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(71) Applicant: **SIMPLESURANCE GMBH** [DE/DE]; Am Karlsbad 16, D-10785 Berlin (DE).

(72) Inventors: **VON HEIN, Robin**; Am Karlsbad 16, D-10785 Berlin (DE). **VON BONIN, Joachim**; Am Karlsbad 16, D-10785 Berlin (DE). **ASCI, Ismail**; Am Karlsbad 16, D-10785 Berlin (DE). **KESTER, Manuel**; Am Karlsbad 16, D-10785 Berlin (DE).

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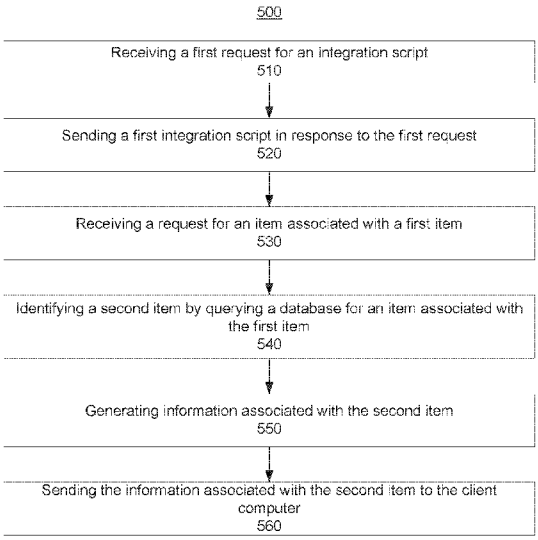

FIG. 5

(57) Abstract: Embodiments can provide automated matching of items to cart items and generation and rendering of customized template blocks, such that the appearance of the template blocks is adaptive, with remote configuration and optimization at one or more stages of a process. An integration plugin can enable websites to present additional items that are associated with an item displayed on a web page. The integration plugin can be compatible with many websites, be plug-and-play, quickly installed, and not require significant programming effort from the website. Embodiments can provide integration into the web site leading to increased conversion rates. Embodiments can provide information from a first item for additional items without additional data entry. Embodiments can provide real-time performance tracking for monitoring and optimization. Embodiments can provide composite user interfaces to manage item matching, performance tracking, and configuration.

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INTEGRATION PLUGIN FOR IDENTIFYING AND PRESENTING ASSOCIATED ITEMS ON A WEB PAGE

CROSS-REFERENCES TO RELATED APPLICATIONS

[0001] The present application claims priority from U.S. Provisional Application No. 62/189,671 by von Hein et al, entitled "Checkout Integration Plugin" filed July 7, 2015, the entire contents of which are herein incorporated by reference for all purposes. This application is also related to U.S. Patent Application No. 62/199,762, entitled "Optimizing Website Environments," filed July 31, 2015, which is incorporated by reference herein in its entirety for all purposes.

FIELD

[0002] Disclosure herein generally relates to providing one or more additional items to a web page that are associated with a base item already on the web page. Specifically, the disclosure relates to enabling a web page to integrate the ability to identify and provide additional items related to a base item already displayed on the web page. In the disclosure herein, an item can be a product or a service sold in an online store.

BACKGROUND

[0003] Conventionally, identifying and presenting additional items on a web page, where the additional items are associated with a base item already displayed on the web page is a very time consuming effort. In some cases, a user must locate the additional items on their own. In other cases, the website must correlate an additional item with the base item. In addition, presenting the additional items require the website to reprogram their layout every time the website makes a change. Thus, integration of additional items can require large amounts of programming on the website. Embodiments of the disclosure herein address these and other problems, individually and collectively.

BRIEF SUMMARY

[0004] Embodiments herein can provide automatic or semi-automatic presentation of one or more additional items associated with a base item displayed on a web page. For example, a system can generate and render customized template blocks for the web page to display information associated with the one or more additional items. In some examples, the customized template blocks can be configured and optimized remotely.

[0005] In some examples, an integration plugin can enable an integration system to include one or more additional items on a web page of a website, where a presentation of the one or more additional items is remotely customized for a user viewing the web page. In some examples, the integration plugin can be compatible with different websites. The integration plugin can also be plug-and-play, allowing installation to be quick and/or seamless. In some examples, the integration plugin can remove a need to extensively program the website to automatically or semi-automatically provide additional items from the website.

[0006] Embodiments can also provide remote configuration and optimization of customized template blocks to provide an additional item during an interaction with the website without a need to modify the website. In some examples, there might be no significant programming required for the website to integrate the integration plugin.

[0007] Embodiments can also provide integration for one or more steps of a process associated with the website, enabling a combination of a first item and a second item, where the second item is associated with the first item. Embodiments can also provide remote control over where and if a template block should be displayed. Embodiments can also provide different states of the template block, each state reflecting previous actions taken by a user.

[0008] Embodiments can also provide a reduction of data needed to be entered for an interaction associated with an additional item. In such embodiments, data from a base item and/or user data (e.g., a name, address, etc.) can be retrieved from the website for the additional item without having to query the user again. Embodiments can also provide real-time performance tracking of template blocks for monitoring and optimization.

[0009] Embodiments can also provide composite user interfaces to manage item matching, item configuration, performance tracking, and template block configuration in one place remotely, without any action by the website. Embodiments are also directed to systems,

portable or mobile consumer devices, and computer readable media associated with methods described herein.

[0010] Other embodiments are directed to systems, portable consumer devices, and computer readable media associated with methods described herein.

[0011] A better understanding of the nature and advantages of embodiments of the present invention may be gained with reference to the following detailed description and the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] FIG. 1 illustrates an example of a website and an integration system.

[0013] FIG. 2 is a flowchart illustrating various web pages that a user can receive from a website.

[0014] FIG. 3 illustrates an example of a sequence for presenting one or more additional items associated with a base item using an integration plugin.

[0015] FIG. 4 is a flowchart of a method for providing an online environment on a client computer from the perspective of the client computer.

[0016] FIG. 5 is a flowchart of a method for providing an online environment on a client computer from the perspective of a server computer system.

[0017] FIG. 6 illustrates an example of a block diagram for a computer system.

DETAILED DESCRIPTION

[0018] An integration plugin can be integrated into a website for a process to provide one or more additional items to a user. The integration plugin can enable automated identification of an additional item associated with a base item already displayed on a web page of the website. The identification can occur using a database that includes one or more items. The integration plugin can also enable generation and rendering of customized template blocks to be displayed on a web page on a client computer. In some examples, the appearance of the customized template blocks can be configured and optimized remotely from the website by an integration system. The integration system can include a core application to communicate

with an integration plugin located on a web page that was sent by the website. The integration system can also provide item matching, item configuration, performance tracking, generation of customized template blocks, and other services.

[0019] The integration plugin can be integrated into a website and can enable the website to provide one or more additional items associated with a base item displayed on a web page. When a user navigates to a web page received from a website, the integration plugin can automatically load a first script onto the web page. The first script can cause an integration system to match one or more additional items with a base item displayed on the web page (e.g., in a shopping cart). If an additional item is identified by the integration server, the integration plugin can render a customized template block with an identification of the additional item.

[0020] The user can add the additional item from the customized template block to a purchase and proceed with a checkout. In cases where an additional item was added, the user can confirm the base item (e.g., the item already displayed on the web page) and the additional item at one time. Information associated with a selection of the additional item can be stored by the client computer when a request is sent for the additional item to the website.

[0021] When a success page is sent back from the website, a second integration plugin can cause a second script to be installed that sends information associated with the purchase to a core application of the integration system (e.g., the information can indicate that an additional item was purchased or not). In some examples, the second script can be the same as the first script. The core application of the integration system can store information associated with the purchase to be used for future items displayed on a web page, without involvement of the website.

[0022] The template block that presents the additional item can be configured, reconfigured, and optimized at any time without any effort from the website. Through multiple iterations of A/B testing (as will be discussed below), a template block can be optimized in order to increase conversion rates. As discussed in the disclosure herein, an item can include a product or a service.

[0023] In some examples, the integration plugin can be widely compatible and easy to install with different websites. In some examples, the integration plugin can be installed in a website in a plug-and-play manner. In some examples, the integration plugin can be installed within a short timeframe (e.g., a few minutes) and might not require significant programming

efforts from the website. In one embodiment, there can be no programming effort required at all by the website. Many prior systems have an obstacle that they require a large amount of programming from the website to provide additional items, which can cause information technology (IT) resource bottlenecks for the website.

[0024] In some examples, a conversion rate can indicate a performance of an integration system. The conversation rate can be a number of times an additional item is selected with a base item divided by the total number of times the base items is selected.

I. EXAMPLE USAGE OF AN INTEGRATION PLUGIN

[0025] To provide one context that the integration plugin can be used, a buying process on a website will now be described. In one example, an integration plugin can enable a website to cross sell or up sell an item (e.g., product insurances and warranty extensions) with other items (e.g., computers, phones, or any other product or service).

[0026] In one illustrative example, the integration plugin can be used in association with offering insurance for electronics, such as smartphones. For example, when a user is purchasing a smartphone, an offer for smartphone insurance can be displayed before the user confirms the purchase of the smartphone. Using the integration plugin, the purchase of the smartphone and the insurance can be a one-click solution, such that with one click the user could attach the smartphone insurance to the shopping basket and then finish the transaction seamlessly, without disturbing the buying process. By not disturbing the buying process, a conversion rate for one or more cross-selling and/or up-selling items for the online shop can improve.

[0027] In another illustrative example, a user can buy a bike online and, in the buying process, add theft insurance for the bike. Other examples include, but are not limited to, insurance and warranty extensions for various electronics (e.g., dishwashers, refrigerators, and watches), musical instruments, eyewear, car tires, and anything that can be bought and sold online. Other cross-selling and/or up-selling items can be a TV subscription, buyer protection service, or any other complimentary item.

[0028] In some examples, the integration plugin can take advantage of common information used during the buying process. For example, the user might not be asked to enter any additional information when adding on an additional item. The integration plugin can use information already entered by the user, or known by the website. For example, an

additional item can require an email address and a unique identifier of an item associated with the additional item. For an electronic device, the unique identifier can be a serial number of the electronic device. If, for example, a user chooses to buy insurance using the integration plugin, the integration plugin can capture the user's email address and the serial number of the smartphone that is being purchased from the website.

[0029] In one illustrative example, an optimization module of the integration system can measure, in real time, a number of users buying an item (e.g. a bike) and a number of cross-selling and/or up-selling items sold (e.g., a theft insurance for the bike). Using the number of users and the number of cross-selling and/or up-selling items sold, the optimization module can calculate a conversion rate.

[0030] The integration plugin and the optimization module can be used to increase the conversion rate for an additional of the website. In some examples, a presentation of the additional items can adapt based on the conversion rates. The presentation can also depend on items involved, the website, users that typically shop and/or buy from the website, and any other factor associated with possible clients purchasing items. For example, a lower-end shop selling cheaper items can have a completely different target group compared to a premium shop selling more expensive items. The different shops can require different additional items as well as different types of communication or presentation of the additional items.

[0031] In some examples, the integration plugin can be used to display an offer with one or more additional items received from the integration system. The offer can be presented with different display characteristics (e.g., message texts, headers, colors, logos, structure, user flow, etc.). In addition, one or more attributes of the additional item can be changed. For example, a length of time insurance lasts can be changed depending on a price point of the insurance. For another example, things covered under the insurance can be changed. By changing the one or more attributes, a price of the cross-selling or up-selling item can be made to fit a budget of a user.

II. INTEGRATION SYSTEM

[0032] FIG. 1 illustrates an example of a website 110 and an integration system 120. The website 110 can send one or more web pages to a client computer during an interaction between the client computer and the website. In some examples, a web page 112 of the one or more web pages can include an item (e.g., a base item). The web page 112 can include a

template block 114, which can include one or more additional items that are associated with the base item. The website 110 can further include a core application of the website 116 and an integration plugin 118. The core application of the website 116 can provide control and functionality to the website 110. The integration plugin 118 can provide a connection between the website 110 and the integration system 120. In some examples, an Application Programing Interface (API) (e.g., a Representational State Transfer API (REST-API)) can be used to facilitate communication between the website 110 and the integration system 120.

[0033] The integration system 120 can determine a format to present an additional item to a user. The format can be in the form of a template block 114. The template block 114 can include information associated with the additional item. To add the template block 114 to the web page 112, the web page 112 can include one or more hooks (e.g., a web hook). The one or more hooks can be located in various portions of the web page 112, to allow the template block 114 to be inserted into the various portions. Using the one or more hooks, the integration plugin 118 can insert the template block 114 into the web page 112. The content of the template block 114 can be sent from one or more servers associated with the integration system 120. By storing data and content remotely, the integration system 120 can allow for rapid and automated changes without needing to modify the website 110.

[0034] The integration system 120 can also analyze interactions with the template block 114 (e.g., a user selecting the additional item). The integration system 120 can also include a core application (e.g., a core application of the integration system 122), which can provide control and functionality of the integration system 120.

[0035] The integration system can include an optimization module 124, which can identify an additional item, identify how to present the additional item to a user, determine when to display the additional item on a web page, perform optimization of the entire process by analyzing responses of a user to the additional item, or any combination thereof. In some examples, the optimization module 124 can change a presentation and/or content of an additional item in the template block 114 based on how well previous additional items worked with either the same user or different users. In some examples, the optimization module 124 can determine whether a base item displayed on a web page of the website 110 is one for which an additional item should be shown. The determination can occur after the integration plugin 118 is installed, without further definition required by the website 110. In

some examples, the optimization module 124 can also identify one or more web pages in a buying process that an additional item should be displayed to a user

[0036] The optimization module 124 can include a plugin management user interface 126. The plugin management user interface 126 can provide a user interface for a user associated with the integration system 120 to interact with the optimization module 124. The optimization module 124 can use at least one or more of an item matching module 128, an item configuration module 130, a user experience (UX) configuration module 132, a real time performance tracking module 134, or any combination thereof.

[0037] The item matching module 128 can match a base item on a web page displayed to a user to one or more additional items. The item configuration module 130 can determine one or more attributes of an additional item for a user. The UX configuration module 132 can be used to optimize the presentation of the additional item to the user. The real time performance tracking module 134 can track an interaction with a template block by the user.

[0038] The integration plugin 118 can work across different browsers using common technologies (e.g., JavaScript). The integration plugin 118 does not require individual customizing based on a type of the website, allowing for easier display of the template block 114, transfer of user data, and item matching. Additionally, if a user selects an additional item, the integration plugin 118 can send information associated with the additional item to the core application of the integration system 122, which would forward to the real time performance tracking module 134, for tracking purposes.

[0039] The integration plugin 118 can also receive information associated with a base item on a web page (e.g., in a shopping cart or selected by a user) from the core application of the website 116. In other examples, the integration plugin 118 can request the information associated with the base item using specific tags and/or specific kind of application program interface (API) calls for the website 110. The integration plugin 118 can then send the information associated with the base item to the integration plugin 118 for analysis by the optimization module 124. Because the information associated with the base item is not normalized across websites, the integration plugin 118 can format the information associated with the base item to a common format used by the optimization module 124. The core application of the integration system 122 can receive the information associated with the base item from the integration plugin 118, and send the information to the optimization module 124 to determine one or more additional items from a database of items.

[0040] In some examples, information input by a user during an interaction with a website can be sent to the core application of the integration system 122 from the integration plugin 118. The information input by the user can be used in relation to additional items (e.g., for required information for an insurance or future correspondence). Other information from a user or a web page that can be sent to the core application of the integration system 122 can be stored by the integration system 120.

[0041] Once the core application of the integration system 122 identifies a match for a base item to be displayed to a user, an additional item associated with the base item can be selected from the database. The selection can be selected randomly, or by defined rules, such as for certain base items only product insurance with a 12 month period is displayed.

[0042] In some examples, the item configuration module 130 can identify one or more attributes of an additional item identified by the item matching module 128 (e.g., cost and terms of an insurance). The item configuration module 130 can then determine how to configure the additional item for a user. The UX configuration module 132 can determine a layout, format, or any combination for the additional item.

[0043] The core application of the integration system 122 can respond to the integration plugin 118 with a customized template block and instructions for where to display the customized template block. The instructions can include two or more preconfigured page element identifiers. One of the preconfigured page element identifiers can be a page element to hook the template block 114 onto. The other preconfigured page element identifier can be one or more page elements that can lead to any other page and thereby determine an end of an interaction with a specific page. Using the two or more preconfigured page element identifiers, information associated with an additional item can be displayed in the template block 114 at any stage during an interaction between a user and a website. Thus, even before the user is finishing the interaction, the user can be shown an additional item. The user can select it with one click, adding it to a shopping basket. The user can also confirm a purchase of the additional item.

[0044] As described above, the real time performance tracking 134 can provide real-time performance tracking of data including at least one or more of: (1) whether a user completed an interaction with an additional item included, (2) whether the user completed an interaction without the additional item included, (3) whether the user clicked on the additional item, (4) or any combination thereof.

[0045] Using the data recited above, the real time performance tracking module 134 can track match rates and/or conversion rates of base items and additional items associated with the website 110. The real time performance tracking module 134 can collect information from the website to measure the conversion rate. For example, a conversion rate of 10% would be present if a shop sells 100 bikes, and for those 100 bikes, 10 product insurances are purchased. The completed information can be used with monitoring and optimization of conversion rates.

[0046] The real time performance tracking module 134 can also track the number of uncompleted sales for the website 110 and how many times an additional item was displayed and what the rejection rate was for the additional item. The rejection rate can, for example, indicate when a potential user begins an interaction with a website, but the user never gets to the end of the interaction to actually finish the interaction.

[0047] Additionally, there can be several optimization cycles in order to maximize conversion rates. The real time performance tracking 134 can track impressions of users, meaning that it can track each time a user is progressing though an interaction with a website. For example, real time performance tracking 134 can track each time a template block is displayed. The real time performance tracking 134 can determine whether to display an additional item (e.g., whether the additional item is insurable or whether the item matching module 128 has identified an additional item for the time being displayed). The real time performance tracking 134 can track completed sales by users and identify a difference between selected sales (where an additional item was selected with a base item), non-selected sales, (where an additional item was not selected with a base item), and non-matched sales (where an additional item was not shown with a base item).

[0048] The selected and non-selected information can be important to determine the match rate for the website 110. It can be desirable to be match additional items to as many base items in the website 110 as possible. If a new base item is added to the website 110, the new base item can be identified and matched to one or more additional items.

[0049] In some examples, the website 110 can include one or more base items that are undesirable to present with an additional item for. For example, spare parts such as a charger for a laptop, which is a standalone item, might be undesirable to match with insurance. By tracking conversion rates, the optimization module 124 can determine to not present an additional item for a base item displayed on a web page to users.

[0050] By automating or semi-automating the review process for the item matching module 128, the optimization module 124 can also solve a manual review and update problem that exists in other systems. For example, there can be a semi-automated item matching of all base items from the website, with a person approving matches. For another example, the real time performance tracking module 134 can flag for review a change in the match rates or conversation rates. In some examples, a person can be reviewing the flags. The same process described above for new base items can start over to review all base items in the website 110. The process can occur to change additional items associated with a base item displayed on a web page and change presentation of the additional items based on previous interactions.

III. DATA FLOW DURING INTERACTIONS WITH A WEBSITE

[0051] An integration system, as described above, can be implemented with a website. In some examples, the website can send one or more web pages to a user. In such examples, a web page can include a link to the integration system to facilitate presentation of additional items on the web page.

[0052] FIG. 2 is a flowchart illustrating various web pages that a user can receive from a website. The user can receive a first web page from a website associated with an enterprise (e.g., the website 110). The first web page can be a home page 210. The home page 210 can include various links that can cause the first web page to proceed to a second web page. A first link on the home page 210 can take the user to an item category page 220. The item category page 220 can display one or more base items that are included in an item category. A second link on the home page 210 can take the user to an item detail page 230. The item detail page 230 can display information associated with a base item. In some examples, the item category page 220 can include a link to take the user to the item detail page 230, similar to the second link.

[0053] From one or more of the home page 210, the item category page 220, or the item detail page 230, a link can be included that causes a base item to be added to a cart. In some examples, the cart can be stored by the website. The shopping cart can include a list of items that the user has indicated interest in. The cart can be accessed in a variety of ways known to a person of ordinary skill in the art, including a link to a cart page (e.g., a cart page 240). In some examples, the cart can be a pop-up window on a current web page. In other examples, the cart can be included on the current web page.

[0054] The user can proceed to the cart page 240, or any other form of the cart. The cart page 240 can further include additional items that the user has not indicated interest in. The additional items can be displayed on the cart page 240 in a template block, as discussed above. The user can indicate whether the user would like one or more of the additional items. A confirmation of one or more items (including one or more base items and zero or more additional items) can occur by proceeding to a checkout confirmation page 250 using a link. A success page 260 can be displayed after the purchase has been concluded and/or confirmed from the checkout confirmation page 250.

[0055] In the process described above, the user can step back to a previous page at any time, even iterating through multiple steps over and over, as long as the user does not conclude an interaction (which can take the user to the success page 260). In some examples, an integration plugin (as described above) can store a state of the template block. By storing the template block, the integration plugin can ensure that the template block can be presented in a continuous, uniform manner across different web pages. For example, the same or similar template block can be given to the user when the user is navigating back and forth between web pages.

[0056] FIG. 3 illustrates an example of a sequence for presenting one or more additional items associated with a base item using an integration plugin. The sequence can be associated with a user proceeding through the web pages as discussed above. At action 1, the user can navigate to a web page of a website using an electronic device (e.g., computer, cell phone, etc.) connected to the Internet. The web page can be any page discussed above, including an initial web page associated with the website (e.g., home page 210).

[0057] At action 2, the electronic device can receive the web page from the website. The web page can include an integration plugin. The integration plugin can be executed on the electronic device. Once executed, the integration plugin can communicate with an integration system (e.g., integration system 120).

[0058] At action 3, the integration plugin can request a script from the integration system. The script can be a piece of logic (e.g., JavaScript code) that is loaded by the electronic device.

[0059] At action 4, once the script is received from the integration system, the electric device can execute the script using the user's browser or request that this is done by the

user's browser. The logic included in the script can be used to manage the connection between the website and the integration system.

[0060] In some examples, the script and the integration plugin can be different for each website, based on how item information and user information is stored and presented by each website. In some examples, item information and user information can vary in presentation and format for each website. In addition, a set of instructions, controlled by the script, can be different for each website.

[0061] The script can identify a base item on the web page. In some examples, the identified base item can be (1) selected by the user; (2) included in a cart associated with the user; or (3) located on the web page currently being displayed.

[0062] At actions 5 and 6, the script can determine whether a local storage of the electric device includes (1) an additional item for the identified base item; and (2) a template block for the additional item. In some examples, the local storage can be a cookie that is saved on the electronic device. In other examples, the local storage can be a memory location on the electronic device, including a storage associated with a web browser installed on the electronic device.

[0063] At action 7, if the local storage does not include an additional item, the script can request an identification of the additional item from the integration system, where the additional item would be associated with the identified base item. In some examples, the local storage can be empty because the additional item has not been identified yet for the base item, or the identified base item has changed since an item match occurred. The script can send information associated with the identified base item to the integration system.

[0064] At action 8, the integration system can attempt to match the base item with one or more additional items. A determination of whether a match is found can be sent to the script from the integration system. Data associated with matched additional item can also be sent to the script from the integration system.

[0065] At action 9, if the local storage 310 includes a match for a base item or a match is received from the integration provider 350, an additional item can be presented on a current page that is loaded on the user's browser.

[0066] At action 10, the user can select the additional item (e.g., add the additional item to a cart associated with the user). The user can also select to proceed with or without the additional item.

[0067] At action 11, before leaving a current page, the script can receive information associated with a state of selection of the additional item from the current page.

[0068] At action 12, when the script receives information associated with the state of selection, the script can store information associated with the selection and the additional item in a local storage on the electronic device.

[0069] The actions in the process above can be repeated an infinite number of times until the user concludes an interaction. In each additional page, an additional, or different, integration plugin can be included in the page, which can request an additional script from the integration system. While additional scripts received by the electronic device can be the same as the script, the additional scripts can still be requested on each new page.

[0070] At action 13, the user can conclude the interaction. In some examples, when the user concludes the interaction, the website can take the user to a confirmation page (e.g., checkout confirmation page 250) and then to a success page (e.g., success page 260). In other examples, the website can take the user directly to the success page (as shown at action 14).

[0071] At action 15, once a user has begun to conclude an interaction (e.g., by proceeding to a confirmation or a success page), a second script can be requested from the integration system. The second script can determine information to send to the integration system to summarize the interaction. In some examples, the second script can be the same as the script. Naming the second script can be to signal that an additional script is received and executed on the electronic device when a new page is received by the electronic device.

[0072] At action 16, the second script can be executed from a web page (e.g., the confirmation page or the success page).

[0073] At action 17, the second script can determine a current state of the interaction, including whether an additional item has been selected. In some examples, the script can identify whether additional item has been selected by viewing the local storage of the electronic device.

[0074] At action 18, the second script can send information associated with the current state of the interaction. .

[0075] At action 19, the second script can receive a response from the integration system. The response can include information to be displayed on a current web page based on the current state of the interaction. For example, if an additional item has been selected, the information to be displayed on the current web page can include information regarding the additional item.

[0076] At action 20, a web page can be displayed to the user on a web page using the response from the integration system.

IV. METHODS FOR PROVIDING AN ONLINE ENVIRONMENT

[0077] The online environment discussed above can be viewed from a perspective of a client device and from a perspective of an integration system. While methods associated with each perspective can be similar, there are unique steps for both, as will be discussed below.

A. Perspective of a client device

[0078] FIG. 4 is a flowchart of a method 400 for providing an online environment on a client computer from the perspective of the client computer. Method 400 can be performed by a client computer system, which can include an internet browser that is capable of loading and executing an integration plugin.

[0079] At 410, the client computer can receive a web page. The web page can include a plug-in module. The web page can also include an identification of a first item. The first item can be one which a user has specified interest in. In other examples, the first item can be a base item as discussed above. The web page can be loaded in the browser of the client computer system using the client computer.

[0080] At 420, the client computer can execute the plug-in module. The plug-in module can be used to communicate with an integration server computer. In some examples, the plug-in module can be an invisible component of the web page.

[0081] At 430, the plug-in module can be used to request an integration script from an integration server computer. The plug-in module can use the integration script to obtain additional items associated with the first item from the integration server computer.

[0082] At 440, the client computer can receive a first integration script in response to the request for the integration script. In response can mean that the first integration script is sent from the integration server computer, and received by the client computer, because of the request for the integration script. In some examples, the first integration script can be sent as soon as the integration server computer receives the request for the integration script.

[0083] At 450, the plug-in module can execute the first integration script by loading the first integration script into the user's browser or request that this is done by the browser. The first integration script can determine whether an additional item associated with the first item is included in a local storage of the client computer or the browser. The first integration script can also determine whether the local storage includes a template block, a state of an interaction, or any combination thereof. If these objects exist, the first integration script can proceed to 490, otherwise to 460.

[0084] At 460, the first integration script can send an item request for an item associated with the first item. The item request can be sent to the integration server. The integration server can then search for an additional item that is associated with the first item.

[0085] At 470, the client computer can receive information associated with a second item. The second item can be an additional item identified by the integration server computer. The second item can be associated with the first item. The information associated with the second item can be received in response to the item request. In some examples, information associated with the second item can be already saved on the integration server computer before the item request is received. In other examples, the integration server computer can search a database for an item associated with the first item when the item request is received. In some examples, the information associated with the second item can include a format to display the second item on a web page, an identification of the second item, a location to place at least a portion of the information associated with the second item on the web page, and a variant of the second item. The variant can include a customization of the second item for the user associated with the client computer.

[0086] At 480, the web page can be updated to include at least a portion of information associated with the second item. In some examples, before the web page is updated, the first integration script ca determine that the web page is one of one or more web pages that are included in the information associated with the second item. If the web page is not one of the one or more web pages, the web page might not be updated.

[0087] At 490, the updated web page can be presented in the browser of the client computer. In some examples, information associated with the web page, including the format, the second item, the location, the variant, or any combination thereof can be stored into a local storage of the browser when a user leaves a current page. The information can also be stored into a local storage of the client computer.

[0088] In some examples, the method 400 can further include the client computer receiving a selection from a user associated with the second item. For example, the user can click on the second item. In response to the selection, a web page request can be sent for a second page (e.g., a success page) from the website.

[0089] In some examples, the client computer can receive the second page from the website. The second page can include a second plug-in module. After the second plug-in module is executed on the client computer, the second plug-in module can send a second request (or another request) for a second integration script to the integration server computer. In some examples, the second integration script can be the same as the first integration script. The second integration script can be received by the client computer and executed on the client computer. In some examples, the second plug-in module and the second integration script can be invisible components of the second web page. The second plug-in module and the second integration script can be copies of the first plug-in module and the first integration script respectively. The request for the second integration script can be required because a different page is loaded and the first integration script has completed when the web page changed.

[0090] In some examples, the second integration script can send information associated with the selection to the integration server computer. In response, the client computer can receive information to display on the success page from the integration server computer.

[0091] In some examples, the second web page can be updated to include at least a portion if the information to display on the second web page. The client computer can then display the updated second web page.

B. Perspective of an integration server

[0092] FIG. 5 is a flowchart of a method 500 for providing an online environment on a client computer from the perspective of a server computer system (e.g., the integration system 120). Method 500 can be performed by the server computer system.

[0093] At 510, the server computer system can receive a first script request for an integration script. The first script request can be sent from a client computer using a plug-in module. At 520, the server computer system can send a first integration script in response to the first script request. The first integration script can be sent to the client computer.

[0094] At 530, the server computer system can receive an item request for an item associated with a first item. The first item can be located on a web page to be displayed by the client computer. The item request for the item can be sent by the client computer using the first integration script.

[0095] At 540, the server computer system can identify a second item by querying a database for an item associated with the first item. The database can include a plurality of items. The second item can be associated with the first item.

[0096] In some examples, the server computer system can determine a format to display at least a portion of the information associated with the second item. In such examples, the information associated with the second item can include the format and a location to place the information associated with the second item on the web page. The server computer system can also determine one or more pages for the information associated with the second item to be displayed. In such examples, the information associated with the second item can include an identification of the one or more pages. The server computer system can also determine a variant of the second item based on a user associated with the client computer. The information associated with the second item can further include the variant.

[0097] At 550, the server computer system can generate information associated with the second item. At 560, the server computer system can send the information associated with the second item to the client computer.

[0098] In some examples, the method 500 can further include the server computer system receiving a second script request (or another script request) for an integration script from the client computer. The server computer system can send a second integration script to the client computer in response to the second script request. In some examples, the second integration script can be the same as the first integration script.

[0099] In some examples, the method 500 can further include the server computer system receiving a success message from the client computer. The success message can indicate a

selection of the second item. In response, the server computer system can send information associated with the selection of the second item to the client computer.

V. COMPUTER SYSTEM

[0100] Any of the computer systems mentioned herein may utilize any suitable number of subsystems. Examples of such subsystems are shown in FIG. 6 in computer system 10. In some embodiments, a computer system includes a single computer apparatus, where the subsystems can be the components of the computer apparatus. In other embodiments, a computer system can include multiple computer apparatuses, each being a subsystem, with internal components.

[0101] The subsystems shown in FIG. 6 are interconnected via a system bus 75. Additional subsystems such as a printer 74, keyboard 78, storage device(s) 79, monitor 76, which is coupled to display adapter 82, and others are shown. Peripherals and input/output (I/O) devices, which couple to I/O controller 71, can be connected to the computer system by any number of means known in the art such as input/output (I/O) port 77 (e.g., USB, FireWire®). For example, I/O port 77 or external interface 81 (e.g. Ethernet, Wi-Fi, etc.) can be used to connect computer system 10 to a wide area network such as the Internet, a mouse input device, or a scanner. The interconnection via system bus 75 allows the central processor 73 to communicate with each subsystem and to control the execution of instructions from system memory 72 or the storage device(s) 79 (e.g., a fixed disk, such as a hard drive or optical disk), as well as the exchange of information between subsystems. The system memory 72 and/or the storage device(s) 79 may embody a computer readable medium. Any of the data mentioned herein can be output from one component to another component and can be output to the user.

[0102] A computer system can include a plurality of the same components or subsystems, e.g., connected together by external interface 81 or by an internal interface. In some embodiments, computer systems, subsystem, or apparatuses can communicate over a network. In such instances, one computer can be considered a client and another computer a server, where each can be part of a same computer system. A client and a server can each include multiple systems, subsystems, or components.

[0103] It should be understood that any of the embodiments of the present invention can be implemented in the form of control logic using hardware (e.g. an application specific

integrated circuit or field programmable gate array) and/or using computer software with a generally programmable processor in a modular or integrated manner. As used herein, a processor includes a single-core processor, multi-core processor on a same integrated chip, or multiple processing units on a single circuit board or networked. Based on the disclosure and teachings provided herein, a person of ordinary skill in the art will know and appreciate other ways and/or methods to implement embodiments of the present invention using hardware and a combination of hardware and software.

[0104] Any of the software components or functions described in this application may be implemented as software code to be executed by a processor using any suitable computer language such as, for example, Java, C, C++, C#, Objective-C, Swift, or scripting language such as Perl or Python using, for example, conventional or object-oriented techniques. The software code may be stored as a series of instructions or commands on a computer readable medium for storage and/or transmission, suitable media include random access memory (RAM), a read only memory (ROM), a magnetic medium such as a hard-drive or a floppy disk, or an optical medium such as a compact disk (CD) or DVD (digital versatile disk), flash memory, and the like. The computer readable medium may be any combination of such storage or transmission devices.

[0105] Such programs may also be encoded and transmitted using carrier signals adapted for transmission via wired, optical, and/or wireless networks conforming to a variety of protocols, including the Internet. As such, a computer readable medium according to an embodiment of the present invention may be created using a data signal encoded with such programs. Computer readable media encoded with the program code may be packaged with a compatible device or provided separately from other devices (e.g., via Internet download). Any such computer readable medium may reside on or within a single computer product (e.g. a hard drive, a CD, or an entire computer system), and may be present on or within different computer products within a system or network. A computer system may include a monitor, printer, or other suitable display for providing any of the results mentioned herein to a user.

[0106] Any of the methods described herein may be totally or partially performed with a computer system including one or more processors, which can be configured to perform the steps. Thus, embodiments can be directed to computer systems configured to perform the steps of any of the methods described herein, potentially with different components performing a respective steps or a respective group of steps. Although presented as numbered

steps, steps of methods herein can be performed at a same time or in a different order. Additionally, portions of these steps may be used with portions of other steps from other methods. Also, all or portions of a step may be optional. Additionally, any of the steps of any of the methods can be performed with modules, circuits, or other means for performing these steps.

[0107] The specific details of particular embodiments may be combined in any suitable manner without departing from the spirit and scope of embodiments of the invention. However, other embodiments of the invention may be directed to specific embodiments relating to each individual aspect, or specific combinations of these individual aspects.

[0108] The above description of exemplary embodiments of the invention has been presented for the purposes of illustration and description. It is not intended to be exhaustive or to limit the invention to the precise form described, and many modifications and variations are possible in light of the teaching above. The embodiments were chosen and described in order to best explain the principles of the invention and its practical applications to thereby enable others skilled in the art to best utilize the invention in various embodiments and with various modifications as are suited to the particular use contemplated.

[0109] A recitation of "a", "an" or "the" is intended to mean "one or more" unless specifically indicated to the contrary. The use of "or" is intended to mean an "inclusive or," and not an "exclusive or" unless specifically indicated to the contrary.

[0110] All patents, patent applications, publications, and descriptions mentioned herein are incorporated by reference in their entirety for all purposes. None is admitted to be prior art.

WHAT IS CLAIMED IS:

1. A method of providing an online environment on a client computer, the method comprising performing by the client computer:

receiving, from a website, a web page that includes a plug-in module and an identification of a first item;

executing the plug-in module on the client computer;

sending, using the plug-in module, a script request for an integration script from an integration server computer;

receiving, from the integration server computer, a first integration script in response to the script request;

executing the first integration script on the client computer;

sending, using the first integration script, an item request for an item associated with the first item from the integration server computer;

receiving, from the integration server computer, information associated with a second item in response to the item request, wherein the integration server computer identifies the second item from a plurality of items, and wherein the second item is associated with the first item;

updating, using the integration script, the web page to include at least a portion of the information associated with the second item; and

displaying the updated web page on the client computer based on the included information associated with the second item.

2. The method of claim 1, further comprising:

determining, using the first integration script, that an item associated with the first item has not been received from the integration server computer, wherein the determination occurs before the item request.

3. The method of claim 1, further comprising:

determining, using the first integration script, that the web page is one of one or more web pages, wherein an identification of the one or more web pages is included in the information associated with the second item, and wherein the determination occurs before the web page is updated.

4. The method of claim 1, further comprising:

receiving a selection associated with the second item;

sending a web page request for a second web page from the website after the selection is received

receiving the second web page from the website, wherein the second page includes a second plug-in module;

executing the second plug-in module on the client computer;

sending, using the second plug-in module, another script request for an integration script to the integration server computer;

receiving a second integration script from the integration server computer;

executing the second integration script on the client computer;

sending, using the second integration script, information associated with the selection to the integration server computer;

receiving information to display on the second page from the integration server computer in response to sending the information associated with the selection;

updating, using the second integration script, the second web page to include at least a portion of the information to display on the second web page; and

displaying the updated second web page on the client computer.

5. The method of claim 1, wherein the plug-in module is an invisible component of the web page, and wherein the second plug-in module is an invisible component of the second web page.

6. The method of claim 1, wherein the information associated with the second item includes a format to display the second item on a web page, an identification of the second item, and a location to place at least a portion of the information associated with the second item on the web page.

7. The method of claim 6, wherein the information associated with the second item further includes a variant of the second item, and wherein the variant includes a customization of the second item for a user associated with the client computer.

8. A method of providing an online environment on a client computer, the method comprising performing by a server computer system:

receiving, from the client computer, a first request for an integration script;

sending, to the client computer, a first integration script in response to the first request;

receiving, from the client computer using the first integration script, a request for an item associated with a first item, wherein an identification of the first item is included on a web page to be displayed on the client computer;

identifying a second item by querying a database for an item associated with the first item, wherein the database includes a plurality of items, and wherein the second item is associated with the first item;

generating information associated with the second item, wherein the information includes an identification of the second item; and

sending the information associated with the second item to the client computer.

9. The method of claim 8, further comprising:

determining a format to display at least a portion of the information associated with the second item, wherein the information associated with the second item further includes the format.

10. The method of claim 9, further comprising:

determining one or more web pages for at least the portion of the information associated with the second item to be displayed, wherein the information associated with the second item further includes an identification of the one or more web pages.

11. The method of claim 9, wherein the information associated with the second item further includes a location to place the information associated with the second item on a web page.

12. The method of claim 8, further comprising:

determining a variant of the second item based on a user associated with the client computer, wherein the information associated with the second item further includes the variant.

13. The method of claim 8, further comprising:

receiving, from the client computer, a second script request for the integration script;

sending, to the client computer, the integration script in response to the second script request;

receiving, from the client computer using the integration script, a success message, wherein the success message indicates a selection of the second item; and

sending, to the client computer, information associated with the selection of the second item.

14. The method of claim 8, wherein the information associated with the selection of the second item includes a confirmation regarding the second item.

15. A computer product comprising a non-transitory machine-readable storage medium, including instructions that, when executed by one or more processors, cause the one or more processors to:

receive, from a website, a web page that includes a plug-in module and an identification of a first item;

execute the plug-in module on a client computer;

send, using the plug-in module, a script request for an integration script from an integration server computer;

receive, from the integration server computer, a first integration script in response to the script request;

execute the first integration script on the client computer;

send, using the first integration script, an item request for an item associated with the first item from the integration server computer;

receive, from the integration server computer, information associated with a second item in response to the item request, wherein the integration server computer identifies the second item from a plurality of items, and wherein the second item is associated with the first item;

update, using the integration script, the web page to include at least a portion of the information associated with the second item; and

display the updated web page on the client computer based on the included information associated with the second item.

16. The computer product of claim 15, further including instructions that, when executed by the one or more processors, cause the one or more processors to:

determine, using the first integration script, that an item associated with the first item has not been received from the integration server computer, wherein the determination occurs before the item request.

17. The computer product of claim 15, further including instructions that, when executed by the one or more processors, cause the one or more processors to:

determine, using the first integration script, that the web page is one of one or more web pages, wherein an identification of the one or more web pages is included in the information associated with the second item, and wherein the determination occurs before the web page is updated.

18. The computer product of claim 15, further including instructions that, when executed by the one or more processors, cause the one or more processors to:

receive a selection associated with the second item;

send a web page request for a second web page from the website after the selection is received

receive the second web page from the website, wherein the second web page includes a second plug-in module;

execute the second plug-in module on the client computer;

send, using the second plug-in module, a second script request for a second integration script to the integration server computer;

receive the second integration script from the integration server computer;

execute the second integration script on the client computer;

send, using the second integration script, information associated with the selection to the integration server computer;

receive information to display on the second page from the integration server computer in response to sending the information associated with the selection;

update, using the second integration script, the second web page to include at least a portion of the information to display on the second page; and

display the updated second page on the client computer.

19. The computer product of claim 15, wherein the information associated with the second item includes a format to display the second item on a web page, an identification of the second item, and a location to place at least a portion of the information associated with the second item on the web page.

20. The computer product of claim 15, wherein the information associated with the second item includes a variant of the second item, and wherein the variant includes a customization of the second item for a user associated with the client computer.

21. A computer product comprising a computer readable medium storing a plurality of instructions for controlling a computer system to perform an operation of any of the methods above.

22. A system comprising:

the computer product of claim 21; and

one or more processors for executing instructions stored on the computer readable medium.

23. The system of claim 22 further comprising means for performing any of the methods above.

24. A system configured to perform any of the above methods.

25. A system comprising modules that respectively perform the steps of any of the above methods.

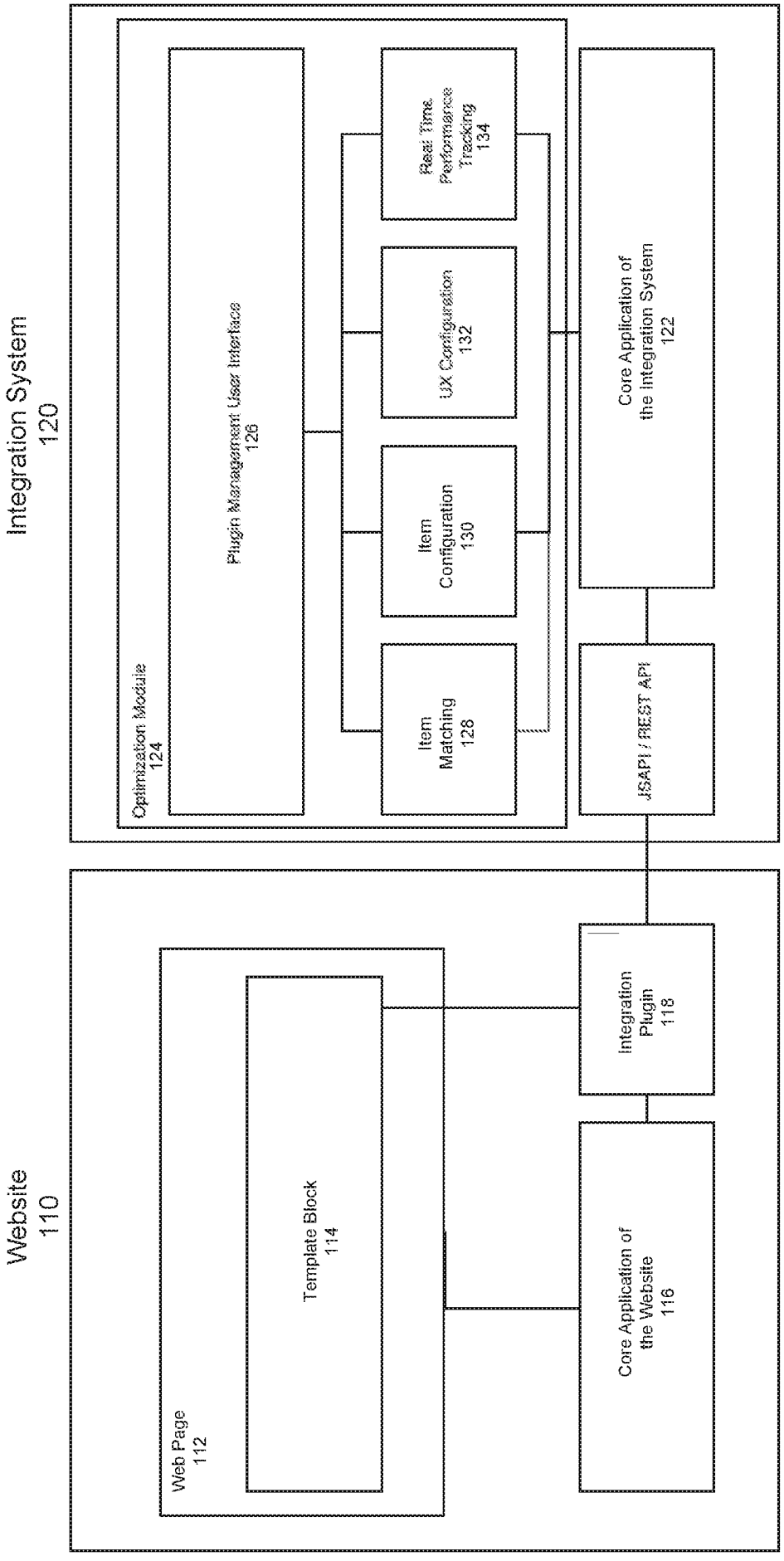
Website
110
Web Page
112
Template Block
114
Core Application of the Website
116
Integration Plugin
118
Integration System
120
Optimization Module
124
Plugin Management User Interface
126
Item Matching
128
Item Configuration
130
UX Configuration
132
Real Time Performance Tracking
134
JSAPI / REST API
Core Application of the Integration System
122

FIG. 1

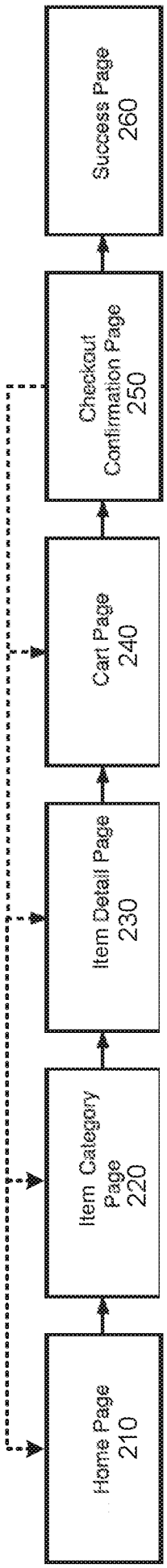
Home Page
210
Item Category
Page
220
Item Detail Page
230
Cart Page
240
Checkout
Confirmation Page
250
Success Page
260

FIG. 2

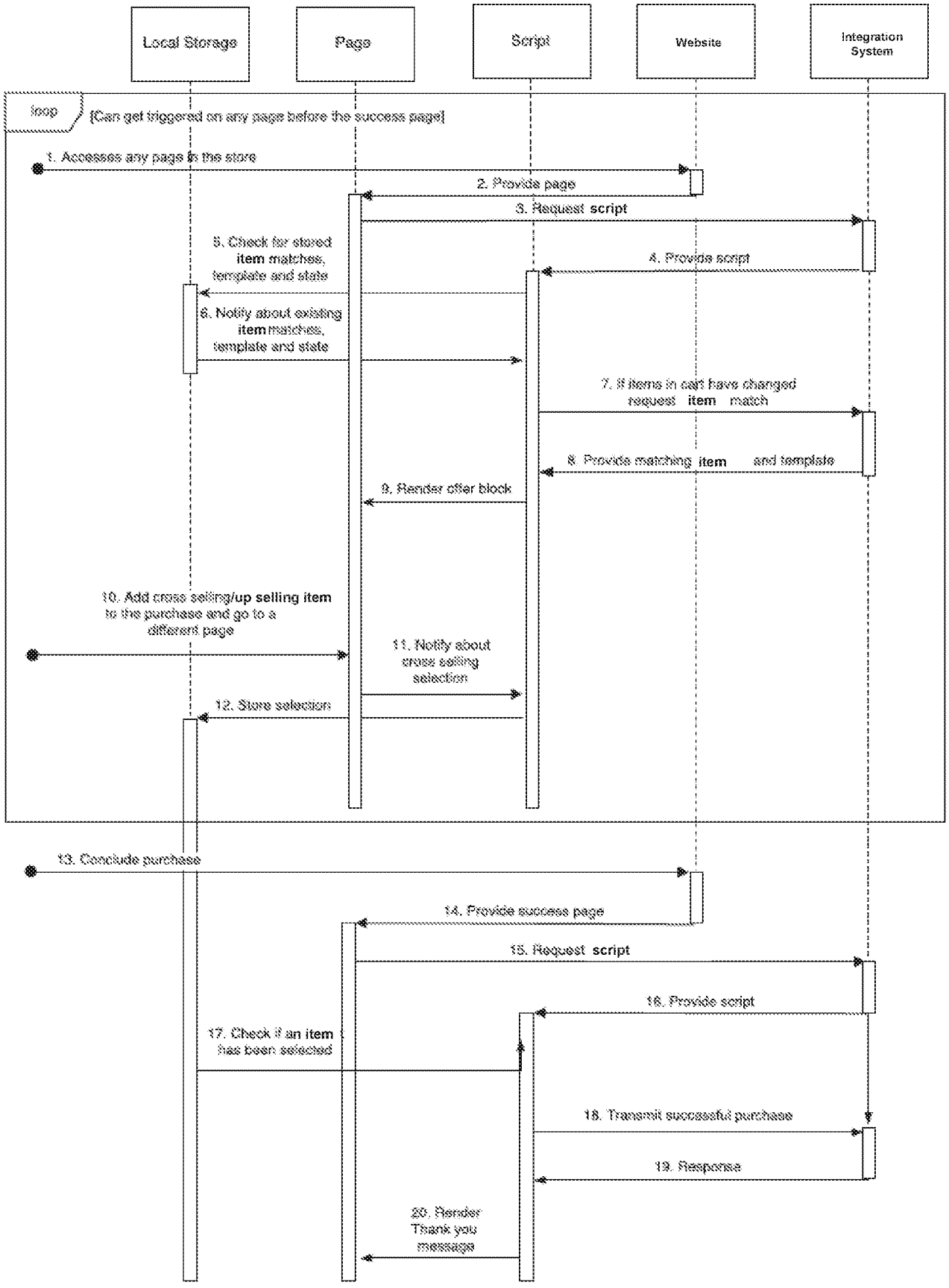
Local Storage
Page
Script
Website
Integration System
loop
[Can get triggered on any page before the success page]
1. Accesses any page in the store
2. Provide page
3. Request script
4. Provide script
5. Check for stored item matches, template and state
6. Notify about existing item matches, template and state
7. If items in cart have changed request item match
8. Provide matching item and template
9. Render offer block
10. Add cross selling/up selling item to the purchase and go to a different page
11. Notify about cross selling selection
12. Store selection
13. Conclude purchase
14. Provide success page
15. Request script
16. Provide script
17. Check if an item has been selected
18. Transmit successful purchase
19. Response
20. Render Thank you message

FIG. 3

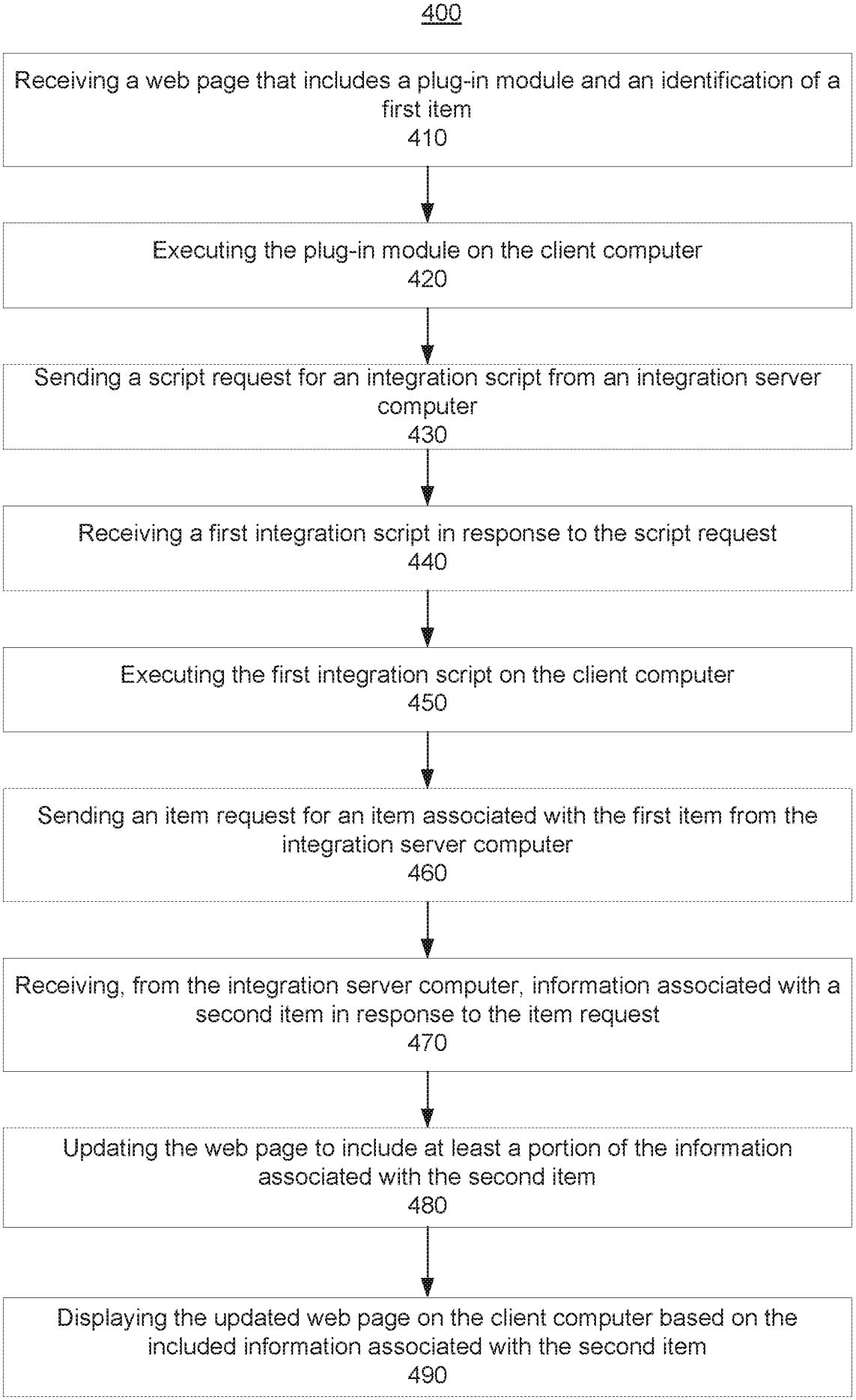
400
Receiving a web page that includes a plug-in module and an identification of a first item
410
Executing the plug-in module on the client computer
420
Sending a script request for an integration script from an integration server computer
430
Receiving a first integration script in response to the script request
440
Executing the first integration script on the client computer
450
Sending an item request for an item associated with the first item from the integration server computer
460
Receiving, from the integration server computer, information associated with a second item in response to the item request
470
Updating the web page to include at least a portion of the information associated with the second item
480
Displaying the updated web page on the client computer based on the included information associated with the second item
490

FIG. 4

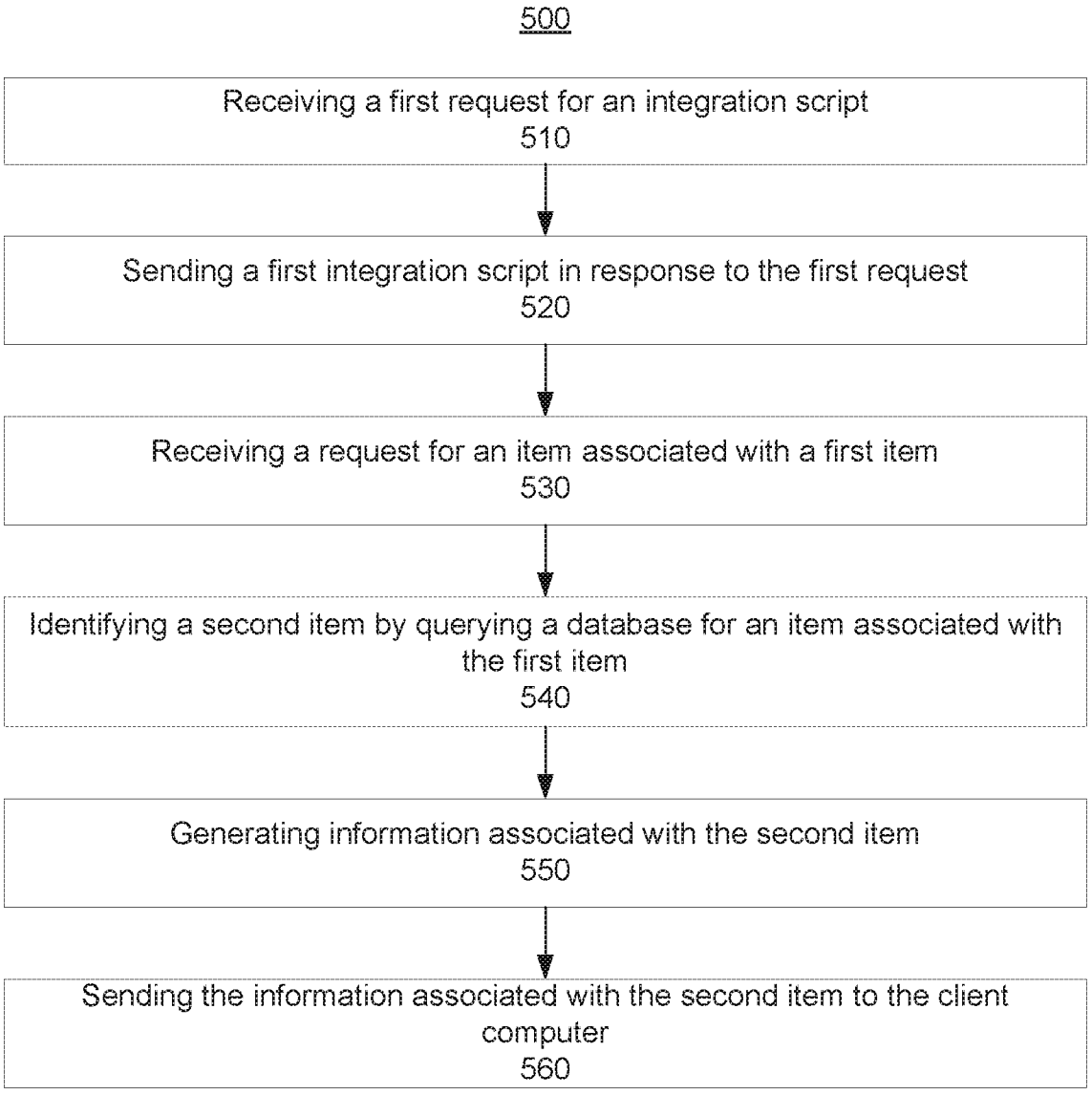
500
Receiving a first request for an integration script
510
Sending a first integration script in response to the first request
520
Receiving a request for an item associated with a first item
530
Identifying a second item by querying a database for an item associated with the first item
540
Generating information associated with the second item
550
Sending the information associated with the second item to the client computer
560

FIG. 5

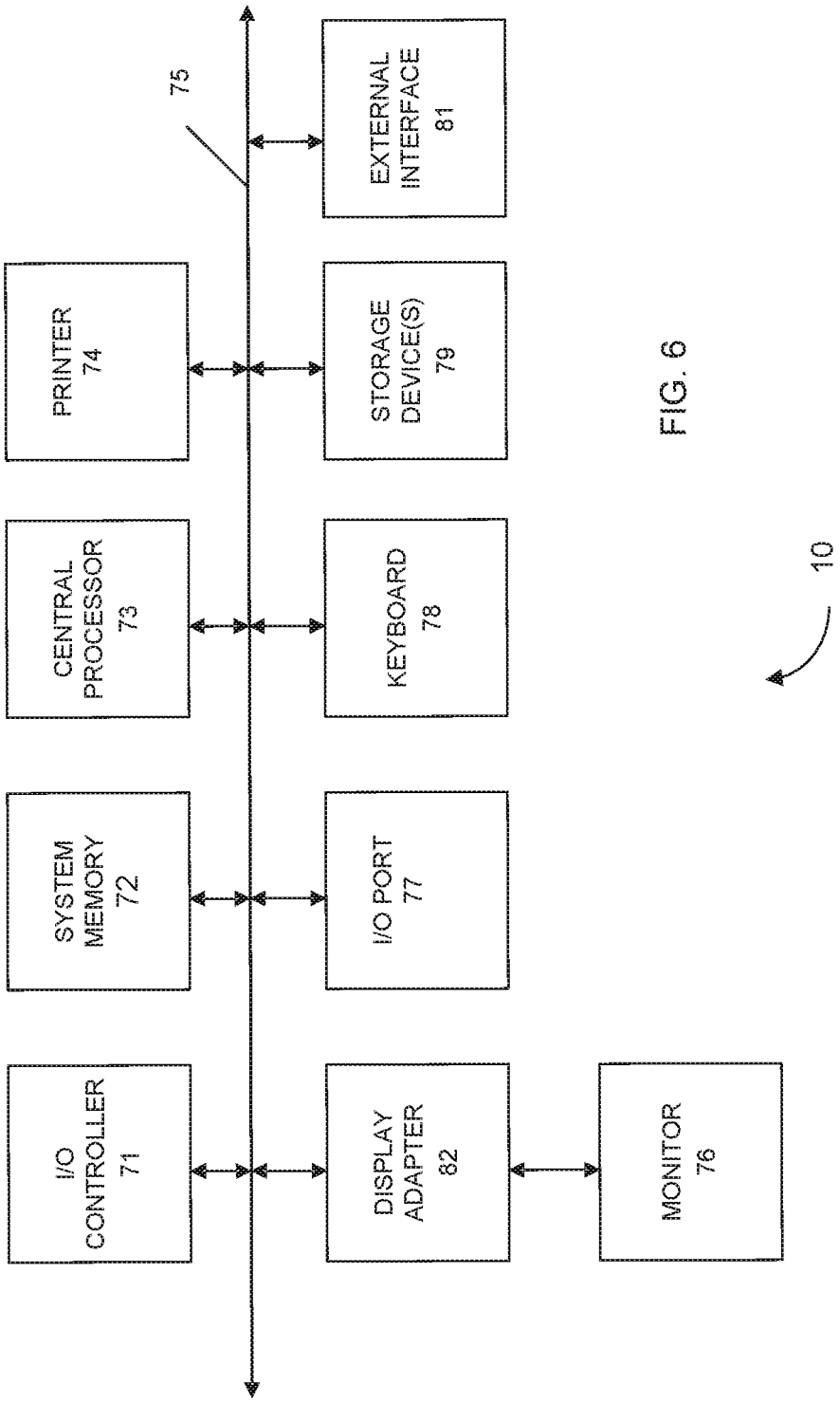
75
EXTERNAL INTERFACE 81
PRINTER 74
STORAGE DEVICE(S) 79
CENTRAL PROCESSOR 73
KEYBOARD 78
SYSTEM MEMORY 72
I/O PORT 77
I/O CONTROLLER 71
DISPLAY ADAPTER 82
MONITOR 76
10

FIG. 6

INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2016/054100

A. CLASSIFICATION OF SUBJECT MATTER
INV. G06F17/30
ADD.

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)
G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

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

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	Anonymous: "Getting Started", , 10 November 2013 (2013-11-10), pages 1-5, XP055302447, Retrieved from the Internet: URL:https://www.hitchhq.com/api/apis/googlemaps/activities/575974b78e2e411000b8dd44/download [retrieved on 2016-09-14] page 1 - page 2	1-25

-/--

[X] Further documents are listed in the continuation of Box C.

[ ] See patent family annex.

* 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	Date of mailing of the international search report
14 September 2016	28/09/2016

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Hackelbusch, Richard

INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2016/054100

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	Anonymous: "async vs defer attributes", , 26 February 2014 (2014-02-26), pages 1-5, XP055302517, Retrieved from the Internet: URL:http://www.growingwiththeweb.com/2014/02/async-vs-defer-attributes.html [retrieved on 2016-09-14] the whole document -----	1-25

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(71)申请人 简单保有限责任公司
地址 德国柏林

(72)发明人 R·万赫因 J·万博因
I·艾瑟希 M·科斯特尔

(74)专利代理机构 中国国际贸易促进委员会专利商标事务所 11038
代理人 周磊

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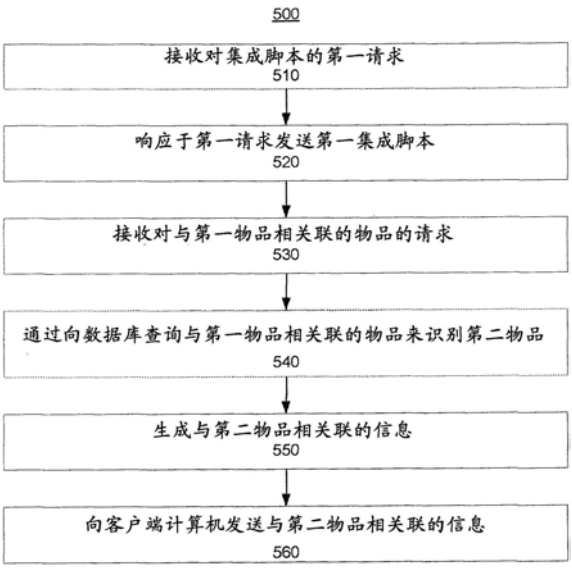
(54)发明名称

用于在网页上识别和呈现相关联的物品的集成插件

(57)摘要

实施例可以提供物品到购物车物品的自动匹配以及自定义模板块的生成和渲染，使得利用在处理的一个或多个阶段的远程配置和优化，模板块的外观是自适应的。集成插件可以使网站能够呈现与网页上所显示的物品相关联的附加物品。集成插件可以与许多网站兼容、即插即用、快速安装，而不需要来自网站的显著编程工作。实施例可以提供到网站的集成，从而导致提高的转化率。实施例可以从第一物品提供用于附加物品的信息，而无需附加的数据输入。实施例可以提供实时性能跟踪以便监视和优化。实施例可以提供复合用户界面，以管理物品匹配、性能跟踪和配置。



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1.一种在客户端计算机上提供在线环境的方法,所述方法包括由客户端计算机执行:

从网站接收包括插件模块和第一物品的标识的网页;

在客户端计算机上执行插件模块;

使用插件模块发送对来自集成服务器计算机的集成脚本的脚本请求;

响应于所述脚本请求从集成服务器计算机接收第一集成脚本;

在客户端计算机上执行第一集成脚本;

使用第一集成脚本发送对来自集成服务器计算机的与第一物品相关联的物品的物品请求;

响应于所述物品请求从集成服务器计算机接收与第二物品相关联的信息,其中集成服务器计算机从多个物品中识别第二物品,并且其中第二物品与第一物品相关联;

使用所述集成脚本来更新网页,以包括与第二物品相关联的信息的至少一部分;以及

基于所包括的与第二物品相关联的信息,在客户端计算机上显示更新后的网页。

2.如权利要求1所述的方法,还包括:

使用第一集成脚本确定还没有从集成服务器计算机接收到与第一物品相关联的物品,其中该确定发生在所述物品请求之前。

3.如权利要求1所述的方法,还包括:

使用第一集成脚本确定所述网页是一个或多个网页中的一个网页,其中所述一个或多个网页的标识被包括在与第二物品相关联的信息中,并且其中该确定发生在所述网页被更新之前。

4.如权利要求1所述的方法,还包括:

接收与第二物品相关联的选择;

在接收到该选择之后,发送对来自网站的第二网页的网页请求;

从网站接收第二网页,其中第二页面包括第二插件模块;

在客户端计算机上执行第二插件模块;

使用第二插件模块向集成服务器计算机发送对集成脚本的另一个脚本请求;

从集成服务器计算机接收第二集成脚本;

在客户端计算机上执行第二集成脚本;

使用第二集成脚本向集成服务器计算机发送与所述选择相关联的信息;

响应于发送与所述选择相关联的信息从集成服务器计算机接收要在第二页面上显示的信息;

使用第二集成脚本来更新第二网页,以包括要在第二网页上显示的信息的至少一部分;以及

在客户端计算机上显示更新后的第二网页。

5.如权利要求1所述的方法,其中插件模块是所述网页的不可见组件,并且其中第二插件模块是所述第二网页的不可见组件。

6.如权利要求1所述的方法,其中与第二物品相关联的信息包括用于在网页上显示第二物品的格式、第二物品的标识以及用于在网页上放置与第二物品相关联的信息的至少一部分的位置。

7.如权利要求6所述的方法,其中与第二物品相关联的信息还包括第二物品的变体,并

且其中所述变体包括第二物品针对与所述客户端计算机相关联的用户的定制。

8.一种在客户端计算机上提供在线环境的方法,所述方法包括由服务器计算机系统执行:

从客户端计算机接收对集成脚本的第一请求;

响应于第一请求向客户端计算机发送第一集成脚本;

从使用第一集成脚本的客户端计算机接收对与第一物品相关联的物品的请求,其中第一物品的标识被包括在要在客户端计算机上显示的网页上;

通过向数据库查询与第一物品相关联的物品来识别第二物品,其中数据库包括多个物品,并且其中第二物品与第一物品相关联;

生成与第二物品相关联的信息,其中所述信息包括第二物品的标识;以及

向客户端计算机发送与第二物品相关联的信息。

9.如权利要求8所述的方法,还包括:

确定用于显示与第二物品相关联的信息的至少一部分的格式,其中与第二物品相关联的信息还包括所述格式。

10.如权利要求9所述的方法,还包括:

为要显示的与第二物品相关联的信息的至少一部分确定一个或多个网页,其中与第二物品相关联的信息还包括所述一个或多个网页的标识。

11.如权利要求9所述的方法,其中与第二物品相关联的信息还包括用于在网页上放置与第二物品相关联的信息的位置。

12.如权利要求8所述的方法,还包括:

基于与客户端计算机相关联的用户来确定第二物品的变体,其中与第二物品相关联的信息还包括所述变体。

13.如权利要求8所述的方法,还包括:

从客户端计算机接收对集成脚本的第二脚本请求;

响应于第二脚本请求向客户端计算机发送所述集成脚本;

从使用所述集成脚本的客户端计算机接收成功消息,其中所述成功消息指示第二物品的选择;以及

向客户端计算机发送与第二物品的选择相关联的信息。

14.如权利要求8所述的方法,其中与第二物品的选择相关联的信息包括关于第二物品的确认。

15.一种包括非瞬态机器可读存储介质的计算机产品,所述非瞬态机器可读存储介质包括指令,所述指令在由一个或多个处理器执行时使得所述一个或多个处理器:

从网站接收包括插件模块和第一物品的标识的网页;

在客户端计算机上执行插件模块;

使用插件模块发送对来自集成服务器计算机的集成脚本的脚本请求;

响应于所述脚本请求从集成服务器计算机接收第一集成脚本;

在客户端计算机上执行第一集成脚本;

使用第一集成脚本发送对来自集成服务器计算机的与第一物品相关联的物品的物品请求;

响应于所述物品请求从集成服务器计算机接收与第二物品相关联的信息，其中集成服务器计算机从多个物品中识别第二物品，并且其中第二物品与第一物品相关联；

使用所述集成脚本来更新网页，以包括与第二物品相关联的信息的至少一部分；以及

基于所包括的与第二物品相关联的信息，在客户端计算机上显示更新后的网页。

16.如权利要求15所述的计算机产品，还包括指令，该指令在由所述一个或多个处理器执行时使得所述一个或多个处理器：

使用第一集成脚本确定还没有从集成服务器计算机接收到与第一物品相关联的物品，其中该确定发生在所述物品请求之前。

17.如权利要求15所述的计算机产品，还包括指令，该指令在由所述一个或多个处理器执行时使得所述一个或多个处理器：

使用第一集成脚本确定所述网页是一个或多个网页中的一个网页，其中所述一个或多个网页的标识被包括在与第二物品相关联的信息中，并且其中该确定发生在所述网页被更新之前。

18.如权利要求15所述的计算机产品，还包括指令，该指令在由所述一个或多个处理器执行时使得所述一个或多个处理器：

接收与第二物品相关联的选择；

在接收到所述选择之后，发送对来自网站的第二网页的网页请求；

从网站接收第二网页，其中第二网页包括第二插件模块；

在客户端计算机上执行第二插件模块；

使用第二插件模块向集成服务器计算机发送对第二集成脚本的第二脚本请求；

从集成服务器计算机接收第二集成脚本；

在客户端计算机上执行第二集成脚本；

使用第二集成脚本向集成服务器计算机发送与所述选择相关联的信息；

响应于发送与所述选择相关联的信息从集成服务器计算机接收要在第二页面上显示的信息；

使用第二集成脚本来更新第二网页，以包括要在第二网页上显示的信息的至少一部分；以及

在客户端计算机上显示更新后的第二页面。

19.如权利要求15所述的计算机产品，其中与第二物品相关联的信息包括用于在网页上显示第二物品的格式、第二物品的标识以及用于在网页上放置与第二物品相关联的信息的至少一部分的位置。

20.如权利要求15所述的计算机产品，其中与第二物品相关联的信息包括第二物品的变体，并且其中所述变体包括第二物品针对与所述客户端计算机相关联的用户的定制。

21.一种包括计算机可读介质的计算机产品，所述计算机可读介质存储用于控制计算机系统执行上述任一方法的操作的多条指令。

22.一种系统，包括：

如权利要求21所述的计算机产品；以及

一个或多个处理器，用于执行存储在计算机可读介质上的指令。

23.如权利要求22所述的系统，还包括用于执行上述任一方法的装置。

24.一种被配置为执行上述任一方法的系统。

25.一种包括分别执行上述任一方法的步骤的模块的系统。

用于在网页上识别和呈现相关联的物品的集成插件

[0001] 相关申请的交叉引用

[0002] 本申请要求由von Hein等人于2015年7月7日提交的标题为“Checkout Integration Plugin”的美国临时申请No.62/189,671的优先权,该申请的全部内容通过引用并入本文,用于所有目的。本申请还涉及于2015年7月31日提交的标题为“Optimizing Website Environments”的美国专利申请No.62/199,762,该申请整体上通过引用并入本文,用于所有目的。

技术领域

[0003] 本文的公开一般而言涉及向网页提供与已经在网页上的基本物品相关联的一个或多个附加物品。具体而言,本公开涉及使网页能够集成识别和提供与已经显示在网页上的基本物品相关的附加物品的能力。在本文的公开中,物品可以是在线商店中出售的产品或服务。

背景技术

[0004] 按照惯例,在网页上识别并呈现附加物品(其中附加物品与已经在网页上显示的基本物品相关联)是非常耗时的工作。在一些情况下,用户必须自己定位附加物品。在其它情况下,网站必须将附加物品与基本物品相关联。此外,呈现附加物品需要网站在每次网站改变时对这些物品的布局进行重新编程。因此,附加物品的集成可能需要在网站上进行大量的编程。本文的公开的实施例单独和共同地解决这些和其它问题。

发明内容

[0005] 本文的实施例可以提供与显示在网页上的基本物品相关联的一个或多个附加物品的自动或半自动呈现。例如,系统可以生成并渲染用于网页的定制模板块,以显示与一个或多个附加物品相关联的信息。在一些示例中,可以远程配置和优化定制的模板块。

[0006] 在一些示例中,集成插件可以使集成系统能够在网站的网页上包括一个或多个附加物品,其中为查看网页的用户远程定制一个或多个附加物品的呈现。在一些示例中,集成插件可以与不同的网站兼容。集成插件也可以是即插即用的,从而允许安装快速和/或无缝。在一些示例中,集成插件可以去除广泛地对网站进行编程的需要,以自动或半自动地从网站提供附加物品。

[0007] 实施例还可以提供定制模板块的远程配置和优化,以在与网站交互期间提供附加物品,而不需要修改网站。在一些示例中,网站可能不需要用于集成该集成插件的显著编程。

[0008] 实施例还可以为与网站相关联的处理的一个或多个步骤提供集成,从而使得第一物品和第二物品的组合能够实现,其中第二物品与第一物品相关联。实施例还可以提供对模板块应当在哪里显示以及是否应当显示的远程控制。实施例还可以提供模板块的不同状态,每个状态反映用户所采取的先前动作。

[0009] 实施例还可以提供为了与附加物品相关联的交互而需要输入的数据的减少。在这种实施例中，可以为附加物品从网站检索来自基本物品的数据和/或用户数据(例如，名称、地址等等)，而不必再次询问用户。实施例还可以提供模板块的实时性能跟踪以便监视和优化。

[0010] 实施例还可以提供复合用户界面，以在一个地方远程地管理物品匹配、物品配置、性能跟踪和模板块配置，而不需要网站的任何动作。实施例还针对与本文描述的方法相关联的系统、便携式或移动消费者设备以及计算机可读介质。

[0011] 其它实施例针对与本文描述的方法相关联的系统、便携式消费者设备以及计算机可读介质。

[0012] 参考以下详细描述和附图，可以更好地理解本发明实施例的本质和优点。

附图说明

[0013] 图1图示了网站和集成系统的示例。

[0014] 图2是图示用户可以从网站接收的各种网页的流程图。

[0015] 图3图示了用于使用集成插件来呈现与基本物品相关联的一个或多个附加物品的序列的示例。

[0016] 图4是从客户端计算机的角度用于提供客户端计算机上的在线环境的方法的流程图。

[0017] 图5是从服务器计算机系统的角度用于提供客户端计算机上的在线环境的方法的流程图。

[0018] 图6图示了计算机系统的框图的示例。

具体实施方式

[0019] 集成插件可以集成到网站中，以便处理向用户提供一个或多个附加物品。集成插件可以启用与已经显示在网站的网页上的基本物品相关联的附加物品的自动识别。识别可以使用包括一个或多个物品的数据库发生。集成插件还可以启用定制模板块的生成和渲染，以在客户端计算机的网页上显示。在一些示例中，可以通过集成系统从网站远程地配置和优化定制模板块的外观。集成系统可以包括核心应用，以与位于由网站发送的网页上的集成插件通信。集成系统还可以提供物品匹配、物品配置、性能跟踪、定制模板块的生成以及其它服务。

[0020] 集成插件可以被集成到网站中并且可以使网站能够提供与在网页上显示的基本物品相关联的一个或多个附加物品。当用户导航到从网站接收的网页时，集成插件可以自动将第一脚本加载到网页上。第一脚本可以使集成系统将一个或多个附加物品与在网页上显示的基本物品(例如，在购物车中)进行匹配。如果附加物品被集成服务器识别出来，那么集成插件可以用附加物品的识别来渲染定制模板块。

[0021] 用户可以将来自定制模板块的附加物品添加到购买并继续去结账。在添加附加物品的情况下，用户可以一次确认基本物品(例如，已经显示在网页上的物品)和附加物品。当向网站发送针对附加物品的请求时，客户端计算机可以存储与选择附加物品相关联的信息。

[0022] 当从网站发回成功页面时，第二集成插件可以使得安装第二脚本，该第二脚本向集成系统的核心应用发送与购买相关联的信息(例如，信息可以指示附加物品被购买或不被购买)。在一些示例中，第二脚本可以与第一脚本相同。集成系统的核心应用可以存储与购买相关联的信息，以用于在网页上显示的未来物品，而不需要网站的参与。

[0023] 呈现附加物品的模板块可以随时进行配置、重新配置和优化，而无需网站的任何工作。通过A/B测试(将在下面讨论)的多次迭代，可以优化模板块，以提高转化率。如本文的公开中所讨论的，物品可以包括产品或服务。

[0024] 在一些示例中，集成插件可以是广泛兼容的并且易于与不同网站一起安装。在一些示例中，集成插件可以以即插即用的方式安装在网站中。在一些示例中，集成插件可以在短时间段(例如，几分钟)内安装，并且可能不需要来自网站的显著编程工作。在一个实施例中，网站可以根本不需要编程工作。许多先前的系统都有障碍，那就是它们需要来自网站的大量编程以提供附加物品，这会对网站造成信息技术(IT)资源瓶颈。

[0025] 在一些示例中，转化率可以指示集成系统的性能。转化率可以是与基本物品一起选择附加物品的次数除以选择基本物品的总次数。

[0026] I.集成插件的示例使用

[0027] 为了提供可以使用集成插件的一个上下文，现在将描述网站上的购买处理。在一个示例中，集成插件可以使网站能够与其它物品(例如，计算机、电话或者任何其它产品或服务)一起交叉销售或增售(up sell)物品(例如，产品保险和保修延期)。

[0028] 在一个说明性示例中，集成插件可以与为电子产品(诸如智能手机)提供保险相关联地使用。例如，当用户在购买智能手机时，可以在用户确认购买智能手机之前显示智能手机保险的报价。使用集成插件，购买智能手机和保险可以是一键式解决方案，使得只需点击一下，用户就可以将智能手机保险附加到购物篮，然后无缝完成交易，而不会打扰购买处理。通过不打扰购买处理，可以提高在线商店的一个或多个交叉销售和/或增售物品的转化率。

[0029] 在另一个说明性示例中，用户可以在线购买自行车，并且在购买处理中为自行车添加防盗保险。其它示例包括但不限于用于各种电子产品(例如，洗碗机、冰箱和手表)、乐器、眼镜、汽车轮胎以及任何可以在线购买和销售的物品的保险和保修延期。其它交叉销售和/或增售的物品可以是TV订阅、买家保护服务或任何其它免费赠送物品。

[0030] 在一些示例中，集成插件可以利用在购买处理期间使用的普通信息。例如，当添加附加物品时，有可能不会要求用户输入任何附加信息。集成插件可以使用已经由用户输入的或者网站知道的信息。例如，附加物品可以要求电子邮件地址和与附加物品相关联的物品的唯一标识符。对于电子设备，唯一标识符可以是电子设备的序列号。例如，如果用户选择使用集成插件购买保险，那么集成插件可以捕获用户的电子邮件地址和正在从网站购买的智能手机的序列号。

[0031] 在一个说明性示例中，集成系统的优化模块可以实时地测量购买物品(例如，自行车)的用户的数量和出售的交叉销售和/或增售的物品(例如，自行车防盗保险)的数量。使用用户的数量以及出售的交叉销售和/或增售的物品的数量，优化模块可以计算转化率。

[0032] 集成插件和优化模块可以用于增加用于网站的附加物品的转化率。在一些示例中，附加物品的呈现可以基于转化率进行调整。呈现还可以取决于所涉及的物品、网站、通

常从网站购物和/或购买的用户以及与可能的客户购买物品相关联的任何其它因素。例如，与销售更昂贵的物品的高档商店相比，销售便宜物品的低端商店可以有完全不同的目标群体。不同的商店可以要求不同的附加物品以及附加物品的不同类型的通信或呈现。

[0033] 在一些示例中，集成插件可以用于显示具有从集成系统接收的一个或多个附加物品的报价。该报价可以以不同的显示特点(例如，消息文本、标题、颜色、徽标、结构、用户流，等等)呈现。此外，可以改变附加物品的一个或多个属性。例如，可以取决于保险的价格点来改变保险持续的时间长度。对于另一个示例，保险覆盖的事情可以改变。通过改变一个或多个属性，可以使交叉销售或增售的商品的价格适合用户的预算。

[0034] II.集成系统

[0035] 图1图示了网站110和集成系统120的示例。网站110可以在客户端计算机和网站之间的交互期间将一个或多个网页发送到客户端计算机。在一些示例中，一个或多个网页中的网页112可以包括物品(例如，基本物品)。网页112可以包括模板块114，其可以包括与基本物品相关联的一个或多个附加物品。网站110还可以包括网站的核心应用116和集成插件118。网站的核心应用116可以向网站110提供控制和功能。集成插件118可以在网站110和集成系统120之间提供连接。在一些示例中，可以使用应用编程接口(API)(例如，具象状态传输API(REST-API))来促进网站110和集成系统120之间的通信。

[0036] 集成系统120可以确定向用户呈现附加物品的格式。格式可以是模板块114的形式。模板块114可以包括与附加物品相关联的信息。为了将模板块114添加到网页112，网页112可以包括一个或多个钩子(hook)(例如，web钩子)。一个或多个钩子可以位于网页112的各个部分中，以允许模板块114被插入到各个部分中。使用一个或多个钩子，集成插件118可以将模板块114插入到网页112中。模板块114的内容可以从与集成系统120相关联的一个或多个服务器发送。通过远程存储数据和内容，集成系统120可以允许快速和自动的改变，而不需要修改网站110。

[0037] 集成系统120还可以分析与模板块114的交互(例如，用户选择附加物品)。集成系统120还可以包括核心应用(例如，集成系统的核心应用122)，其可以提供集成系统120的控制和功能。

[0038] 集成系统可以包括优化模块124，该模块可以识别附加物品、识别如何向用户呈现附加物品、确定何时在网页上显示附加物品、通过分析用户对附加物品的响应来执行整个处理的优化，或这些的任意组合。在一些示例中，优化模块124可以基于先前的附加物品与相同的用户或不同的用户一起工作有多好来改变模板块114中附加物品的呈现和/或内容。在一些示例中，优化模块124可以确定在网站110的网页上显示的基本物品是否是应当为其显示附加物品的基本物品。该确定可以在集成插件118被安装之后进行，而不需要网站110所需的进一步定义。在一些示例中，优化模块124还可以识别购买处理中附加物品应当被显示给用户的一个或多个网页。

[0039] 优化模块124可以包括插件管理用户界面126。插件管理用户界面126可以为与集成系统120相关联的用户提供用户界面，以与优化模块124交互。优化模块124可以使用物品匹配模块128、物品配置模块130、用户体验(UX)配置模块132、实时性能跟踪模块134或其任意组合中的至少一个或多个。

[0040] 物品匹配模块128可以将显示给用户的网页上的基本物品与一个或多个附加物品

匹配。物品配置模块130可以为用户确定附加物品的一个或多个属性。UX配置模块132可以用于优化附加物品向用户的呈现。实时性能跟踪模块134可以跟踪用户与模板块的交互。

[0041] 集成插件118可以使用通用技术(例如,JavaScript)在不同的浏览器上工作。集成插件118不需要基于网站类型的单独定制,从而允许更容易地显示模板块114、传送用户数据以及物品匹配。此外,如果用户选择附加物品,那么集成插件118可以将与附加物品相关联的信息发送到集成系统的核心应用122,该核心应用将转发到实时性能跟踪模块134,以用于跟踪目的。

[0042] 集成插件118还可以从网站的核心应用116接收与网页上的基本物品(例如,在购物车中或由用户选择)相关联的信息。在其它示例中,集成插件118可以使用针对网站110的具体标签和/或具体种类的应用程序接口(API)调用来请求与基本物品相关联的信息。集成插件118然后可以将与基本物品相关联的信息发送到集成插件118,以供优化模块124进行分析。因为与基本物品相关联的信息没有跨网站标准化,所以集成插件118可以将与基本物品相关联的信息格式化为优化模块124所使用的公共格式。集成系统的核心应用122可以从集成插件118接收与基本物品关联的信息,并将该信息发送到优化模块124,以从物品的数据库中确定一个或多个附加物品。

[0043] 在一些示例中,在与网站的交互期间由用户输入的信息可以从集成插件118被发送到集成系统的核心应用122。由用户输入的信息可以与附加物品相关地使用(例如,用于保险或未来对应性的所需信息)。可以被发送到集成系统的核心应用122的、来自用户或网页的其它信息可以由集成系统120存储。

[0044] 一旦集成系统的核心应用122识别出要向用户显示的基本物品的匹配,就可以从数据库中选择与基本物品相关联的附加物品。选择可以是随机选择,或者按照既定的规则选择,诸如对于某些基本物品仅显示具有12个月期限的产品保险。

[0045] 在一些示例中,物品配置模块130可以识别由物品匹配模块128识别出的附加物品的一个或多个属性(例如,保险的成本和条款)。物品配置模块130然后可以确定如何为用户配置附加物品。UX配置模块132可以确定附加物品的布局、格式或任意组合。

[0046] 集成系统的核心应用122可以利用定制的模板块以及在哪里显示定制的模板块的指令来响应集成插件118。这些指令可以包括两个或更多个预先配置的页面元素标识符。预先配置的页面元素标识符之一可以是将模板块114钩到其上的页面元素。另一个预先配置的页面元素标识符可以是可导向任何其它页面并由此确定与特定页面的交互的结束的一个或多个页面元素。使用两个或更多个预先配置的页面元素标识符,可以在用户和网站之间的交互期间的任何阶段在模板块114中显示与附加物品相关联的信息。因此,甚至在用户完成交互之前,也可以向用户显示附加物品。用户只需点击一下即可选择它,从而将其添加到购物篮中。用户还可以确认附加物品的购买。

[0047] 如上所述,实时性能跟踪134可以提供数据的实时性能跟踪,包括以下至少一个或多个:(1)用户是否在包括附加物品的情况下完成了交互,(2)用户是否在不包括附加物品的情况下完成了交互,(3)用户是否点击了附加物品,(4)或其任意组合。

[0048] 使用上述数据,实时性能跟踪模块134可以跟踪与网站110相关联的基本物品和附加物品的匹配率和/或转化率。实时性能跟踪模块134可以从网站收集信息,以测量转化率。例如,如果一家商店售出100辆自行车,并且对于那100辆自行车,购买了10份产品保险,那

么转化率为10％。完整的信息可用于监视和优化转化率。

[0049] 实时性能跟踪模块134还可以跟踪网站110的未完成销售的数量以及附加物品被显示多少次以及附加物品的拒绝率是多少。例如，拒绝率可以指示当潜在用户开始与网站交互时，但是该用户从未到达交互的结尾以实际完成交互。

[0050] 此外，可以有若干优化周期，以便最大化转化率。实时性能跟踪134可以跟踪用户的印象，这意味着每次当用户与网站的交互进展时，它可以跟踪。例如，每次当模板块被显示时，实时性能跟踪134可以跟踪。实时性能跟踪134可以确定是否显示附加物品(例如，附加物品是否是可保险的或者物品匹配模块128是否已经识别出用于当前显示的附加物品)。实时性能跟踪134可以跟踪用户完成的销售，并识别所选择的销售(其中与基本物品一起选择了附加物品)、未选择的销售(其中未与基本物品一起选择附加物品)以及不匹配的销售(其中未与基本物品一起显示附加物品)。

[0051] 所选择的和未选择的信息对于确定网站110的匹配率可以是重要的。可以期望将附加物品与网站110中尽可能多的基本物品匹配。如果新的基本物品被添加到网站110，那么该新的基本物品可以被识别并且匹配到一个或多个附加物品。

[0052] 在一些示例中，网站110可以包括不期望与附加物品一起呈现的一个或多个基本物品。例如，备件(诸如笔记本电脑的充电器，其是独立物品)可能不期望与保险匹配。通过跟踪转化率，优化模块124可以确定不向用户呈现在网页上显示的基本物品的附加物品。

[0053] 通过对物品匹配模块128的审查处理进行自动化或半自动化，优化模块124还可以解决存在于其它系统中的手动审查和更新问题。例如，可以有来自网站的所有基本物品的半自动化物品匹配，有人批准匹配。对于另一个示例，实时性能跟踪模块134可以对匹配率或转化率的改变作标记以审查。在一些示例中，人可以审查标记。针对新基本物品以上描述的相同处理可以重新开始，以审查网站110中的所有基本物品。该处理可以发生，以改变与显示在网页上的基本物品相关联的附加物品并且基于先前的交互改变附加物品的呈现。

[0054] III.与网站交互期间的数据流

[0055] 如上所述，集成系统可以与网站一起实现。在一些示例中，网站可以向用户发送一个或多个网页。在这种示例中，网页可以包括到集成系统的链接，以促进网页上附加物品的呈现。

[0056] 图2是图示用户可以从网站接收的各种网页的流程图。用户可以从与企业相关联的网站(例如，网站110)接收第一网页。第一网页可以是主页210。主页210可以包括可以使第一网页前进到第二网页的各种链接。主页210上的第一链接可以将用户带到物品类别页面220。物品类别页面220可以显示包括在物品类别中的一个或多个基本物品。主页210上的第二链接可以将用户带到物品细节页面230。物品细节页面230可以显示与基本物品相关联的信息。在一些示例中，物品类别页面220可以包括类似于第二链接的、将用户带到物品细节页面230的链接。

[0057] 从主页210、物品类别页面220或物品细节页面230中的一个或多个，可以包括使基本物品被添加到购物车的链接。在一些示例中，购物车可以由网站存储。购物车可以包括用户已经指示感兴趣的物品的列表。可以以本领域普通技术人员已知的多种多样的方式来访问购物车，包括到购物车页面(例如，购物车页面240)的链接。在一些示例中，购物车可以是当前网页上的弹出窗口。在其它示例中，购物车可以被包括在当前网页上。

[0058] 用户可以前进到购物车页面240，或购物车的任何其它形式。购物车页面240可以进一步包括用户未指示感兴趣的附加物品。如上面所讨论的，附加物品可以在模板块中的购物车页面240上显示。用户可以指示用户是否会喜欢这些附加物品中的一个或多个。通过使用链接前进到结账确认页面250，可以确认一个或多个物品(包括一个或多个基本物品和零个或更多个附加物品)。在购买已经从结账确认页面250结束和/或确认之后，可以显示成功页面260。

[0059] 在上述处理中，用户可以随时退回到前一页面，甚至可以一遍又一遍迭代多步，只要用户没有结束交互(这可以将用户带到成功页面260)。在一些示例中，集成插件(如上所述)可以存储模板块的状态。通过存储模板块，集成插件可以确保模板块可以在不同的网页上以连续、统一的方式呈现。例如，当用户在网页之间来回导航时，可以给予用户相同或相似的模板块。

[0060] 图3图示了用于使用集成插件来呈现与基本物品相关联的一个或多个附加物品的序列的示例。如上面所讨论的，该序列可以与用户前进通过网页相关联。在动作1，用户可以使用连接到互联网的电子设备(例如，计算机、手机，等等)导航到网站的网页。网页可以是以上讨论的任何页面，包括与网站相关联的初始网页(例如，主页210)。

[0061] 在动作2，电子设备可以从网站接收网页。网页可以包括集成插件。集成插件可以在电子设备上执行。一旦被执行，集成插件就可以与集成系统(例如，集成系统120)通信。

[0062] 在动作3，集成插件可以从集成系统请求脚本。脚本可以是由电子设备加载的一段逻辑(例如，JavaScript代码)。

[0063] 在动作4，一旦从集成系统接收到脚本，电子设备就可以使用用户的浏览器执行脚本，或者请求由用户的浏览器完成脚本的执行。包括在脚本中的逻辑可以用于管理网站和集成系统之间的连接。

[0064] 在一些示例中，基于每个网站如何存储和呈现物品信息和用户信息，对于每个网站，脚本和集成插件可以是不同的。在一些示例中，对于每个网站，物品信息和用户信息的呈现和格式可以变化。此外，由脚本控制的指令集对于每个网站可以是不同的。

[0065] 脚本可以识别网页上的基本物品。在一些示例中，识别出的基本物品可以(1)由用户选择；(2)包括在与用户相关联的购物车中；或(3)位于当前显示的网页上。

[0066] 在动作5和6，脚本可以确定电子设备的本地存储是否包括(1)用于所标识的基本物品的附加物品；以及(2)附加物品的模板块。

[0067] 在一些示例中，本地存储可以是保存在电子设备上的cookie。在其它示例中，本地存储可以是电子设备上的存储器位置，包括与安装在电子设备上的网络浏览器相关联的存储装置。

[0068] 在动作7，如果本地存储不包括附加物品，那么脚本可以从集成系统请求附加物品的识别，其中附加物品将与识别出的基本物品相关联。在一些示例中，本地存储可以是空的，因为附加物品尚未针对基本物品被识别出，或者自从物品匹配发生以来识别出的基本物品已改变。该脚本可以将与识别出的基本物品相关联的信息发送到集成系统。

[0069] 在动作8，集成系统可以尝试将基本物品与一个或多个附加物品进行匹配。是否找到匹配的确定可以从集成系统发送到脚本。与匹配的附加物品相关联的数据也可以从集成系统发送到脚本。

[0070] 在动作9,如果本地存储310包括针对基本物品的匹配或者从集成提供者350接收到匹配,那么可以在加载在用户的浏览器上的当前页面上呈现附加物品。

[0071] 在动作10,用户可以选择附加物品(例如,将附加物品添加到与用户相关联的购物车)。用户也可以选择在具有或不具有附加物品的情况下继续前进。

[0072] 在动作11,在离开当前页面之前,脚本可以从当前页面接收与附加物品的选择状态相关联的信息。

[0073] 在动作12,当脚本接收到与选择状态相关联的信息时,脚本可以将与选择和附加物品相关联的信息存储在电子设备上的本地存储中。

[0074] 上述处理中的动作可以重复无限次,直到用户结束交互。在每个附加页面中,可以在页面中包括附加的或不同的集成插件,该插件可以从集成系统请求附加脚本。虽然由电子设备接收的附加脚本可以与该脚本相同,但是仍然可以在每个新页面上请求附加脚本。

[0075] 在动作13,用户可以结束交互。在一些示例中,当用户结束交互时,网站可以将用户带到确认页面(例如,结账确认页面250),然后带到成功页面(例如,成功页面260)。在其它示例中,网站可以将用户直接带到成功页面(如动作14所示)。

[0076] 在动作15,一旦用户已经开始结束交互(例如,通过前进到确认或成功页面),就可以从集成系统请求第二脚本。第二脚本可以确定发送到集成系统的、总结交互的信息。在一些示例中,第二脚本可以与上述脚本相同。命名第二脚本可以是标志当电子设备接收到新页面时在电子设备上接收并执行附加脚本。

[0077] 在动作16,可以从网页(例如,确认页面或成功页面)执行第二脚本。

[0078] 在动作17,第二脚本可以确定交互的当前状态,包括是否已经选择了附加物品。在一些示例中,脚本可以通过查看电子设备的本地存储来识别是否已经选择了附加物品。

[0079] 在动作18,第二脚本可以发送与交互的当前状态相关联的信息。

[0080] 在动作19,第二脚本可以从集成系统接收响应。响应可以包括基于交互的当前状态要在当前网页上显示的信息。例如,如果已经选择了附加物品,那么要显示在当前网页上的信息可以包括关于附加物品的信息。

[0081] 在动作20,可以使用来自集成系统的响应在网页上向用户显示网页。

[0082] Ⅳ.用于提供在线环境的方法

[0083] 上面讨论的在线环境可以从客户端设备的角度以及从集成系统的角度来看待。虽然与每个角度相关联的方法可以是相似的,但是对于两者来说都存在独特的步骤,这将在下面讨论。

[0084] A.客户端设备的角度

[0085] 图4是从客户端计算机的角度来看用于在客户端计算机上提供在线环境的方法400的流程图。方法400可以由客户端计算机系统执行,客户端计算机系统可以包括能够加载和执行集成插件的互联网浏览器。

[0086] 在410,客户端计算机可以接收网页。网页可以包括插件模块。网页还可以包括第一物品的标识。第一物品可以是用户已经指定感兴趣的物品。在其它示例中,第一物品可以是如上面所讨论的基本物品。网页可以使用客户端计算机加载在客户端计算机系统的浏览器中。

[0087] 在420,客户端计算机可以执行插件模块。插件模块可以用于与集成服务器计算机

通信。在一些示例中，插件模块可以是网页的不可见组件。

[0088] 在430，插件模块可以用于从集成服务器计算机请求集成脚本。插件模块可以使用集成脚本来从集成服务器计算机获得与第一物品相关联的附加物品。

[0089] 在440，客户端计算机可以响应于对集成脚本的请求而接收第一集成脚本。响应于可以意味着，由于对集成脚本的请求，第一集成脚本从集成服务器计算机发送，并由客户端计算机接收。在一些示例中，一旦集成服务器计算机接收到对集成脚本的请求，就可以发送第一集成脚本。

[0090] 在450，插件模块可以通过将第一集成脚本加载到用户的浏览器中或者请求由浏览器完成这个动作来执行第一集成脚本。第一集成脚本可以确定与第一物品相关联的附加物品是否被包括在浏览器或客户端计算机的本地存储中。第一集成脚本还可以确定本地存储是否包括模板块、交互的状态或其任意组合。如果这些对象存在，那么第一集成脚本可以前进到490，否则前进到460。

[0091] 在460，第一集成脚本可以发送对与第一物品相关联的物品的物品请求。物品请求可以发送到集成服务器。然后，集成服务器可以搜索与第一物品相关联的附加物品。

[0092] 在470，客户端计算机可以接收与第二物品相关联的信息。第二物品可以是集成服务器计算机识别出的附加物品。第二物品可以与第一物品相关联。可以响应于物品请求而接收与第二物品相关联的信息。在一些示例中，在接收到物品请求之前，与第二物品相关联的信息可以已经被保存在集成服务器计算机上。在其它示例中，当接收到物品请求时，集成服务器计算机可以搜索数据库中与第一物品相关联的物品。在一些示例中，与第二物品相关联的信息可以包括在网页上显示第二物品的格式、第二物品的标识、将与第二物品相关联的信息的至少一部分放在网页上的位置，以及第二物品的变体。变体可以包括第二物品针对与客户端计算机关联的用户的定制。

[0093] 在480，可以更新网页，以包括与第二物品相关联的信息的至少一部分。在一些示例中，在网页被更新之前，第一集成脚本可以确定该网页是被包括在与第二物品相关联的信息中的一个或多个网页中的一个。如果该网页不是这一个或多个网页中的一个，那么网页可以不被更新。

[0094] 在490，可以在客户端计算机的浏览器中呈现更新后的网页。在一些示例中，当用户离开当前页面时，与网页相关联的信息(包括格式、第二物品、位置、变体或其任意组合)可以被存储到浏览器的本地存储中。信息也可以存储到客户端计算机的本地存储中。

[0095] 在一些示例中，方法400还可以包括客户端计算机从用户接收与第二物品相关联的选择。例如，用户可以点击第二物品。响应于该选择，可以发送对来自网站的第二页面(例如，成功页面)的网页请求。

[0096] 在一些示例中，客户端计算机可以从网站接收第二页面。第二页面可以包括第二插件模块。在第二插件模块在客户端计算机上执行之后，第二插件模块可以向集成服务器计算机发送对第二集成脚本的第二请求(或另一个请求)。在一些示例中，第二集成脚本可以与第一集成脚本相同。第二集成脚本可以由客户端计算机接收并在客户端计算机上执行。在一些示例中，第二插件模块和第二集成脚本可以是第二网页的不可见组件。第二插件模块和第二集成脚本可以分别是第一插件模块和第一集成脚本的副本。可以要求对第二集成脚本的请求，因为在网页改变时加载了不同的页面并且第一集成脚本已经完成。

[0097] 在一些示例中，第二集成脚本可以将与选择相关联的信息发送到集成服务器计算机。作为响应，客户端计算机可以从集成服务器计算机接收信息，以显示在成功页面上。

[0098] 在一些示例中，可以更新第二网页，以包括信息的至少一部分，以在第二网页上显示。客户端计算机然后可以显示更新后的第二网页。

[0099] B.集成服务器的角度

[0100] 图5是从服务器计算机系统(例如，集成系统120)的角度来看用于在客户端计算机上提供在线环境的方法500的流程图。方法500可以由服务器计算机系统执行。

[0101] 在510，服务器计算机系统可以接收对集成脚本的第一脚本请求。第一脚本请求可以使用插件模块从客户端计算机发送。在520，服务器计算机系统可以响应于第一脚本请求而发送第一集成脚本。第一集成脚本可以被发送到客户端计算机。

[0102] 在530，服务器计算机系统可以接收对与第一物品相关联的物品的物品请求。第一物品可以位于网页上，以供客户端计算机显示。对该物品的物品请求可以由客户端计算机使用第一集成脚本发送。

[0103] 在540，服务器计算机系统可以通过向数据库查询与第一物品相关联的物品来识别第二物品。数据库可以包括多个物品。第二物品可以与第一物品相关联。

[0104] 在一些示例中，服务器计算机系统可以确定显示与第二物品相关联的信息的至少一部分的格式。在这种示例中，与第二物品相关联的信息可以包括格式和将与第二物品相关联的信息放在网页上的位置。服务器计算机系统还可以确定与第二物品相关联的信息的一个或多个页面以被显示。在这种示例中，与第二物品相关联的信息可以包括一个或多个页面的标识。服务器计算机系统还可以基于与客户端计算机相关联的用户来确定第二物品的变体。与第二物品相关联的信息可以还包括该变体。

[0105] 在550，服务器计算机系统可以生成与第二物品相关联的信息。在560，服务器计算机系统可以将与第二物品相关联的信息发送到客户端计算机。

[0106] 在一些示例中，方法500还可以包括服务器计算机系统从客户端计算机接收对集成脚本的第二脚本请求(或另一个脚本请求)。服务器计算机系统可以响应于第二脚本请求而向客户端计算机发送第二集成脚本。在一些示例中，第二集成脚本可以与第一集成脚本相同。

[0107] 在一些示例中，方法500可以还包括服务器计算机系统从客户端计算机接收成功消息。成功消息可以指示对第二物品的选择。作为响应，服务器计算机系统可以向客户端计算机发送与选择第二物品相关联的信息。

[0108] Ⅴ.计算机系统

[0109] 本文提到的任何计算机系统可以利用任何合适数量的子系统。这种子系统的示例在图6中在计算机系统10中示出。在一些实施例中，计算机系统包括单个计算机装置，其中子系统可以是该计算机装置的组件。在其它实施例中，计算机系统可以包括具有内部组件的多个计算机装置，每个计算机装置是子系统。

[0110] 图6中所示的子系统经由系统总线75互连。示出了附加子系统，诸如打印机74、键盘78、(一个或多个)存储设备79、耦合到显示适配器82的监视器76等。耦合到I/O控制器71的外围设备和输入/输出(I/O)设备可以通过本领域已知的任何数量的方式(诸如输入/输出(I/O)端口77(例如，USB、FireWire®))连接到计算机系统。例如，可以使用I/O端口77

或外部接口81(例如,以太网、Wi-Fi等等)将计算机系统10连接到广域网(诸如互联网)、鼠标输入设备或扫描仪。经由系统总线75的互连允许中央处理器73与每个子系统通信并且控制来自系统存储器72或(一个或多个)存储设备79(例如,固定盘,诸如硬盘驱动器或光盘)的指令的执行以及子系统之间的信息交换。系统存储器72和/或(一个或多个)存储设备79可以体现计算机可读介质。本文提到的任何数据都可以从一个组件输出到另一个组件,并且可以输出到用户。

[0111] 计算机系统可以包括多个相同的组件或子系统,例如通过外部接口81或通过内部接口连接在一起。在一些实施例中,计算机系统、子系统或装置可以通过网络通信。在这种情况下,一台计算机可以被认为是客户端,另一台计算机是服务器,其中每台计算机可以是同一个计算机系统的一部分。客户端和服务器可以各自包括多个系统、子系统或组件。

[0112] 应当理解的是,本发明的任何实施例可以以模块化或集成的方式利用通常可编程的处理器使用计算机软件和/或使用硬件(例如,专用集成电路或现场可编程门阵列)以控制逻辑的形式来实现。如本文所使用的,处理器包括单核处理器、同一集成芯片上的多核处理器,或者单个电路板上或联网的多个处理单元。基于本文提供的公开内容和教导,本领域普通技术人员将会知道并且认识到使用硬件以及硬件和软件的组合来实现本发明实施例的其它方式和/或方法。

[0113] 本申请中描述的任何软件组件或功能可以使用例如常规或面向对象的技术使用任何合适的计算机语言(诸如像Java、C、C++、C#、Objective-C、Swift或脚本语言(诸如Perl或Python))被实现为要由处理器来执行的软件代码。软件代码可以被存储为用于存储和/或传输的计算机可读介质上的一系列指令或命令,合适的介质包括随机存取存储器(RAM)、只读存储器(ROM)、磁性介质(诸如硬驱或软盘),或光学介质(诸如光盘(CD)或DVD(数字多功能盘)、闪速存储器),等等。计算机可读介质可以是此类存储或传输设备的任意组合。

[0114] 这种程序也可以使用适合于经由符合多种多样的协议的有线、光学和/或无线网络(包括互联网)传输的载波信号来编码和发送。因此,根据本发明实施例的计算机可读介质可以使用用这种程序编码的数据信号来创建。用程序代码编码的计算机可读介质可以与兼容的设备包装在一起,或者与其它设备分开提供(例如,经由互联网下载)。任何此类计算机可读介质都可以驻留在单个计算机产品(例如,硬驱、CD或整个计算机系统)上或内部,并且可以存在于系统或网络内的不同计算机产品上或内部。计算机系统可以包括监视器、打印机或其它合适的显示器,用于向用户提供本文提到的任何结果。

[0115] 本文描述的任何方法可以全部或部分地用包括一个或多个处理器的计算机系统来执行,处理器可以被配置为执行步骤。因此,实施例可以针对被配置为执行本文描述的任何方法的步骤的计算机系统,潜在地具有执行相应步骤或相应步骤组的不同组件。虽然以编号的步骤呈现,但是本文的方法的步骤可以同时执行或以不同的次序执行。此外,这些步骤的部分可以与来自其它方法的其它步骤的部分一起使用。而且,步骤的全部或部分可以是可选的。此外,可以用模块、电路或用于执行这些步骤的其它手段来执行任何方法的任何步骤。

[0116] 在不背离本发明实施例的精神和范围的情况下,可以以任何合适的方式来组合特定实施例的具体细节。但是,本发明的其它实施例可以针对与每个单独方面或这些单独方面的具体组合相关的具体实施例。

[0117] 已经出于说明和描述的目的给出了对本发明的示例性实施例的以上描述。这并不旨在是详尽的或者将本发明限制于所描述的精确形式，鉴于上述教导，许多修改和变化是可能的。实施例的选择和描述是为了最好地解释本发明的原理及其实践应用，从而使本领域其他技术人员能够在各种实施例中并且以适于预期特定用途的各种修改来最佳地利用本发明。

[0118] 除非特别指出为相反，否则对“一”、“一个”或“该”的引用旨在表示“一个或多个”。除非特别指出为相反，否则“或”的使用旨在表示“包含性的或(inclusive or)”而不是“排他性的或(exclusive or)”。

[0119] 本文提到的所有专利、专利申请、出版物和描述都通过引用整体上并入，用于所有目的。没有一个被承认是现有技术。

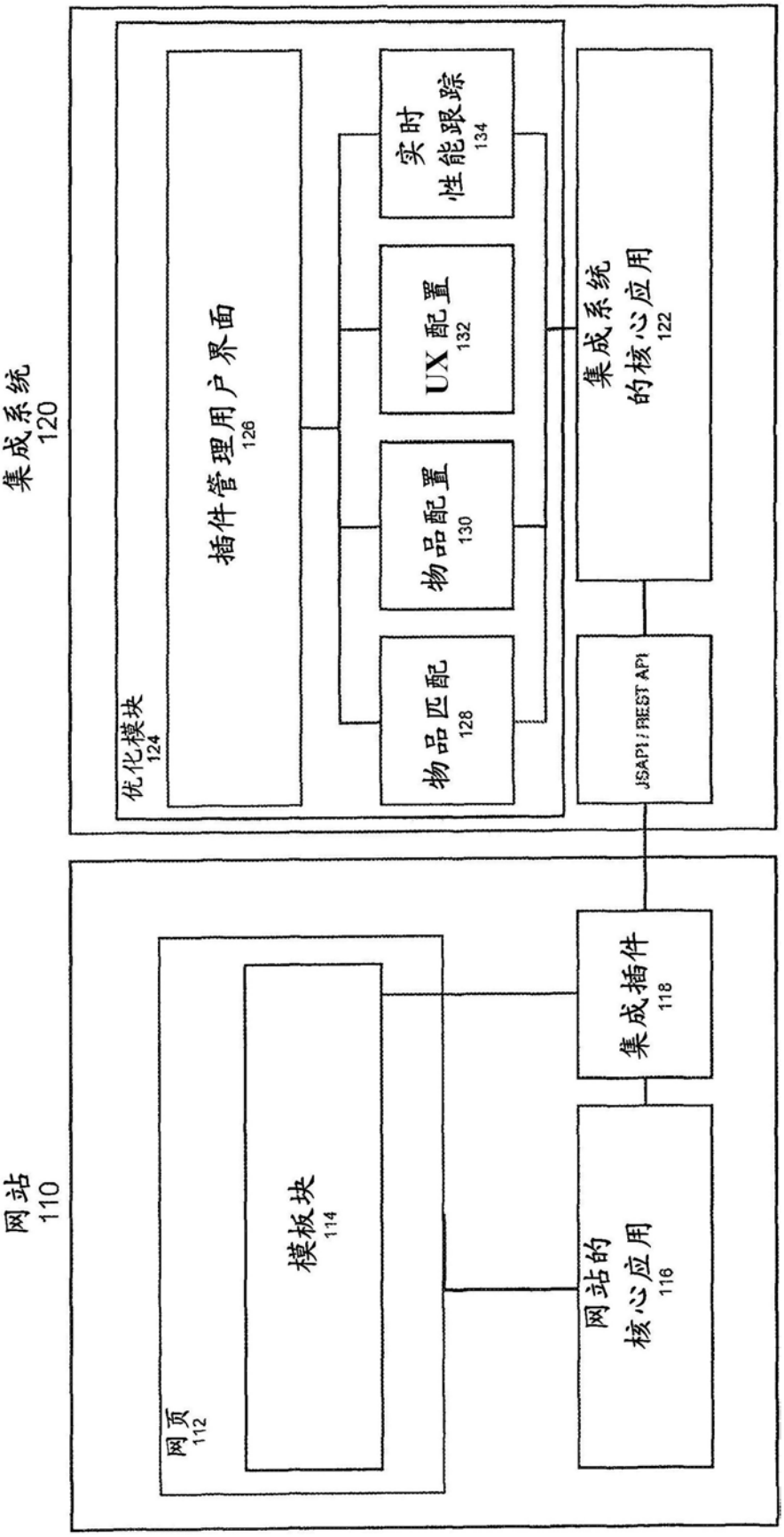
网站
110
网页
112
模板块
114
网站的
核心应用
116
集成插件
118
集成系统
120
优化模块
124
插件管理用户界面
126
物品匹配
128
物品配置
130
UX 配置
132
实时
性能跟踪
134
集成系统
的核心应用
122
JSAPI / REST API

图1

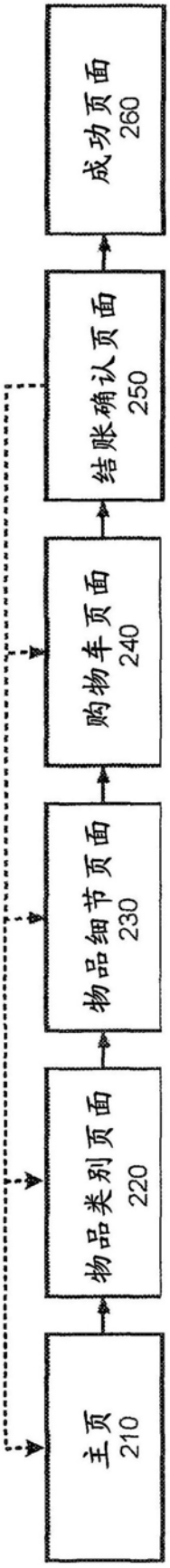

图2

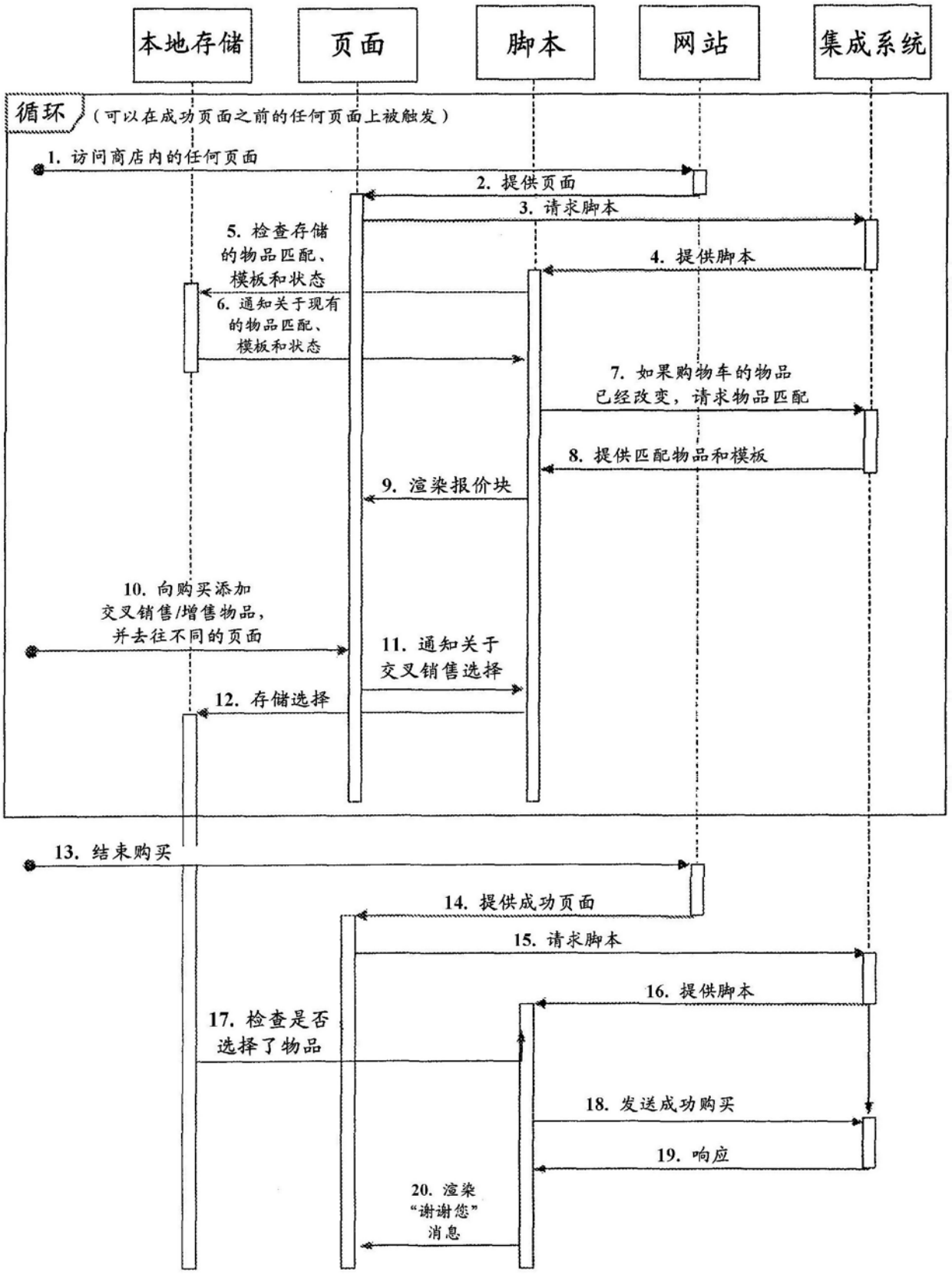
本地存储
页面
脚本
网站
集成系统
循环
（可以在成功页面之前的任何页面上被触发）
1. 访问商店内的任何页面
2. 提供页面
3. 请求脚本
4. 提供脚本
5. 检查存储的物品匹配、模板和状态
6. 通知关于现有的物品匹配、模板和状态
7. 如果购物车的物品已经改变，请求物品匹配
8. 提供匹配物品和模板
9. 渲染报价块
10. 向购买添加交叉销售/增售物品，并去往不同的页面
11. 通知关于交叉销售选择
12. 存储选择
13. 结束购买
14. 提供成功页面
15. 请求脚本
16. 提供脚本
17. 检查是否选择了物品
18. 发送成功购买
19. 响应
20. 渲染“谢谢您”消息

图3

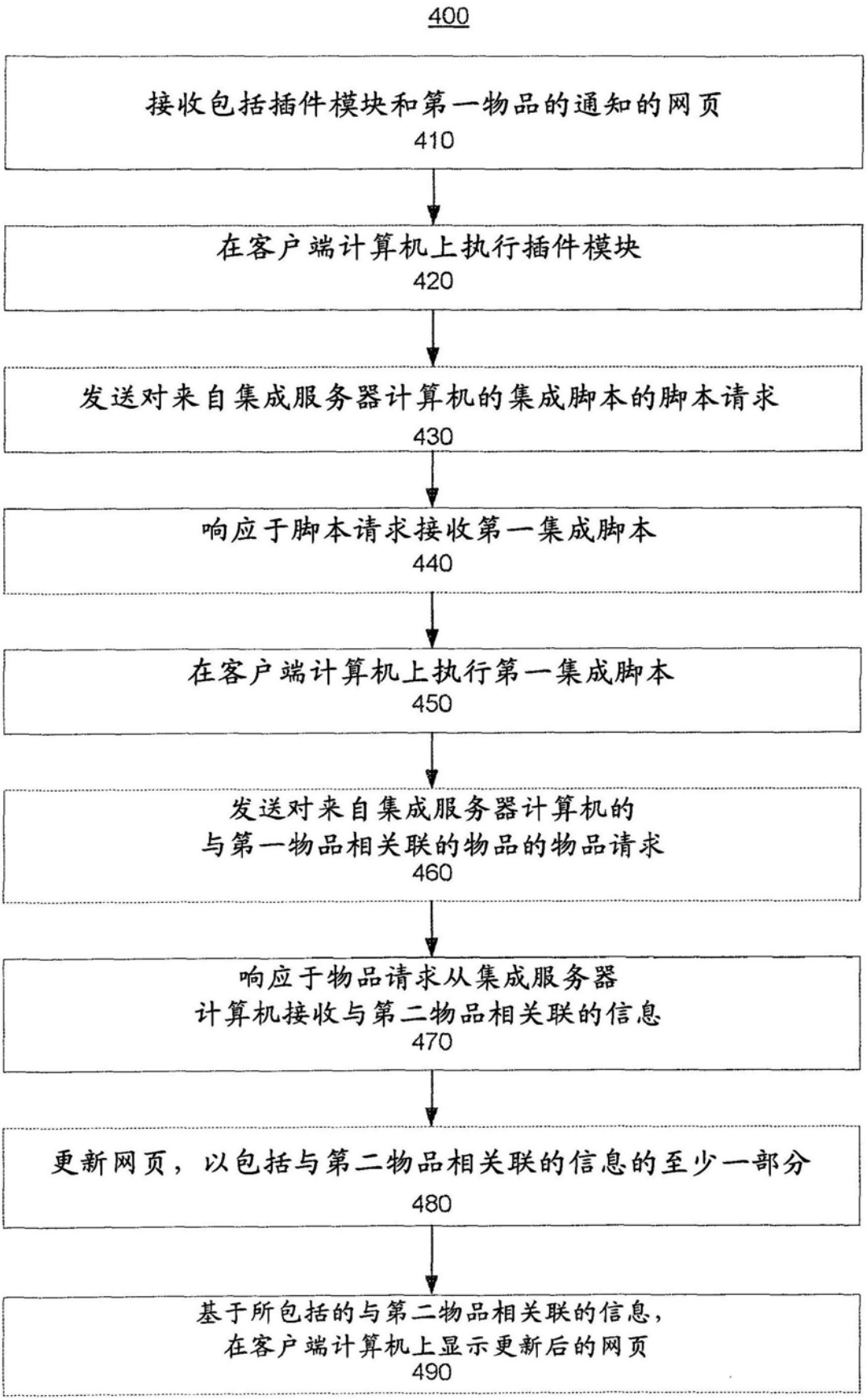
400
接收包括插件模块和第一物品的通知的网页
410
在客户端计算机上执行插件模块
420
发送对来自集成服务器计算机的集成脚本的脚本请求
430
响应于脚本请求接收第一集成脚本
440
在客户端计算机上执行第一集成脚本
450
发送对来自集成服务器计算机的
与第一物品相关联的物品的物品请求
460
响应于物品请求从集成服务器
计算机接收与第二物品相关联的信息
470
更新网页，以包括与第二物品相关联的信息的至少一部分
480
基于所包括的与第二物品相关联的信息，
在客户端计算机上显示更新后的网页
490

图4

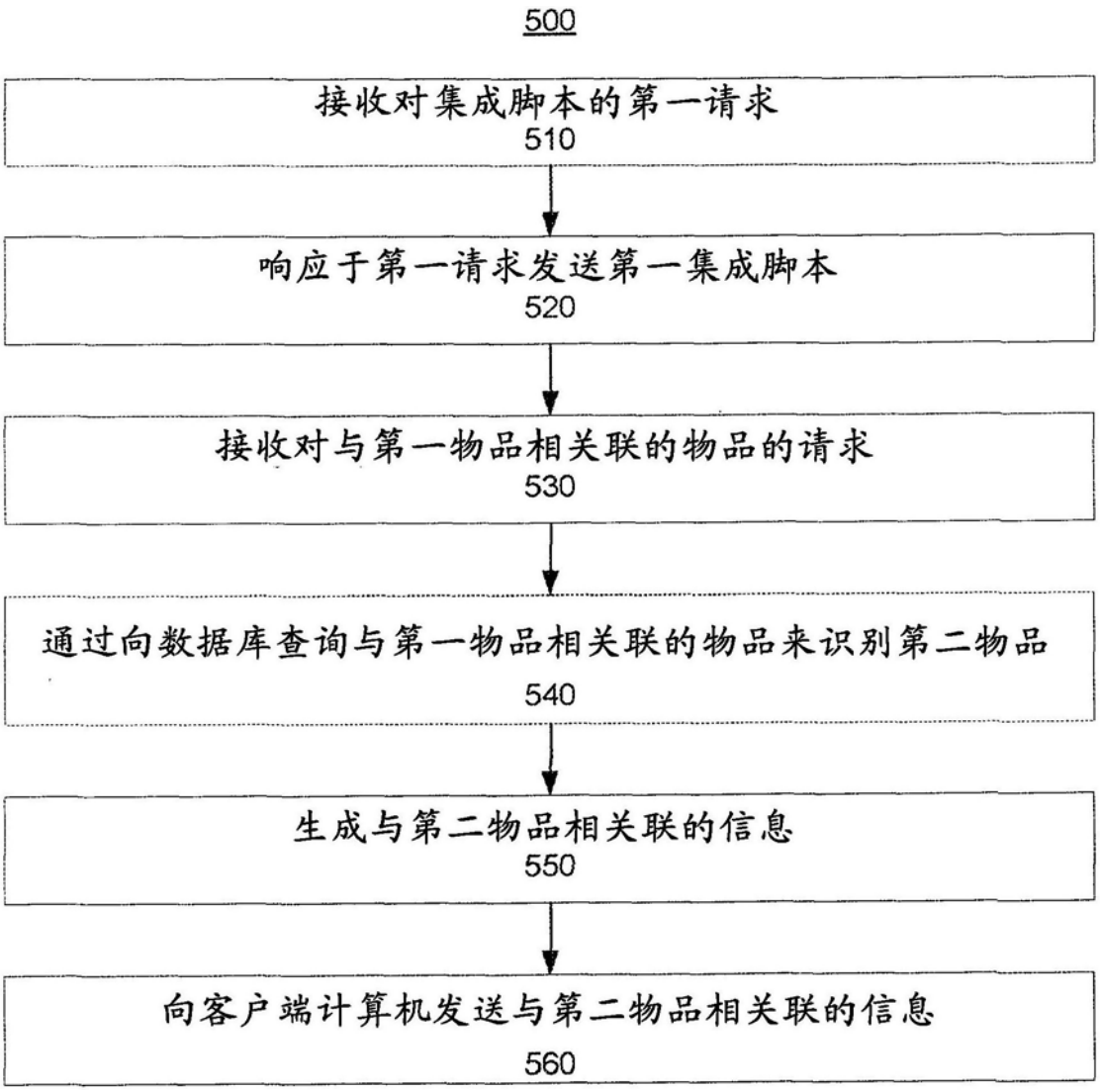
500
接收对集成脚本的第一请求
510
响应于第一请求发送第一集成脚本
520
接收对与第一物品相关联的物品的请求
530
通过向数据库查询与第一物品相关联的物品来识别第二物品
540
生成与第二物品相关联的信息
550
向客户端计算机发送与第二物品相关联的信息
560

图5

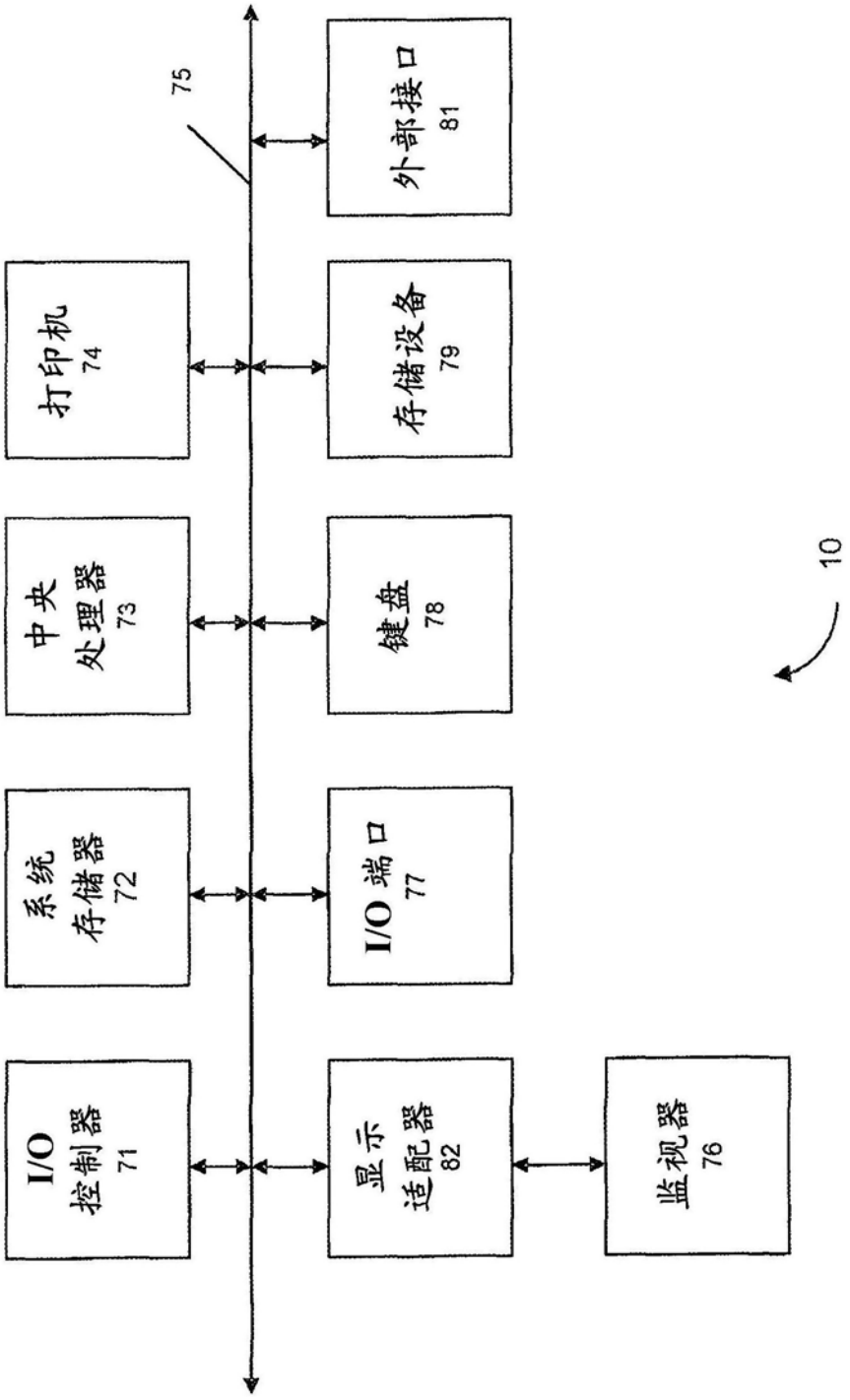
75
外部接口
81
打印机
74
存储设备
79
中央
处理器
73
键盘
78
10
系统
存储器
72
I/O 端口
77
I/O
控制器
71
显示
适配器
82
监视器
76

图6