, should be added to the database. In addition, the user may enter any other information besides the name, such as addresses, businesses, telephone numbers, fax numbers, e-mail address, etc., so that this other information can be stored in the database for later use.

If the program finds name(s) and address(es) corresponding to the part of the addressee's name typed, this additional information is automatically entered into the user's word processor, optionally with a confirmation from the user that this is the correct data. If the typed address information does

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not correspond to data already stored in the database, after clicking on the button, the program, for example, lets the user decide: (1) if this is new data (e.g., a new address) for an existing contact; (2) if the stored data should be changed to what the user just typed; (3) if this is a new contact with the same name as the one already entered into the database; or (4) if the typed address is only to be used once, and therefore not to be stored in the database at all. If, later, for example, a name with several address stored in the database is recalled, all addresses for this contact will be displayed, so that the correct address can be selected by the user.

The program may be extended to also store and retrieve other information, such as telephone numbers, fax numbers, e-mail addresses, etc. Once the program recalls the telephone numbers, fax numbers, email addresses, etc., the user can command the program to send e-mails, faxes, etc. Similarly, if the user types in the name of a mailing list, the program create merge letters, group emails, etc.

Referring now to the drawings, wherein like reference numerals designate identical or corresponding parts throughout the several views, and more particularly to FIGS. 1 and 2 thereof, there is illustrated flow charts of single button addressing, according to exemplary embodiments of the present invention.

In FIG. 1, after the user has inserted the address in the word processor, the user commands the button at step 2 and the program analyzes what the user has typed in the document at step 4. At step 6, the program decides what was found in the document and if the program found nothing in the document or what it found was un-interpretable the program goes to step 8 and outputs an appropriate message to the user and then quits at step 16. The program analyzes what the user has typed in the document at step 4, for example, by analyzing (i) paragraph/line separations/formatting, etc.; (ii) street, avenue, is drive, lane, boulevard, city, state, zip code, country designators and abbreviations, etc.; (iii) Mr., Mrs., Sir, Madam, Jr., Sr. designators and abbreviations, etc.; (iv) Inc., Ltd., P.C., L.L.C, designators and abbreviations, etc.; and (v) a database of common male/female names, etc.

If the program find an e-mail address mailing list/category name telephone number or other information, at step 10 an appropriate action is performed by the program and then the program execution quits at step 16. If the program only finds a name or initials, or the like, the program looks up the name in the database at step 12 and at step 18 the program determines what was found. If the program finds more than one possible contact/address match, at step 20 the program displays menu choices to the user to let him choose an appropriate answer. Then at step 22 the program inserts a correct address and name in the document and then at step 16 the program quits execution. If the program finds one match exactly, i.e., one contact with one address, the program inserts the correct address and name in the document at step 22 then quits and then quits execution at step 16. If the program does not find a name in the database, at step 24 the program prompts the user to specify an address and then quits execution at step 16. If the program at step 6 finds a name and an address, at step 14 the name is looked up in the database. Then, at step 26, if no match is found, at step 28 the program inserts an address and a name which are possibly corrected by the user into the database and then quits execution at step 16. If at step 26, the name and address is found, at step 32 the program either takes no action or displays the data for the user to edit. If at step 26, the name is found but not the address, the program prompts the user for a decision at step 30. If the user decides that this is another contact with a same name, the program goes to step 28. If the user decides that this is a one

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time occurrence, no action is taken and the program quits at step 16. If the user decides that the contact has, for example, moved and that this is a new address, at step 34 one of the old addresses for the contact is replaced with the new one and the program with the new one and the program quits at step 16. If the user decides that this is an additional address for the contact, at step 36 the additional address is inserted into the database for that contact and execution quits at step 16.

The flowchart shown in FIG. 2 is similar to the flowchart in FIG. 1, except for some additional steps which will now be discussed. At step 6, if the program only finds a name or a similar name then the name is looked up in the database at step 12, then at step 18 if the program found more than one possible contact/address match, the program displays choices to the user to let him choose an address at step 20. Then at step 21 the user decides whether to insert the selected address into the document. If the user does not decide to select the address into the document the program quits execution at step 16. If the user decides to insert the selected address into the document the program inserts the address and name into the document at step 22 and then quits at step 16.

If the program finds a name and address in the database at step 6, then at step 14 the program looks up the name in the database and at step 26 the program determines what it has found. If the program does not find the name at step 26, at step 27 the program prompts the user for a decision and review and whether to insert the contact and address. If the user does not decide to insert the contact address, the program quits at step 16. If the user decides to insert the contact address, at step 28 the program inserts the address and name which may be possibly corrected by the user for program in the database then execution quits at step 16.

If at step 26 the program finds a name and not an address, then at step 29 the name is looked up in the database. Then at step 31 the program decides whether this contact has another address. If the contact does not have another address, at step 33 the program prompts the user for a decision and review and whether to add the address. If the user does not want to add the address at step 33, the program quits at step 16. If the user wants to add the address at step 33 because this is an additional address for the contact, at step 36 the address is inserted in the database for the contact and execution quits at step 16.

At step 30, if the user decides that this is another contact with the same name, then the program goes to step 28. If at step 30 the user decides that this is a one time occurrence, then the program quits at step 16. If at step 30, the user decides that the contact has, for example, moved, the program goes to step 34. If at step 30, the user decides that this is an additional address for the contact, at step 36 the program inserts the address in the database for the contact and then quits at step 16.

Various exemplary screen shots which are generated during execution of the program, according to the present invention, will now be described with reference to FIGS. 3-15 and examples 1-7 as follows.

#### Example 1

##### Retrieving an Existing Address from the Database

FIG. 3 illustrates a starting point in word processor document such as WORD document, wherein the user has typed a name 40. The user hits the button 42, for example, marked "OneButton" and the program according to the present invention retrieves the name 40 from the document, searches a

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database for the name 40, and inserts the retrieved address 44 associated with the name 40 into the document as shown in, for example, FIG. 4.

The above example corresponds to steps 2, 4, 6, 12, 18, 22 and 16 in the flow charts of FIGS. 1 and 2.

#### Example 2

##### Adding a New Contact to the Database

FIG. 5 illustrates a starting point in word processor document such as WORD document, wherein the user has typed a name and address of a new contact 46. The user commands the button 42, for example, marked "OneButton," and the program according to the invention retrieves the new contact 46 from the document, searches a database for the name of the new contact 46 and generates a screen as shown in, for example, FIG. 6. This screen includes a message 50 informing the user that the new contact does not exist in the database, a message 52 including the address retrieved from the document, an address type selection 54, such as home, business, etc., and "OK," "Details," and "Cancel" buttons 56, 58, and 60, respectively.

At this point, the user can cancel the operation by commanding the Cancel button 60, ask the program to store data in the database and return the document by commanding the OK button 56, or check details before storing data into the database by commanding the Details button 58. If the user commands the Details button 58, as shown in, for example, FIG. 7, a message screen is provided so that the user can review and edit data 62 and the selection 54, store the data 62 and 54 in the database by commanding a "Add and Choose" button 64, see more options by commanding an "Options" button 66, or cancel the operation by commanding the Cancel button 60.

The above example corresponds to steps 2, 4, 6, 14, 26, 28 and 16 in the flow chart of FIG. 1 and steps 2, 4, 6, 14, 26, 27, 28 and 16 in the flow chart of FIG. 1 and steps 2, 4, 6, 26, 27, 28 and 16 in the flow chart of FIG. 2.

#### Example 3

##### Try to Retrieve Existing Address, But Contact is not in Database

FIG. 3 illustrates a starting point in word processor document, such as WORD document, wherein the user has typed a name of a contact 40. The user commands the button 42, for example, marked "OneButton," and the program according to the present invention retrieves the name 40 from the document, searches a database for the name of the contact 40 and generates a screen as shown in, for example, FIG. 8. This screen includes a message 68 informing the user that the contact does not exist in the database and to specify an address, and "OK" buttons 56. At this point when the user commands the OK button 56, the user returns to the document so that the contact's address can be included as in Example 2 above.

The above example corresponds to steps 2, 4, 6, 12, 18, 24, and 16 in the flow of charts of FIGS. 1 and 2.

#### Example 4

##### Adding a New Address for an Existing Contact (Short Version)

FIG. 4 illustrates a starting point in word processor document, such as WORD document, wherein the user has typed

a name and new address of an existing contact 44. The user commands the button 42, for example, marked "OneButton," and the program according to the present invention retrieves the existing contact 44 from the document, searches a database for the same name of the existing contact 44 and generates a screen as shown in, for example, FIG. 9. This screen includes a message 70 informing the user that the contact already exists in the database with an existing address, a message 72 including the existing address, add new contact with same name selection 74, change existing address selection 76, use existing address in document selection 78, add the new address contact selection 80, the address type selection 54, such as home, business, etc., and the "OK," "Details," and "Cancel" buttons 56, 58 and 60 respectively. AT this point, the user may select one of the four options 74-80, and command the OK button 56 to execute the selected options. The user can also cancel the operation by commanding the Cancel button 60, or check details before storing data into the database by commanding the Details button 58.

The above example corresponds to steps 2, 4, 6, 14, 26, 28, 30, 34, 36, and 16 in the flow chart of FIG. 1 and steps 2, 4, 6, 14, 26, 29, 31, 30, 28, 34, 36, and 16 in the flow chart of FIG. 2.

Example 5

Selecting Between Several Possible Matching Addresses

FIG. 3 illustrates a starting point in word processor document, such as WORD document, wherein the user has typed a name and possibly address of at least one existing contact 40. The user commands the button 42, for example, marked "OneButton," and the program according to the present invention retrieves the existing contact 40 from the document, searches a database for the name of the existing contact 40 and generates a screen as shown in, for example, FIG. 10. This screen includes a message informing the user the name corresponds to several addresses and possible contacts which already exist in the database, with existing contacts and addresses for selection 82, a message 84 including the full name and address for the contact that the user selects in 82, the Options button 66, a "Choose" button 86, a "Full details" button 88, a "More>>>" button 90, and the Cancel button 60. The above screen indicates to the user that at least one contact with the same name exists, and that there are more than one addresses and/or contacts that match.

At this point, the user may command the Choose button 86 to use the selected address and return to the document, or the user may command the More>>> button 90 to view how the program interpreted what he user typed in the word processor, and possibly change this data, wherein the program generates an updated screen as shown in, for example, FIG. 11. The updated screen includes the data 62 which displays the name for example, FIG. 11. The updated screen includes the data 62 which displays the name typed in the word processor as interpreted by the program, address fields, and the fields for the address type selection 54, such as home, business, etc., which may be changed by the user before the program stores it in the database, the Add and Choose button 64, a "<<<Less" button 90 corresponding to the More>>> button 90 for returning to the screen of FIG. 10, and an "Add this address to the selected contact above" button 92. The user might then command the Add this address to the selected contact above button 92 and the result in the word processor is illustrated in FIG. 4. The user can also cancel the operations by commanding the Cancel button 60, or command the add choose button

64 to add this name and address as a new contact and address, or open the database before storing data into the database by commanding a "Full details" button 88 as will be later described.

The above example corresponds to steps 2, 4, 6, 12, 18, 20, 22, and 16 in the flow chart of FIG. 1 and steps 2, 4, 6, 12, 18, 20, 21, 22, and 16 in the flow chart of FIG. 2.

Example 6

Adding a New Address for an Existing Contact (Long Version)

FIG. 4 illustrates a starting point in word processor document, such as WORD document, wherein the user has typed a name and new address of an existing contact 44. The user commands the button 42, for example, marked "OneButton," and the program according to the present invention retrieves the existing contact 44 from the document, searches a database for the name of the existing contact 44 and generates a screen as shown in, for example, FIG. 9. As previously described the screen includes a message 70 informing the user that the contact already exists in the database with an existing address, and the user may command the Details button 58 to see the details of the new address for potentially modify the details before they are stored in the database and the program generates a screen as shown in, for example, FIG. 10. From this screen, the user may choose to use another address than the one he typed, and return to the document, or the user may command the "Full details" button 88 to enter a database program, such as OUTLOOK™, directly as shown in, for example, FIG. 12. In FIG. 12, the database program, such as OUTLOOK™, may include portions 94-104 for allowing the user to modify various pieces of data before they are stored in the database.

Alternatively, in the screen shown in FIG. 10, the user may command the More>>> button 90 at which time the program generates the screen as shown in, for example, FIG. 11 and as previously described. In this screen, the user might then command the Add this address to the selected contact above button 92. If the address typed is already in use, the program generates a screen including a message 106, and "Yes" and "No" buttons, 108 and 110, respectively, as shown in, for example, FIG. 13. If the user hits the Yes button 108 the program overwrites the contact address with the address specified by the user (e.g., if the contact has moved) and the result in the word processor is shown in, for example FIG. 4.

The above example corresponds to steps 2, 4, 6, 12, 14, 26, 28, 30, 34, 36, and 16 in the flow chart of FIG. 1 and steps 2, 4, 6, 12, 14, 26, 29, 31, 30, 28, 34, 36, and 16 in the flow chart of FIG. 2.

Example 7

Spreadsheet Application

FIG. 14 illustrates a starting point in word processor document, such as an EXCEL spreadsheet, wherein the user has typed a name 112. The user hits the button 42, for example, marked "OneButton," and the program according to the present invention retrieves the name 112 from the spreadsheet, searches a database for the name 112, and inserts the retrieved address 114 into the spreadsheet as shown in, for example, FIG. 15. Accordingly, the examples 1-6 apply not only to word processor documents, such as WORD™ documents, etc., but to other word processor documents, and spreadsheets, such as EXCEL™ spreadsheets, etc.

The above example corresponds to steps 2, 4, 12, 18, 22, and 16 in the flow of charts FIGS. 1 and 2.

FIG. 16 is a schematic illustration of a computer system for implementing the single button addressing according to the present invention. A computer 200 implements the method of the present invention, wherein the computer includes, for example, a display device 202, such as a conventional display device or a touch screen monitor with a touch screen interface, etc., a keyboard 204, a pointing device 206, a mouse pad or digitizing pad 208, a hard disk 210, or other fixed, high density media drives, connected using an appropriate device bus (e.g., a SCSI bus, an Ultra DMA bus, a PCI bus, etc.), a floppy drive 212, a tape or CD ROM drive 214 with tape or CD media 216, or other removable media devices, such as magneto-optical media, etc., and a mother board 218. The mother board 218 includes, for example, a processor 220, a RAM 222, and ROM 224 (e.g., DRAM, ROM, EPROM, EEPROM, SRAM, SDRAM, and Flash RAM, etc.), I/O ports 226 which may be used to couple to external devices, networks, etc., (not shown), and optional special purpose logic devices (e.g., ASICs) or configurable logic devices (e.g., GAL and re-programmable FPGA) 228 for performing specialized hardware/software functions, such as sound processing, image processing, signal processing, neural network processing, object character recognition (OCR) processing, etc., a microphone 230, and a speaker or speakers 232.

As stated above, the system includes at least one computer readable medium or alternatively, the computer readable medium may be accessed through various paths, such as networks, internet, drives, etc. Examples of computer readable media are compact discs, hard disks, floppy disks, tape, magneto-optical disks, PROMs (EPROM, EEPROM, Flash, EPROM), DRAM, SRAM, SDRAM, etc. Stored on any one or on a combination of computer readable media, the present invention includes software for controlling both the hardware of the computer 200 and for enabling the computer 200 to interact with a human user. Such software may include, but is not limited to, device drivers, operating systems and user applications, such as development tools. Such computer readable media further includes the computer program product of the present invention for performing any of the processes according to the present invention, described above (see, e.g., FIGS. 1-15). The computer code devices of the present invention can be any interpreted or executable code mechanism, including but not limited to scripts, interpreters, dynamic link libraries, Java classes, and complete executable programs, etc.

The invention may also be implemented by the preparation of application specific integrated circuits or by interconnecting an appropriate network of conventional component circuits, as will be readily apparent to those skilled in the art.

Address handling, according to this invention, is a significant simplification relative to existing methods, and requires little or no training on the part of a user, as correct addresses are retrieved with a minimal number of user commands, "clicks," keystrokes, etc. In addition, a program according to the present invention, can be programmed and created in most existing programming languages and be connected to most modern word processors. Therefore, according to the present invention, the process of creating and updating records in an address database is significantly simplified, since this may now be performed directly from the word processor.

Although the present invention is defined in terms of word processing documents, such as WORD™ documents and EXCEL™ spreadsheets, the present invention is applicable to all types of word processing documents such as NOTE-

PAD™, WORDPAD™, WORDPERFECT™, QUATRO-PRO™, AMIPRO™, etc., as will be readily apparent to those skilled in the art.

Although the present invention is defined in terms of information management or is database programs, such as OUTLOOK™, etc., the present invention is applicable to all types of information management or database programs such as ACCESS™, ORACLE™, DBASE™, RBASE™, CARD-FILE™, including "flat files," etc., as will be readily apparent to those skilled in the art.

Although the present invention is defined in terms of providing an input device, such as a button 42 in a word processor for address handling therein, the present invention may be practiced with all types of input devices, such as touch screen, keyboard button, icon, menu, voice command device, etc., as will be readily apparent to those skilled in the art.

Although the present invention is defined in terms of a program retrieving information from a document before searching a database, the user may select the information in the document to be searched by the program in the database (e.g., by highlighting, selecting, italicizing, underlining, etc.), as will be readily apparent to those skilled in the art.

Although the present invention is defined in terms of a program retrieving a name or portion thereof from a document before searching a database the program may retrieve an address or portion thereof from the document before searching the database and insert, correct, complete, etc., the retrieved address based on the information found in the database corresponding to the retrieved address or portion thereof, as will be readily apparent to those skilled in the art.

Obviously, numerous modifications and variations of the present invention are possible in light of the above teachings. It is therefore to be understood that within the scope of appended claims, the invention may be practiced otherwise than as specifically described herein.

This application claims priority and contains subject matter related to Norwegian patent application No. 984066 filed on Sep. 3, 1998, the entire contents of which are hereby incorporated by reference.

What is claimed is:

1. A method for information handling within a document created using a first application program comprising the steps of:

entering a first information in the first application program; marking without user intervention the first information to alert the user that the first information can be utilized in a second application program; and responding to a user selection by inserting a second information into the document, the second information associated with the first information from a second application program.

2. The method of claim 1 wherein the user selection further comprises an activation of a device selected from a group consisting of a touch screen, a keyboard button, a screen button, an icon, a menu, and a voice command device.

3. The method of claim 1, wherein the step of inserting the second information into the document further comprises the steps of:

initializing the second application program; searching, using the second application program, for the second information associated with the first information; and retrieving the second information.

4. The method of claim 3, wherein when the second application program includes second information associated with the first information, performing the further step of displaying the second information.



5. The method of claim 4, further comprising the step of completing at least one of the first and second information in the document.

6. The method of claim 1, wherein the first information comprises a name.

7. A computer readable medium, including program instructions related to information handling within a document created using a first application program and for performing the steps of:

entering a first information in the first application program; marking without user intervention the first information to alert the user that the first information can be utilized in a second application program; and

responding to a user selection by inserting a second information into the document, the second information associated with the first information from a second application program.

8. The computer readable medium of claim 7, wherein the user selection further comprises an activation of a device selected from a group consisting of a touch screen, a keyboard button, a screen button, an icon, a menu, and a voice command device.

9. The computer readable medium of claim 7, wherein the step of inserting the second information into the document further comprises the steps of:

initializing the second application program; searching, using the second application program, for the second information associated with the first information; and retrieving the second information.

10. The computer readable medium of claim 9, wherein when the second application program includes second information associated with the first information, performing the further step of displaying the second information.

11. The computer readable medium of claim 10, further comprising the step of completing at least one of the first and second information in the document.

12. The computer readable medium of claim 7, wherein the first information comprises a name.

13. A computer system related to information handling within a document created using a first application program, comprising:

means for entering a first information in the first application program;

means for marking without user intervention the first information to alert the user that the first information can be utilized in a second application program; and

means for responding to a user selection by inserting a second information into the document, the second information associated with the first information from a second application program.

14. The computer system of claim 13, wherein the means for the user selection further comprises:

means for an activation of a device selected from a group consisting of a touch screen, a keyboard button, a screen button, an icon, a menu, and a voice command device.

15. The computer system of claim 13, wherein the means for inserting the second information into the document further comprises:

means for initializing the second application program; means for searching, using the second application program, for the second information associated with the first information; and

means for retrieving the second information.

16. The computer system of claim 15, wherein when the second application program includes second information

associated with the first information, and comprising means for performing the further step of displaying the second information.

17. The computer system of claim 16, further comprising means for completing at least one of the first and second information in the document.

18. The computer system of claim 13, wherein the first information comprises a name.

19. A method for information handling within a document created by a first application program comprising the steps of: entering a first information in the first application program; marking without user intervention the first information to alert the user that the first information can be utilized in a second application program; and

responding to a user selection by performing an operation related to a second information, the second information associated with the first information from the second application program.

20. The method of claim 19 wherein the operation comprises displaying the second information.

21. The method of claim 19, wherein the first information is a name, and the operation performed is selected from a group consisting of an electronic mail, a telex, a facsimile or a letter addressed to the name indicated by the first information.

22. The method of claim 19, wherein the operation performed is entering additional data into a database.

23. The method of claim 22, wherein the additional data is entered by a user.

24. The method of claim 22, wherein the additional data is located within the document.

25. A computer readable medium, including program instructions related to information handling within a document created by a first application program and for performing the steps of:

entering a first information in the first application program; marking without user intervention the first information to alert the user that the first information can be utilized in a second application program; and

responding to a user selection by performing an operation related to a second information, the second information associated with the first information from the second application program.

26. The computer readable medium of claim 25 wherein the operation comprises displaying the second information.

27. The computer readable medium of claim 25, wherein the first information is a name, and the operation performed is selected from a group consisting of an electronic mail, a telex, a facsimile or a letter addressed to the name indicated by the first information.

28. The computer readable medium of claim 25, wherein the operation performed is entering additional data into a database.

29. The computer readable medium of claim 28, wherein the additional data is entered by a user.

30. The computer readable medium of claim 28, wherein the additional data is located within the document.

31. A computer system related to information handling within a document created by a first application program, comprising:

means for entering a first information in the first application program;

means for marking without user intervention the first information to alert the user that the first information can be utilized in a second application program; and

means for responding to a user selection by performing an operation related to a second information, the second

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information associated with the first information from the second application program.

32. The computer system of claim 31 wherein the operation comprises displaying the second information.

33. The computer system of claim 31, wherein the first information is a name, and the operation performed is selected from a group consisting of an electronic mail, a telex, a facsimile or a letter addressed to the name indicated by the first information.

34. The computer system of claim 31, wherein the operation performed is entering additional data into a database.

35. The computer system of claim 34, wherein the additional data is entered by a user.

36. A method for information handling within a document operated on by a first application program, the document containing first information that can be utilized in a second application program, the method comprising the steps of:

identifying without user intervention or designation the first information; and

responding to a user selection by inserting a second information into the document, the second information associated with the first information from a second application program.

37. The method of claim 36, wherein the user selection further comprises an activation of a device selected from a group consisting of a touch screen, a keyboard button, a screen button, an icon, a menu, and a voice command device.

38. The method of claim 36, wherein the step of inserting the second information into the document further comprises the steps of:

initializing the second application program;

searching, using the second application program, for the second information associated with the first information; and

retrieving the second information.

39. The method of claim 38 wherein the step of inserting the second information into the document further comprises adding the second information to the first information in the document.

40. The method of claim 38, wherein when the second application program includes second information associated with the first information, performing the further step of displaying the second information.

41. The method of claim 38, further comprising the step of completing at least one of the first and second information in the document.

42. The method of claim 36, wherein the first information comprises a name.

43. A computer readable medium, including program instructions related to information handling within a document operated on by a first application program, the document containing first information that can be utilized in a second application program, and for performing the steps of:

identifying without user intervention or designation the first information; and

responding to a user selection by inserting a second information into the document, the second information associated with the first information from a second application program.

44. The computer readable medium of claim 43, wherein the user selection further comprises an activation of a device selected from a group consisting of a touch screen, a keyboard button, a screen button, an icon, a menu, and a voice command device.

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45. The computer readable medium of claim 43, wherein the step of inserting the second information into the document further comprises the steps of:

initializing the second application program;

searching, using the second application program, for the second information associated with the first information; and

retrieving the second information.

46. The method of claim 45 wherein the step of inserting the second information into the document further comprises adding the second information to the first information in the document.

47. The computer readable medium of claim 46, wherein when the second application program includes second information associated with the first information, performing the further step of displaying the second information.

48. The computer readable medium of claim 46, further comprising the step of completing at least one of the first and second information in the document.

49. The computer readable medium of claim 43, wherein the first information comprises a name.

50. A computer system related to information handling within a document operated on by a first application program, the document containing first information that can be utilized in a second application program, comprising:

means for identifying without user intervention or designation the first information; and

means for responding to a user selection by inserting a second information into the document, the second information associated with the first information from a second application program.

51. The computer system of claim 50, wherein the means for user selection further comprises means for an activation of a device selected from a group consisting of a touch screen, a keyboard button, a screen button, an icon, a menu, and a voice command device.

52. The computer system of claim 50, wherein the means for inserting the second information into the document further comprises:

means for initializing the second application program;

means for searching, using the second application program, for the second information associated with the first information; and

means for retrieving the second information.

53. The computer system of claim 50 wherein the means for inserting the second information into the document further comprises means for adding the second information to the first information in the document.

54. The computer system of claim 50, wherein when the second application program includes second information associated with the first information, and comprising means for performing the further step of displaying the second information.

55. The computer system of claim 54, further comprising means for completing at least one of the first and second information in the document.

56. The computer system of claim 50, wherein the first information comprises a name.

57. A method for information handling within a document operated on by a first application program, the document containing first information that can be utilized in a second application program the method comprising the steps of:

identifying without user intervention or designation the first information; and

responding to a user selection by performing an operation related to a second information, the second information associated with the first information from the second application program.

58. The method of claim 57 wherein the operation comprises displaying the second information.

59. The method of claim 57, wherein the first information is a name, and the operation performed is selected from a group consisting of generating an electronic mail, a telex, a facsimile or a letter addressed to the name indicated by the first information.

60. The method of claim 57, wherein the operation performed is entering additional data into a database.

61. The method of claim 60, wherein the additional data is entered by a user.

62. The method of claim 60, wherein the additional data is located within the document.

63. The method of claim 57 wherein the user selection comprises an activation of a menu.

64. The method of claim 63, wherein the step of performing the operation further comprises the steps of:

initializing the second application program;

searching, using the second application program, for the second information associated with the first information; and

retrieving the second information.

65. The method of claim 64, wherein when the second information associated with first information exists, performing the further step of displaying the second information.

66. The method of claim 65, wherein the first information comprises a name.

67. The method of claim 66, wherein the activation of the menu comprises

selecting the menu indicator for the menu

opening the menu

selecting a choice in the menu; and

activating the selected choice in the menu.

68. The method of claim 67, wherein selection of the menu indicator comprises moving a mouse pointer to the menu indicator.

69. The method of claim 68, wherein the opening of a menu comprises clicking on the menu indicator with a mouse button.

70. The method of claim 57 wherein at least part of the identifying occurs after the user selection.

71. The method of claim 57 wherein the identifying occurs after the user selection.

72. The method of claim 57, wherein the second information is associated with only part of the identified first information.

73. A computer readable medium, including program instructions related to information handling within a document operated on by a first application program, the document containing first information that can be utilized in a second application program, and for performing the steps of: identifying without user intervention or designation the first information; and

responding to a user selection by performing an operation related to a second information, the second information associated with the first information from the second application program.

74. The computer readable medium of claim 73 wherein the operation comprises displaying the second information.

75. The computer readable media of claim 73, wherein the first information is a name, and the operation performed is selected from a group consisting of generating an electronic

mail, a telex, a facsimile or a letter addressed to the name indicated by the first information.

76. The computer readable media of claim 73, wherein the operation performed is entering additional data into a database.

77. The computer readable media of claim 76, wherein the additional data is entered by a user.

78. The computer readable media of claim 76, wherein the additional data is located within the document.

79. A computer system related to information handling within a document operated on by a first application program, the document containing first information that can be utilized in a second application program, comprising:

means for identifying without user intervention or designation the first information; and

means for responding to a user selection by performing an operation related to a second information, the second information associated with the first information from the second application program.

80. The computer system of claim 79 wherein the operation comprises displaying the second information.

81. The computer system of claim 79, wherein the first information is a name, and the operation performed is selected from a group consisting of generating an electronic mail, a telex, a facsimile or a letter addressed to the name indicated by the first information.

82. The computer system of claim 79, wherein the operation performed is entering additional data into a database.

83. The computer system of claim 82, wherein the additional data is entered by a user.

84. The computer system of claim 82, wherein the additional data is located within the document.

85. A method for information handling within a document operated on by a first application program, the document containing first information entered by a user, the method comprising the steps of:

identifying without user intervention or designation the first information that can be utilized in a second application program, the first information selected from a group consisting of a name and an address; and

responding to a user selection by performing an operation related to a second information, the second information associated with all or part of the first information from the second application program, wherein the step of responding to the user selection further comprises the steps of:

initializing the second application program;

searching, using the second application program, for the second information associated with the first information; and

if said second information exists, retrieving and displaying the second information;

wherein said user selection comprises:

selecting a menu indicator for the menu;

opening the menu;

selecting a choice in the menu; and

activating the selected choice in the menu;

wherein selecting the menu indicator comprises moving the mouse pointer to the menu indicator;

wherein opening the menu comprises clicking on the menu indicator with a mouse button; and

wherein the second information is associated with at least part of the identified first information.

86. A method for assisting a computer operator to retrieve contact related information from a database when a document includes a name, the method comprising of the steps of:

- (1) using a first computer program to analyze the document, without direction from the operator, to identify the name,
- (2) using the identified name and a second computer program to search the database and to locate contact related information associated with the name, and
- (3) inserting the contact related information into the document,

wherein steps (1)-(3) require only a single execute command.

87. The method of claim 86 wherein the contact related information comprises an address.

88. The method of claim 86 wherein the contact related information comprises a telephone number.

89. The method of claim 86 wherein the name comprises a business name.

90. The method of claim 86 wherein the name comprises a personal name.

91. The method according to claim 86 wherein the execute command is a selection from a menu.

92. The method according to claim 91 wherein the operator enters the execute command before step (2).

93. A method for assisting a computer operator to retrieve information from a database that is related to text in a document, the method comprising the steps of:

- (1) using a first computer program to analyze the document, without direction from the operator, to identify text in the document that can be used to search for related information,
- (2) using a second computer program and the text identified in step (1) to search the database and to locate related information, and
- (3) inserting the information located in step (2) into the document.

94. The method according to claim 93 wherein at least steps (2)-(3) take place following entry a single execute command.

95. The method according to claim 94 wherein the execute command is a selection from a menu.

96. A computer readable medium for information handling within a document operated on by a first application program, the document containing first information entered by a user, the computer readable medium including program instructions for performing the steps of:

- identifying without user intervention or designation the first information that can be utilized in a second application program, the first information selected from a group consisting of a name and an address; and
- responding to a user selection by performing an operation related to a second information, the second information associated with all or part of the first information from the second application program, wherein the step of responding to the user selection further comprises the steps of:
  - initializing the second application program;
  - searching, using the second application program, for the second information associated with the first information; and
- if said second information exists, retrieving and displaying the second information;
- wherein said user selection comprises:
  - selecting a menu indicator for the menu;
  - opening the menu;
  - selecting a choice in the menu; and
  - activating the selected choice in the menu;
- wherein selection the menu indicator comprises moving the mouse pointer to the menu indicator;
- wherein the opening of a menu comprises clicking on the menu indicator with a mouse button; and

wherein the second information is associated with at least part of the identified first information.

97. A computer readable medium for assisting a computer operator to retrieve contact related information from a database when a document includes a name, the computer readable medium including program instructions for performing the steps of:

- (1) using a first computer program to analyze the document, without direction from the operator, to identify the name,
- (2) using the identified name and a second computer program to search the database and to locate contact related information associated with the name, and
- (3) inserting the contact related information into the document,

wherein steps (1)-(3) require only a single execute command.

98. A computer readable medium for assisting a computer operator to retrieve information from a database that is related to text in a document, the computer readable medium including program instructions for performing the steps of:

- (1) using a first computer program to analyze the document, without direction from the operator, to identify text in the document that can be used to search for related information,
- (2) using a second computer program and the text identified in step (1) to search the database and to locate related information, and
- (3) inserting the information located in step (2) into the document.

99. A system for information handling within a document operated on by a first application program, the system comprising:

means for identifying without user intervention or designation the first information that can be utilized in a second application program, the first information selected from a group consisting of a name and an address; and

means for responding to a user selection by performing an operation related to a second information, the second information associated with all or part of the first information from the second application program, wherein the means for responding to the user selection further comprises:

- means for initializing the second application program;
- means for searching, using the second application program, for the second information associated with the first information; and
- if said second information exists, means for retrieving and displaying the second information;
- wherein said user selection comprises:
  - selecting a menu indicator for the menu;
  - opening the menu;
  - selecting a choice in the menu; and
  - activating the selected choice in the menu;
- wherein selection the menu indicator comprises moving the mouse pointer to the menu indicator;
- wherein the opening of a menu comprises clicking on the menu indicator with a mouse button; and
- wherein the second information is associated with at least part of the identified first information.

100. A system for assisting a computer operator to retrieve contact related information from a database when a document includes a name, the system comprising:

- (1) means for using a first computer program to analyze the document, without direction from the operator, to identify the name,

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(2) means for using the identified name and a second computer program to search the database and to locate contact related information associated with the name, and

(3) means for inserting the contact related information into the document,

wherein (1)-(3) require only a single execute command.

101. A system for assisting a computer operator to retrieve information from a database that is related to text in a document, the system comprising:

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(1) means for using a first computer program to analyze the document, without direction from the operator, to identify text in the document that can be used to search for related information,

(2) means for using a second computer program and the text identified in (1) to search the database and to locate related information, and

(3) means for inserting the information located in (2) into the document.

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