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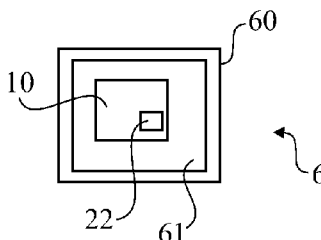
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(54) Title: METHOD FOR MEASURING DISPLAY OF A PIECE OF INFORMATION



Fig. 1



(57) Abstract: Method for measuring a display of a piece of information on a web site, wherein said piece of information (22) is displayed by a system (6) including a display area (61) and interactions of internet users (7) with a web site (20) are measured upon connecting to said web site (20) by means of a script (40) communicating with an optimization centre (4), wherein coordinates for at least two points of said piece of information (22) are determined by said script (40) and that said script (40) is arranged to use said coordinates for determining if said piece of information (22), or at least a part thereof, has been displayed within said display area (61).

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METHOD FOR MEASURING DISPLAY OF A PIECE OF INFORMATION

TECHNICAL FIELD

Method for measuring a display of a piece of information on a web site, wherein said
5 piece of information is displayed by a system including a display area and interactions
of internet users with a web site are measured upon connecting to said web site by
means of a script communicating with an optimization centre.

BACKGROUND ART

10 The detecting and processing of images and information is of increasing importance
today in a number of fields. When delivering a message to a recipient, knowledge of the
reception of the message and the manner of display are factors that can be used for
deciding the efficiency of the information transfer. Especially where information
transfer through websites is concerned, it is possible to estimate the reaction of a
15 computer user to the information through monitoring the user's future behaviour
concerning the same type of information, e.g. if the user proceeds to search for more
information of the same type or if he or she decides to purchase a specific item after
reading about it or viewing advertisements.

20 Indeed, the development of websites and information technology has enabled
governments, organisations and companies to easily reach large groups of citizens or
potential customers and to generate an interest in a specific question, phenomenon or
product. Therefore, the need for ways to study and analyze the behaviour of these
citizens or customers is growing and thanks to the analyses, the efficiency of a
25 particular message or delivery channel for a message can be evaluated, resulting in
significantly improved methods of communicating.

Thanks to the large effect that information displayed at particular spots online can have
on large groups of people, advertising spots on popular websites have become important
30 communication channels for many companies and can be an expensive investment. In
order to maximize the benefits from these advertisements, the effects on potential
customers must be thoroughly evaluated. A costly advertising campaign directed at too
few potential customers would not only be expensive in terms of marketing cost but
might also mean that the company misses the opportunity to place its advertisements at
35 better locations.

The need for methods for evaluating the efficiency of the placement of specific information, such as an advertisement, is therefore apparent, and indeed a number of methods exist. Through EP1673699 (Claria Corp.), a method for optimizing an advertising campaign in a computer network is shown where the efficacy of an advertisement is measured and the characteristics of the advertisement are changed
5 based on the results. The efficacy can be measured by determining its click-through rate or conversion rate, for instance, and features such as visual characteristics are changed in order to achieve the best results from the advertisement.

10 Another method is shown by WO2005/031589, comprising a performance-based advertising system and method. A model is created using factors such as cost-per-acquisition or cost-per-click in order to determine the value of a specific placement of an advertisement, and the advertisements of a specific company are placed automatically in different places at prices that are determined by the system. This way, a
15 company can spend a predetermined amount of money on advertisement and receive the placements that correspond to the price decided.

The problem, however, with these and other known methods, is that the factors used for determining the value of an advertisement or the efficacy of a specific placement on a
20 website lack certain aspects that are of great importance in how and if an advertisement is seen by a visitor to the website in question. Therefore, when determining click-through or conversion rates, the data may contain large amounts of noise that damage the results from the calculations and complicate the decision process.

25 One method for overcoming this problem is shown by US2002/0087403 (Meyers et al.), where the efficiency of a placement of an advertisement or the like is determined by analyzing each pixel of a computer screen independently and determine which belong to a particular advertisement and how this is shown to a user. This method, however, is cumbersome since the analysis of the pixels is decidedly time consuming and also
30 requires a large amount of data capacity.

Therefore, an improved method for eliminating this undesired noise from the data collected is needed in order to correctly estimate the effects of information distribution through channels online and to optimize the output from a specific placement of a
35 message such as an advertisement.

DISCLOSURE OF THE INVENTION

The object of the present invention is to eliminate or at least to minimize the problems described above. This is achieved through a method for measuring a display of a piece of information on a web site, wherein said piece of information is displayed by a system including a display area and interactions of internet users with a web site are measured upon connecting to said web site by means of a script communicating with an optimization centre, wherein coordinates for at least two points of said piece of information are determined by said script and that said script is arranged to use said coordinates for determining if said piece of information, or at least a part thereof, has been displayed within said display area. Thereby, only the data that can be considered relevant, i.e. the actual displays of the piece of information within the display area, will be used for the optimization and thus the noise will be substantially reduced from the subsequent analyses. Also, by using coordinates of the piece of information and comparing them to properties of the display area, it can be decided if the whole or a part of the piece of information has been shown to the user, in a very quick and easy manner, requiring only a small amount of processor capacity for executing the script.

According to an aspect of the invention, a web browser manages the display of the piece of information in a browser window that is at least partly contained within the display area. Thereby, the integration of the piece of information into the display of the website can be performed in a convenient and reliable manner.

According to another aspect of the invention, the script sends information regarding the display of the piece of information to the optimization centre. Thereby, the information needed for analysis can be gathered at the same location and thereby facilitate the process.

According to a further aspect of the invention, the script uses the size of the browser window within the display area and at least one coordinate for the piece of information within said browser window in order to determine whether the piece of information has been shown within said display area. Thereby, the placement of the piece of information together with the available space can form the basis for determining whether the piece of information has been displayed in a reliable and convenient manner.

According to yet another aspect of the invention, the script repeats the process of determining if the piece of information has been shown within the display area if the size of the browser window or the placement of the piece of information within said

browser window is changed. Thereby, a new decision can be formed every time it can be suspected that the piece of information has been moved or altered in relation to the display area so that the information gathered is as accurate as possible, thus further improving the subsequent optimization or analysis.

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According to a further aspect of the invention, the script can send information regarding a plurality of pieces of information together to the optimization centre. Thereby, the number of transfers that are necessary can be reduced while at the same time delivering all the relevant information to the optimization centre.

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According to yet another aspect of the invention, the script can send information regarding a plurality of determination processes together to the optimization centre. Thereby, the number of transfers can be further reduced, resulting in a more efficient transfer and without using more of the sending capacity of the system than necessary.

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According to a further aspect of the invention, the script is set to determine that the piece of information has been displayed within the display area if at least 10%, preferably at least 50%, more preferably at least 80% of the piece of information has been displayed within the display area. Thereby, the piece of information can be determined to have been seen when an amount of it that is decided to be enough for the message to have been understood by the user is displayed.

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According to yet another aspect of the invention, user activity in the form of eye movement of the user is recorded. Thereby, the fact that the user has seen the piece of information can be established, and also information regarding the duration of the viewing of the entire piece of information or the especially interesting areas can be measured.

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According to a further aspect of the invention, user input in the form of cursor placement in the display area is recorded. Thereby, whether the user has placed the cursor on top of the piece of information or not can be recorded and used with the analysis. This can be an alternate way of determining the actual interest and attention for the piece of information in the display area.

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According to yet another aspect of the invention, the information sent to the optimization centre is used for optimization analysis. Thereby, the delivery of the piece

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of information can be evaluated and the effectiveness of the particular piece of information on the user can be more closely analyzed.

5 According to a further aspect of the invention, information is sent to the optimization centre at determined intervals. Thereby, the length of the display can be calculated and used for the analysis.

10 According to yet another aspect of the invention, a request for the piece of information is sent after the website has been displayed in the display area. Thereby, the request can be sent for the particular piece of information that is judged most effective in the present situation, and the time required for displaying a website in a display area can be substantially lowered.

15 According to a further aspect of the invention, said piece of information that is to be displayed on said web site is selected based on at least one interaction of an internet user with said web site. Thereby, a piece of information can be chosen to correspond to selected data in the form of recorded interactions of the user with the web site, so that the pieces of information that are believed to be best suited for the user can be displayed.

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BRIEF DESCRIPTION OF THE DRAWINGS

The invention will now be described in more detail with reference to the appended drawing, wherein:

25 Fig. 1 shows a schematic view of a system for delivering a piece of information to a user.

Fig. 2 shows a schematic view of a method for optimizing advertisements according to a preferred embodiment of the invention.

30 DETAILED DESCRIPTION OF THE INVENTION

Fig. 1 shows a schematic view of a system 6 such as a personal computer (PC) for delivering a piece of information to a user 7. The system 6 comprises a screen 60 with a display screen 61 that displays a piece of information 22. This piece of information 22 can be an advertisement or a text item or the like, shown in a window of a web browser 1 that can be displayed on the screen 61 in order to be easily viewed by the user 7.

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In Fig. 2, a schematic view of a preferred embodiment of the method of the invention is shown, featuring a web browser 1 belonging to the system 6. Through a series of requests the browser 1 can contact a number of systems 2, 3, 4, 5 for displaying certain code in a browser window 10 and for showing specific advertisements and evaluating their placement and function. The function of the systems 2, 3, 4, 5 involved will now be described in general terms.

A Content Management System 2 controls and transmits the HTML code associated with a specific website 20 and is prepared to send this code to any of the browsers 1 that requests this information. Along with the code other information can also be sent, such as for instance a browser executable means such as a computer script, for instance a JavaScript, associated with an Advertisement Management System where the advertisements that are to be shown on the webpage are selected and the necessary data transmitted in order for the browser 1 to be able to request these advertisements from the correct source.

Every distributor of online advertisements can have an Advertisement Optimization Centre 4 where the directions are given to the Hosting Area 5 where the actual advertisements are kept. The Optimization Centre 4 also stores the code, preferably in the form of JavaScript, for determining if an advertisement can actually be seen on the computer screen or in a browser window, and transmits this script together with the location of the advertisement that is to be shown upon request from the browser 1.

The process of using this method for advertisement optimization will now be described in more detail.

A user at a computer decides on a web page to view by clicking on a link or typing a URL, and the browser 1 uses this command to contact the Content Management System 2 of this specific website via a request 11. In return, the Content Management System 2 sends the HTML code 12 corresponding to the page requested by the browser 1 and includes a section of code, such as for instance a JavaScript, regarding the Advertisement Management System 3 used by the website.

The browser 1 can now contact this Advertisement Management System 3 via a request 13 and in return receives information 14 regarding the advertisement selected for viewing and contact information for the advertisement provider providing the specific advertisement. Next, the browser 1 sends a request 15 to the Advertisement

Optimization Centre 4 of the advertisement provider in order to receive the specific address to the place where the actual advertisement is being stored, such as a Hosting Area 5, and in the information 16 sent back to the browser by the Advertisement Optimization Centre 4, a script 40 for detecting the presence of the advertisement on the screen or in the browser window is included, for instance in the form of a JavaScript.

With the information thus received, the browser 1 can collect the actual advertisement, i.e. the piece of information 22, from the Hosting Area 5 via a request 17 and in turn receive the piece of information 18, such as image and/or text, that constitutes the advertisement 22 that is now inserted into a predetermined location in the image of the web page selected at the first stage of the process. The user can at this stage see the web page, read text and watch images and use links displayed by the web page.

The web page can be scrolled by the user in order to watch specific parts, and can also be increased or decreased in size so that the user can select the areas that are most interesting to him or her. During this process some parts or all of the web page will at one time or another be visible in the display window and be seen by the user, while other parts may remain hidden since they fall outside the display window and the user might not find their specific locations interesting enough to scroll to or in other ways find.

If at any time during the viewing of the web page the user scrolls or moves the information in the display window so that the advertisement 22 is shown, the script 40 registers that the advertisement 22 has been seen. Together with this information, data regarding other aspects of the use of the advertisement, such as which advertisement 22 is shown to the user, whether the user clicks on the advertisement 22 or not and other factors that might be of interest in the optimization process, is sent as one or a plurality of information packets 19 back to the Advertisement Optimization Centre 4 for analysis.

At this Optimization Centre 4, information is gathered and analysed using suitable methods. Since the process gathers only data regarding the advertisements 22 that have actually been shown, data concerning advertisements 22 placed on the web page but unseen by the viewer due to browser window 10 or screen 61 size can be disregarded, thus eliminating a large amount of noise from the analysis and thereby yielding substantially improved results.

The script 40 uses a method that will now be described, for determining whether enough of the advertisement 22 has been shown to the user.

5 Firstly, the size of a browser window 10 is determined and the coordinates for two points, preferably two corners, of the advertisement 22 are determined. The script 40 then checks whether these coordinates are placed within the size of the browser window 10 or how much of the advertisement 22 can be seen there. At least 10 %, preferably at least 50 % and more preferably at least 80% of the advertisement 22 should be placed inside the browser window 10 in order for the script 40 to determine that the
10 advertisement 22 has been shown. If the script 40 determines that the advertisement 22 has thus been seen, a signal 19 is sent to the Advertisement Optimization Centre, comprising an identification code for recording which individual advertisement 22 has been shown. It is currently a problem that computer scripts in general require a high amount of processor capacity to be executed properly, and thereby also requires a long
15 time to run. This means that the displaying of web sites in a browser, when multiple scripts can be run simultaneously, can be very time consuming and will be experienced as performing too badly and too slowly for the user to be able to interact with the browser and other programs in an efficient and stimulating way. Thereby, the method of determining whether a piece of information has been shown, based on only a few,
20 preferably only two, coordinates is especially advantageous, since this allows for a swift execution of the script without requiring a lot of processor capacity. The performance of the browser will thereby be good enough for the user to interact with it without needing unnecessary pauses for web sites to be displayed.

25 Every time the user changes the size of the display window 10 or scrolls up or down, the script 40 uses the method again in order to determine if the advertisement 22 has been shown. The signal 19, however, is sent only once per web page displayed and per advertisement 22, so that a frequent scrolling up and down will not generate a new signal 19. It is also possible to send the information only once and contain data
30 regarding a plurality of advertisements 22 as well as a plurality of displays of each advertisement 22. On the other hand, it is possible to send multiple signals for transmitting these data. It might also prove beneficial to perform analyses regarding how many times the user has chosen to view the information, and this information can be transmitted through multiple packets of information or as one single signal.

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Other ways of determining the attention that an internet user 7 has given to a particular piece of information can also be used with the method according to the information. By

using a device such as a web camera, the eye movements or facial expression of the user 7 can be recorded, identified and transmitted to the Optimization Centre for analysis.

The place where the cursor used by the user 7 is situated and the length of time it is still in one place can also be recorded and analyzed. It can be assumed that the user 7

5 placing the cursor in a particular field in the display area 61 for any period of time suggests a certain interest in this field. If a pressure sensitive screen such as a touch screen is used, information regarding the touching of specific pieces of information in the display area 61 and other aspects of the behaviour of the user can be recorded and used for analysis.

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If a user 7 has decided to view a piece of information for a longer period of time, this might suggest that the user 7 finds this piece particularly interesting. If a piece of information is displayed for more than a determined length, such as for instance one second, information can be transmitted to the Optimization Centre at regular intervals, recording that the display is longer than usual.

15

In order to shorten the time required for displaying a website in the display area 61, it would also be possible for the browser 1 to perform the steps of requesting a piece of information for the website at a later time, after the website has already been displayed at least partially in the display area 61. Thereby, the user 7 can view the uppermost part of the website after a shorter waiting time, and the pieces of information that are to be displayed in the areas of the website that are currently outside the display area 61 can be requested and displayed at a later time, if and when the user decides to scroll down in order to view more of the content on the website. It would also be possible to choose which piece of information to show dependent on the behaviour of the user 7 on the website. If the user 7 scrolls down more slowly, this might indicate that he or she reads the information more thoroughly. A piece of information with a higher content of text or with the text displayed more clearly might then be chosen. Other variations according to this principle would of course also be possible depending on the recorded behaviour of the user 7. The interactions of the user 7, for instance the eye movement, cursor movement, viewing time or scrolling speed mentioned above, can be recorded and used for deciding which pieces of information 22 to be displayed. Thus, the pieces of information 22 at the bottom of a web site 20 can be customized to fit the preferences already recorded of the user 7 as he or she watches the top of the web site 20, or the behaviour of the user on one web site 20 can determine which pieces of information 22 that are collected to the next web site 20 that the user 7 chooses to view.

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As will be readily understood by the person skilled in the art, many modifications to the invention are possible within the scope of the appended claims. The process described above can for instance be altered and/or reduced as is suitable with the specific browser, websites and advertisement management systems used and the number of steps be
5 different, as long as information relating to the actual viewing of an advertisement on a web page is included as input to the optimization process and analysis. The Advertisement Optimization Centre can be a distributed centre, and the code giving directions to an advertisement, or indeed the advertisement itself or any other piece of information associated with the method, can be placed at other locations than those
10 suggested above. The actual analysis can also take place at another location than that described herein. The browser for performing the displaying of the information can also be any kind of device suitable for displaying information, such as for instance an RSS feed. The behaviour and attention of the user can also be recorded by another suitable technology such as IR, RFID, Bluetooth and the like, and these technologies can also be
15 used for transmitting the information gathered.

CLAIMS

1. Method for measuring a display of a piece of information on a web site, wherein said piece of information (22) is displayed by a system (6) including a display
5 area (61) and interactions of internet users (7) with a web site (20) are measured upon connecting to said web site (20) by means of a script (40) communicating with an optimization centre (4), characterized in that coordinates for at least two points of said piece of information (22) are determined by said script (40) and that said script (40) is arranged to use said coordinates for determining if said
10 piece of information (22), or at least a part thereof, has been displayed within said display area (61).
2. A method according to claim 1, wherein a web browser (1) manages the displaying of the piece of information (22) in a browser window (10) that is at least partly contained within the display area (61).
- 15 3. A method according to claim 1 or 2, wherein the script (40) sends information regarding the display of the piece of information (22) to the optimization centre (4).
4. A method according to any of the claims 1-3, wherein the script (40) uses the size of the browser window (10) within the display area (61) and at least one
20 coordinate for the piece of information (22) within said browser window (10) in order to determine whether the piece of information (22) has been shown within said display area (61).
5. A method according to any of the claims 1-4, wherein the script (40) repeats the process of determining if the piece of information (22) has been shown within
25 the display area (61) if the size of the browser window (10) or the placement of the piece of information (22) within said browser window (10) is changed.
6. A method according to claim 3, wherein the script (40) can send information regarding a plurality of pieces of information (22) together to the optimization centre (4).
- 30 7. A method according to claim 5, wherein the script (40) can send information regarding a plurality of determination processes together to the optimization centre.
8. A method according to any of the previous claims, where the script (40) is set to determine that the piece of information (22) has been displayed within the
35 display area (61) if at least 10%, preferably at least 50%, more preferably at least 80% of the piece of information (22) has been displayed within the display area (61).

9. A method according to any of the previous claims, where user activity in the form of eye movement of the user (7) is recorded.
10. A method according to any of the previous claims, where user input in the form of cursor placement in the display area (61) is recorded.
- 5 11. A method according to claim 3, where the information sent to the optimization centre (4) is used for optimization analysis.
12. A method according to claim 3, where information is sent to the optimization centre at determined intervals.
- 10 13. A method according to any of the previous claims, where the request for a piece of information is sent after the website has been displayed in the display area (61).
- 15 14. A method according to any of the previous claims, wherein said piece of information (22) that is to be displayed on said web site (20) is selected based on at least one interaction of an internet user (7) with said web site (20).

1/1



Fig. 1

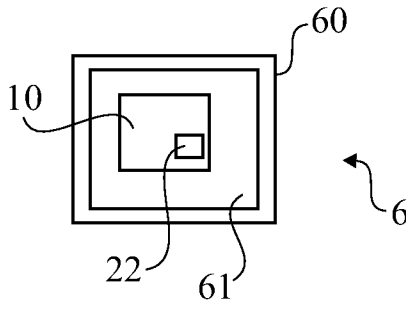
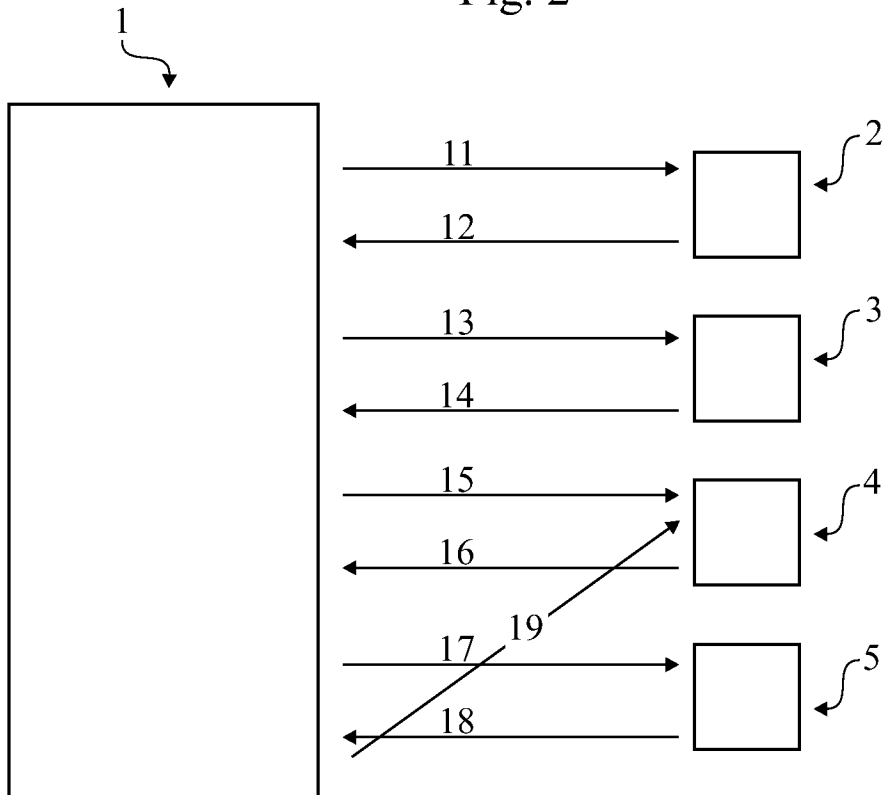


Fig. 2



INTERNATIONAL SEARCH REPORT

International application No.
PCT/SE2009/051432

| A. CLASSIFICATION OF SUBJECT MATTER | | | | |
|--|--|---|--|--|
| IPC: see extra sheet According to International Patent Classification (IPC) or to both national classification and IPC | | | | |
| B. FIELDS SEARCHED | | | | |
| Minimum documentation searched (classification system followed by classification symbols) | | | | |
| IPC: G06F, H04L | | | | |
| Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched | | | | |
| SE,DK,FI,NO classes as above | | | | |
| Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) | | | | |
| EPO-INTERNAL, WPI DATA, PAJ | | | | |
| C. DOCUMENTS CONSIDERED TO BE RELEVANT | | | | |
| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. | | |
| Y | WO 9913423 A1 (NARRATIVE COMMUNICATIONS CORPORATION), 18 March 1999 (18.03.1999), page 3, line 4, abstract -- | 1-14 | | |
| Y | US 20020087403 A1 (S. MEYERS ET AL), 4 July 2002 (04.07.2002), abstract, paragraphs (0007), (0038)-(0040) -- | 1-14 | | |
| A | US 6755527 B1 (J.H. GOLDBERG), 29 June 2004 (29.06.2004), abstract, background section -- ----- | 9 | | |
| <input type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex. | | | | |
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| Date of the actual completion of the international search | | Date of mailing of the international search report | | |
| 15 January 2010 | | 18-01-2010 | | |
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INTERNATIONAL SEARCH REPORT

International application No.
PCT/SE2009/051432

International patent classification (IPC)

G06Q 30/00 (2006.01)

G06F 11/34 (2006.01)

G06F 17/30 (2006.01)

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Information on patent family members

International application No.
PCT/SE2009/051432

| | | | | | | |
|-------|-------------|----|------------|------|--------------|------------|
| WO | 9913423 | A1 | 18/03/1999 | AU | 9306598 A | 29/03/1999 |
| | | | | CA | 2303773 A | 18/03/1999 |
| | | | | EP | 1012768 A | 28/06/2000 |
| | | | | JP | 2001516106 T | 25/09/2001 |
| ----- | | | | | | |
| US | 20020087403 | A1 | 04/07/2002 | NONE | | |
| ----- | | | | | | |
| US | 6755527 | B1 | 29/06/2004 | NONE | | |
| ----- | | | | | | |