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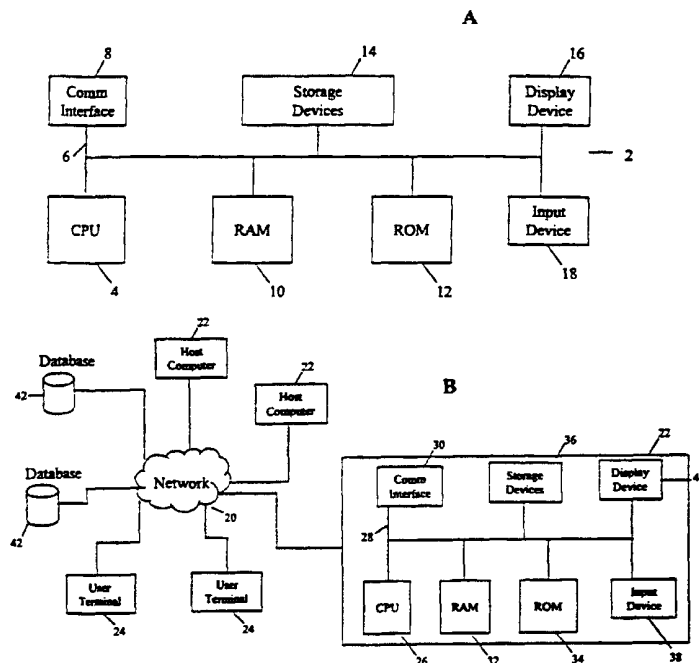
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(54) Title: METHOD AND APPARATUS FOR FACILITATING ELECTRONIC COMMERCE VIA AN ITEMIZED STATEMENT



(57) Abstract: An electronic apparatus for facilitating electronic commerce has a host computer having a processor, a memory and a communications interface. The host computer is programmed to generate an electronic itemized statement including a series of transaction line items, where the line items include customer purchase data. At least one of the transaction line items includes a hyperlink to a merchant page which corresponds to an electronic commerce site of the merchant pertaining to that transaction line item.



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## METHOD AND APPARATUS FOR FACILITATING ELECTRONIC COMMERCE VIA AN ITEMIZED STATEMENT

### Background of the Invention

Credit and debit card issuers have traditionally mailed paper statements to their cardholders. Today these issuers may also provide their cardholders with online statements. The statement data is stored on a web server and accessed by the cardholder's computer. The customer is typically notified of the presence of a new statement by receiving an email notification from the card issuer.

Online statements, such as those provided by First USA, present the customer with a formatted transaction listing having the following information: transaction date, post date, merchant name, transaction number, and amount. The amounts shown in the statement may be selectable hyperlinks. Selecting a particular transaction amount results in the display of corresponding transaction detail information. In particular, the transaction detail information displayed is the transaction date, the merchant name, the merchant category, and the transaction reference number.

Incurrent Solutions, Inc. provides software for creating online statements. In a demonstration accessed through Incurrent's web page, [www.incurrent.com](http://www.incurrent.com), an online statement is shown having the following fields: posted, description, SIC, date, city, state and amount. Each description entry is displayed as a hypertext link. Selecting a particular description entry results in the display of corresponding transaction detail information. The displayed transaction detail information is the posting date, the description (merchant name), SIC, date, city, state, amount, expense category and a personal memo.

American Express also offers statement information online to its cardholders. The displayed transaction information includes the transaction date, merchant name, description of

item purchased and the amount. The displayed web page also includes various advertisements each having a hyperlink to the advertiser's site.

U.S. Patent No. 5,909,492 to Payne et al. describes a network sales system that provides customers with a "smart statement" created from a settlement database. Each purchase transaction record in the smart statement includes the date of transaction, the name of the merchant, an identification of the product, and the payment amount for the product. The smart statement also includes a transaction detail URL for each purchase transaction. When a user requests transaction details for a particular transaction listed on the smart statement, a buyer computer sends a transaction detail URL to a payment computer. The payment computer retrieves from a settlement database data corresponding to the payment transaction specified in the transaction detail URL, creates a transaction detail document and sends it to the buyer computer. The transaction detail document displays information about the transaction including the transaction date, an expiration time, a product description, a payment amount, a product domain, the merchant name and the merchant's address. A user may also request display of a product included in the statement, wherein the buyer computer sends an access URL to a merchant computer.

U.S. Patent No. 5,699,528 to Hogan describes a system where billing data is transmitted from a bill capture device to a server computer via which subscribers are able to access and browse their bills, and pay their bills using one or more accounts such as credit or checking accounts. The billing data is stored in a form that allows subscribers to view full graphics of their bills, print their bills or download them for storage. Payment transactions are routed from the server computer to another network or system such as MasterCard's Banknet, MasterCard Debit Switch system or an automated clearing house (ACH) for credit and/or debit

authorization. Clearing and settlement of the transactions with the appropriate payees are then performed in a conventional manner.

### **Summary of the Invention**

It is an object of the present invention to provide a business process using electronic statements to facilitate electronic commerce involving an existing customer base.

According to an embodiment of the present invention, a system and method are provided for facilitating electronic commerce via an electronic itemized statement. A host computer generates an electronic itemized statement including a series of transaction line items. Each line item includes at least merchant name data, transaction date data and amount data. At least one of the transaction line items includes a hyperlink to a merchant page. The merchant page preferably corresponds to an electronic commerce site of the merchant specified by the merchant name data. After the electronic itemized statement is generated, it is transmitted to a customer computer for processing and displaying of the electronic statement. A customer selects one of the statement's hyperlinks and the corresponding merchant page is fetched and displayed. The customer may then select goods or services offered through the merchant page. In a preferred embodiment, the merchant page is customized based on previously acquired customer registration data.

### **Brief Description of the Drawings**

Other objects and advantages of the present invention will become more apparent by the following description with reference to the accompany drawings, in which:

Figure 1A illustrates a computer system which may be used as a user terminal in the present invention.

Figure 1B illustrates the networked environment of the present invention.

Figure 2 illustrates an exemplary electronic statement of the present invention as it may be displayed by a browser program.

Figures 3A-3C illustrate the various transaction protocols of the present invention.

### **Description of the Preferred Embodiment**

The present invention may be implemented with a computer 2, an example of which is shown in Figure 1A. The computer includes a central processing unit 4 (CPU) connected by a system bus or other connecting means 6 to a communication interface 8, system memory 10 (RAM), non-volatile memory 12 (ROM), and one or more other storage devices 14 such as a hard disk drive, a diskette drive, and a CD ROM drive. The computer may also include an internal or external modem (not shown). The computer also includes a display device 16, such as a CRT monitor or an LCD display, and an input device 18, such as a keyboard, mouse, pen, touch-screen, or voice activation system. The computer 2 stores and executes various programs such as an operating system and application programs. The computer 2 may be embodied, for example, as a personal computer, work station, laptop, mainframe, or a personal digital assistant. The computer 2 may also be embodied as a distributed multi-processor system or as a networked system such as a LAN having a server and client terminals.

In Figure 1B a communication network 20 interconnects one or more host computers 22 with one or more user terminals 24. The network 20 may, for example, include one or more local area networks (LANs), metropolitan area networks (MANs), wide area networks (WANs), or a collection of interconnected networks such as the Internet. The network may be wired, wireless, or some combination thereof. A host computer 22 may, for example, be a world wide web server ("web server"). A user terminal 24 may, for example, be a client device such as a computer 2 shown in Figure 1A.

As shown in Figure 1B a host computer 22 may include a CPU 26 connected by a system bus or other connecting means 28 to a communication interface 30, system memory 32 (RAM), nonvolatile memory 34 (ROM), and a mass storage device 36. The mass storage device 36 may, for example, be a collection of magnetic disk drives in a RAID system. The host computer 22 may also include an input device 38, such as a keyboard, and a display device 40 to allow for control and management by an administrator. Additionally, the host computer 22 may be connected to additional devices such as printers, auxiliary monitors or other input/output devices. The input device 38 and display device 40 may also be provided on another computer (not shown) coupled to the host computer. The host computer 22 may be embodied, for example, as one or more mainframes, workstations, personal computers, or other specialized hardware platforms. The functionality of the host computer 22 may be centralized or may be implemented as a distributed system. As also shown in Figure 1B, the host computer 22 may communicate with one or more databases 42 stored on any of a variety of hardware platforms.

In the preferred embodiment of the present invention, a host computer 22 comprises a web server. A web server stores information documents called pages. A server process listens for incoming connections from clients (e.g., browsers running on a client device). When a connection is established, the client sends a request and the server sends a reply. The request typically identifies a page by its Uniform Resource Locator (URL) and the reply includes the requested page. This client-server protocol is typically performed using the hypertext transfer protocol ("http"). Pages are viewed using a browser program. Pages are written in a language called hypertext markup language ("html"). A typical page includes text and formatting commands called tags. Pages may also include links (pointers) to other pages. Strings of text or images that are links to other pages are called hyperlinks. Hyperlinks are

displayed in a highlighted fashion (e.g., by color, underlining) and may be invoked by placing the cursor on the highlighted area and selecting it (e.g., by clicking the mouse button). A page may also contain a URL reference to a portion of multimedia data such as an image, video segment, or audio file. Pages may also point to a compiled Java program called an applet. When the browser connects to where the applet is stored, the applet is downloaded to the client device and executed there in a secure manner. A web page may also directly contain Javascript code.

Pages may contain forms that prompt a user to enter information or that have active maps. If an online order is submitted via a form, Javascript may be used to check that the user has filled in all the required fields. Data entered by a user may be handled by common gateway interface (CGI) programs. A CGI program is a program that executes on a web server in response to some event. A web page points to a particular CGI program located on the server. A CGI program may be written in any programming language, e.g., Java, C/C++, Perl. Such programs may, for example, provide web users with access to a database. Java servlets may also be used for server-side execution.

Communications over the system of Figure 1B may be secured in a conventional manner. For example, end-to-end channel security between browsers and servers may be provided by the Secure Sockets Layer (SSL) protocol. Well known public key cryptographic techniques as well as symmetric key cryptographic techniques may be employed. Digital certificate technology may also be used.

In the present invention a host computer 22 stores customer transaction records, creates an electronic itemized statement, and sends the electronic statement to a customer's computer 24 for display. The electronic statement may be issued by a general purpose credit card issuer, such as MasterCard, Visa, American Express or Discover. The statement is typically

a report of purchases made with various merchants and includes transaction related fields such as the transaction date, the merchant name and the transaction amount. The electronic itemized statement of the present invention may also be that associated with a store-issued credit card. Such a statement may display, for example, the transaction date, the department name (e.g., Ralph Lauren or Men's Shoes) and the transaction amount. The electronic itemized statement may also be that associated with a debit card, smart card, electronic wallet or any statement generated by a bill payment service. The electronic itemized statement of the present invention may further be an invoice issued in response to purchases that do not involve the use of a card.

Figure 2 shows an example of how an electronic itemized statement 44 may appear when displayed. The electronic statement contains data including, for a given transaction, the transaction date, the merchant name, the purchase description, and the amount. As shown in Figure 2, each displayed merchant name is a hyperlink 46 associated with the URL of a corresponding e-commerce site. Merchants whose customers may receive electronic statements for their purchases are invited to sign-up with the card issuer or third party statement provider for participating in the business methodology of the present invention. Signing-up with the card issuer or statement provider may involve an up-front payment and/or promise of a fee that is based on completed transactions, the number of offers made or some other metric. Affiliated merchants will then have their web sites (either maintained by the merchant or hosted by a third party) referred to by a hyperlink 46 appearing in the electronic statement 44.

In the preferred embodiment of the present invention, the statement recipient initially registers his shopping preferences with the statement provider or a third party and this information is stored in the host computer 22. Various customer specific data may also be stored as a "cookie" in the customer's computer 24. Selection of a merchant hyperlink 46 initiates the

fetching of a specially created shopping page for that merchant which allows the merchant to offer particularized merchandise, sizes and styles that meet the registration criteria.

The statement hyperlinks 46 need not only be embodied in the merchant name or the department name. Other line items relating to the transaction may similarly serve as the hyperlink. The hyperlinks 46 may also initiate other e-commerce routines as discussed below.

The various transaction protocols of the present invention are described as follows with reference to Figures 3A-3C. An electronic statement is accessed by a browser program and displayed for the recipient. Step 50. Alternatively, the electronic statement may be transmitted to the recipient as an electronic mail message. The electronic statement allows the recipient to review his ordered/purchased goods or services and may provide access to a payment routine to enable payment for one or more of the listed items. As shown in Figure 2, a consumer may receive or access an electronic credit card statement online that includes a report of purchases made at several merchants such as the statement listings for ABC Corp., Eric's Boutique and Michael's Fine Dining. By pre-arrangement with the statement issuer or a third party, one or more of the merchants have their statement listings shown as hyperlinks with associated URLs.

Upon review of the statement, the recipient selects one of the aforementioned hyperlinks. Step 52. In the case of a merchant home page protocol, the selected hyperlink points to the home page of the corresponding merchant. The merchant's home page is retrieved by the web server on which it is stored and forwarded to the customer's (i.e., the statement recipient's) browser for display. Step 54.

The merchant's home page displays various product purchase opportunities, both general and special offers. Or, more typically, the merchant's home page will provide further hyperlinks allowing the customer to navigate to a page displaying various product purchase

opportunities. Step 66. In the case of a store issued card, selecting the hyperlink associated with a particular department name (e.g., Men's Shoes) may result in the display of a merchant page. The merchant page may be that of the store which issued the card or perhaps that of the manufacturer of the product purchased. The merchant page will have offers for merchandise and preferably merchandise related to that originally purchased. More typically, the merchant page will contain hyperlinks to pages offering and enabling the on-line purchase of goods or services. The customer responds to the displayed purchase opportunities by selecting items for purchase, and an identification of the selected items are maintained in a virtual "shopping cart". Steps 68 and 70. The customer then submits his purchase order and the purchases are authorized, for example, based on data sourced from the statement issuer. Step 72. Such data typically includes a customer's credit card number.

The selected hyperlink in step 52 may alternatively point to a merchant page hosted by the statement issuer. In this case, a hosted page relating to one or more merchants is retrieved by the web server on which it is stored and forwarded to the customer's browser for display. Step 56. The hosted page preferably enables the on-line purchase of merchandise or services offered by the merchant corresponding to the selected hyperlink 46. However, a shopping page with related or even unrelated merchandise from a different merchant or merchants may also be displayed. As with the merchant home page protocol, the hosted merchant page may display or lead to the display of various product purchase opportunities for the customer. Steps 74 and 68-72. The hosted merchant page may also display various account service opportunities for the customer. Step 76.

As mentioned previously, in the preferred embodiment selecting a hyperlink in step 52 results in the corresponding merchant's web server creating a customer personalized

page based on the customer's pre-registration information. This customized page is then sent to the customer's browser for display. Step 58. A pre-registered customer will receive a personalized page providing information on items that meet his preferences according to the pre-registration information (e.g., showing only casual clothing and all items by Ralph Lauren and Levi's). This customized page may display or lead to the display of a variety of regular and special offers of merchandise or services available from the merchant and its suppliers. Steps 80 and 86.

The customer selects items of interest to get more information or to buy. Multiple items are accumulated in a "shopping cart." Steps 88 and 90. When ready to purchase, the customer clicks "Buy", "Submit Order", or a similar indicator and all the required information is sent to the merchant. Authorization of payment may be automatically provided by the card issuer. Step 92.

When a customer signs up to receive electronic statements he provides identifying information such as a code name and a password. Customers are required to provide this identifying information to log on to the web site having the electronic statements. In one embodiment, this authorization may follow the consumer and serve both to enable receipt of the electronic statement and authorize use of a payment instrument on file for any purchases made during the session. In the case of a credit card statement, the instrument on file would be the credit card data of the card for which the statement was being issued. Each transaction is then individually authorized by the card issuer. Purchase authorization may be made over a conventional authorization network initiated via an electronic wallet server, a merchant server or another third party.

If a customer is not registered with a merchant then the customer can provide registration information which may be stored for example in a merchant database 42. Steps 80 and 82. Registration information includes the customer name and other identifying information as well as various preference information such as men's vs. children's clothing, size, style, and favorite manufacturers. This information is used by the merchant's web server when customizing a page for the customer. In addition, the customer may also register for a loyalty program wherein points that may be redeemed for various items are accrued based on purchases. Step 84.

In an alternative case, selecting the hyperlink in step 52 may result in the statement issuer's web server creating a hosted merchant page personalized for the customer based on the customer's pre-registration information. This customized page is then sent to the customer's browser for display. Step 60. The hosted page preferably enables the on-line purchase of merchandise or services offered by the merchant corresponding to the selected hyperlink 46. However, a customized shopping page with related or even unrelated merchandise from a different merchant or merchants may also be displayed.

A registered customer will receive a page displaying or leading to the display of a variety of regular and special offers solicited for by the hosted merchant. Steps 94 and 100. A customer may then proceed to selectively shop as previously described. Steps 88-92. A non-registered customer is also allowed to enter identifying and preference information for use in subsequent customization routines. Steps 94 and 96. A loyalty program may also be provided. Step 98. The hosted merchant page may also display various account service opportunities for the customer. Step 95.

In this disclosure there is shown and described the preferred embodiments of the invention, it being understood that the invention is capable of use in various other combinations and environments and is capable of changes or modifications within the scope of the inventive concept as expressed herein.

I claim:

1. A method for facilitating electronic commerce via an electronic itemized statement, comprising the steps of:  
  
a host computer generating an electronic itemized statement including a series of transaction line items, where said line items include at least merchant name data, transaction date data and amount data, and where at least one of said transaction line items includes a hyperlink to a merchant page, said merchant page corresponding to an electronic commerce site of a merchant specified by said merchant name data;  
  
transmitting said electronic itemized statement to a customer computer; and  
  
said customer computer processing and displaying said electronic statement.
2. The method of claim 1, wherein said merchant page corresponding to an electronic commerce site is a home page of said merchant containing hyperlinks to pages offering and enabling the on-line purchase of said merchant's goods or services.
3. The method of claim 1, wherein said merchant page corresponding to an electronic commerce site is hosted by the issuer of said electronic statement, and said hosted merchant page contains hyperlinks to pages offering and enabling the on-line purchase of said merchant's goods or services.
4. The method of claim 1, wherein said merchant page corresponding to an electronic commerce site is a customized merchant page, and further comprising the steps of:  
  
a merchant computer receiving customer registration data and generating said customized merchant page in accordance with said customer registration data.
5. The method of claim 4, wherein said hyperlink corresponds to a uniform resource locator, and selection of said hyperlink initiates a program at said merchant computer that generates said customized merchant page.
6. The method of claim 4, wherein said customized merchant page contains hyperlinks to pages offering and enabling the on-line purchase of said merchant's goods or services.
7. The method of claim 1, wherein said merchant page corresponding to an electronic commerce site is a customized merchant page hosted by the issuer of said electronic statement and further comprising the steps of:  
  
a statement issuer computer receiving customer registration data and generating said customized merchant page in accordance with said customer registration data.

8. The method of claim 7, wherein said hyperlink corresponds to a uniform resource locator, and selection of said hyperlink initiates a program at said statement issuer computer that generates said customized merchant page.
9. The method of claim 8, wherein said statement issuer computer is the same as said host computer.
10. The method of claim 7, wherein said customized merchant page contains hyperlinks to pages offering and enabling the on-line purchase of said merchant's goods or services.
11. The method of claim 1, further comprising the steps of:
  - a customer selecting one of said hyperlinks to a merchant page from said displayed electronic statement; and
  - said customer computer receiving and displaying said merchant page.
12. The method of claim 11, further comprising the steps of:
  - said customer selecting goods offered through said merchant page, identity data of said selected items being stored in a virtual shopping cart; and
  - said customer submitting a purchase order for goods in said virtual shopping cart.
13. A method for facilitating electronic commerce via an electronic itemized statement, comprising the steps of:
  - a host computer generating an electronic itemized statement including a series of transaction line items, where said line items include at least department name data, transaction date data, and amount data, and where at least one of said transaction line items includes a hyperlink to a merchant page, said merchant page corresponding to an electronic commerce site of said department specified by said department name data;
  - transmitting said electronic itemized statement to a customer computer; and
  - said customer computer processing and displaying said electronic statement.
14. The method of claim 13, wherein said department name data is a merchant name, and said merchant page is a home page of said merchant containing hyperlinks to pages offering and enabling the on-line purchase of said merchant's goods or services.
15. The method of claim 13, wherein said department name data is a specified product category, and said merchant page is a special product page of the issuer of said electronic

statement containing hyperlinks to pages offering and enabling the on-line purchases of goods or services relating to said specified product category.

16. The method of claim 13, wherein said department name data is a merchant name, and said merchant page is hosted by the issuer of said electronic statement containing hyperlinks to pages offering and enabling the on-line purchase of goods or services.
17. The method of claim 13, wherein said merchant page is a customized merchant page, and further comprising the steps of:
  - a merchant computer receiving customer registration data and generating said customized merchant page in accordance with said registration data.
18. The method of claim 13, wherein said merchant page is a customized merchant page, and further comprising the steps of:
  - a statement issuer computer receiving customer registration data and generating said customized merchant page in accordance with said customer registration data.
19. An electronic apparatus for facilitating electronic commerce, comprising
  - a host computer having a processor, a memory and a communications interface, wherein said host computer is programmed to generate an electronic itemized statement including a series of transaction line items, where said line items include customer purchase data, and where at least one of said transaction line items includes a hyperlink to a merchant page, said merchant page corresponding to an electronic commerce site of a merchant pertaining to said transaction line item.
20. The electronic apparatus of claim 19 where said electronic commerce site of a merchant is the electronic commerce site of a merchant identified in said transaction line item.
21. The electronic apparatus of claim 19, wherein said electronic itemized statement is an html-based file.
22. The electronic apparatus of claim 19, wherein said hyperlink when displayed corresponds to a merchant name field.
23. A method for facilitating electronic commerce via an electronic itemized statement, comprising the steps of:
  - a statement issuer recording universal resource locator (URL) information for each of a plurality of merchants;

a host computer generating an electronic statement for a customer, where for each line item corresponding to a purchase from one of said merchants, said host computer is programmed to incorporate a hyperlink corresponding to said recorded merchant's URL, wherein said URL may be used by said customer to access an electronic commerce site of said merchant;

transmitting said electronic itemized statement to a customer computer; and

said customer computer processing and displaying said electronic statement including said hyperlinks in said line items.

24. The method of claim 23, further comprising the steps of:

said customer selecting a particular one of said displayed hyperlinks; and

a browser program on said customer computer fetching a merchant page, thereby providing said customer an opportunity to transact with said merchant.

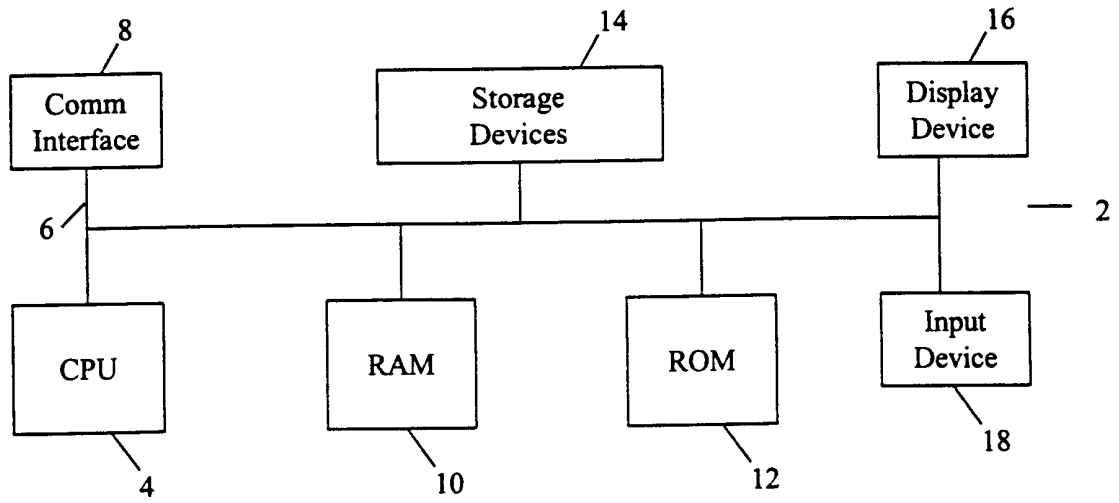


FIG. 1A

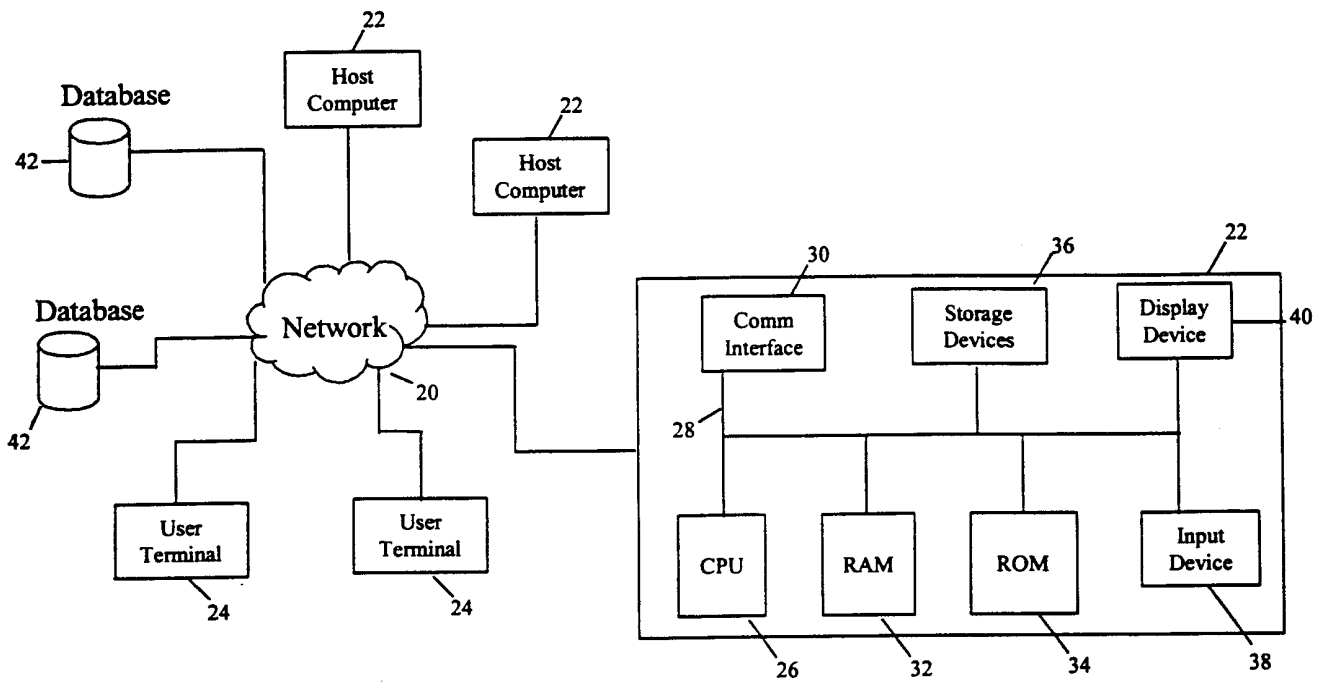


FIG. 1B

**Billing Details**

Card Transactions for John X. Jones

Acct. No.: XXXX

Tran. Date	Merchant Name	Purchase Descr.	Amount
05/19/1999	<u>ABC Corp.</u>	Cookware	122.50
05/17/1999	<u>Eric's Boutique</u>	Sweater	64.25
05/16/1999	<u>Michael's Fine Dining</u>	Food/Bev.	47.21

44

**FIG. 2**

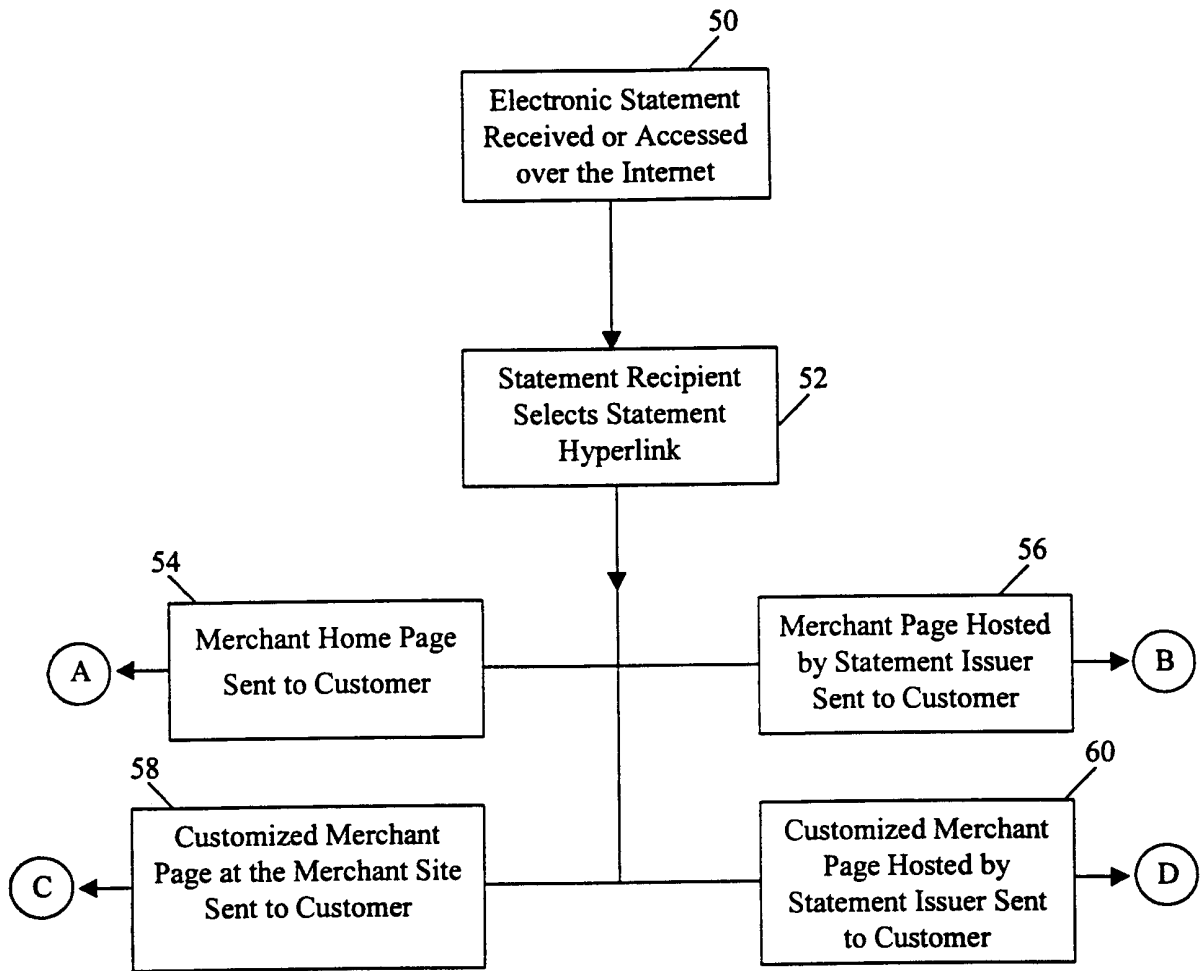
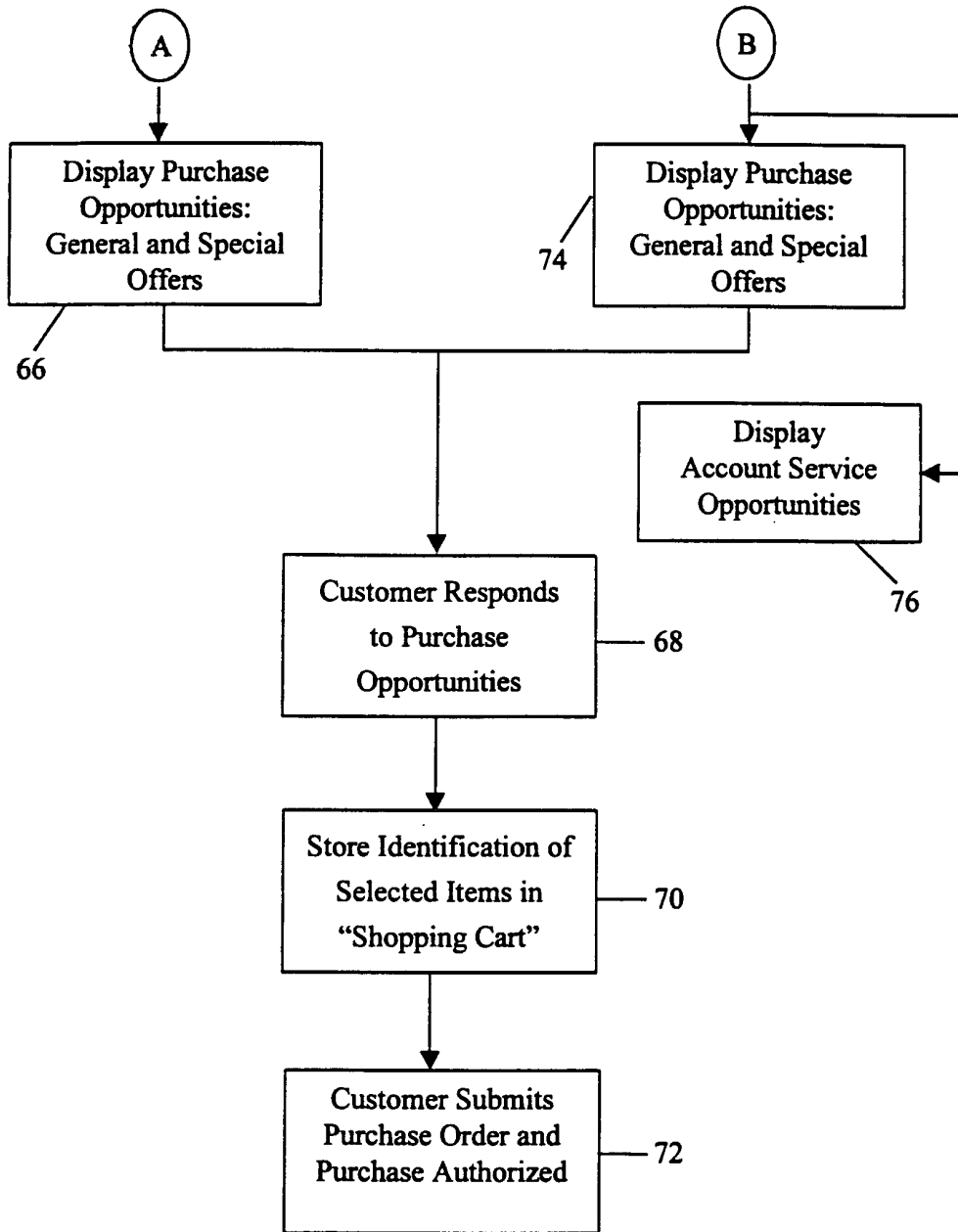


FIG. 3A



**FIG. 3B**

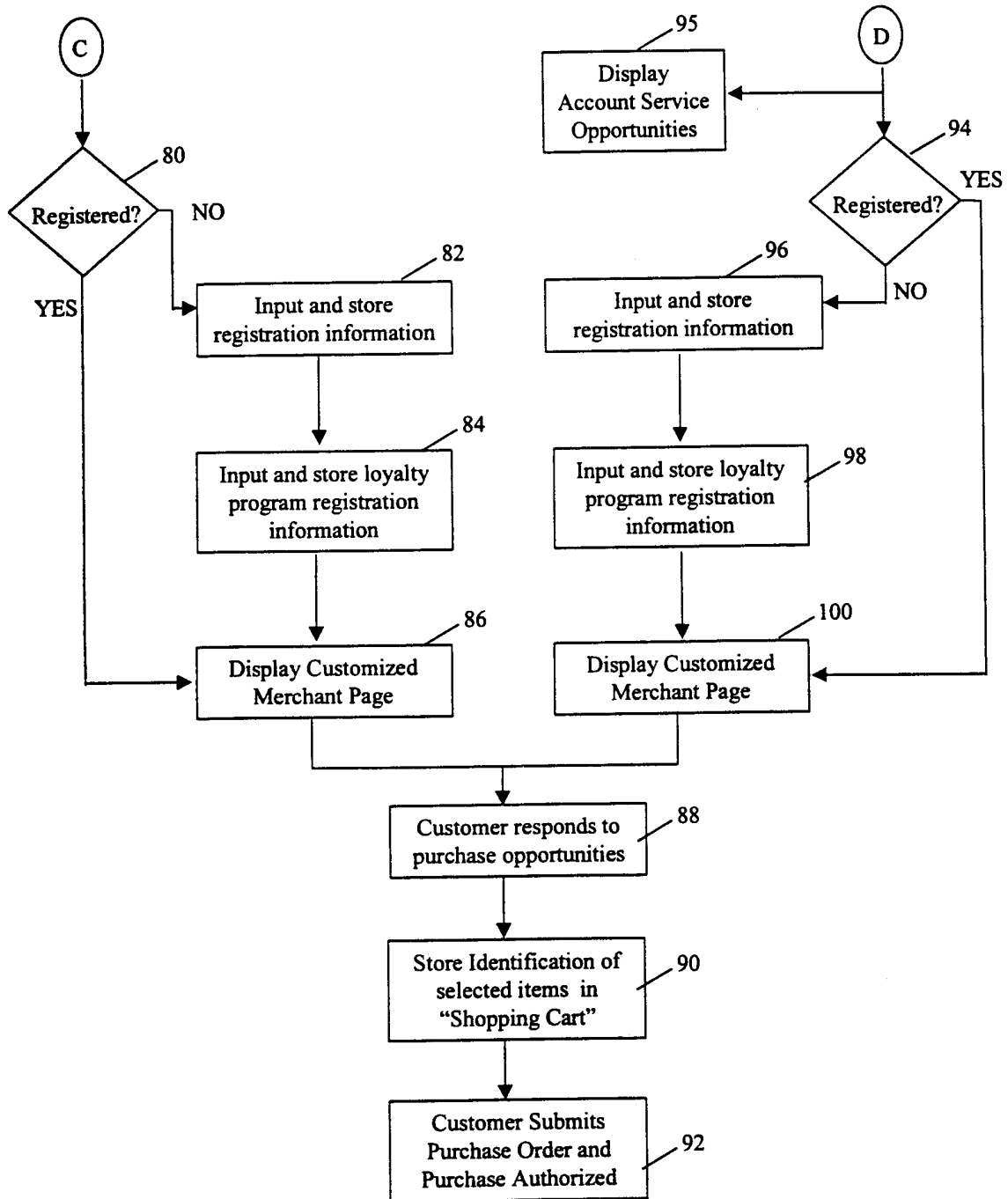


FIG. 3C