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(54) Title: SERVICE PLAN WEB CRAWLER AND DYNAMIC MAPPER

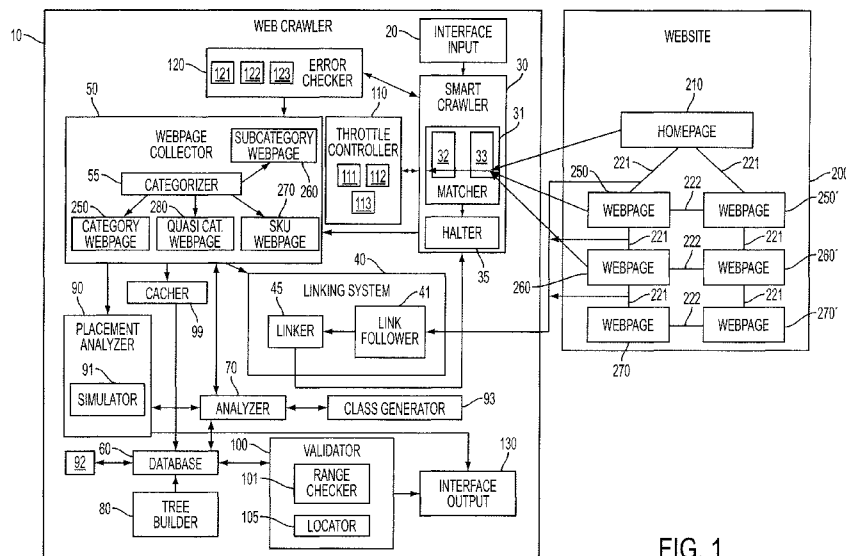


FIG. 1

(57) Abstract: A web crawler for downloading and analyzing the contents of a merchant's website. The web crawler may analyze the products advertised and determine whether a service plan is properly associated. The crawler may also analyze the placement of the service plans on the website, and store the information in a database. A dynamic mapper is also provided which can determine what service plan should be associated with a particular product. The dynamic mapper may also suggest what type of control to use for a particular customer. A webserver containing software for updating a webpage is also disclosed. A process for updating a webpage is also disclosed.

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SERVICE PLAN WEB CRAWLER AND DYNAMIC MAPPER**PRIORITY**

This application claims the benefit of priority to US Provisional Applications
5 61/245,923 (filed 9/25/09) and 61/272,707 (filed 10/23/09); both of which are incorporated
by reference in their entirety.

BACKGROUND OF THE INVENTION

10 Current trends in the market place have influenced merchants to include service
plans for many of their products. Sometimes the service plans are offered directly by a
merchant, such as BestBuy's GeekSquad and Office Depot's Tech Depot Services, and in
other cases a third party may fulfill a merchant's service plan obligations. Customers may
purchase these services to receive additional support for their product, ideally increasing
15 their use and enjoyment of it.

Online merchants associate products with service plans or warranties so that a
customer can buy an extended warranty or service plan when he or she purchases a product.
Sometimes, however, a product should be listed as having a service plan, but an error in the
listing causes the webpage on which the product is listed to not offer a service plan.
20 Consequentially, the online merchant would not, in this case, offer the service plan to the
customer. In other cases, the website of the online merchant may associate the product with
an incorrect service plan. Because the sale of warranties or service plans may be a
significant source of revenue for the merchant, merchants often expend considerable
resources in checking their websites for mismatched warranties and products not having an
25 associated warranty.

SUMMARY OF THE INVENTION

30 One aspect of the present invention may relate to providing a web crawler which can
identify missing or misassociated service plans or warranties. A second aspect of the
present invention may relate to providing a dynamic mapper for determining what service
plan should be associated with a particular product. In an embodiment of the web crawler
configuration, the web crawler may be constructed so that it follows links on a merchant's
35 website to find at least one product on a merchant's webpage, identifies which service plan
is associated with that product, and determines whether the correct service plan has been

associated with the product. Additional features of the web crawler embodiment may include a placement analyzer for determining where on the webpage the warranty is located, and whether the placement is easily visible to the customer. Another feature the web crawler may provide is a class generator for populating a relational database with
40 information downloaded by the web crawler. Moreover, the web crawler may contain a smart crawling routine for preventing the web crawler from crawling blacklisted webpages. Other features of the web crawler may include a throttle controller for managing the web crawler's impact and strain on the merchant's website, and an error checking routine for
45 tracking errors returned by the website.

In an embodiment of a dynamic mapper configuration, a dynamic mapper is disclosed which allows a merchant to automatically map service plans to product webpages. This technique allows the merchant to avoid having to manually map the service plans with the product webpage, which may increase costs in personnel and also increase the number
50 of incorrectly paired service plans to product pages. In an embodiment of the dynamic mapper, the merchant may send the dynamic mapper a request to add a product webpage to the merchant's website. The dynamic mapper may analyze the product to be added, and return content to the merchant. In some embodiments, the content may simply be information regarding the service plan (such as a warranty SKU). In other embodiments,
55 the dynamic mapper may return an advertisement for the service plan itself. In the latter case, the merchant may incorporate the advertisement directly into the product webpage. If there is no service plan associated with the product webpage, the dynamic mapper may determine that no service plan should be included. The dynamic mapper may be able to determine whether the product should have a warranty by comparing product information,
60 category, bread crumbs, and price info (etc.) against a set of previously collected data. This previously collected data may be used to allow the dynamic mapper to implement a Bayesian filter. An implementation of this filter may allow the dynamic mapper to determine whether the product webpage it is currently analyzing should have a service plan based on whether or not similar product webpages have a service plan. Alternatively or in
65 addition, the dynamic mapper could use a rule-based engine to determine whether a particular product webpage should have a service plan. Once the service plan or service plans are identified, the dynamic mapper may return the service plan information back to the merchant. In some embodiments, the service plan may be identified simply by an identifier unique to each service plan (*e.g.* a warranty SKU).

70 In an embodiment of the webserver, a webserver may be provided which contains instructions or software stored on computer readable media (hard drive/optical drive) and a processor (e.g. Intel or AMD microprocessor) for causing the webserver to perform a series of steps. The webserver may receive a request for a webpage containing details on a particular product from a client executing a web browser; determine the web browser
75 version and type; and determine from the version and type whether the web browser supports asynchronous page loading. If the webserver determines that asynchronous page loading is supported by the web browser, the instructions in the computer readable media may cause the webserver to send a copy of the requested webpage to the client; send an update request to a file server; receive updated information to the file server; format the
80 information from the file server so that it may be displayed by the web browser of the client; and send the formatted information to the web browser of the client. If the webserver determines that asynchronous page loading is not supported by the web browser, the instructions in the computer readable media may cause the webserver to send a request to the client to determine whether a media player such as Adobe Flash Media Player is
85 installed. If the media player is installed, the instructions in the storage media of the webserver may cause the webserver to: send a webpage to the client containing details about a product, a control, and a media file; receive a transmission from a program executing the media file at the client; said transmission containing a request for updated information; send the request for updated information to the file server; receive a response
90 from the file server which contains data; format the data so that it may be viewed by the web browser; and return the formatted data to the client.

In yet another configuration, the client, webserver, and server could be configured so that the service plan server sends updated information directly to the client (bypassing the webserver). One way to accomplish this configuration would be to instruct the webserver to
95 send a script to the client. Upon execution of the script, the client may send a request to the service plan server for service plan information.

In the two preceding paragraphs discussing webserver, client, and service plan topology, configurations of the invention may be constructed which are not limited to service plans or products. For example, the above topology may be used to update news
100 articles, sports scores, directories, or other webpages which may need to be updated depending on the particular client requesting the information, or need to be updated on a frequent basis.

105 These and additional features are described in more detail in the detailed description
of the invention.

BRIEF DESCRIPTION OF THE FIGURES

- Fig. 1: is a schematic view of an embodiment of the present invention.
- 110 Fig. 2: is a screenshot of a merchant's homepage.
- Fig. 3: is a screenshot of a category webpage of a merchant.
- Fig. 4: is a screenshot of a subcategory webpage of a merchant.
- Fig. 5: is a screenshot of a product webpage of a merchant.
- Fig. 6: is a screenshot of a quasi category webpage of a merchant.
- 115 Fig. 7: is a schematic view of a database designed to be used with an embodiment of
the present invention.
- Fig. 8: is a screenshot of an example of the output of the interface output.
- Fig. 9: is a screenshot of an example of the output of the interface output.
- Fig. 10: is a screenshot of an example of the output of the interface output.
- 120 Fig. 11: is a screenshot of an example of the output of the interface output.
- Fig. 12: is a screenshot of an example of the output of the interface output.
- Fig. 13: is a schematic view of the dynamic mapper.
- Fig. 14A: is a flow diagram illustrating how information may be sent between a client,
webserver, and file server.
- 125 Fig. 14B: is a flow diagram illustrating a second embodiment of how information may
be sent between a client, webserver, and file server if the client's web
browser can be configured to natively accept asynchronous page loading.
- Fig. 14C: is a flow diagram illustrating a third embodiment of how information may be
sent between a client, webserver, and file server if the client's web browser
130 can be configured to natively accept asynchronous page loading.
- Fig. 14D: is a flow diagram illustrating an embodiment of how information may be
sent between a client, webserver, and file server if the client's web browser
does not natively accept asynchronous page loading.
- 135 Fig. 14E: is a flow diagram illustrating a second embodiment of how information may
be sent between a client, webserver, and file server if the client's web
browser does not natively accept asynchronous page loading.

- Fig. 15A: is a copy of an award presented to NEW Corp. by CEA.
Fig.15B: is a copy of a webpage from CEA announcing the award of Fig. 15A.
Fig. 15C: is a copy of a webpage from National Electronics Warranty Corporation
140 discussing the award of Fig. 15A.

DETAILED DESCRIPTION OF THE FIGURES

Fig. 1 illustrates a schematic view of the web crawler 10. The web crawler has many
145 utilities including, for example, allowing a user to learn which products on a merchant's
website are correctly paired with a service plan, and whether the service plan is sufficiently
visible to the customers browsing the webpages of the merchant's website. A service plan
is generally an agreement between the customer and a service plan provider to repair or
replace a product if a prespecified condition occurs (*e.g.* the product breaks, wears down,
150 etc.) A warranty is a type of service plan. The web crawler 10 may be stored on computer
readable media (such as memory or an optical or magnetic disc) and take the form of
computer executable instructions or software that a computer can execute to generate an
instance of the webcrawler object. The computer may contain a processor, hard drive,
motherboard, I/O connections, memory, or other typical hardware. The web crawler 10
155 may contain an interface input 20 which can accept inputs from a user or another computer.
For example, the interface 20 may allow a user to enter a URL of a homepage 210 of a
desired webpage the user would like the web crawler 10 to analyzer. The interface 20 may
contain a control or button for instructing the web crawler 10 to execute one or more the
routines shown in Fig. 1. For example, the interface may contain a webpage collector
160 control and/or an analyzer control. In some embodiments, multiple routines may be
combined into one control. The interface output 130 may contain inputs for receiving
information from other routines (*e.g.* the placement analyzer 90 or validator 100), and may
be able to use information from these routines to generate an output for displaying results
generated by the web crawler. An exemplary set of screenshots representing an
165 embodiment of the invention is shown in Figs. 8-12. Interface output 130 may be a monitor
or other display device, a printer, or a sound emission device. Interface 20 may send a
request to the webpage collector 50 to tell the retriever to collect webpages from the
merchant's website 200. (The homepage 210 of zapps.com – an exemplary retailer – is
shown as an example in Fig. 2). As shown in Fig. 1, vertical links 221 connect the
170 homepage 210 to the webpages 250 and 250' (which may be category webpages), while a

horizontal link 222 links webpage 250 to webpage 250'. Similarly in Fig. 2, vertical link 221 links the homepage 210 to category webpage 250, Fig. 3 (the link to mp3 players is indicated).

175 The web crawler 10 may also contain a smart crawler 30 for minimizing the number of webpages the downloader needs to download. The smart crawling routine 30 may contain a blacklist and/or a whitelist of items. A matcher 31 may contain a blacklist routine 32 or a whitelist routine 33, or both. The matcher 31 will attempt to match breadcrumbs 76, the name of the product 71, etc. (see Fig. 5) against the terms in the blacklist or whitelist. In the blacklist routine 32, if the matcher 31 determines there is a match, the matcher 31 will
180 allow the webpage collector 50 to save the webpage information in the database, but it will instruct a halter 35 which, if any item in the blacklist matches a breadcrumb, causes the smart crawler to download the current webpage and instructs the web crawler to avoid following any further links from the current webpage. In other embodiments, if the matcher 31 determines that some product information matches the blacklist, the matcher 31 will
185 instruct the halter 35 to prevent the webpage collector from saving the webpage in the database 60. In whitelist routine 33, the matcher 31 will determine whether any of the product information matches any term in the whitelist. If the matcher 31 determines there is a match, the matcher 31 will allow the webpage collector 50 to save the webpage information, but if there is no match, the matcher 31 will instruct the halter 35 to prevent the
190 current webpage from being saved. The smart crawler may also interact with a cacher 99 which saves copies of the webpages into the database 60. The amount of caching performed may be set by the user via interface input 20.

The web crawler 10 may contain a linking system 40 which may contain a link follower 41 and a linker 45. The link follower 41 may retrieve and follow links 221-222
195 from the homepage 210 or from the webpage 250 or 250' to other additional webpages 260 and 260' (which may be subcategory webpages). Fig. 4 illustrates a subcategory webpage. A linker 45 may determine whether a particular link should be followed by matching a part of the link's URL against a regular expression. For example, the words "category" 81, "subcategory" 82, "product" 83, or "catprop" may be used as terms to match against the
200 URL to determine the type of page. Also, the linker 45 may monitor the sequence of links to determine the type of page (often webpages progress from homepage 210-> category page 250-> subcategory page 260-> product page 270), or the linker 45 may rely on

information determined from analyzer 70 such as breadcrumbs 76 (See Fig. 5) to determine the type of page currently being analyzed.

205 The web crawler 10 may also contain a webpage collector 50 for collecting a current webpage associated with at least one of the links retrieved from the linking system. The collector may contain a categorizer 55 for categorizing the webpage as a category webpage 250, a quasi category webpage 280 (Fig. 6), or a SKU or product webpage 270. Quasi category webpages may provide products within a certain price range 84, brand 85, or size 210 86 for example (See Figs. 4 and 6). In some embodiments categorizer may rely on information from analyzer 70 to help determine the type of webpage being collected.

The web crawler 10 may also contain a database 60 for storing webpages 250 retrieved from webpage collector 50. An enlarged view of the database 60 is shown in Fig. 7. A garbage collector 92 may remove unnecessary or empty classes in the database. In 215 some embodiments a relational database may be used, and the database may comprise a number of classes such as a merchant class 61, category class 62, subcategory class 63A, quasi category class 63B, SKU class 64, SKU warranty class 65, page link class 66, page content class 67, category display filter class 68 (used for filtering down categories in the website), category spider filter class 69 (used for blacklisting certain specified websites). A 220 class generator 93 may work in conjunction with the analyzer 70 to build classes based upon the information determined by analyzer 70. A tree builder 80 may be used to establish relationships or links between these classes. For example, in the embodiment shown in Fig. 7, the merchant class 61 is linked to the category class 62 and the page link class 66. The category class 62 is linked to the subcategory class 63A and the quasi category class 63B, the 225 subcategory class 63A and the quasi category class 63B are linked to the SKU class 64. The SKU class is linked to the SKU warranty class. The page link class 66 is linked to the page content class 67.

The web crawler 10 may also contain an analyzer 70 for collecting information about a particular product. Referring to Fig. 5, the analyzer can collect a name of the 230 product 71, a category 72 and subcategory 73 of the class, pricing information on the product 74, pricing information relating to a service plan of the product 75, breadcrumbs 76, and images of the product 77. In Fig. 2, the analyzer 70 (of Fig. 1) has identified all seven types of information. Once identified, the analyzer may store this information in the database 60. Breadcrumbs 76 provide contextual information for location of the product 235 within a product page. As shown in Fig. 5, the breadcrumbs are "Home > Categories >

MP3 Players & Accessories > MP3 / MP4 Players > iRiver America >

Item#:N82E16855150095.” On some webpage such as the one shown, the breadcrumbs 76 also provide the SKU 79, the category 72, and the subcategory 73 information. The analyzer may collect information such as the name of the merchant 78 from either the URL
240 or merchant logo, and the SKU 79.

The web crawler 10 may also contain a placement analyzer 90 for determining the quality of placement and location of the service plan on the current webpage. The placement analyzer 90 may have a simulator 91 for determining the service plan’s visibility on the current webpage through simulating human interaction with the webpage to enable
245 the analyzer 90 to locate placement of the service plan on the SKU webpage 270, in a shopping cart, in a popup window, light box, or in a related items window (*i.e.* a window which suggests products other customers also bought.) In some embodiments, the placement analyzer may contain instructions for causing the web crawler 10 to determine whether the service plan is placed before the bend of a webpage (*i.e.* is the service plan
250 visible on a customer’s screen without requiring the customer to scroll the screen?).

The web crawler 10 may also contain a validator 100 for examining the information relating to the product 83 and its associated service plan 75. The validator 100 may receive webpage information from the database 60 or directly from webpage collector 50. The validator 100 may comprise a range checker 101 and a missing service plan locator 105 for
255 validating the product 83 and service plan 75. The range checker 101 can be used with any product 83 having a service plan with a price range for products covered thereunder. For example, a service plan might generally cover products costing between 100-200 dollars. If the pricing information 74 for the product 83 is \$240, the range checker 101 would determine the price of the product 83 is outside the range of the plan, optionally notify the
260 crawler 10 of this event, and optionally send the results of its analysis to the interface output 130. The missing service plan locator 105 may analyze products of a particular subcategory 73, and determine whether any of the products in the same subcategory 73 have a service plan, and if the locator 105 determines that at least one of the products does have a service plan, the locator 105 may notify the web crawler 10 as to which products do not have an
265 associated service plan. For example, if a product 83 such as a pink Ipod® Nano® (an MP3 player) has a service plan, but a black Ipod® Nano® does not, the locator 105 will determine that the black Ipod® Nano® is likely missing an associated service plan, and the locator 105 will notify the webcrawler that the black Ipod® Nano® does not have an

associated service plan. The locator 105 may inform the crawler 10 of this event, and may
270 send the results of its analysis to the interface output 130. The locator 105 may utilize
various algorithms for determining whether a particular product should have a service plan.
In a first configuration, the locator 105 may utilize a string distance comparator to
determine the Levenshtein distance between two product names 71. The locator 105 may
compare the string distance to a preestablished threshold value to enable the locator 105 to
275 determine whether the strings are sufficiently close together such that an inference should
be made that if one of the products 83 has a service plan 75, then the second product should
have a service plan. For example, if the validator 100 is examining two products (such as
an “iPod Nano Pink” and an “iPod Nano Black”) and the validator 100 determines that the
Pink Ipod has a service and that the Black Ipod does not, the locator 105 may use its string
280 distance comparator to determine the strings have a distance of four, and if the
preestablished threshold value is 8 (for example), the locator 105 would determine that the
string distance is less than the threshold value, thereby causing the locator 105 to inform the
validator 100 (which may send the result to the interface output 130) that the Black Ipod
probably should have a service plan 75 because the Pink Ipod has a service plan 75. To take
285 the opposite example, if the locator were comparing a “Ipod Nano Pink” to a “Griffin
Aerosport Nano Armband,” the locator 105 would determine the string distance is 21, and
since $21 > 8$, the locator 105 would not conclude that the Griffin Aerosport Nano Armband
should have a service plan. As an additional step, the locator 105 may utilize category
and/or subcategory matches to prevent nonsensical matches and deductions. For example,
290 if the website offered both Cadillac cars and Cadillac dog food, the locator 105 may use
category and subcategory information to avoid concluding that dog food should come with a
service plan, because the Cadillac cars come with a service plan. In a second configuration,
the locator 105 may use a Bayesian filter to classify products as having or not having
service plan 75. To perform this classification, the locator 105 may be trained to determine
295 which products usually have a service plan 75. To perform this training, the locator 105
may be provided with test data to process. The test data will contain product attributes such
as name 71, category 72, price 74, and breadcrumbs 76. From these attributes, the locator
105 can develop a centroid that the locator 105 may use to classify the product 83 by its
attributes as one which usually has a service plan 75 or one that does not usually have a
300 service plan 75. The web crawler 10 may also contain a throttle controller 110 which
may have a connection limiter 111, a bandwidth limiter 112, and a request limiter 113.

Presets for the throttle controller 110 may be defaulted or set through the interface 20.

305 Connection limiter 111 may control the maximum number of simultaneous connections the web crawler 10 or webpage collector 50 may use while crawling the website. For example, the connection limiter 111 may allow 5 simultaneous connections. Bandwidth limiter 112 may control how much data per unit of time the web crawler may download from the website. For example, the connection limiter may limit the download speed to 2 megabytes per second. Request limiter 113 may control the frequency the web crawler sends requests or queries to the website. For example, the request limiter could limit the requester 50 to 20
310 requests per minute.

The web crawler 10 may also contain an error checker 120 which may have a stopping routine 121, a total error threshold monitor 122, and a frequency error monitor 123. The webserver 205 (Fig. 13), hosting the website 200, may return errors indicating too many webpages 250 were requested, the webpages 250 were requested too quickly, the
315 webpage 250 associated with a particular link 221 or 222 could not be found, etc. The error checker 120 may comprise presets that may be defaulted or set through the interface input 20. Stopping routine 121 can control the crawler 10 or the retriever 50 by preventing either from downloading webpages for a period of time. Total error threshold monitor 122 is designed to monitor the amount of errors received from the website. The monitor may
320 contain a preselected amount of errors per second, and may execute the stopping routine 121 to stop the crawler 10 or retriever 50 if the amount of errors exceeds a threshold value, such as 20 errors. Frequency error monitor 123 may monitor the frequency of errors per unit of time received from the website. The monitor 123 may execute the stopping routine to stop the crawler if the frequency of errors exceeds a threshold value, such as 5
325 errors/minute.

Fig. 1 also illustrates a process flow of information and interaction between the web crawler 10 and the website 200. While a specific, sequenced process flow is shown in Fig. 1 and described herewith, various steps can be omitted or placed in a differing order than the one shown. Typically, when a user would like to use web crawler to crawl a website, he
330 or she will access the interface input 20. Interface input 20 may request the user enter the URL of the homepage of the website the user would like to crawl. Additionally interface input 20 may request other settings such as throttle, caching, or error settings.

Interface input 20 then may send the information to the smart crawler 30 which downloads the webpage. Smart crawler 30 may utilize its whitelist and/or blacklist to

335 determine whether to process any links on the homepage. The smart crawler 30 then sends
the homepage to webpage collector 50. In some embodiments, the smart crawler 30 may
send any errors received in conjunction with the homepage to the error checker 120. Error
checker 120 may monitor and regulate the actions of the smart controller depending on the
amount or frequency of received errors. In some embodiments, the error checker 120 may
340 send the results of its error analysis to the webpage collector 50. Smart crawler 30 also may
send bandwidth and network information to the throttle controller 110 which will monitor
and regulate the network performance of the smart crawler 30.

Webpage collector 50 may use its categorizer 55 to determine the type of webpage it
is currently collecting. If the current webpage being collected is a category 250,
345 subcategory 260 or quasi category 280 webpage, the collector will send a request (and
optionally the results of the categorizer's analysis) to the linking system 40, which will
access the website 200 to find and process further links to find the SKU webpage 270.
Linking 40 system may use its linker 45 and link follower 41 to determine which links to
analyze and process. The results of the linking system's analysis are sent back to the smart
350 crawler 30, which downloads the next webpage specified by the linking system 40.

If the webpage now being processed is a webpage 270 or 270' (a SKU or product
page), the webpage collector 50 may send the webpage to placement analyzer 90, cacher 99,
and/or analyzer 70. Placement analyzer 90 may evaluate the placement and visibility of the
service plan, but it may need information from analyzer 70 to inform it of the positioning of
355 the service plan. In some embodiments the analyzer 70 may send both the webpage and the
results of its analysis to placement analyzer 90. Cacher 99 may determine whether or not to
save or cache the webpage in the database 60. Analyzer 70 may determine the content and
location of information such as category 72 or breadcrumbs 76 on the webpage, and then
send the results of its analysis to the database 60.

360 Database 60 may use its class generator 93 to create classes for database 60. Tree
builder 80 may establish relationships between the classes, and garbage collector 92 may
remove blank or not needed classes. Validator 100 may request information from the
database 60 (such as objects of the classes created by the class generator) and process the
information to determine whether the product on the webpage should have a service plan,
365 and whether the service plan offered is the correct service plan through using the locator
105 and the range checker 101. Validator 100 may then send the results of its analysis to
interface output 130. Interface output 130 may generate an output to display the results

gathered from the placement analyzer 90 and/or the validator 100 (or other routine). In some case, the computer processing the webcrawler software may transfer the output to a display or a monitor or print the results on paper to inform the user of the results of the analysis performed by web crawler 10. In some embodiments, the details of these results may be customized by the user. Fig 8 for example shows a flat report of a retailer's (Zaps) website. The report display 300 can show a number of different fields and in some embodiments the contents of the fields or their order can be customized by the user or by the software. In the embodiment shown, there is a description column, a price column, a Yes/No warranty indication column, a first warranty description column, a first price for the warranty column, a first warranty name column, a second warranty description column, a second price for the warranty column, and a second warranty name column. The category filter 305 may allow the interface output 130 to restrict its output to certain categories of items. Category, subcategory, and breadcrumb information may be determined by the analyzer 70 to populate this field. In this embodiment, the flat report view (Fig. 8) has a number of tabs 310 for causing the interface output to switch the current view. These tabs include report 313, explorer 311, filters, statistics 312, status, and administration. This embodiment of the output of the interface output 130 includes a search command 320 for searching for certain terms of keywords in the report display 300. The search command, in this embodiment, can filter by the presence or absence of a warranty (using the warranty filter 325) or by price (using the price filter 330). The report generator function 335 may be used to switch the format of the report display. In Fig. 8, the flat report display is shown, but in Fig. 9, a hierarchical display is shown. Clicking on the radial button, causes the interface output 130 to switch the display format. The hierarchical display (Fig. 9) shows category and subcategory information in the report display. Additionally, in this embodiment, the report display illustrates the number of products available in the present view. In this particular embodiment, a description, price, warranty description, warranty price, and warranty name columns are generated by the interface output 130. One advantage of this layout as compared to the flat layout is that it shows products by their category information, but a disadvantage of this layout is that somewhat less detailed information about the warranty is displayed by interface output 130. Clicking on the explorer tab 311 instructs the interface output 130 to display the explorer interface (*see* Fig. 10). This interface provides additional information about the product being sold, and through popup windows provides detailed views of warranty information. Fig. 10 shows

the first warranty window 340 the interface output 130 generates when the product hyper link (341) is clicked. Fig. 11 shows the second warranty window 342 the interface output 130 generates when the warranty icon 343 is clicked. Clicking the statistics tab 312 instructs the interface output 130 to display the statistics output (Fig. 12.) In this example, crawling activity on Zaps webpage is shown. Various types of information is compiled and illustrated by the interface output 130 in this view. For example, the number of products having warranties can be calculated, the amount data pulled from the merchant's website can be displayed (this data may come from the throttle controller 110 for example), and the total number of webpages downloaded can be displayed.

410 The webcrawler 10 may be used to determine which products on a merchant's website have or should have warranties or service plans, and which products are correctly paired with the warranty or service plan. Once a user learns this information, he or she may relay it to the merchant (in some embodiments the merchant may be able to use the software directly). In such a case, the merchant may still need to have personnel update the merchant's website to add the missing warranties or service plans and update the incorrectly paired warranties or service plans.

420 One way to avoid having to pay personnel to update mismatched or missing service plans is to build a system which automatically selects a correct service plan when a product webpage is updated or added to a merchant's website 200. A dynamic mapper may be used to select which service plan should be paired with a particular product. The dynamic mapper may be stored on computer readable media and comprise instructions for causing a processor of a computer to execute the instructions, thereby creating an instance of the dynamic mapper. The computer may contain a processor, hard drive, motherboard, I/O connections, memory, or other typical hardware.

425 As shown in Fig. 13, in one embodiment for adding a dynamic mapper to a merchant's website involves adding a control 400 onto a product webpage 410, search page, or shopping cart. Then, when a consumer views the product – or adds it to the shopping cart – the control 400 may send a request S400 including the product name, price, category, SKU breadcrumbs, and/or other information to a service plan server 420, to instruct a processor 421 in the server 420 to lookup S402 which service plan should be associated with the particular product by accessing a database 422. The processor 421 returns S410 electronic data back to the control 400. The electronic data may simply be html code which allows the control 400 to display warranty information or provide a selector to choose

among multiple service plans (2 yr or 3 yr plans for example). In other configurations, the
435 electronic information may include a sales pitch, service plan options, or an advertisement.
The control 400 may display and/or process the electronic data so that the product webpage
410 and control 400 appear to be one integral page. Alternatively, the control 400 may
store the electronic data locally, and send a request for updated information from the service
plan server 420 when certain conditions are met. Such requests may be sent after a
440 predetermined period of time elapses (e.g. once a year), or anytime the product information
is modified. The electronic data may contain text, images, videos, popup panels, and other
types of rich media. The control 400 may support chat functions to allow customers to ask
questions about a service. If a customer wants to purchase the service plan, he or she may
have the option to click a purchase button to add the service to their shopping cart. In a way,
445 the content returned by the dynamic mapper may act like part of the underlying webpage; as
opposed to a banner type advertisement. One way to allow a user to update his or her order,
is to construct the control 400 so that the control 400 sends a request to the webserver 205
hosting the webpage when the user clicks a button or other element in the control. The
request S420 sent by the control 400 to the webserver 205 may contain information to allow
450 the webserver 205 to display S425 updated information such as a new combined price.

The dynamic mapper may also track customer behavior and sales outcome to
determine a success rate of different embodiments of the control 400. To do so, the
webserver 205 may store S435 the outcome of what happens in a webserver database 430
when alternative embodiments of the control 400 are used (sales pitch, radial box with
455 options, chat popup, etc). In other words, the webserver database 430 may store a
consumer's decision whether or not to purchase a service plan advertised through the
control 400. For example, when the consumer presses a "Buy" button 401, the consumer's
computer may submit S430 information to the webserver 205 including the service plan
selected, the current embodiment of the control 400, and perhaps the total price. An
460 analysis engine 435 may process this information, and determine which embodiments of the
control 400 are more effective in persuading customers to purchase the service plan. In
some configurations, the analysis engine 435 may take into account information about the
purchaser including the location of the purchaser (obtainable from the purchaser's IP
address), the merchant from which the customer is purchasing the item, the time of day or
465 year of the purchase (during the workday or at Christmas time for example.) Moreover, if
the merchant's website or the customer sends information about the customer to the

webservice 205 or analysis engine 435 (such as the customer's phone number) this information can be cross-referenced against a database to obtain additional information about the customer including gender, income, age, etc. The dynamic mapper may use this
470 information to determine which type of advertisement for the service provider is most effective for the particular customer to maximize sales of the product and/or the service plan. The analysis engine may send S440 an instruction back to the webservice to direct the webservice as to which type of control 400 to use to optimize the likelihood that a particular customer will purchase the service plan.

475 The service plan server 420 may use Bayesian algorithms, statistical analysis, rule-based engines, or other techniques to identify which service plans should be associated with a given product. Based on these techniques, the service plan server may determine what type of advertisement it should display to the customer, and return this advertisement to the control 400.

480 The dynamic mapper may also be constructed so that the control 400 downloads dynamic content only after the product webpage 410 has been displayed to the customer. This prevents the advertisement for the service plan from increasing page load time. This may be significant as an increase in page load time may decrease sales of the underlying product. Additionally, the dynamic mapper may be constructed so that the control 400
485 cannot modify the underlying product webpage. This may be a valuable security benefit to the merchant. Additionally, if the control is restricted to a particular area of the webpage, a failure of the dynamic mapper to return the advertisement may cause displayer to display nothing, thereby making this failure transparent to a customer.

Figures 14A-E show how information may be delivered to a client. In figure 14A, a
490 client 500 (utilizing a web browser) may send S500 a request to a webservice 205 for a particular webpage advertising a particular product. The webservice 205 may determine the webpage 510 which is being requested, and may send S502 a request to the service plan server 420 to update the service plan information stored in the webservice 205 for the particular product. The service plan server 420 may determine attributes about the service
495 plan and send S504 a service plan in the form of an executable program to the webservice 205 (although data may be sent instead or in addition). The webservice 205 may update S506 the webpage, and then send S508 the updated webpage 520 to the client 500. While this approach works, it has several short-comings. First, this process will increase the amount of time it takes for the client to obtain the information, because it can take several

500 seconds for the webserver 205 to negotiate the connection with the service plan server 420. Second, sending a program (or other executable code (javascript, applets, etc.)) from the service plan server 420 exposes the webserver and the client to potential security risks. For example, a rogue employee working at the service plan server 420 could send malicious code to the webserver 205. Or, a third party could hack into the service plan server 420 to
505 transmit the malicious program. Recognizing the weaknesses in the Fig. 14A's model, the following multistep approaches were devised.

Fig's 14B and 14C show a process and system which utilizes asynchronous page loading. In general, older web browsers are not configured to accept asynchronous page transmissions. As shown in Figure 14B, a client 500 having a web browser 502 may send a
510 request to a webserver 205 to send a webpage 510 having information on one or more products, images, and service plan information (in other configurations the webpage could contain information on news, sports, entertainment etc). When the request is sent, the webserver 205 may review the query string parameters (information included with the URL to provide server additional information) included within the client's request for the
515 webpage 510. Using HTTP request headers, the webserver may be able to determine S510 the version and type of the browser making the request, and from that information, determine whether the browser supports asynchronous page loading. In alternate configurations, the webserver 205 may transmit a webpage to the client which contains a script (see Figure 14C). This script may attempt to send a request S505' to the service plan
520 server 420 to update the webpage, if this procedure succeeds, an embodiment related to Figure 14C may be followed. (Figures 14D and E illustrate examples of configurations of process flows if the script fails or the web browser does not support asynchronous page updating.)

If the browser supports asynchronous page loading (such as IE 8 or Firefox 3), the
525 web browser may be able to receive updates to a webpage as the web browser is displaying the webpage. Under this approach, the webserver 205 may send S503 the webpage to the client 500 and an update request S505 to the service plan server 420. The service plan server 420 may lookup S507 the requested information, and transmit S509 the retrieved information back to the webserver 205. The webserver may receive the information from
530 the server, format it S511 into an update for the client, and transmit S508 the update to the client. Under this model (Fig. 14B), the client 500 can view product information on the webpage 510 quickly, while the service plan server sends updates for the webpage. Updates

(shown schematically as ovals) may be implemented in any portion of the webpage and are not necessarily localized to a particular portion of the webpage. Images and other items
535 having a large file size may also be sent asynchronously via update S512.

In Figure 14C, the webserver 205 may send a webpage 510 containing a script (*e.g.* a java script for instructing the web browser 502 to request additional information from a service plan server 420) to the client. The web browser 502 may transmit S505' information about a particular product so the service plan server 420 can determine which
540 service plan information to look-up. Once the service plan is determined, the service plan server 420 can send S508' service plan information back to the client 500. Either Figure 14B or 14C may be used to update a client webpage asynchronously. One advantage to Figure 14B is that the information that the client receives may appear to originate from the webserver 205. This is effective in overcoming ad-blocking technology which may prevent
545 3rd party webserver from adding content to a webpage. Additionally, the embodiment of Figure 14B may be effective in distributing information to clients which have their web browser 502 settings set to high levels. Advantages of the topology of Figure 14C include reduced load time for information in the server plan server 420 because the information does not need to be sent through the webserver 205. Additionally, the topology of Figure
550 14B requires the webserver to handle more processing tasks which may require more powerful webserver to implement.

Figures 14D-14E illustrate two embodiments of a webserver process flow for a client that has a web browser which does not support asynchronous page loading (*e.g.* IE 3 or Firefox 1). In Figure 14D, the webserver 205 may send a request S513 to determine
555 whether a particular media player (*e.g.* Adobe Flash Media Player, Microsoft Silverlight, etc.) is installed. If the media player is installed, the webserver 205 can send S503 a webpage 510 containing a media file (*e.g.* a Flash movie) to the client 500. The media file may be very small and may be placed in a remote location of the webpage 510 so that it is unlikely an individual looking at the webpage will see it. The media file may also be very
560 small in file length (<100k) and movie length (<1 second). In this step, the transmitted webpage may contain details about the product, possibly images, the media file, and a control. In some embodiments, the control may be written using Java script, an applet, or other programming code. The control may be configured so that it awaits information from the webserver 205 to cause the program to execute and display some type of service plan
565 information.

As shown in step S514 (Figure 14D), the program executing the media file may send S514 a request for additional information to webserver 205 (e.g. updated service plan information). Alternatively, the request may be sent directly S514' to the service plan server 420. In Figure 14D, the webserver 205 may receive S515 the request, and send S516
570 its own request to the service plan server 420 to lookup S517 service plan information concerning the product the client is viewing. Once the service plan server 420 fetches the needed service plan information (utilizing the techniques explained above, rule engines/Bayesian filters, etc.), the server 420 may format the results it obtains (e.g. using XSLT template), and return S518' data or information back to the webserver 205. To
575 address security concerns that the service plan server 420 may send the webserver 205 a malicious program, the webserver 205 and service plan server 420 may be configured so that the service plan server 420 only sends data (for example XML code and XSLT template) to the webserver 205 (the webserver 205 may be configured only to receive data, *i.e.* not program code). The webserver 205 may contain a program for accepting the data. The
580 webserver 205 may also contain a program 530 which will use the received data to generate an executable program, which the webserver 205 can send S518 to the client 500. In some embodiments, the webserver 205 may also send S518 the information (e.g. XML and XSLT) to the client 500. In the former option, once the client 500 has the executable program 530, the browser can cause the program to be executed thereby displaying the service plan
585 information. In the latter option, the information may be passed to the control and be executed by the control to display the service plan information. Also, the service plan server 420 may send the information or program directly to the client 500 (Figure 14E).

The configurations illustrated and described in Fig. 14A-E may used independently or combined into a single multistep system/method. For example, the process/system
590 illustrated and described in conjunction with Figures 14A, B, and D could be combined into a multistep system/process. Namely, the webserver 205 could determine whether the browser of the client 500 natively supports (either as installed or with add-ins or extensions) asynchronous page loading. If so, the webserver 205 could implement the model shown and described in conjunction with Fig. 14B. If asynchronous page loading is not supported,
595 the webserver 205 could send a webpage containing a script for determining whether a particular media player is installed. If so, the webserver 205 could implement the model shown and described in conjunction with Fig. 14D. If Adobe Flash is not installed (and the browser does not natively support asynchronous page loading), the webserver 205 could

implement the model shown and described in conjunction with Fig. 14A. Similarly, the
600 process/system illustrated and described in conjunction with Figures 14A, C, and E could be
combined into a multistep system/process. Namely, the webserver 205 could send a
webpage 510 to the client 500 containing a script. The script could attempt to update the
webpage via a third party service plan server 420 (Figure 14C). If the script fails because
asynchronous page updating is not supported (or is disabled), the script could attempt to use
605 a media player to update the content of the webpage (Figure 14E). If that attempt fails
because the media player is not installed, for example, the process of Figure 14A could be
followed. One advantage to using these multi-tiered processes is that these processes
identify an efficient way to deliver an updated webpage 520 to the client depending on the
software (web browser, media player) installed on the client.

610 Although the preceding description of Fig. 14A-E referenced in some locations a
system and method designed for updating service plan information in relation to a product
listing hosted on a webserver 205, the preceding technology may be adapted to a number of
general technical areas/uses. For example, in alternative configurations the service plan
server 420 may be a generalized file server containing a database of information of interest
615 to the client 500 or webserver 205. The webserver 205 may be able to send a first version
of a webpage to the client, while the file server sends updates to the webpage to the client
500. Additionally, the preceding technology may be adapted to allow webserver 205 to
update the webpage as data in the server 420 changes. For example, sports scores or stock
prices may be updated on a webpage using this technology without the client refreshing the
620 webpage. In some embodiments the server 420 may alert the webserver 205 that it contains
updated information and push new data to the webserver 205.

The current assignee of the present application was recently awarded an award by
the Consumer Electronics Association for the technology described in the provisional
applications 61/245,923; and 61/272,707 (incorporated by reference). The Consumer
625 Electronics Show (an annual awards presentation produced by the Consumer Electronics
Association) reviewed a description of the technology underlying this patent application and
awarded National Electronic Warranty Company (the current Assignee of this patent
application) the "Design and Engineering Showcase Award" for 2010. As shown in Figures
15A (which is a copy of the award NEW Corp. has won), CEA grants this award to the
630 company which produces the most innovative developments in "online retail" technology.
Figure 15B is a copy of a webpage from CEA announcing the award, and Figure 15C is a

copy of a webpage from NEW Corp. discussing the award. Consumer Electronics Association is widely regarded as one of the preeminent consumer electronics review organizations in the world, and CEA's decision to award NEW Corp. with the award is
635 evidence of the novelty and unobviousness of the below claimed invention.

It is claimed:

CLAIMS

1. A web crawler stored on computer readable media for causing a processor of a computer to crawl a website having a webpage displaying a product, said web crawler comprising:
 - a. an interface input for receiving a URL of a homepage of the website, said homepage containing links;
 - b. a linking system containing a link follower for retrieving and following the links on the homepage which leads to an additional webpage in the website;
 - c. a webpage collector for collecting the homepage and a current webpage associated with at least one of the links retrieved from the linking system; wherein the collector categorizes the webpage as a category webpage, a quasi category webpage, or SKU webpage;
 - d. an analyzer for collecting at least one of the following: a name of the product, a category and subcategory of the product, pricing information on the product, pricing information relating to a service plan of the product, breadcrumbs, and images of the product;
 - e. a validator for examining product information and the product's associated service plan; and
 - f. an interface output for generating an output containing results generated by the web crawler.
2. The web crawler of Claim 1 comprising a linker for determining whether a particular link from the homepage should be followed by determining whether at least a part of a link's URL matches a regular expression.
3. The web crawler of Claim 2, wherein the regular expression is "category" or "product ID."
4. The web crawler of Claim 1, comprising a relational database for storing the webpages collected by the webpage collector.
5. The web crawler of Claim 1 wherein the analyzer comprises a class generator for generating classes in a database based upon information from the webpage; wherein the generator creates at least one of a merchant class, category class, subcategory class, quasi category class, SKU class, SKU warranty class, page link class, page content class, category display filter class, category spider filter class, or statistical data class.

6. The web crawler of Claim 1 wherein the analyzer comprises a tree builder for constructing a relationship tree for establishing relationships between categories, and locating parent categories.
7. The web crawler of Claim 6 wherein the tree builder is configured to link at least one of:
 - a. a merchant class to a category class and a page link class;
 - b. a category class to a subcategory class and a quasi category class;
 - c. a subcategory class and a quasi category class to a SKU class;
 - d. a SKU class to a SKU warranty class; or
 - e. a page link class to a page content class.
8. The web crawler of Claim 1 comprising a placement analyzer for determining placement of the service plan on the current webpage.
9. The web crawler of Claim 8 wherein the placement analyzer contains:
 - a. instructions for evaluating and rating the service plan's visibility on the current webpage;
 - b. an output for sending results to the interface output; and
 - c. a simulator for simulating human interaction with the webpage to enable the placement analyzer to locate placement of the service plan on the SKU webpage, in a shopping cart, or in a popup window.
10. The web crawler of Claim 9 wherein the placement analyzer contains a routine for sending its results to the interface output, and said interface output contains a routine for displaying the results of the placement analyzer.
11. The web crawler of Claim 1 wherein the validator comprises a range checker for service plans having price ranges for products covered under said service plans; said range checker containing:
 - a. instructions to cause the web crawler to determine whether a price of the product is within the price range of the service plan; and
 - b. an output for sending results to the interface output.
12. The web crawler of Claim 1 wherein the validator comprises: a missing service plan locator containing instructions for causing the validator to:
 - a. analyze products of a particular subcategory;
 - b. determine whether any of the products in the subcategory have a service plan; and

- c. if the locator determines that at least one of the products does have a service plan, send results to the interface output.
13. The web crawler of Claim 1 comprising a smart crawler for crawling the current webpage.
14. The web crawler of Claim 13 wherein the smart crawler comprises:
 - a. a matcher having a blacklist routine for matching a list of blacklisted items against the breadcrumbs collected by the analyzer; and
 - b. a halter which, if any item in the blacklist matches a breadcrumb, causes the smart crawler to download the current webpage in a database, and to instruct the linking system to avoid following any further links from the current webpage.
15. The web crawler of Claim 13 wherein the smart crawler comprises:
 - a. a matcher having a whitelist routine for matching a list of whitelisted items against the breadcrumbs collected by the analyzer; and
 - b. a halter which, if no items in the whitelist match a breadcrumb, prevents the smart crawler from saving the current webpage in a database, and instructs the linking system to avoid following any further links from the current webpage.
16. The web crawler of Claim 1 comprising a webpage cacher for caching webpages collected by the webpage collector.
17. The web crawler of Claim 1 comprising a throttle controller for managing the web crawler's impact and strain on the website.
18. The web crawler of Claim 17, wherein the throttle controller contains:
 - a. a connection limiter for controlling a maximum number of simultaneous connections the web crawler may use while crawling the website;
 - b. a bandwidth limiter for controlling how much data per unit of time the web crawler may download from the website; and
 - c. a request limiter for setting how frequently the web crawler sends requests to the website.
19. The web crawler of Claim 1 comprising an error checker for tracking errors returned by the website.
20. The web crawler of Claim 19 wherein said error checker contains:
 - a. a stopping routine for stopping the web crawler for a period of time;

- b. a total error threshold monitor for monitoring an amount of errors received from the website, said monitor executing the stopping routine to stop the web crawler if the amount of errors exceeds a threshold value; and
 - c. a frequency error monitor for monitoring a frequency of errors per unit of time received from the website, said monitor executing the stopping routine to stop the web crawler if the frequency of errors exceeds a threshold value.
21. A web crawler stored on computer readable media for causing a processor of a computer to crawl a website having a webpage displaying a product, said web crawler causing the computer to perform the steps of:
- a. receiving a URL of a homepage of the website, said homepage containing links;
 - b. downloading the homepage;
 - c. retrieving and following the links on the homepage;
 - d. determining whether a particular link from the homepage should be followed, by using a regular expression to determine whether at least a part of a link's URL matches at least part of a particular phrase;
 - e. retrieving a current webpage associated with at least one of the retrieved links;
 - f. collecting at least one of the following: a name of the product, a category and subcategory of the product, pricing information on the product, pricing information relating to a service plan of the product, breadcrumbs, and images of the product;
 - g. providing a validator for examining a product and its associated service plan; and
 - h. outputting results from the validator to a display.
22. The process of Claim 21 wherein the phrase is "category," "subcategory," "product ID," or "catprop."
23. The process of Claim 21 comprising the step of generating classes in a database based upon information from the webpage; wherein at least one of the classes is a merchant class, category class, SKU class, SKU warranty class, page link class, page content class, category display filter class, category spider filter class, or statistical data class.
24. The process of Claim 21 comprising the step of constructing a relationship tree for establishing relationships between categories, and locating parent categories.
25. The process of Claim 24 wherein the relationship tree is constructed so as to link at least one of:

- a. a merchant class to a category class and a page link class;
 - b. a category class to a subcategory class and a quasi category class;
 - c. a subcategory class and a quasi category class to a SKU class;
 - d. a SKU class to a SKU warranty class; and
 - e. a page link class to a page content class.
26. The process of Claim 21 comprising the step of determining placement of the service plan on the current webpage.
 27. The process of Claim 21 comprising the step of determining the service plan's visibility on the current webpage.
 28. The process of Claim 21 comprising the step of simulating human interaction with the website to enable the web crawler to locate placement of the service plan on a SKU webpage, in a shopping cart, or in a popup window.
 29. The process of Claim 21 comprising the step of using the validator to determine whether a price of the product is within a service plan's price range.
 30. The process of Claim 21 comprising the steps of using the validator to analyze products of a particular subcategory and to determine whether any of the products in the subcategory have a service plan; using a locator to determine whether at least one of the products has a service plan; and, if the locator determines that at least one of the products had a service plan, using the validator to notify the web crawler as to which products do not have an associated service plan.
 31. The process of Claim 21 comprising the step of matching a list of blacklisted items against the collected breadcrumbs, and, if any item in the blacklist matches a breadcrumb, causing the smart crawler to download the current webpage and instructing the web crawler to avoid following any further links from the current webpage.
 32. The process of Claim 21 comprising the step of caching webpages retrieved by a webpage collector.
 33. The process of Claim 21 comprising the step of providing a throttle controller for managing the web crawler's impact and strain on the website; said throttle controller performing the steps of: setting a maximum number of simultaneous connections the web crawler may use while crawling the website; setting how much data per unit of time the web crawler may

- download from the website; and setting how frequently the web crawler sends requests to the website.
34. The process of Claim 21 comprising the step of providing an error checking routine for tracking errors returned by the website, said error checking routine performing the steps of: monitoring an amount of errors received from the website, and stopping the crawler if the amount of errors exceeds a threshold value; and monitoring a frequency of errors per unit of time received from the website, and stopping the crawler if the frequency of errors exceeds a threshold value.
 35. The process of Claim 21 comprising the step of outputting results from a placement analyzer to a display.
 36. A dynamic mapper stored on computer readable media for causing a microprocessor of a server to perform the steps of:
 - a. adding a control to a product webpage;
 - b. receiving a request to view a product from a customer;
 - c. sending a request to the server to lookup which service plan should be associated with said product;
 - d. receiving electronic information from the server; and
 - e. instructing the control to display a sales pitch, service plan options, or an advertisement to the customer.
 37. The dynamic mapper of Claim 1 wherein the control and the webpage have a uniform appearance.
 38. The dynamic mapper of Claim 1 wherein the webpage is a search page or a shopping cart.
 39. The dynamic mapper of Claim 1 comprising the step of instructing the server to store the electronic information so that the server can provide the control with the information to display without sending a request to the server.
 40. The dynamic mapper of Claim 39 comprising the step of using the control to send a request for updated information from the server after a predetermined amount of time.
 41. The dynamic mapper of Claim 39 comprising the step of using the control to send a request for updated information from the server after the webpage has been modified.

42. The dynamic mapper of Claim 1 comprising the steps of providing the customer with an option to purchase the service plan, wherein selecting the option to purchase causes the control to send an instruction to the server to update a total price on the webpage.
43. The dynamic mapper of Claim 1 comprising the step of tracking customer behavior and sales outcome to determine a success rate of different embodiments of the control.
44. The dynamic mapper of Claim 43 comprising the step of storing a customer's decision whether or not to purchase a service plan advertised through the control.
45. The dynamic mapper of Claim 43 comprising the step of providing which service plan was selected, which embodiment of the control was used, and a price of the product to an analysis engine.
46. The dynamic mapper of Claim 45 comprising the step of providing the analysis engine with information relating to the customer's location, the webpage's domain name, and a purchase date.
47. The dynamic mapper of Claim 45 comprising the step of providing the analysis engine with gender information, income information, and age information about the customer.
48. The dynamic mapper of Claim 45 comprising the step of determining which particular embodiment of a control will be likely most effective for a particular customer.
49. The dynamic mapper of Claim 45 comprising the step of directing a webserver to select an optimum embodiment of the control to persuade the customer to purchase the service plan.
50. The dynamic mapper of Claim 1, comprising the step of using the server to delay displaying the control until the webpage has been fully downloaded by the customer.
51. The dynamic mapper of Claim 1, wherein the webpage is insulated from the control to prevent the server from modifying the webpage's contents or integrity.
52. A method of automatically mapping service plans to a product webpage, search page, or shopping cart; said method comprising the steps of:
 - a. adding a control to a product webpage, search page, or shopping cart;
 - b. receiving a request to view a product from a customer;
 - c. sending a request to a server to look up which service plan should be associated with said product;
 - d. receiving electronic information from the server; and

- e. instructing the control to display a sales pitch, service plan options, or an advertisement to the customer.
53. The method of Claim 52 wherein the control and the webpage have a uniform appearance.
 54. The method of Claim 52 comprising the step of instructing the server to store the electronic information so that the server can provide the control with information to display without sending a request to the server.
 55. The method of Claim 52 comprising the step of using the control to send a request for updated information from the server after a predetermined amount of time.
 56. The method of Claim 55 comprising the step of using the control to send a request for updated information from the server after the webpage has been modified.
 57. The method of Claim 52 comprising the step of providing the customer with an option to purchase the service plan, wherein selecting the option to purchase causes the control to send an instruction to the server to update a total price on the webpage.
 58. The method of Claim 52 comprising the step of tracking customer behavior and sales outcome to determine a success rate of different embodiments of the control.
 59. The method of Claim 58 comprising the step of storing a customer's decision whether or not to purchase a service plan advertised through the control.
 60. The method of Claim 58 comprising the step of providing which service plan was selected, which embodiment of the control was used, and a price of the product to an analysis engine.
 61. The method of Claim 60 comprising the step of providing the analysis engine with information relating to the customer's location, the webpage's domain name, and a purchase date.
 62. The method of Claim 60 comprising the step of providing the analysis engine with gender information, income information, and age information about the customer.
 63. The method of Claim 60 comprising the step of determining which particular embodiment of a control will be likely most effective for a particular customer.
 64. The method of Claim 60 comprising the step of directing a webserver to select an optimum embodiment of the control to persuade the customer to purchase the service plan.
 65. The method of Claim 52, comprising the step of using the server to delay displaying the control until the webpage has been fully downloaded by the customer.

66. The method of Claim 52, wherein the webpage is insulated from the control to prevent the server from modifying the webpage's contents or integrity.

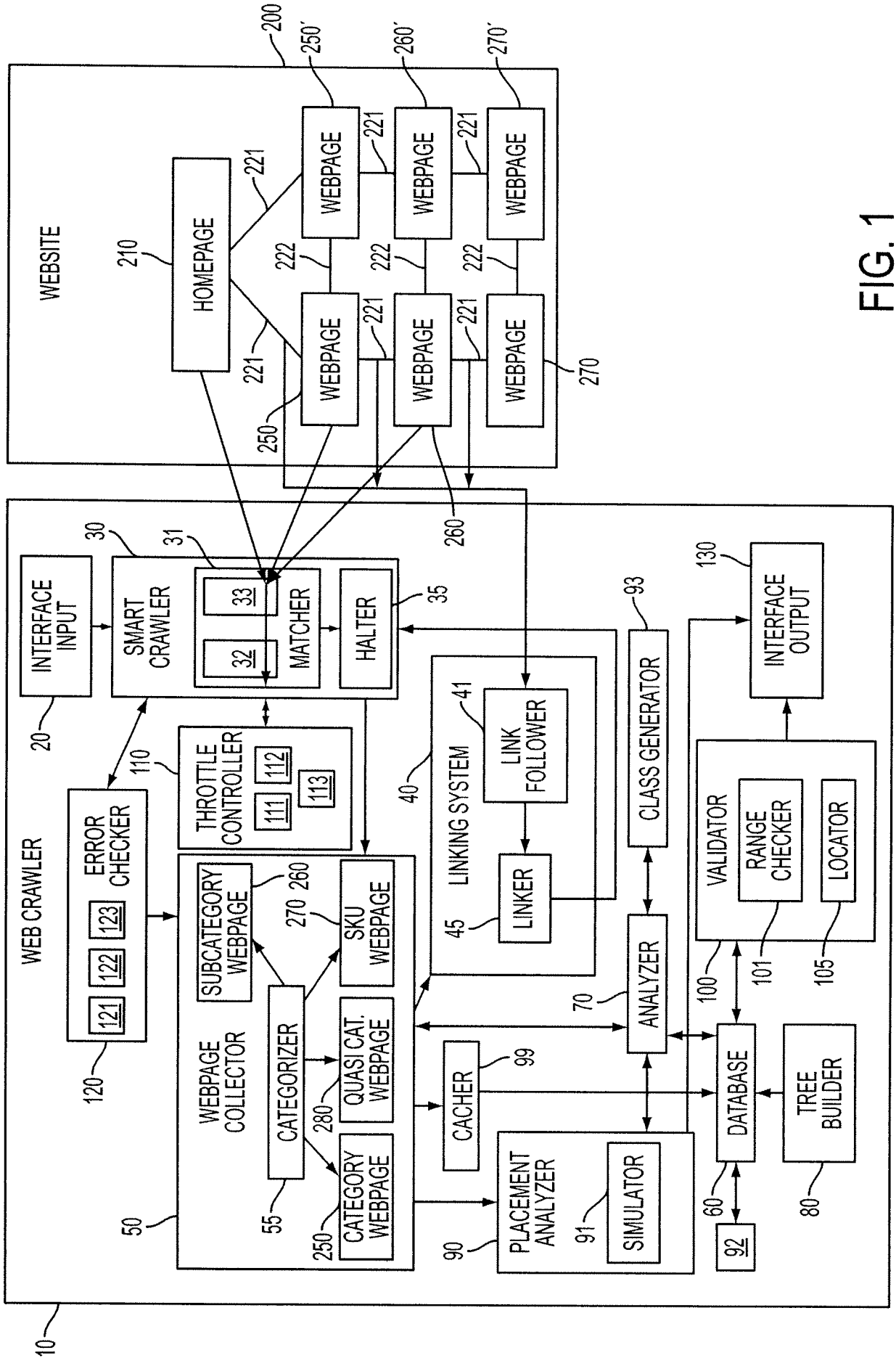


FIG. 1

The screenshot shows the zapps.com website interface. At the top left is the zapps.com logo and a search bar. Below the search bar are navigation tabs: BROWSE, COMPUTER HARDWARE, ELECTRONICS, PCS & LAPTOPS, CELL PHONES, DIGITAL CAMERAS, NETWORKING, GAMING, SOFTWARE, HOME & GARDEN, and SPECIALS. A secondary navigation bar includes MY NEWS, REVIEWS, and HELP & INFO. The main content area is divided into four columns of product categories, each with a representative icon and a list of sub-categories:

- Computer Hardware** (Icon: Desktop PC tower and monitor):
 - [Memory](#)
 - [Hard Drives](#)
 - [Video Cards & Devices](#)
 - [CPUs / Processors](#)
 - [Monitors](#)
 - [Printers & Scanners](#)
 - [Computer Cases](#)
 - [Motherboards](#)
 - [Power Supplies](#)
 - [CD / DVD Burners & Media](#)
 - [Input Devices](#)
 - [More...](#)
- Electronics** (Icon: Various electronic components):
 - [Televisions](#)
 - [Home Audio](#)
 - [Projectors](#)
 - [MP3 Players](#)
 - [GPS & Accessories](#)
 - [Home Appliances](#)
 - [Car Electronics](#)
 - [Apple iPod Players](#)
 - [Digital Photo Frames](#)
 - [Electronic Gadgets](#)
 - [Office Equipment](#)
 - [More...](#)
- PCs & Laptops** (Icon: Laptop computer):
 - [Laptops / Notebooks](#)
 - [Laptops & Accessories](#)
 - [Tablet PCs](#)
 - [Desktop PCs](#)
 - [Ultra Mobile PCs](#)
 - [Laptop Memory](#)
 - [Laptop Hard Drives](#)
 - [Laptop Cases For Him](#)
 - [Laptop Cases For Her](#)
 - [PDAs & Accessories](#)
 - [Netbooks](#)
 - [More...](#)
- Digital Cameras** (Icon: Digital camera):
 - [Digital Camera Accessories](#)

At the bottom right, there are additional category links: **Networking** (Wireless Routers) and **Software** (Operating Systems). A "See What's New!" banner is located in the top right corner. The website footer includes a login link, a currency selector (USD), and a price indicator (\$169.98).

210

FIG. 2

zaps.com <http://www.zaps.com/Store/Category.aspx?Category=21&name=MP3-Players-Accessories> [login](#) [1 item\(s\) \(\\$169.98\)](#) [MY ACCOUNT](#)

SEARCH [MY NEWS](#) [REVIEWS](#) [HELP & INFO](#) [GO](#) **81**

BROWSE | COMPUTER HARDWARE | **ELECTRONICS** | PCS & LAPTOPS | CELL PHONES | DIGITAL CAMERAS | NETWORKING | GAMING | SOFTWARE | HOME & GARDEN | SPECIALS

MP3 Players & Accessories RSS

Home > Categories > MP3 Players & Accessories

MP3 Players & Accessories

- Apple iPhone Accessories
- Apple iPod Accessories
- Headphones & Accessories
- MP3 / MP4 Accessories
- MP3 / MP4 Players





Today's Featured MP3 Players & Accessories Deals

Visual Land 2.8" Black 8GB MP3 / MP4 Player V-Touch


- USB 2.0
- 8GB
- 2.8" TFT

00000 [5]


\$64.99
You Save: \$35.00
[ADD TO CART](#)

<p>SanDisk</p>  <p>Recentified: SanDisk Sansa View 2.4" Black 16GB MP3 Player</p> <ul style="list-style-type: none"> • Proprietary Connection • 16GB • 2.4" TFT <p>00000 [5]</p> <p>\$99.99 You Save: \$100.00 ADD TO CART</p>	<p>iRiver</p>  <p>iRiver E100 2.4" Black 4GB MP3 / MP4 Player</p> <ul style="list-style-type: none"> • USB 2.0 • 4GB • 2.4" TFT <p>00000 [13]</p> <p>\$69.95 You Save: \$10.00 Free Shipping ADD TO CART</p>	<p>Microsoft</p>  <p>Free car pack w/ purchase, ends 6/30</p> <p>Recentified: Microsoft Zune 1.8" Red 1.5GB MP3 / MP4 Player</p> <ul style="list-style-type: none"> • 1000 songs, 25,000 Pictures... • Built in FM Tuner • Sync Wirelessly to your ... <p>00000 [5]</p> <p>\$59.99 You Save: \$40.00 Free Shipping ADD TO CART</p>	<p>SanDisk</p>  <p>Free Beikn flip case w/ Sandisk player purchase, ends 6/30</p> <p>Recentified: SanDisk Sansa e270 1.8" Black 6GB MP3 Player</p> <ul style="list-style-type: none"> • Proprietary Connection • 6GB • 1.8" TFT <p>00000 [17]</p> <p>\$49.00 You Save: \$150.00 Free Shipping ADD TO CART</p>
--	--	--	---


COWON AMERICA



ARCHOS




iRiver



Internet 100%

FIG. 3



zapps.com

http://www.zapps.com/Store/SubCategory.aspx?SubCategory=23&name=MP3-MP4-Players

1 item(s) (\$169.98) | MY ACCOUNT

SEARCH

MY NEWS | REVIEWS | HELP & INFO

82

COMPUTER HARDWARE | ELECTRONICS | PCS & LAPTOPS | CELL PHONES | DIGITAL CAMERAS | NETWORKING | GAMING | SOFTWARE | HOME & GARDEN | SPECIALS

Home > Categories > MP3 Players & Accessories > MP3 / MP4 Players

Guided Search

Advanced Search

Power Search

Learning Center

Today's MP3 / MP4 Players Deals

Visual Land 2.8" Black 8GB MP3 / MP4 Player V-Touch

- USB 2.0
- 8GB
- 2.8" TFT



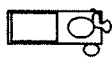

00000 [5]

Page 1 | See All Deals | See All MP3 / MP4 Players

\$64.99

You Save: \$35.00

ADD TO CART

<p>SanDisk</p>  <p>Recertified: SanDisk Sansa View 2.4" Black 16GB MP3 Player</p> <ul style="list-style-type: none"> • Proprietary Connection • 16GB • 2.4" TFT <p>00000 [5]</p>	<p>river</p>  <p>River E100 2.4" Black 4 GB MP3 / MP4 Player</p> <ul style="list-style-type: none"> • USB 2.0 • 4GB • 2.4" TFT <p>00000 [13]</p>	<p>Microsoft</p>  <p>Free car pack w/ purchase, ends 6/30</p> <p>Recertified: Microsoft Zune 1.8" Red 4 GB MP3 / MP4 Player</p> <ul style="list-style-type: none"> • 1000 songs, 25,000 Pictu... • Built in FM Tuner • Sync Wirelessly to your ... <p>00000 [5]</p>	<p>SanDisk</p>  <p>Free Beikin flip case w/ Sandisk player purchase, ends 6/30</p> <p>Recertified: SanDisk Sansa e270 1.8" Black 6GB MP3 Player</p> <ul style="list-style-type: none"> • Proprietary Connection • 6GB • 1.8" TFT <p>00000 [17]</p>
---	---	---	---

Useful Links

Discount Item (57)

New Product (38)

Free Shipping (24)

Recertified (10)

Top Sellers (6)

Price

\$10 - \$25 (2)

\$25 - \$50 (14)

\$50 - \$75 (14)

\$75 - \$100 (20)

\$100 - \$200 (19)

\$200 - \$300 (6)

More

Manufacturer

river America (15)

SanDisk (14)

Microsoft (13)

Creative Labs (9)

Genon (6)

SAMSUNG (5)

More

Display Size

84

85

260

Internet | 100%

FIG. 4

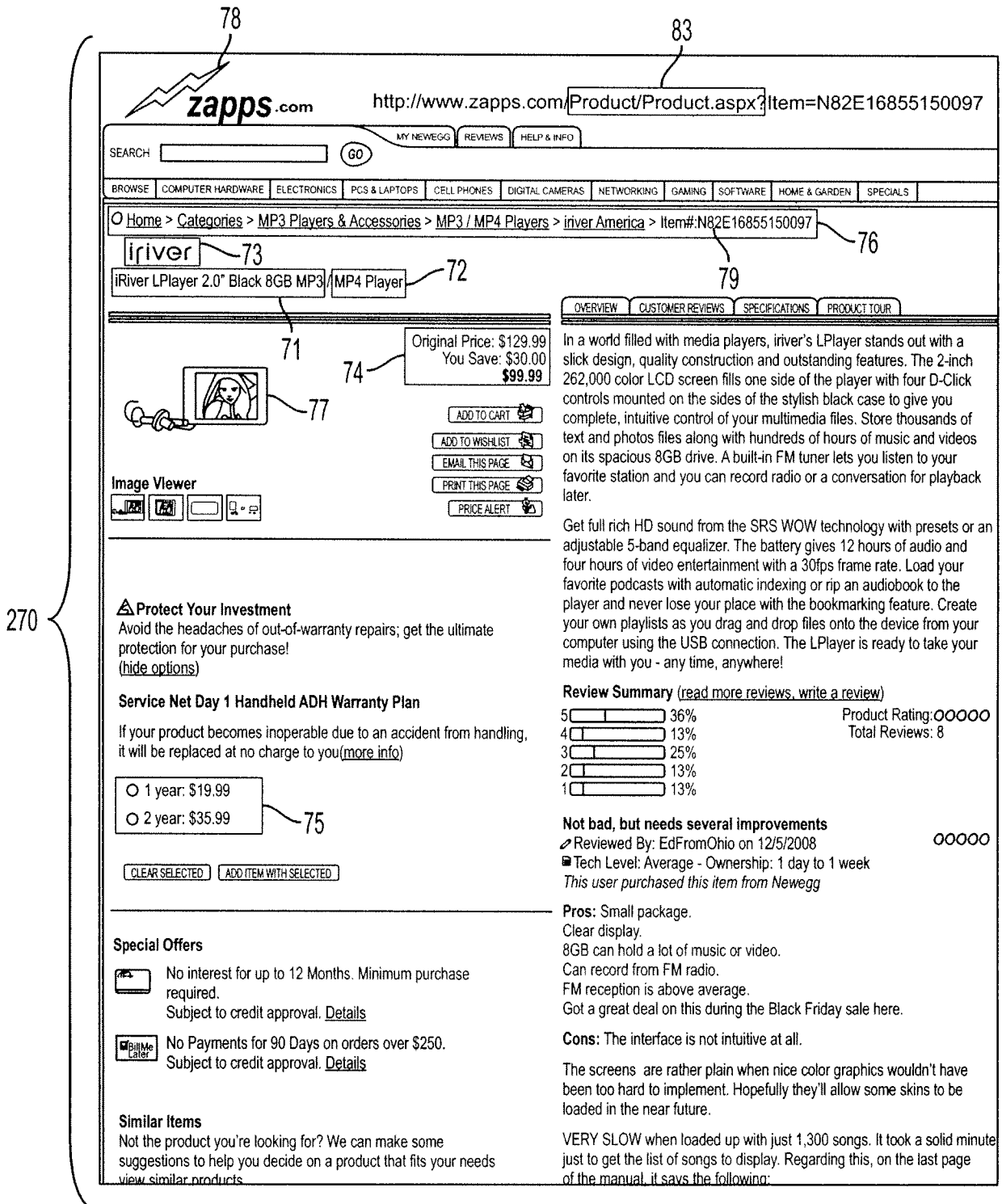


FIG. 5

zapps.com <http://www.zapps.com/Product/ProductList.aspx?Submit=...name=%24100%20-%20%24200> [login] Item(s) (\$169.99) [MY ACCOUNT]

SEARCH [GO] MY NEWSGG REVIEWS HELP & INFO

BROWSE | COMPUTER HARDWARE | ELECTRONICS | PCS & LAPTOPS | CELL PHONES | DIGITAL CAMERAS | NETWORKING | GAMING | SOFTWARE | HOME & GARDEN | SPECIALS

Home > Categories > MP3 Players & Accessories > MP3 / MP4 Players (x) > Price: \$100 - \$200 (x) (1-19 of 19 Results)

Search Results (customize view)

COMPARE [RSS 1.0] Search Within [Best Match] [20] [GO] << Prev 1 Next >>

Uncompromised web surfing in the palm of your hand

ARCHOS Archos 5 120gb 4.8" WiFi Touch Screen Internet Media Tablet and MP3/MP4 Player

Part Number: 501123
 Height: 3.1"
 Width: 5"
 Depth: 0.76"
 Weight: 10.58 oz
 Memory Type: HDD
 Display Type: TFT
 Display Resolution: 800 x 480
 Model #: 501123
 Item #: N82E16855501028
 Return Policy: Limited Replacement Only Return Policy

Original Price: \$389.99
 You Save: \$190.00
 Free Shipping
Your Price: \$199.99
 ADD TO CART ADD TO WISHLIST

iriver iRiver PT 4.3" Silver 16GB MP3 / MP4 Player

Part Number: 1P07016SIL
 Height: 2.88"
 Width: 4.4"
 Depth: 0.5"
 Weight: 6.1 oz
 Memory Type: Flash Memory
 Display Type: TFT
 Display Resolution: 480 x 272
 Model #: 1P07016SIL
 Item #: N82E168555150103
 Return Policy: Limited Replacement Only Return Policy

Original Price: \$219.99
 You Save: \$20.00
 Free Shipping
Your Price: \$199.99
 ADD TO CART ADD TO WISHLIST

Microsoft Archos 5 120gb 4.8" WiFi Touch Screen Internet Media Tablet and MP3/MP4 Player

Part Number: HVA00007
 Height: 3.60"
 Width: 1.63"
 Depth: 0.35"
 Weight: 1.7 oz
 Memory Type: Flash Memory
 Display Type: TFT
 Display Resolution: 320 x 240
 Model #: HVA00007
 Item #: N82E16855501028
 Return Policy: Limited Replacement Only Return Policy

Original Price: \$139.99
Your Price: \$139.99
 ADD TO CART ADD TO WISHLIST

Useful Links
 Discount Item (13)
 Free Shipping (7)
 New Product (6)
 Top Sellers (1)

Manufacturer
 Microsoft (6)
 iRiver America (4)
 Creative Labs (3)
 COWON America (2)
 ScanDisk (2)
 ARCHOS (1)
 SAMSUNG (1)

Display Size
 1.8" (4)
 2.4" (2)
 2.5" (4)
 3" (2)
 3.2" (1)
 3.3" (3)
 More

Display Type
 LCD (1)
 OLED (3)
 TFT (15)

Display Resolution
 320 x 240 (12)
 480 x 272 (6)
 800 x 480 (1)

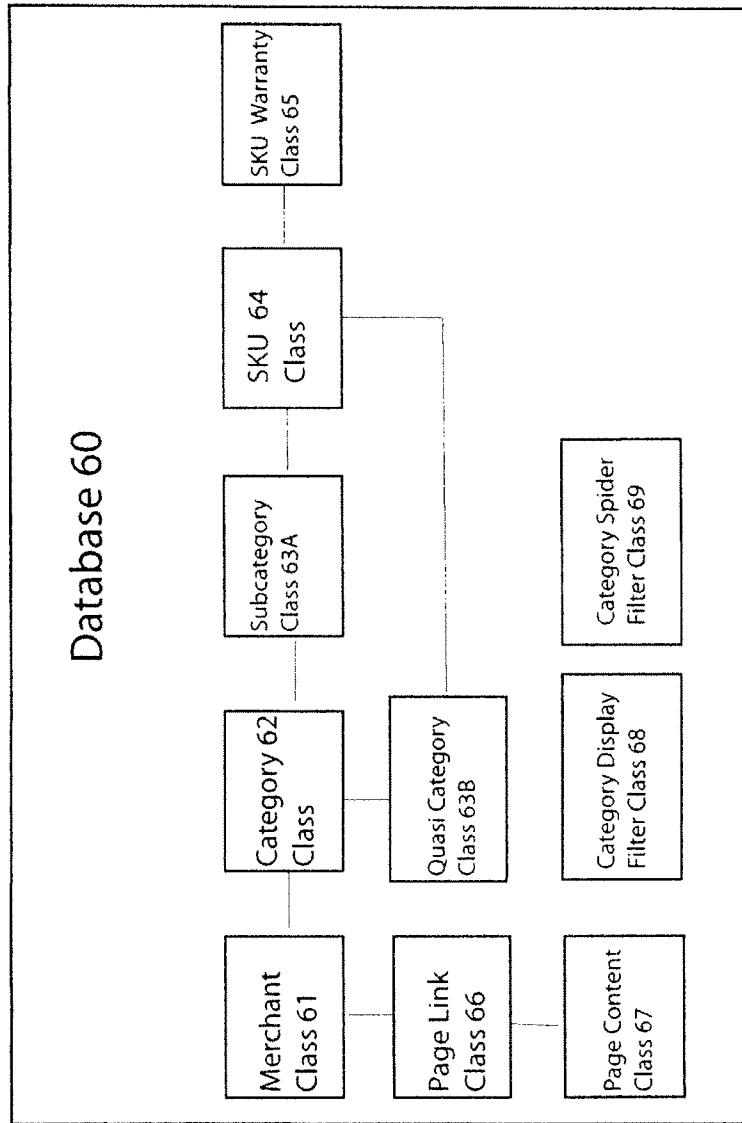
Memory Capacity
 4GB (1)
 8GB (11)
 16GB (4)
 30GB (1)

280

Internet 100%

FIG. 6

Fig. 7



SpiderSense - Report - Mozilla Firefox

File Edit View History Bookmarks Tools Help

Log Out | My Account | Help

SpiderSense - Report

SpiderSense 311 310 312 310 320 325 330 335

Report Explorer Filters Statistics Status Administration

Apply Category Filter (Settings)

- Favorite SKUs [15759]
- Electronics [10311]
- Audio [2056]
- Auto Electronics [426]
- Camcorders [159]
- Cell Phones [682]
- Computers [4348]
- Digital Cameras [1044]
- DVD & Blu-ray Players [369]
- GPS & Navigation [125]
- Auto GPS Units [68]
 - Fitness GPS Units [10]
 - GPS for Mobile Devices [1]
 - Handheld GPS Units [46]
 - Home Office [394]
 - Home Security Systems [221]
 - Home Theater [50]
 - TVs [537]
 - Accessories [363]
 - All TVs [126]
 - HDTV & Home Theater Bundles
 - HDTVs - 37" & Larger [1]
 - LCD (flat panel) - 26" to 36" [1]

Keyword: _____

Service plan: [Does not matter]

Price Range: _____ to _____

Flat Report
 Hierarchical Report
 Plan-SKU Report
 Configure Columns

Garmin nuvi 260W Portable GPS w/ 4.3" Screen & Spoken Street Names	\$349.98	No							
Garmin nuvi 260 Portable GPS w/ Text-to-speech	\$219.54	No							
Garmin nuvi 260W GPS Navigation System with 4.3" Touch Screen	\$349.98	No							
Garmin Nuvi 265T 3.5" Screen GPS w/ Spoken Street Names, Bluetooth and Lifetime Traffic	\$197.54	Yes	2 Year Extended Service Plan for an Auto Electronics Item from \$147 - \$299.99	Warranty & Service Plan	\$19.88	3 Year Extended Service Plan for an Auto Electronics Item from \$147 - \$299.99	Warranty & Service Plan	\$28.88	Warranty & Service Plan
Garmin Nuvi 265WT 4.3" Screen GPS Navigation w/ Spoken Street Names, Bluetooth and Lifetime Traffic	\$242.54	Yes	2 Year Extended Service Plan for an Auto Electronics Item from \$300 - \$499.99	Warranty & Service Plan	\$29.88	3 Year Extended Service Plan for an Auto Electronics Item from \$300 - \$499.99	Warranty & Service Plan	\$44.33	Warranty & Service Plan
Garmin nuvi 270 GPS Navigation System with North America and Europe Map	\$338.63	No							
Garmin Nuvi 275T 3.5" Screen GPS w/ Spoken Street Names, Bluetooth and Lifetime Traffic, North American and Europ Map included	\$399.86	Yes	2 Year Extended Service Plan for an Auto Electronics Item from \$300 - \$499.99	Warranty & Service Plan	\$29.88				
Garmin nuvi 350 Portable GPS with Spoken Street Names	\$198.86	No							

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 [javascript:launchPopup('SKUHistory.aspx?bu=4&sku=4407767', 640, 480);]

FIG. 8

SpiderSense - Report - Mozilla Firefox
Log Out | My Account | Help

File Edit View History Bookmarks Tools Help
http:// URL

SpiderSense - Report

Report
Explorer
Filters
Statistics
Status
Administration

Keyword

Show Report

Export Report

Apply Category Filter (Settings)

Service plan

Hierarchical Report

Plan-SKU Report

Price Range

Configure Columns

(Settings)

Product Name	Price	Warranty & Service Plan
125 of 125 displayed, 13 have plan		
Electronics		
125 of 125 displayed, 13 have plan		
GPS & Navigation		
68 of 68 displayed, 13 have plan		
Auto_GPS_Units		
Garmin nuvi 200 Pink Portable GPS with 3.5" Screen	\$129.88	No plan
Garmin Nuvi 200 Portable GPS bundled w/ your choice of a Bonus Accessory (save up to \$20)	\$128.88	No plan
Garmin nuvi 200 Portable GPS with 3.5" Display Screen	\$169.86	No plan
Garmin nuvi 200 Portable GPS with 3.5" Screen Blue	\$139.88	No plan
Garmin nuvi 200 Portable GPS with 3.5" Touch Screen	\$118.88	No plan
Garmin Nuvi 200 Silver with Garmin Carrying Case	\$128.72	No plan
Garmin nuvi 200W Portable GPS with 4.3" display Screen	\$194.88	No plan
Garmin nuvi 205 Portable GPS w/ 3.5" Screen	\$199.98	No plan
Garmin nuvi 205W Portable GPS w/ 4.3" Screen	\$249.98	No plan
Garmin nuvi 255 Portable GPS w/ 3.5" Screen & Spoken Street Names	\$299.98	No plan
Garmin nuvi 255W Portable GPS w/ 4.3" Screen & Spoken Street Names	\$349.98	No plan
Garmin nuvi 260 Portable GPS w/ Text-to-speech	\$219.54	No plan
Garmin nuvi 260W GPS Navigation System with 4.3" Touch Screen	\$349.98	No plan
Garmin Nuvi 265T 3.5" Screen GPS w/ Spoken Street Names, Bluetooth and Lifetime Traffic	\$197.54	2 Year Extended Service Plan for an Auto Electronics Item from \$147 - \$299.99
Garmin Nuvi 265WT 4.3" Screen GPS Navigation w/ Spoken Street Names, Bluetooth and Lifetime Traffic	\$242.54	3 Year Extended Service Plan for an Auto Electronics Item from \$147 - \$299.99
Garmin Nuvi 265WT 4.3" Screen GPS Navigation w/ Spoken Street Names, Bluetooth and Lifetime Traffic	\$242.54	2 Year Extended Service Plan for an Auto Electronics Item from \$300 - \$499.99
Garmin Nuvi 265WT 4.3" Screen GPS Navigation w/ Spoken Street Names, Bluetooth and Lifetime Traffic	\$242.54	3 Year Extended Service Plan for an Auto Electronics Item from \$300 - \$499.99

Done

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FIG. 9

340

SpiderSense - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http:// URL

SpiderSense

SpiderSense

Report Explorer Filters (Settings) Statistics Status Administration

Apply Category Filter (Settings)

- Favorite SKUs [15759]
- Electronics [10311]
 - Accessories
 - Audio [2056]
 - Auto Electronics [426]
 - Buying Guides
 - Camcorders [159]
 - Cameras & Camcorders
 - Cell Phones [582]
 - Computers [4348]
 - Digital Cameras [1044]
 - DVD & Blu-ray Players [369]
 - Featured Brands
 - GPS & Navigation [125]
 - Auto GPS Units [68]
 - Fitness GPS Units [10]
 - GPS for Mobile Devices [1]
 - Handheld GPS Units [46]
 - GPS & Navigation
 - HDTV
 - Home Office [394]
 - Home Security Systems [221]
 - Home Theater [50]
 - HP
 - Service & Protection Plans

Keyword: _____

Service plan: Does not matter

Price Range: _____ to _____

68 SKUs found under Auto GPS

Price	Service Plan	Analyzed date
\$242.54	2 Year Extended Service Plan for an Auto Electronics Item from \$300 - \$499.99 Warranty & Service Plan	3/28/2009 4:36 AM
\$242.54	3 Year Extended Service Plan for an Auto Electronics Item from \$300 - \$499.99 Warranty & Service Plan	3/10/2009 1:50 AM

Garmin Nuvi 260
Description is not available for this item. \$338.63

Garmin Nuvi 260 GPS Navigation System with North America and Europe Map (SKU:8251457)

Garmin Nuvi 360 GPS w/ Spoken Street Name and Bluetooth Capability bundled w/ bonus Case (a \$20 value) (SKU:10910973)
The Garmin nuvi 360 is one versatile little GPS. This pocket-sized Personal Travel Assistant... More... \$158.72

Garmin Nuvi 265WT 4.3" Screen GPS Navigation w/ Spoken Street Names, Bluetooth and Lifetime Traffic (SKU:10543484)
Description is not available for this item. \$242.54 **Plan Available**

Garmin Nuvi 265T 3.5" Screen GPS w/ Spoken Street Names, Bluetooth and Lifetime Traffic (SKU:10543584)
Description is not available for this item. \$197.54 **Plan Available**

Garmin Nuvi 255W Portable GPS w/ 4.3" Screen & Spoken Street Names (SKU:10056576)
Description is not available for this item. \$349.98

Garmin Nuvi 275T 3.5" Screen GPS w/ Spoken Street Names, Bluetooth and Lifetime Traffic, North American and Europ.Map Included (SKU:10543583)
Description is not available for this item. \$399.86 **Plan Available**

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Done

FIG. 10

The screenshot shows a web browser window with the SpiderSense application. The browser title is "SpiderSense - Mozilla Firefox". The address bar shows "http:// URL". The application has a navigation menu with "Report", "Explorer", "Filters", "Statistics", "Status", and "Administration".

The main content area displays a list of products under the "Monitors" category. The list includes:

- 80 SKUs found under **Monitors** 1 2 3 4
- Acer 17" LCD Monitor, AL 1716Eb**
Description is not available for this item.
- Acer 17" Widescreen LCD Monitor**
Description is not available for this item.
- Acer 19" LCD Monitor, AL 1916CB - Energy Star Compliant (SKU:5622068)**
Description is not available for this item.
- Acer 19" Widescreen LCD Monitor, AL 1916Wabd - Energy Star Compliant (SKU:5693152)**
Description is not available for this item.
- Acer 20" LCD Monitor, V203W-bmd (SKU:10828918)**
Description is not available for this item.
- Acer 20" Widescreen LCD Monitor, AL2016WBbd Black (SKU:5969502)**
Description is not available for this item.

A detailed view of the "Acer 19" Widescreen LCD Monitor, AL 1916Wabd - Energy Star Compliant (SKU:5693152)" is shown in a pop-up window. It includes a table with the following data:

Plan Name	Price	Plan Period
2 Year Extended Service Plan from \$147 - \$299.99 for a Peripherals/ Accessories Item	\$19.88	24 months
3 Year Extended Service Plan from \$147 - \$299.99 for a Peripherals/ Accessories Item	\$28.88	36 months

Below the table, there are three price options: \$209.88, \$179.88 (with a "Plan Available" callout), and \$169.88. A price of \$184.88 is also listed at the bottom of the detailed view.

At the bottom of the browser window, the footer text reads: "© N.E.W. North America, Corp. All rights reserved." and "Done".

FIG. 11

Statistics - Mozilla Firefox
Log Out | My Account | Help

File Edit View History Bookmarks Tools Help
http:// URL

Statistics
Zaps

SpiderSense

Report
Explorer
Filters
Statistics
Status
Administration

Summary	
Total SKUs	Total SKUs with Plan
144921	56811 (39%)
Total Pages	Total Cache Size
725858	35.63 GB
Traffic Size	Crawl End Date
7.59 GB (21%)	5/19/2009 1:27:01 AM

Snapshots

SKUs	SKUs with Plan	Categories	Pages	Cache Size	Traffic Size	Crawl Start Date	Crawl End Date
183	72 (39%)	2	895	98.38 MB	21.39 MB (22%)	1/30/2009 11:38:16 PM	5/15/2009 10:15:25 PM
181	69 (38%)	3	753	82.71 MB	18.00 MB (22%)	1/30/2009 11:38:21 PM	5/15/2009 10:07:50 PM
135	53 (39%)	2	610	67.08 MB	14.58 MB (22%)	1/30/2009 11:42:36 PM	5/15/2009 10:06:23 PM
99	45 (45%)	1	492	54.28 MB	11.80 MB (22%)	1/30/2009 11:43:05 PM	5/15/2009 10:03:17 PM
10	5 (50%)	0	68	7.49 MB	1.63 MB (22%)	2/7/2009 6:45:31 AM	5/15/2009 9:53:03 PM
6	1 (17%)	0	60	6.61 MB	1.44 MB (22%)	2/7/2009 7:22:52 AM	5/15/2009 10:06:57 PM
10	5 (50%)	0	54	5.99 MB	1.31 MB (22%)	2/7/2009 7:23:00 AM	3/28/2009 2:49:28 AM
3	0 (0%)	0	48	5.35 MB	1.17 MB (22%)	2/7/2009 7:23:06 AM	5/15/2009 10:00:08 PM
1	0 (0%)	0	13	1.50 MB	326.35 MB (22%)	2/22/2009 4:11:38 AM	3/8/2009 7:48:34 AM
0	0	0	12	1.41 MB	304.11 MB (22%)	2/22/2009 4:12:49 AM	3/8/2009 7:48:36 AM

1 2 3 4 5 6 7 8

Done

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FIG. 12

Fig 13

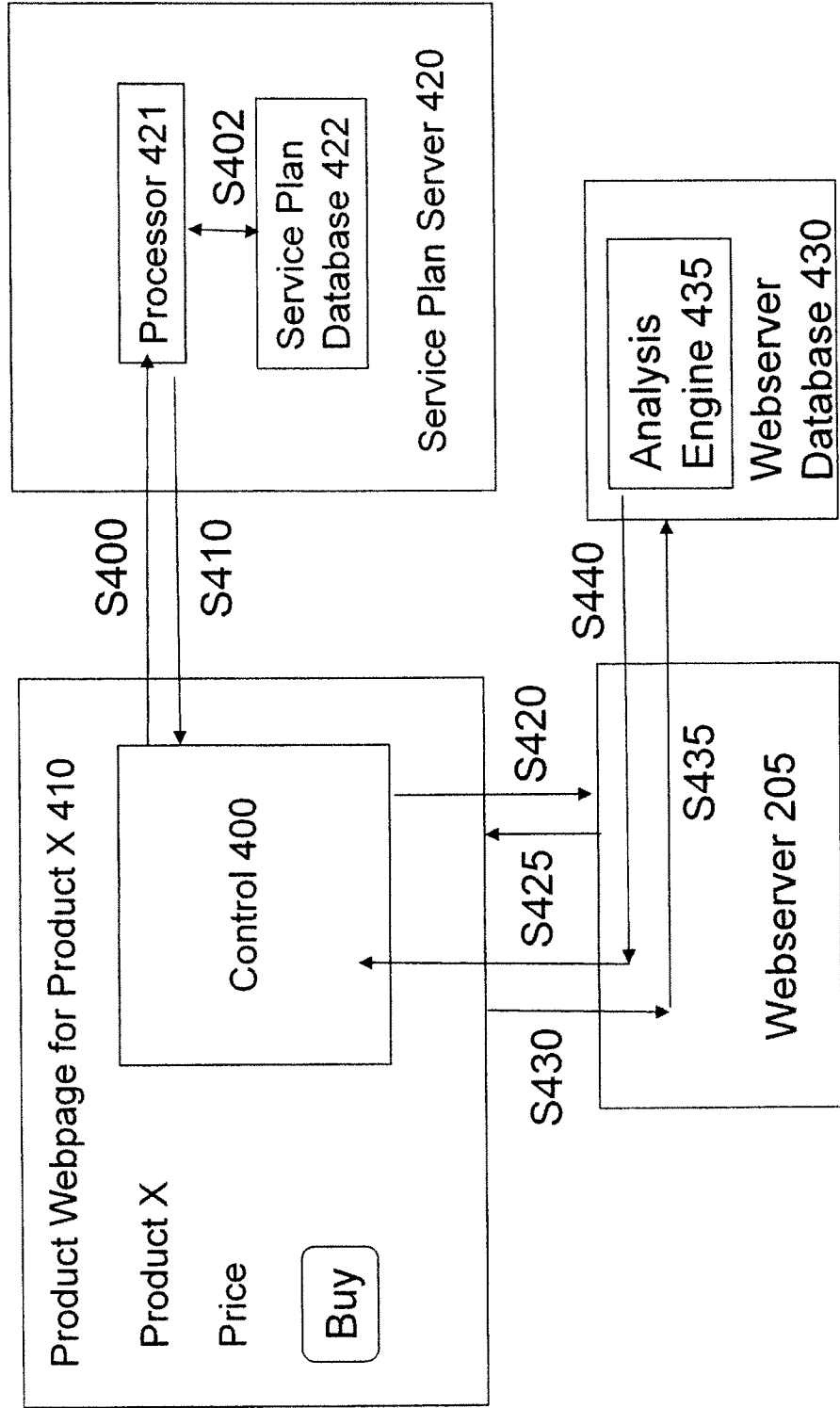


Fig 14A

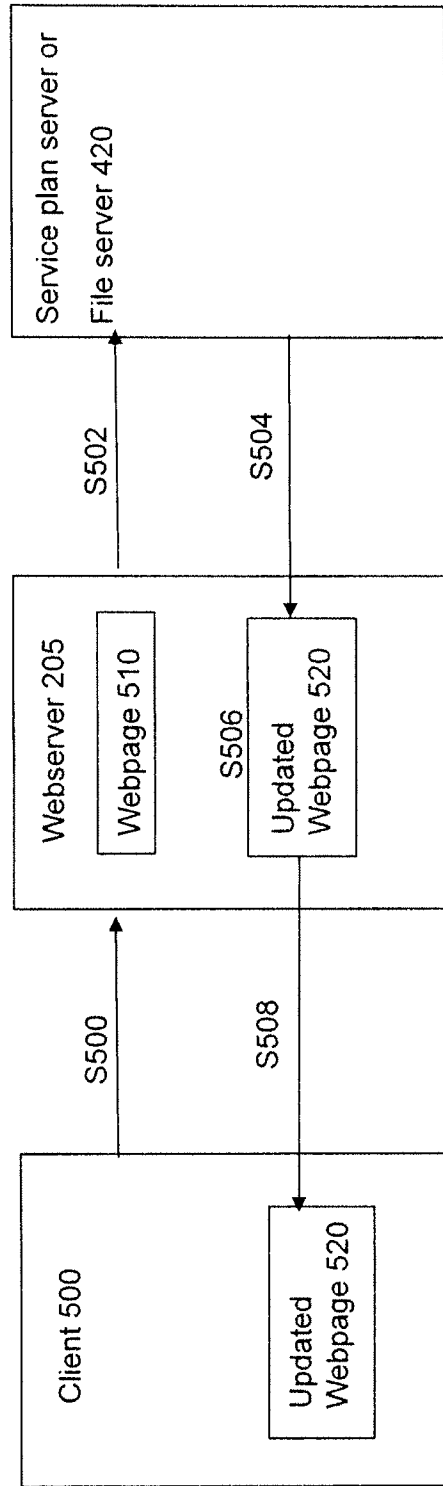


Fig 14B

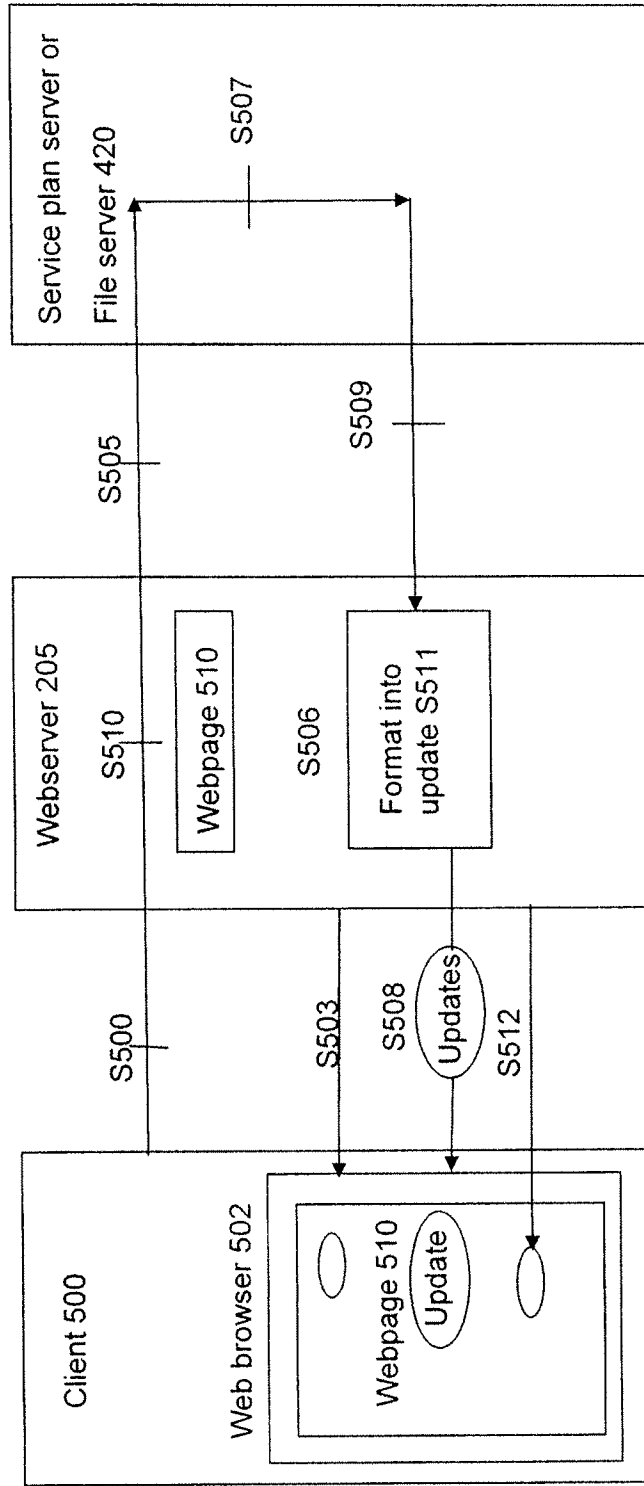


Fig 14C

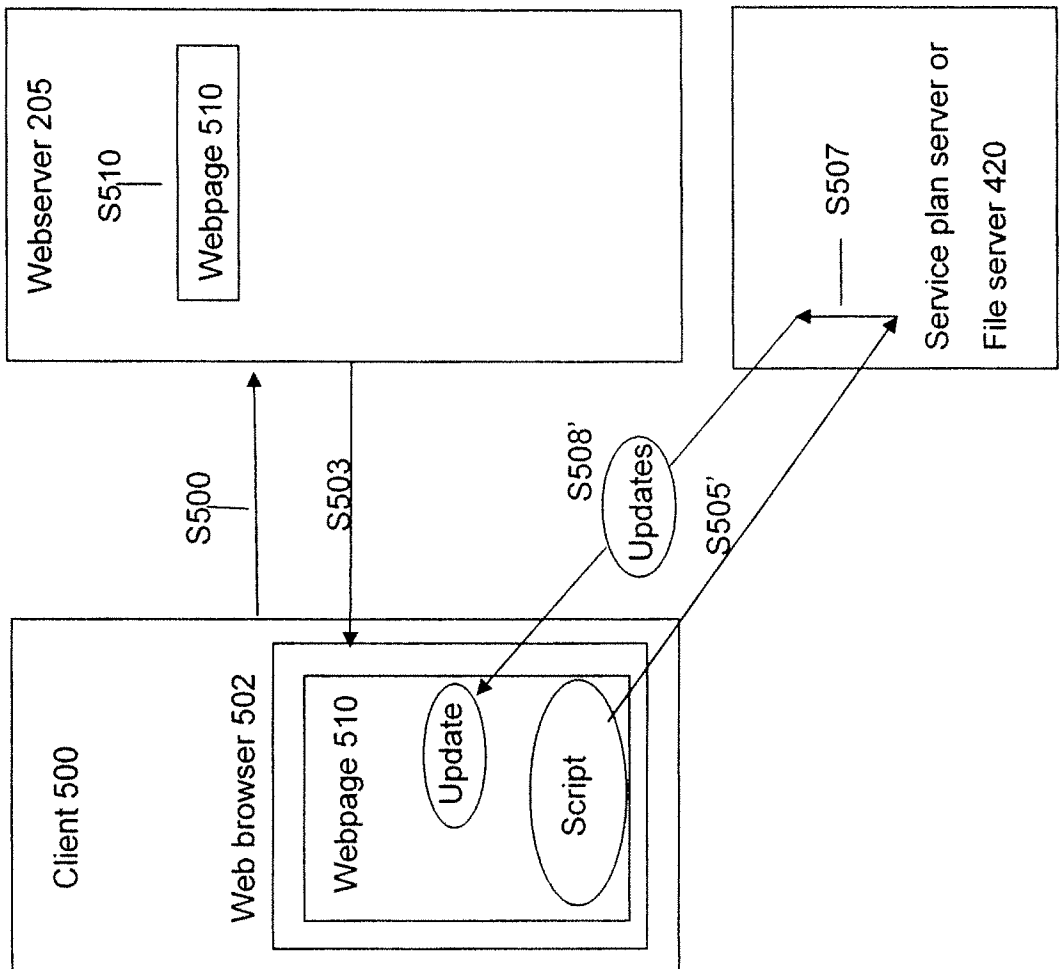


Fig 14D

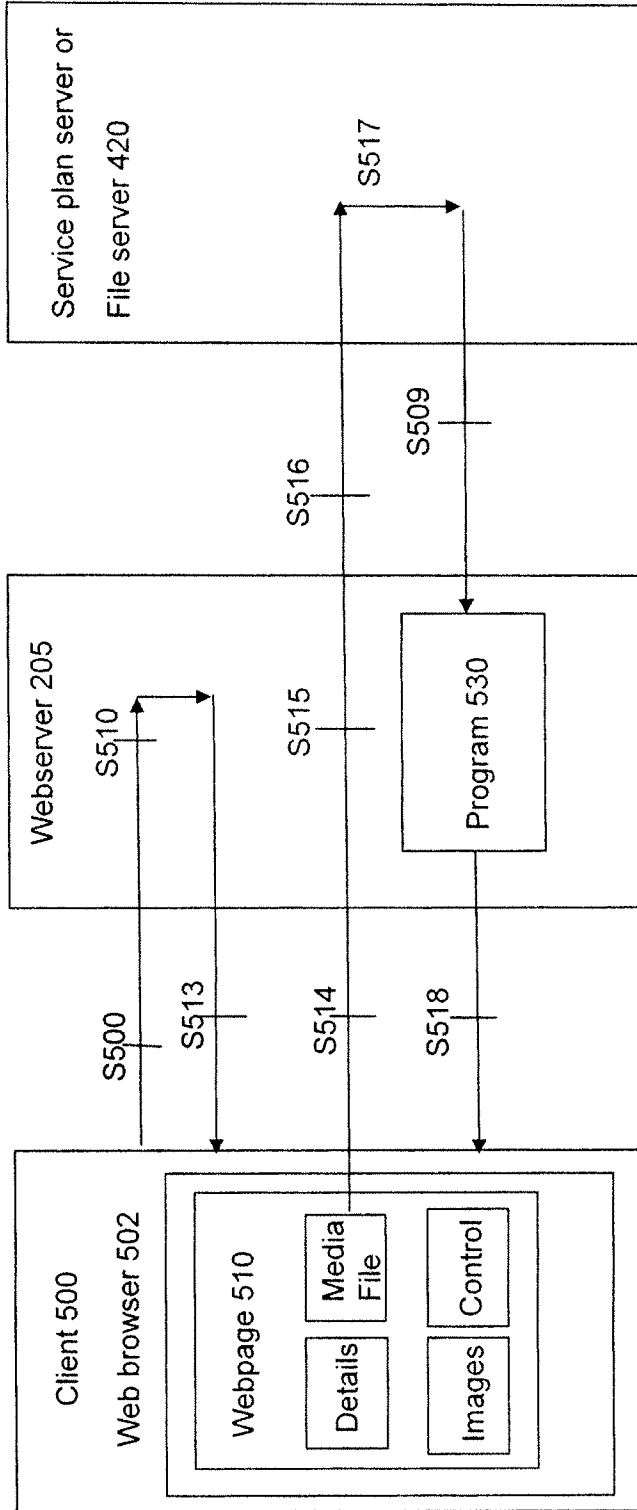


Fig 14E

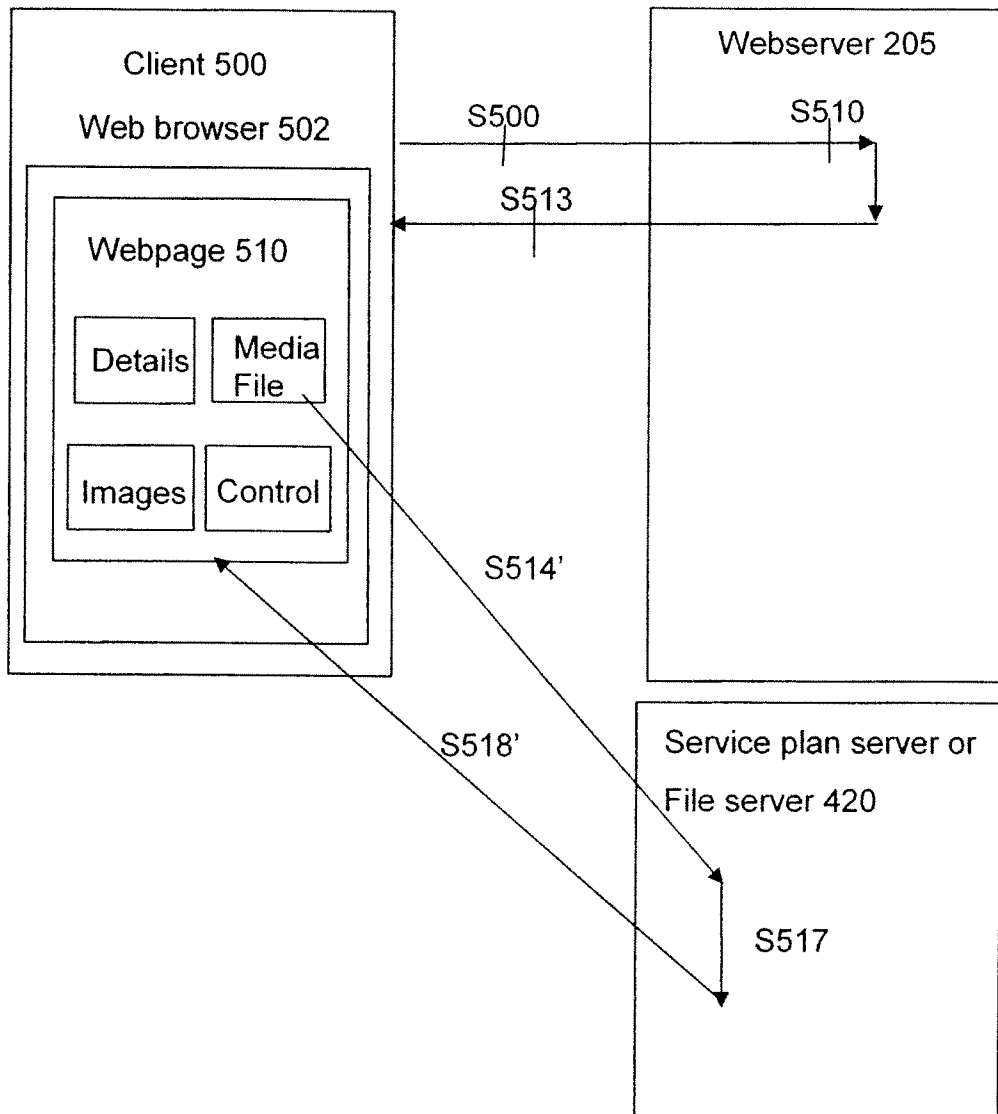


Fig. 15A



Fig. 15B



Honorees are selected by a permanent panel of judges, consisting of independent industry designers, engineers and journalists.

Online Retail

NEW Customer Service Companies, Inc. [View product image](#)

Plug and Play Services
<http://www.newcorp.com>

A web control online retailers can use to quickly begin selling services related to their product set, display dynamic multimedia content, and track sales outcomes.

Location(s): Central/EMEA

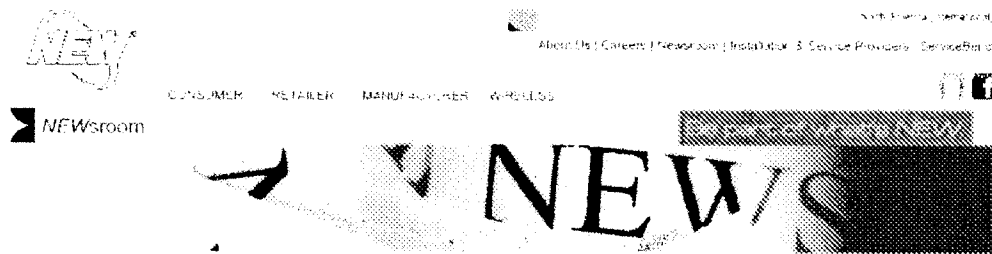
Rosetta Stone [View product image](#)

Rosetta Stone TOTALe
<http://www.RosettaStone.com>

Rosetta Stone TOTALe is the first comprehensive online offering that provides a rich, interactive and enjoyable learning experience for anyone who is serious about learning a language.

Location(s): This honoree is not exhibiting at the 2012 International CES

Fig. 15C



For press inquiries or to request a Press Kit, please contact
 Laura Lechner
 lechner@newcorp.com
 571-333-7146

NEW Plug and Play Services Support Shift in Consumer Shopping Trends

Leading provider of extended service plans and product support is recognized for Web-based application that enhances retailer technology.

Sterling, VA, Jan. 5, 2010 — As online sales continue to grow, N.E.W. Customer Service Companies Inc. (NEW) is introducing a new suite of Plug and Play Services as an innovative technology solution to give retailers an effective way to make their online interface as appealing and convenient to consumers as possible.

NEW's Plug and Play Services — which will be on display this week in Las Vegas at the NEW booth #8626 in the Central Hall at the 2010 Consumer Electronics Show (CES) — are a suite of interactive Web tools that optimize sales for extended service plans and other premium services.

For the development of this new technology solution, NEW has been named an International CES Innovations 2010 Design and Engineering Awards honoree for the 2010 International CES. Honorees will be featured at the Innovations Design and Engineering Showcase in the Grand Lobby of the Las Vegas Convention Center and at CES Unveiled, The Official Press Event of the International CES on Tuesday, Jan. 5. This is the second time NEW has won an International CES Innovations Design and Engineering Award. In 2005, NEW's Warranty Minder Web portal was recognized as a winning innovation.

"As online retailing has grown, and as services are continually being added to support product offerings such as extended service plans, NEW identified a need for tools to manage that system and provide a more engaging experience for customers," says Tony Hader, CEO of NEW. "To achieve this, NEW's interactive team has built new technologies and solutions to optimize the service sales pipeline, and our Plug and Play Services are a perfect example of that work in action."

As the leading provider of extended service plans, buyer protection services and product support, NEW offers retailers and their customers products and services that enhance the consumer ownership experience. NEW's Plug and Play Services can be easily and seamlessly integrated with the retailer's Web site. Then, when a user purchases a product online, these tools identify services related to the product offering and display a dynamic multimedia sales pitch educating the customer on the benefits of those services.

Plug and Play Services enhance the convenience of online shopping by providing information to consumers during the purchase process. The technology displays a message to the consumer when he or she views or adds a product to his or her cart, ensuring that the customer can easily learn about extended service plans, delivery and installation support, and other services related to the product. Chat capability is also available through this tool, allowing consumers to ask questions about the services and receive responses from customer care representatives in real time.

"We understand the mindset of the retailer and the consumer," said Hader. "In addition to offering retailers an online solution to improve sales, our new tool ensures that the customer can easily and correctly identify the relevant services needed to complement the product without having to hunt down the information or realize it post-purchase."

CONTACT: Krishna Messner, Focused Image (for NEW): 703-675-6023, kmessner@focusedimage.com

About N.E.W. Customer Service Companies Inc. (NEW)
 NEW is the leading provider of extended service plans, buyer protection services and product support, providing coverage to more than 150 million consumers. Founded in 1983, with headquarters in Sterling, Va., NEW provides award-recognized post-sale consumer care for leading retailers, consumer service providers, wireless carriers and financial services firms. NEW has expanded its product offerings and now delivers a comprehensive customer care solution that begins on day one of the product purchase and extends through the end of the product life cycle. For more information, please visit NEW at www.newcorp.com or call 1-800-WHAT'S-NEW (1-800-942-6763).

Return to [NEWsroom](#) |

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 10/44561

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - G06Q 10/00 (2010.01)
USPC - 705/302

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)
USPC: 705/302

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC: 705/1.1, 7, 14.4, 26, 300, 302, 500; 709/203, 205, 217; 707/706, 709, 758

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Electronic databases: PubWest (PGPB, USPT, EPAB, JPAB); Google Scholar

Search Terms Used: purchase, service plan, product, warranty, mismatch, wrong, crawl, spider, price, placement, analyzer, website, page, SKU, blacklist, whitelist, merchant, ecommerce, verify, validate, category, class, relationship, tree, persuade, convince etc.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2008/0095441 A1 (Rosskamm et al.) 24 April 2008 (24.042008) entire document especially (para [0030]-[0034], [0039]-[0041])	1-66
Y	US 2006/0253580 A1 (Dixon et al.) 09 November 2006 (09.11.2006) entire document (especially para [0088], [0119], [0142]-[0144], [0164], [0233], [0317])	1-35
Y	US 2007/0276720 A1 (Lu et al.) 29 November 2007 (29.11.2007) entire document (especially para [0026]-[0031], [0037]-[0044], [0047]-[0048])	36-66
Y	US 2008/0098300 A1 (Corrales et al.) 24 April 2008 (24.042008) entire document (especially para [0042]-[0043], [0047], [0050]-[0054])	8-12, 17-18, 26-30, 33, and 35
Y	US 2007/0180521 A1 (Malkin et al.) 02 August 2007 (02.08.2007) (parr [0041], [0043]-[0045], [0048]-[0051], [0058]).	19-20 and 34
A	US 6,785,671 B1 (Bailey et al.) 31 August 2004 (31.08.2004)	1-66

Further documents are listed in the continuation of Box C.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

23 September 2010 (23.09.2010)

Date of mailing of the international search report

29 SEP 2010

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US, Commissioner for Patents
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