US 20050075945A1

(19) **United States**

(12) **Patent Application Publication** (10) **Pub. No.: US 2005/0075945 A1**

Hodge et al. (43) **Pub. Date: Apr. 7, 2005**

(54) **METHOD AND APPARATUS FOR RETRIEVING AND FORMATTING INFORMATION**

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(21) Appl. No.: **10/959,556**

(22) Filed: **Oct. 6, 2004**

Related U.S. Application Data

(60) Provisional application No. 60/509,208, filed on Oct. 6, 2003.

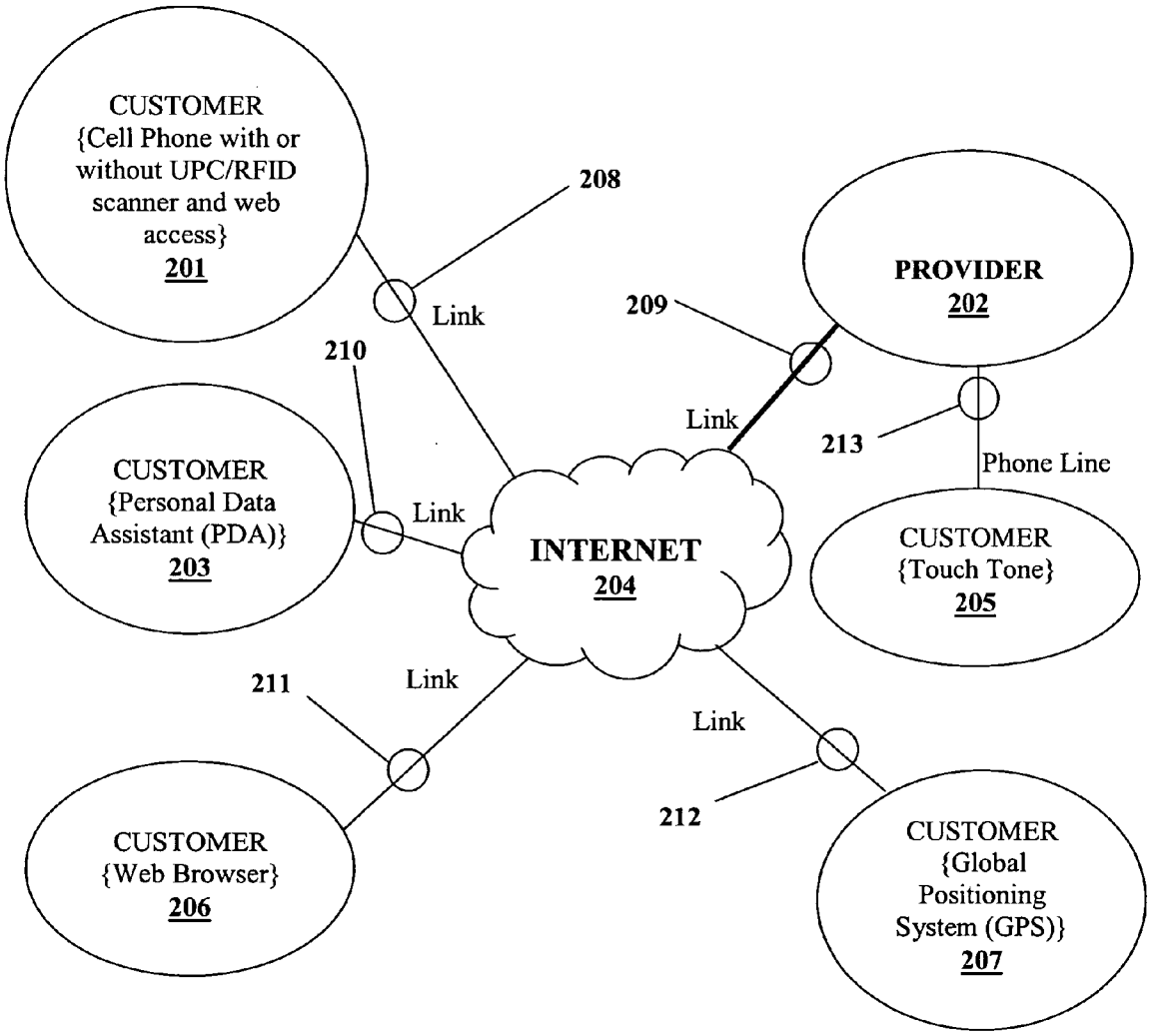
Publication Classification

(51) **Int. Cl.**[7] **G06F 17/60**

(52) **U.S. Cl.** **705/26**

(57) **ABSTRACT**

According to a computer-implemented approach for retrieving item information by customers, customers specify one or more item selection criteria in order to obtain information about each individual item(s). According to the approach, a customer provides one or more item selection criteria's to a provider and the provider sorts and displays the item information to the customer over a medium such as the Internet.



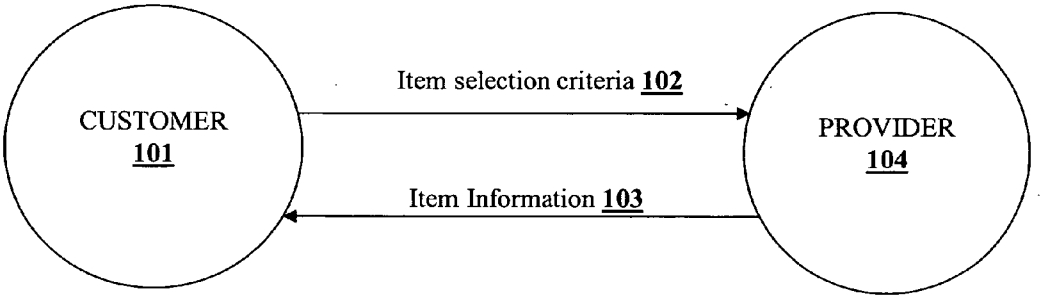

CUSTOMER
101
Item selection criteria 102
Item Information 103
PROVIDER
104

Figure 1

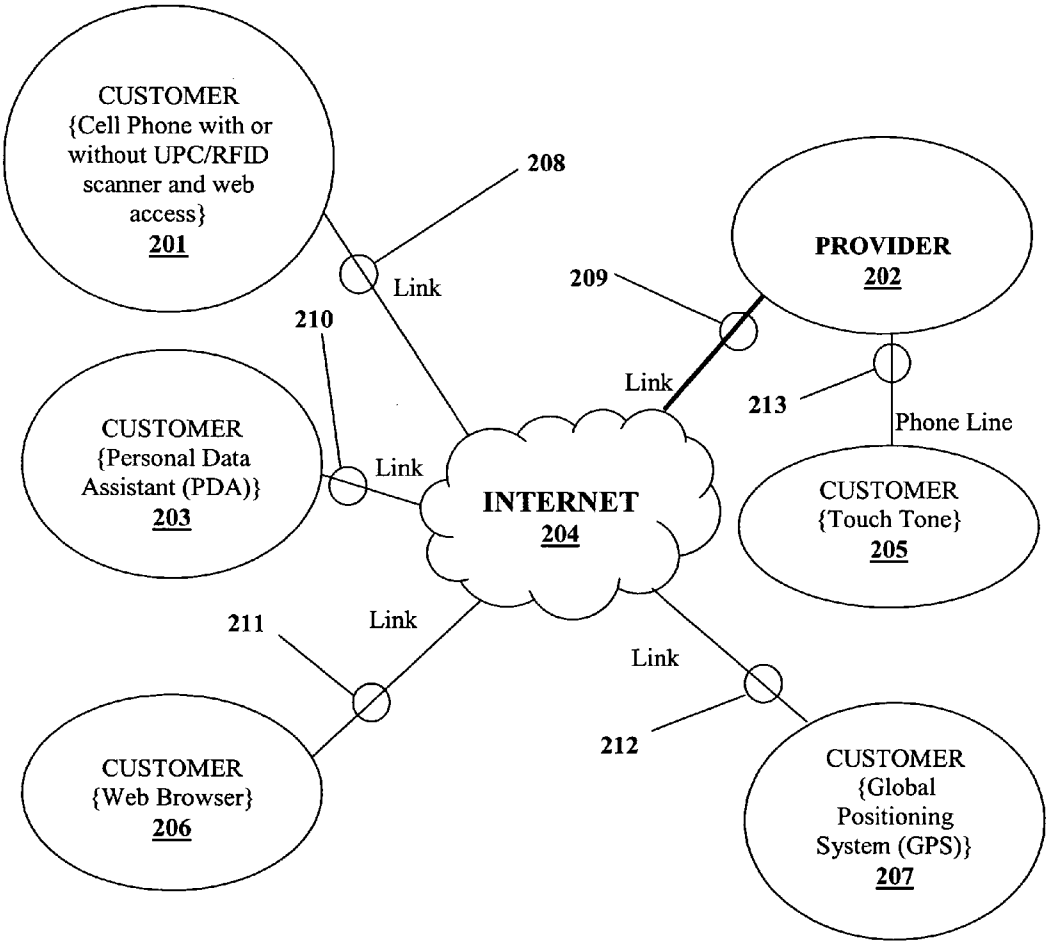

CUSTOMER
{Cell Phone with or without UPC/RFID scanner and web access}
201
208
Link
PROVIDER
202
209
210
Link
213
Phone Line
CUSTOMER
{Personal Data Assistant (PDA)}
203
Link
INTERNET
204
CUSTOMER
{Touch Tone}
205
211
Link
Link
212
CUSTOMER
{Web Browser}
206
CUSTOMER
{Global Positioning System (GPS)}
207

Figure 2

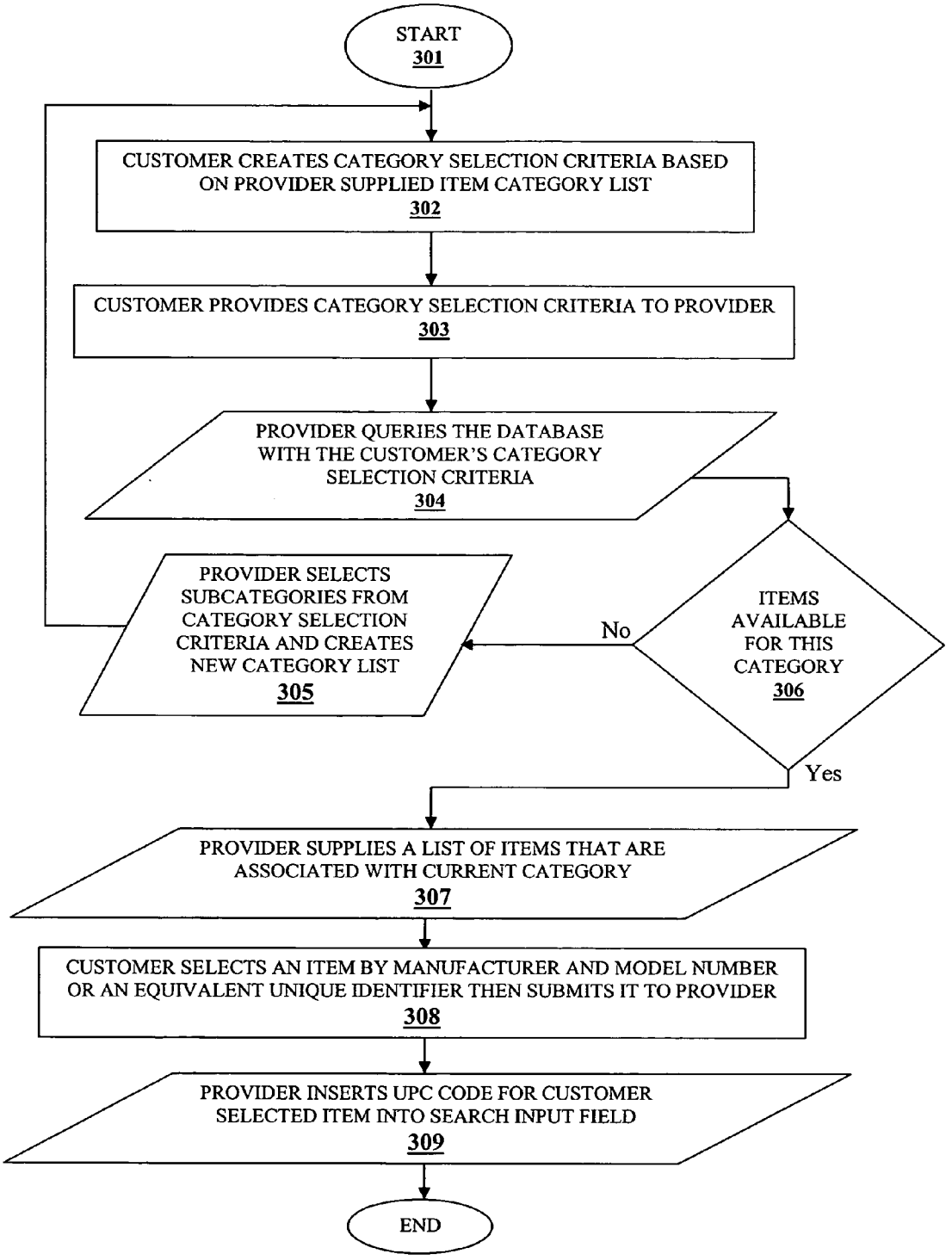

START
301
CUSTOMER CREATES CATEGORY SELECTION CRITERIA BASED ON PROVIDER SUPPLIED ITEM CATEGORY LIST
302
CUSTOMER PROVIDES CATEGORY SELECTION CRITERIA TO PROVIDER
303
PROVIDER QUERIES THE DATABASE WITH THE CUSTOMER'S CATEGORY SELECTION CRITERIA
304
ITEMS AVAILABLE FOR THIS CATEGORY
306
No
PROVIDER SELECTS SUBCATEGORIES FROM CATEGORY SELECTION CRITERIA AND CREATES NEW CATEGORY LIST
305
Yes
PROVIDER SUPPLIES A LIST OF ITEMS THAT ARE ASSOCIATED WITH CURRENT CATEGORY
307
CUSTOMER SELECTS AN ITEM BY MANUFACTURER AND MODEL NUMBER OR AN EQUIVALENT UNIQUE IDENTIFIER THEN SUBMITS IT TO PROVIDER
308
PROVIDER INSERTS UPC CODE FOR CUSTOMER SELECTED ITEM INTO SEARCH INPUT FIELD
309
END

Figure 3

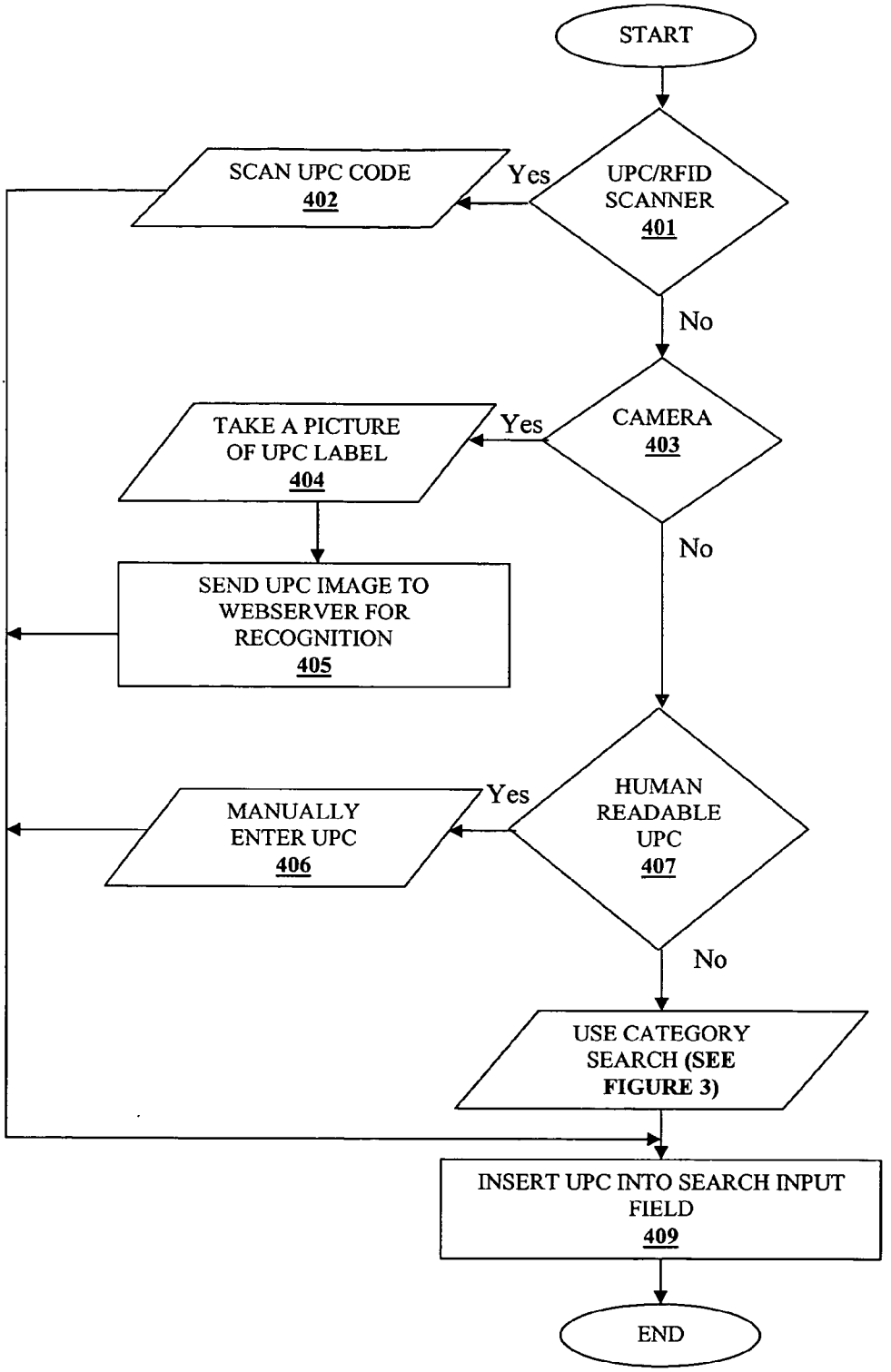

START
UPC/RFID SCANNER 401
Yes
SCAN UPC CODE 402
No
CAMERA 403
Yes
TAKE A PICTURE OF UPC LABEL 404
No
SEND UPC IMAGE TO WEBSERVER FOR RECOGNITION 405
HUMAN READABLE UPC 407
Yes
MANUALLY ENTER UPC 406
No
USE CATEGORY SEARCH (SEE FIGURE 3)
INSERT UPC INTO SEARCH INPUT FIELD 409
END

Figure 4

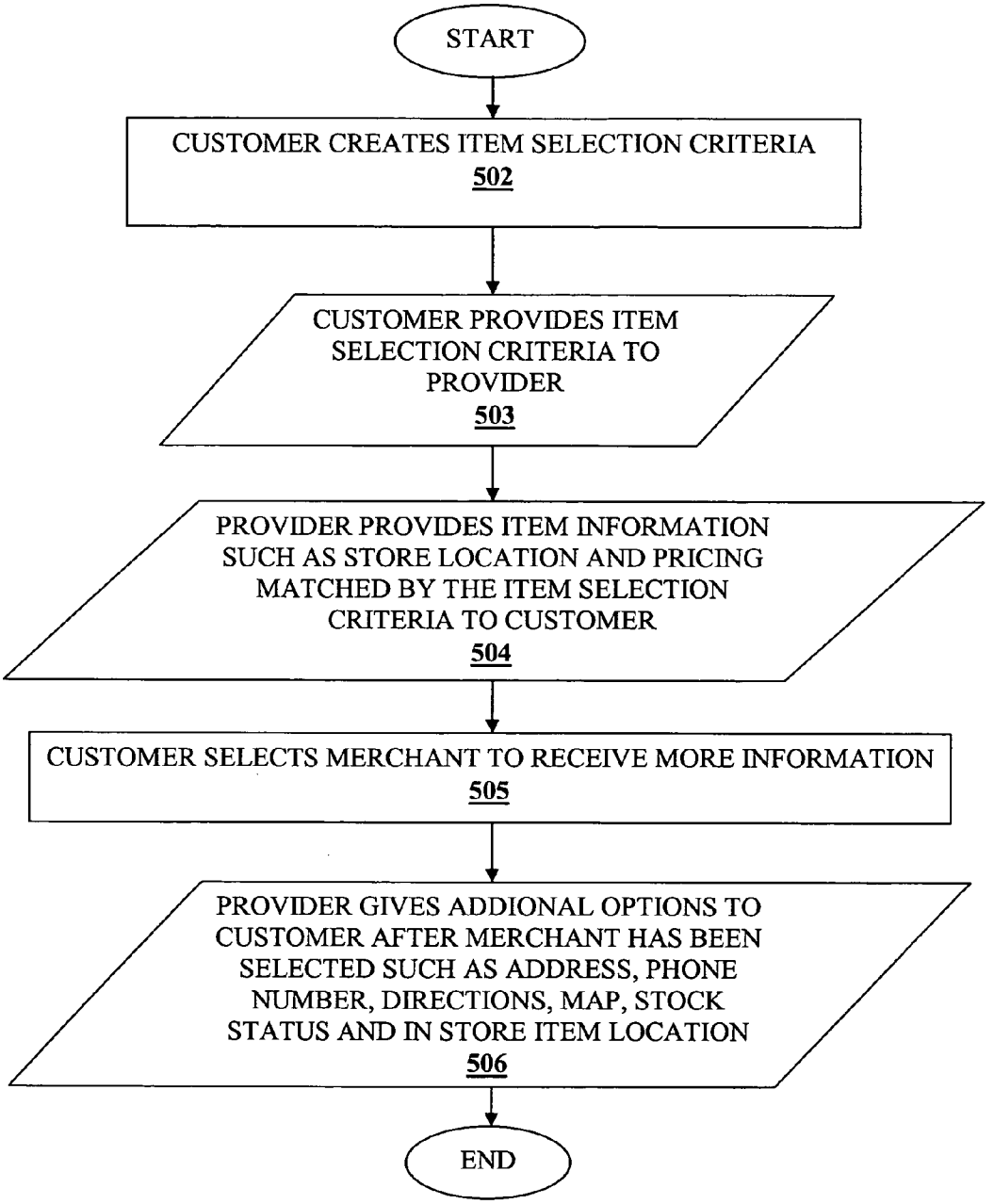

START
CUSTOMER CREATES ITEM SELECTION CRITERIA
502
CUSTOMER PROVIDES ITEM SELECTION CRITERIA TO PROVIDER
503
PROVIDER PROVIDES ITEM INFORMATION SUCH AS STORE LOCATION AND PRICING MATCHED BY THE ITEM SELECTION CRITERIA TO CUSTOMER
504
CUSTOMER SELECTS MERCHANT TO RECEIVE MORE INFORMATION
505
PROVIDER GIVES ADDIONAL OPTIONS TO CUSTOMER AFTER MERCHANT HAS BEEN SELECTED SUCH AS ADDRESS, PHONE NUMBER, DIRECTIONS, MAP, STOCK STATUS AND IN STORE ITEM LOCATION
506
END

Figure 5

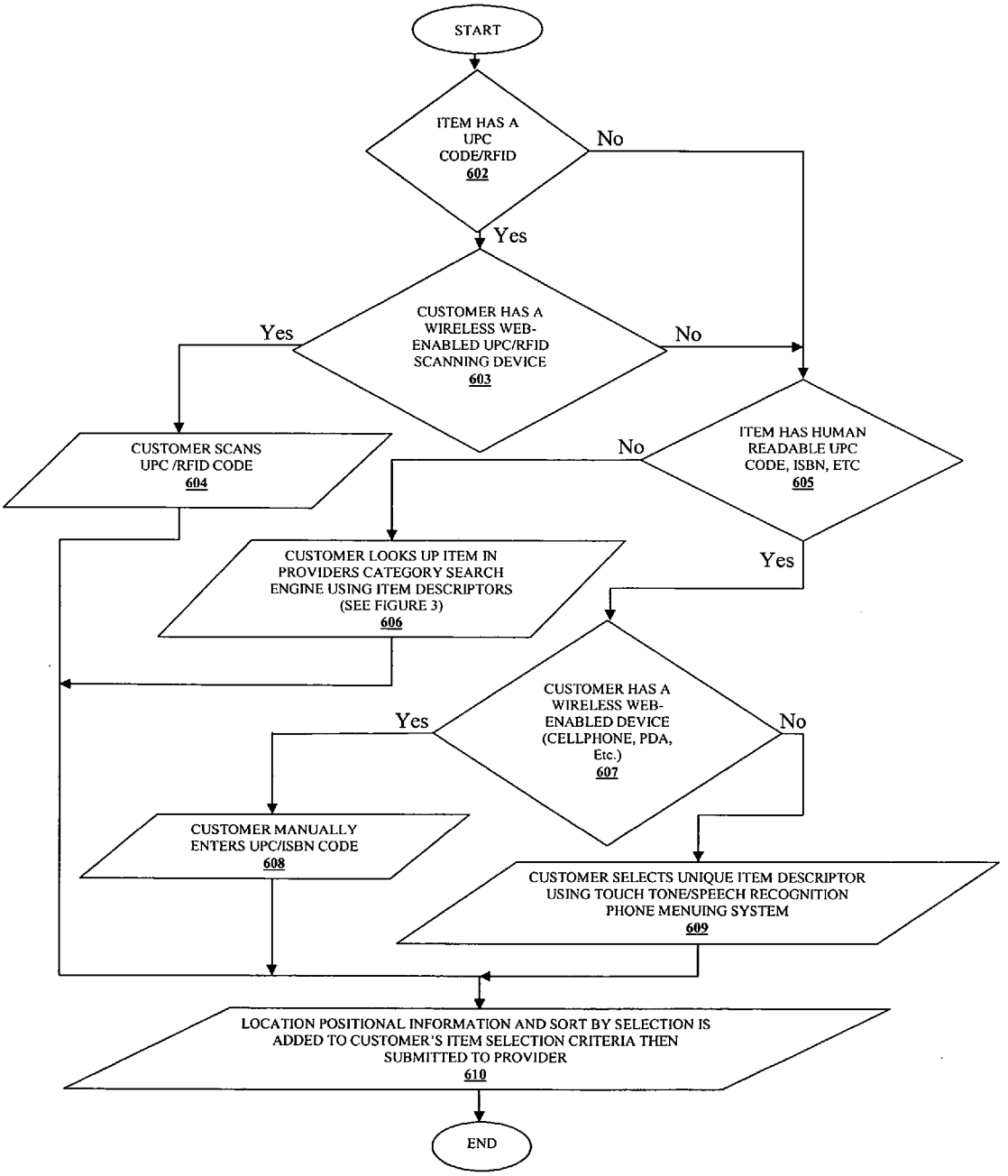

START
ITEM HAS A UPC CODE/RFID 602
No
Yes
CUSTOMER HAS A WIRELESS WEB-ENABLED UPC/RFID SCANNING DEVICE 603
Yes
No
CUSTOMER SCANS UPC /RFID CODE 604
ITEM HAS HUMAN READABLE UPC CODE, ISBN, ETC 605
No
Yes
CUSTOMER LOOKS UP ITEM IN PROVIDERS CATEGORY SEARCH ENGINE USING ITEM DESCRIPTORS (SEE FIGURE 3) 606
CUSTOMER HAS A WIRELESS WEB-ENABLED DEVICE (CELLPHONE, PDA, Etc.) 607
Yes
No
CUSTOMER MANUALLY ENTERS UPC/ISBN CODE 608
CUSTOMER SELECTS UNIQUE ITEM DESCRIPTOR USING TOUCH TONE/SPEECH RECOGNITION PHONE MENUING SYSTEM 609
LOCATION POSITIONAL INFORMATION AND SORT BY SELECTION IS ADDED TO CUSTOMER'S ITEM SELECTION CRITERIA THEN SUBMITTED TO PROVIDER 610
END

Figure 6

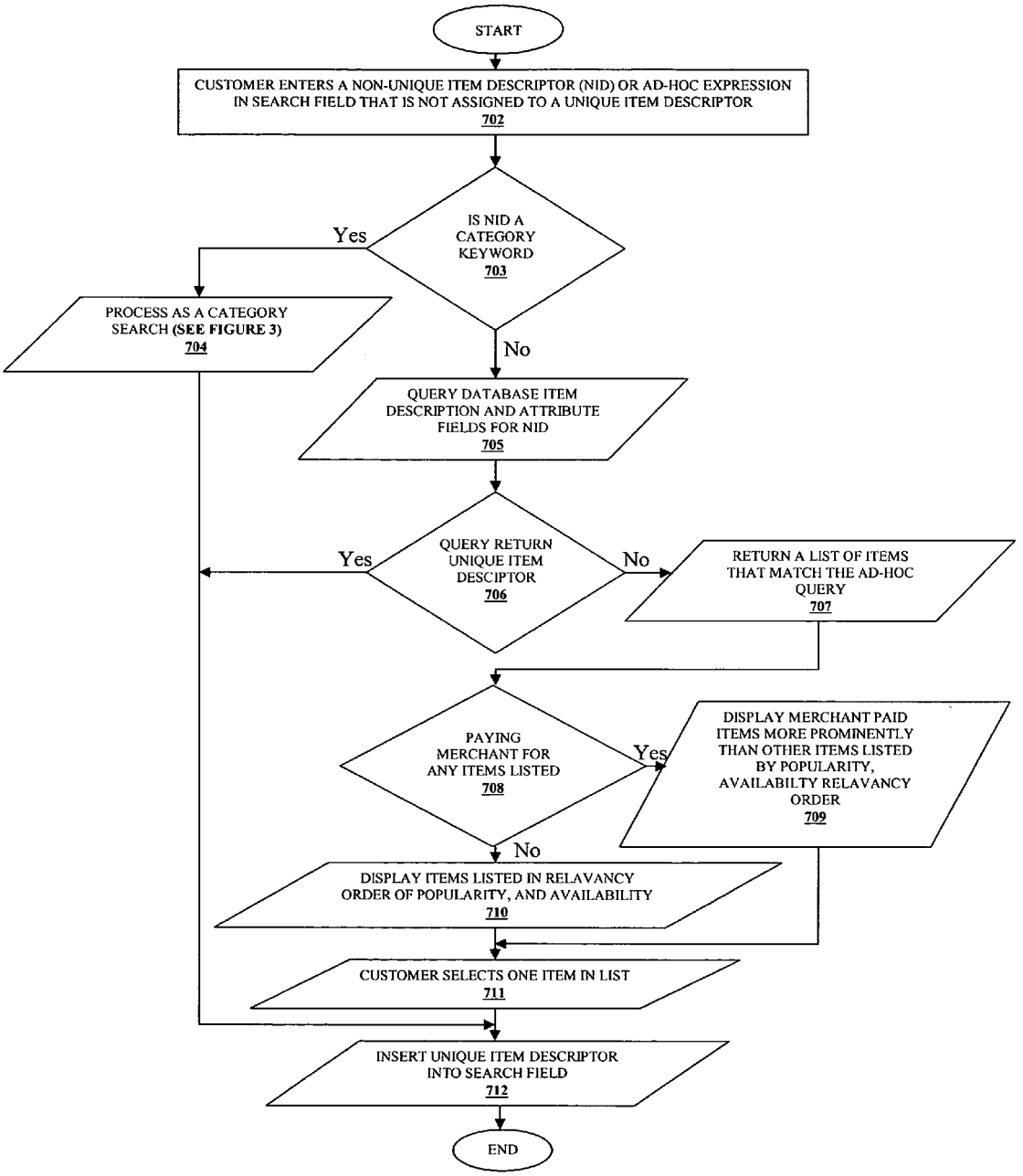

START
CUSTOMER ENTERS A NON-UNIQUE ITEM DESCRIPTOR (NID) OR AD-HOC EXPRESSION IN SEARCH FIELD THAT IS NOT ASSIGNED TO A UNIQUE ITEM DESCRIPTOR
702
IS NID A CATEGORY KEYWORD
703
Yes
No
PROCESS AS A CATEGORY SEARCH (SEE FIGURE 3)
704
QUERY DATABASE ITEM DESCRIPTION AND ATTRIBUTE FIELDS FOR NID
705
QUERY RETURN UNIQUE ITEM DESCIPTOR
706
Yes
No
RETURN A LIST OF ITEMS THAT MATCH THE AD-HOC QUERY
707
PAYING MERCHANT FOR ANY ITEMS LISTED
708
Yes
No
DISPLAY MERCHANT PAID ITEMS MORE PROMINENTLY THAN OTHER ITEMS LISTED BY POPULARITY, AVAILABILTY RELAVANCY ORDER
709
DISPLAY ITEMS LISTED IN RELAVANCY ORDER OF POPULARITY, AND AVAILABILITY
710
CUSTOMER SELECTS ONE ITEM IN LIST
711
INSERT UNIQUE ITEM DESCRIPTOR INTO SEARCH FIELD
712
END

Figure 7

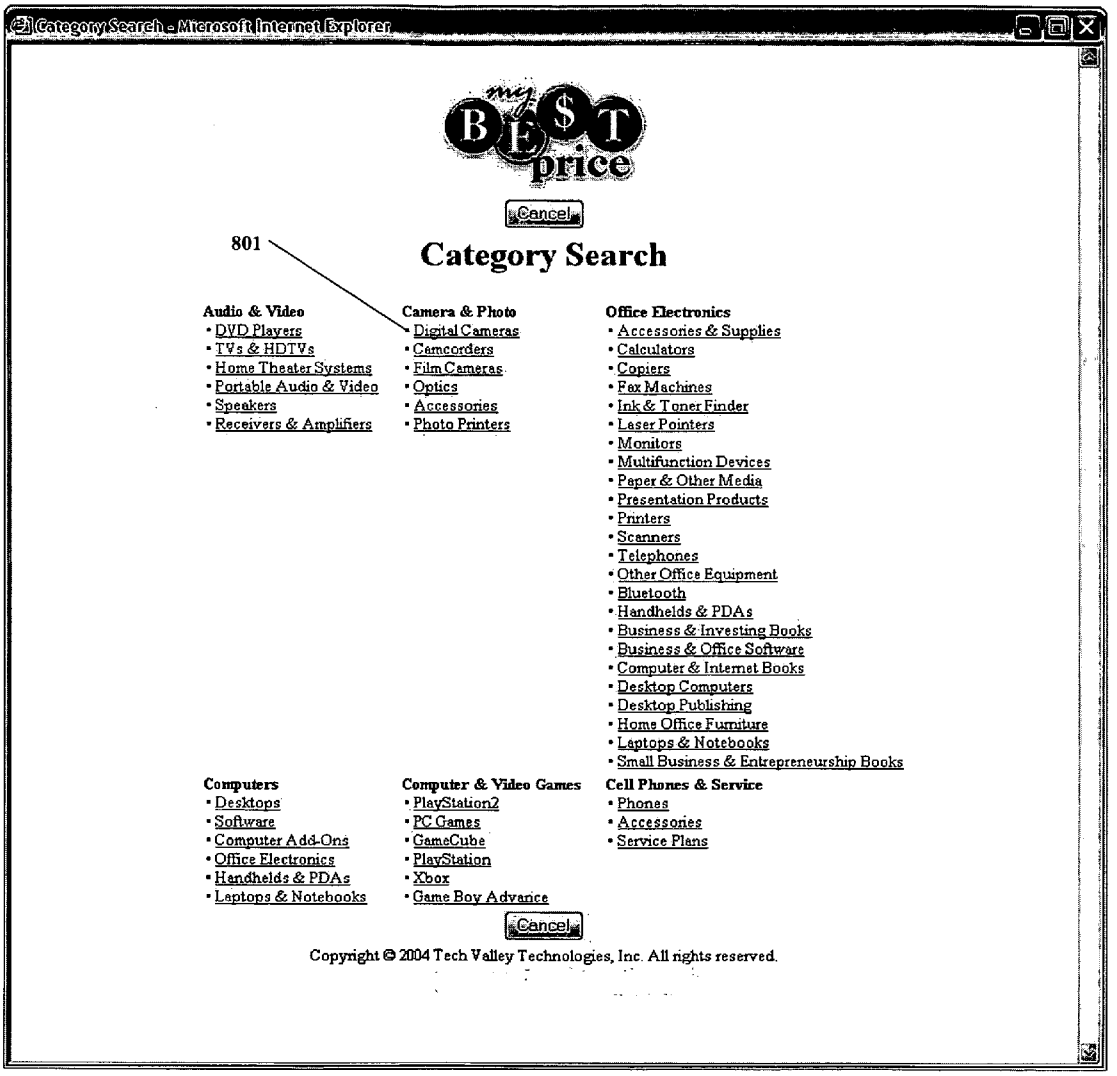

Category Search - Microsoft Internet Explorer
Cancel
801
Category Search
Audio & Video
• DVD Players
• TVs & HDTVs
• Home Theater Systems
• Portable Audio & Video
• Speakers
• Receivers & Amplifiers
Camera & Photo
• Digital Cameras
• Camcorders
• Film Cameras
• Optics
• Accessories
• Photo Printers
Office Electronics
• Accessories & Supplies
• Calculators
• Copiers
• Fax Machines
• Ink & Toner Finder
• Laser Pointers
• Monitors
• Multifunction Devices
• Paper & Other Media
• Presentation Products
• Printers
• Scanners
• Telephones
• Other Office Equipment
• Bluetooth
• Handhelds & PDAs
• Business & Investing Books
• Business & Office Software
• Computer & Internet Books
• Desktop Computers
• Desktop Publishing
• Home Office Furniture
• Laptops & Notebooks
• Small Business & Entrepreneurship Books
Computers
• Desktops
• Software
• Computer Add-Ons
• Office Electronics
• Handhelds & PDAs
• Laptops & Notebooks
Computer & Video Games
• PlayStation2
• PC Games
• GameCube
• PlayStation
• Xbox
• Game Boy Advance
Cell Phones & Service
• Phones
• Accessories
• Service Plans
Cancel
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Figure 8

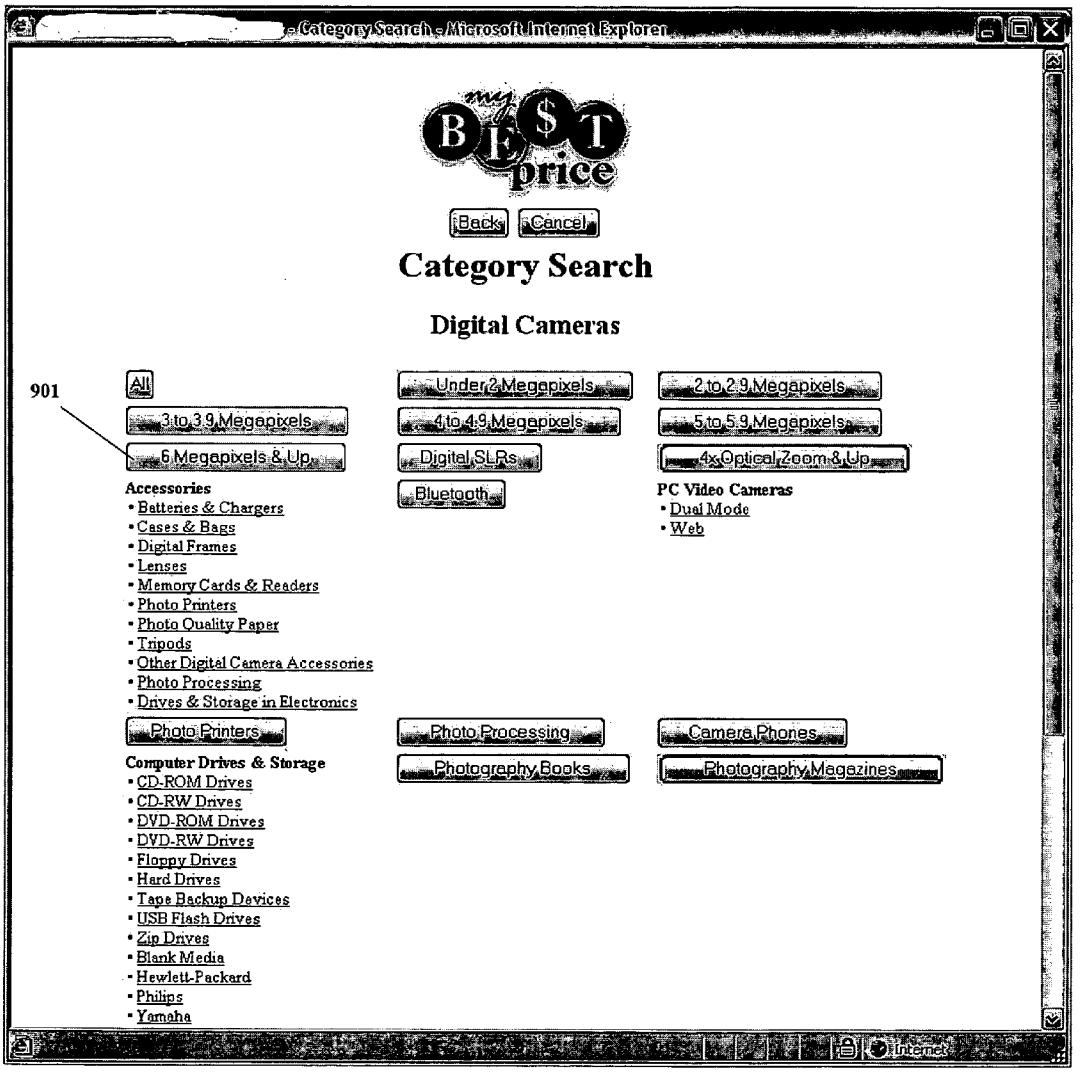

Category Search - Microsoft Internet Explorer
Back
Cancel
Category Search
Digital Cameras
901
All
Under 2 Megapixels
2 to 2.9 Megapixels
3 to 3.9 Megapixels
4 to 4.9 Megapixels
5 to 5.9 Megapixels
6 Megapixels & Up
Digital SLRs
4x Optical Zoom & Up
Bluetooth
Accessories
Batteries & Chargers
Cases & Bags
Digital Frames
Lenses
Memory Cards & Readers
Photo Printers
Photo Quality Paper
Tripods
Other Digital Camera Accessories
Photo Processing
Drives & Storage in Electronics
PC Video Cameras
Dual Mode
Web
Photo Printers
Photo Processing
Camera Phones
Photography Books
Photography Magazines
Computer Drives & Storage
CD-ROM Drives
CD-RW Drives
DVD-ROM Drives
DVD-RW Drives
Floppy Drives
Hard Drives
Tape Backup Devices
USB Flash Drives
Zip Drives
Blank Media
Hewlett-Packard
Philips
Yamaha

Figure 9

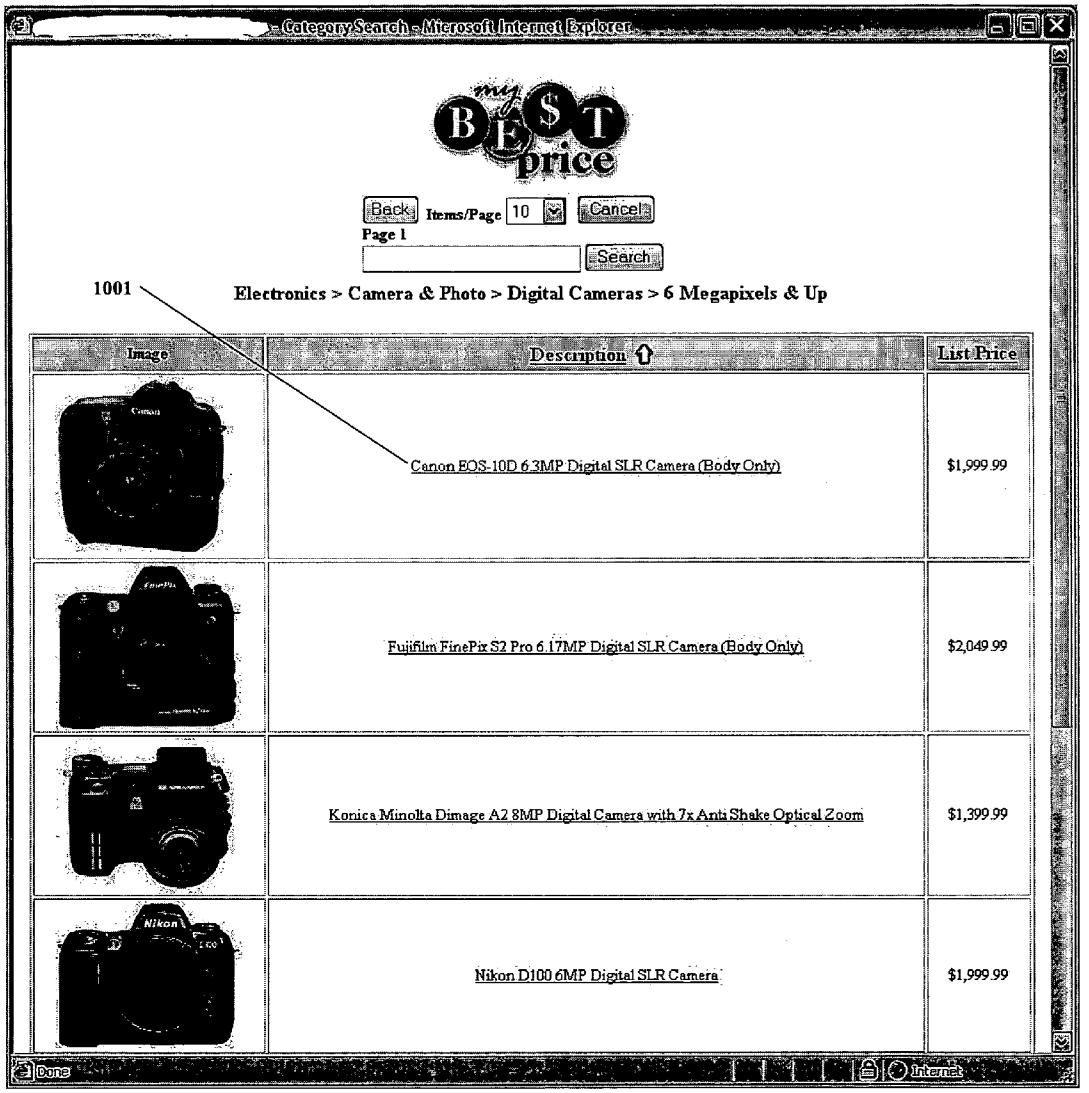
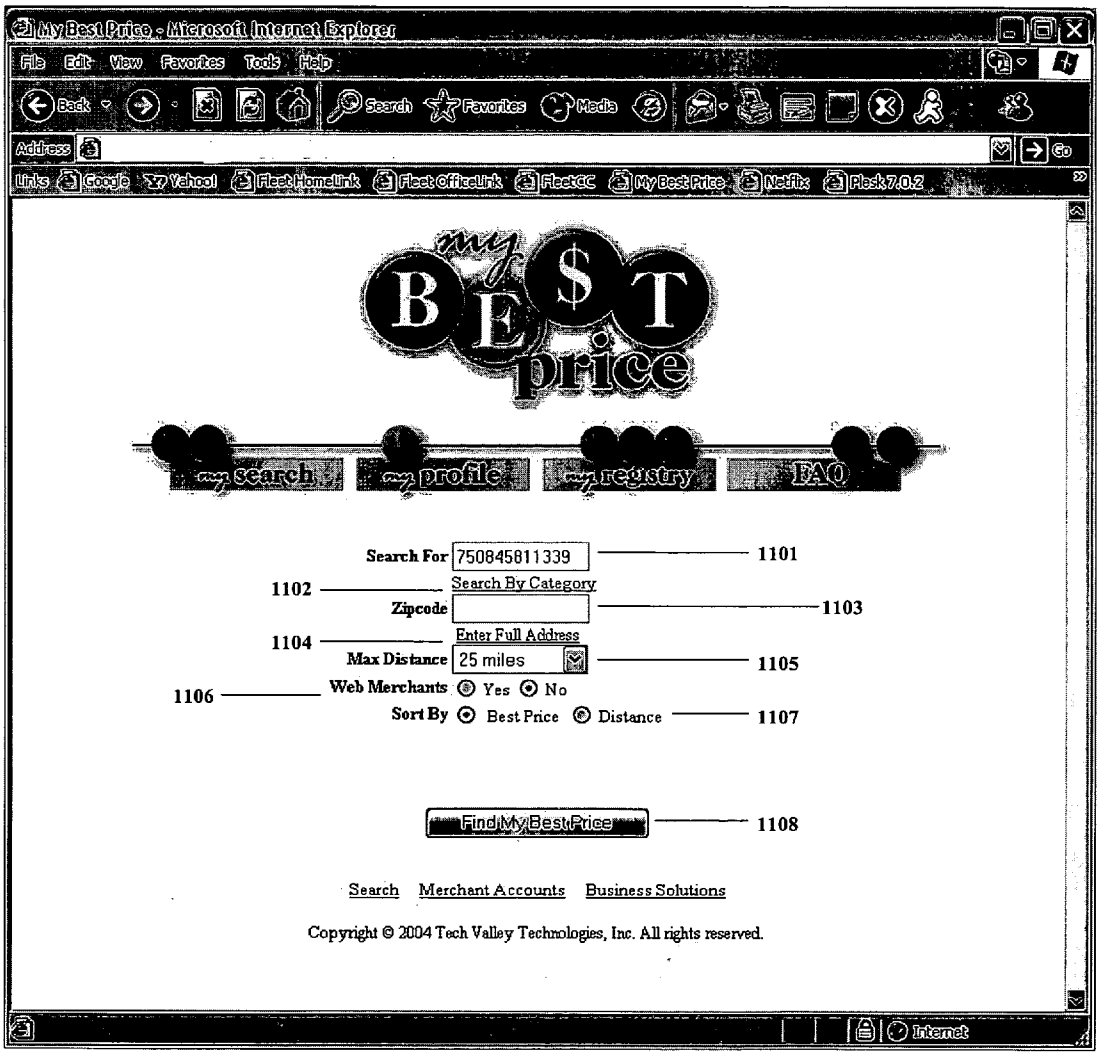

Category Search - Microsoft Internet Explorer
my BEST price
Back
Items/Page 10
Cancel
Page 1
Search
1001
Electronics > Camera & Photo > Digital Cameras > 6 Megapixels & Up
Image
Description
List Price
Canon EOS-10D 6.3MP Digital SLR Camera (Body Only)
$1,999.99
Fujifilm FinePix S2 Pro 6.17MP Digital SLR Camera (Body Only)
$2,049.99
Konica Minolta Dimage A2 8MP Digital Camera with 7x Anti Shake Optical Zoom
$1,399.99
Nikon D100 6MP Digital SLR Camera
$1,999.99
Done
Internet

Figure 10


My Best Price - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address
Go
Links Google Yahoo! Fleet HomeLink Fleet OfficeLink FleetCC My Best Price Netflix Plesk 7.0.2
my BEST price
my search
my profile
my registry
FAQ
Search For 750845811339
1101
1102
Search By Category
Zipcode
1103
1104
Enter Full Address
Max Distance 25 miles
1105
1106
Web Merchants Yes No
Sort By Best Price Distance
1107
Find My Best Price
1108
Search Merchant Accounts Business Solutions
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Internet

Figure 11

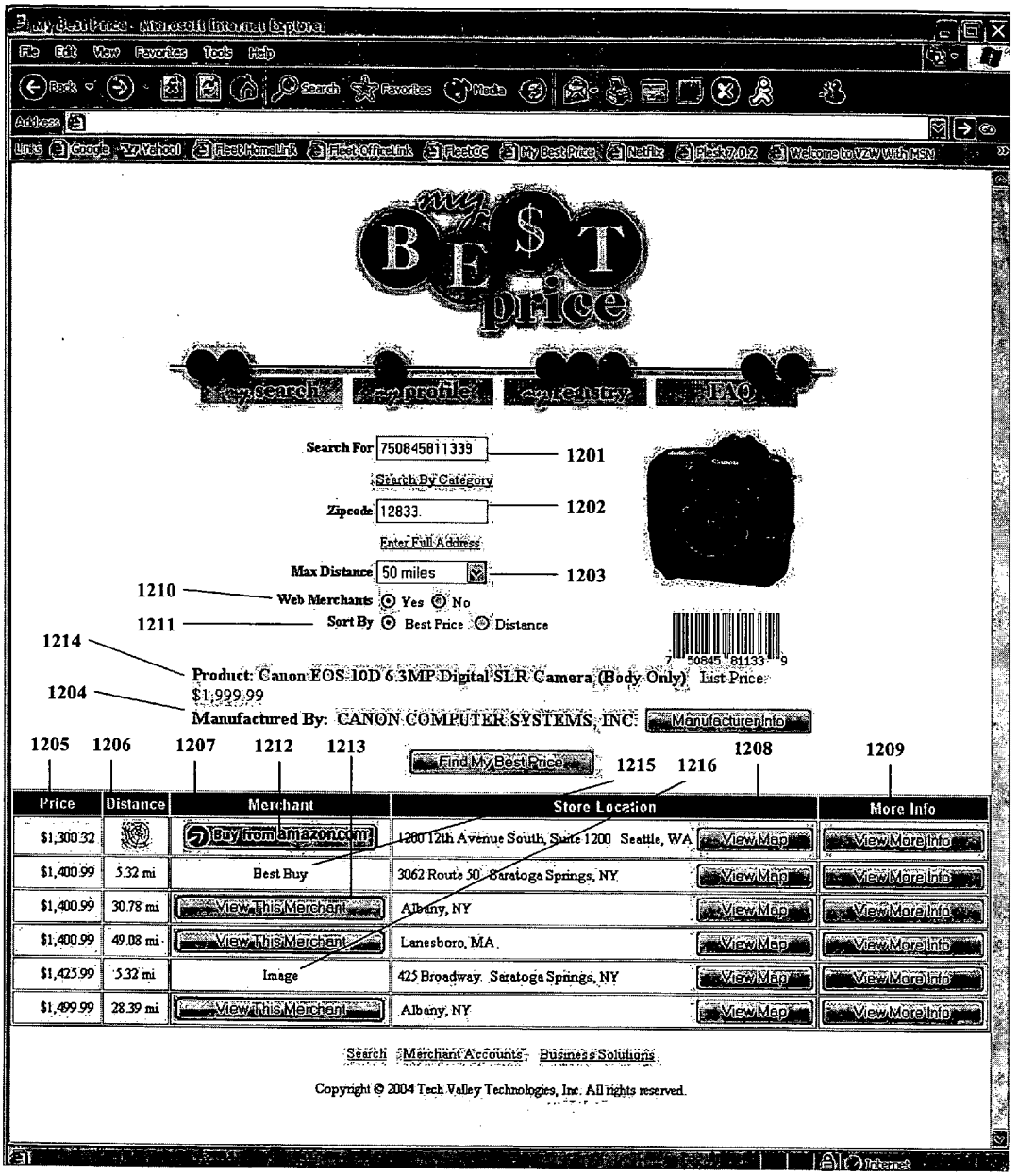
my BEST price
search
profile
FAQ
Search For 750845811339
1201
Search By Category
Zipcode 12833
1202
Enter Full Address
Max Distance 50 miles
1203
1210
Web Merchants Yes No
1211
Sort By Best Price Distance
1214
Product: Canon EOS 10D 6.3MP Digital SLR Camera (Body Only) List Price
1204
$1,999.99
Manufactured By: CANON COMPUTER SYSTEMS, INC.
Manufacturer Info
1205 1206 1207 1212 1213
Find My Best Price
1215 1216 1208 1209
Price Distance Merchant Store Location More Info
$1,300.32 Buy from amazon.com 1200 12th Avenue South, Suite 1200 Seattle, WA View Map View More Info
$1,400.99 5.32 mi Best Buy 3062 Route 50 Saratoga Springs, NY View Map View More Info
$1,400.99 30.78 mi View This Merchant Albany, NY View Map View More Info
$1,400.99 49.08 mi View This Merchant Lanesboro, MA View Map View More Info
$1,425.99 5.32 mi Image 425 Broadway Saratoga Springs, NY View Map View More Info
$1,499.99 28.39 mi View This Merchant Albany, NY View Map View More Info
Search Merchant Accounts Business Solutions
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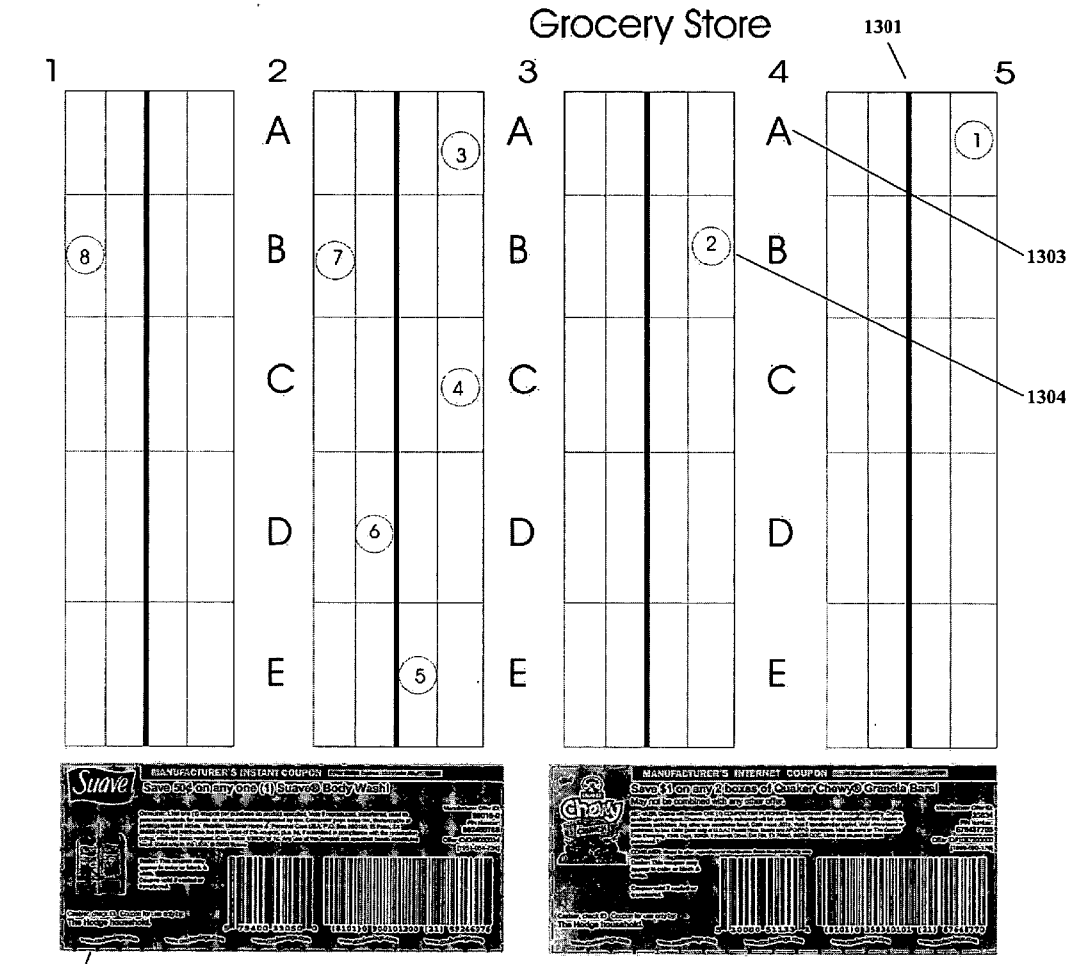
Figure 12



ID	Description	Price	Location
1-	Heinz Tomato Ketchup 46oz	$3.29	5A
2-	Campbell's Chicken Broth 10.5 oz	$0.89	4B
3-	Del Monte Fruit Cocktail 15oz	$1.19	3A
4-	Quaker Granola Bars 10-Pack Chewy Variety Pack	$1.99	3C
5-	Suave Body Wash 20oz	$2.25	3E
6-	Pampers Baby-Dry Diapers Size(5) 68each	$20.49	2D
7-	Kellogg's Frosted Flakes Cereal 20oz	$3.99	2B
8-	Ragu Pizza Sauce 14oz	$1.19	1B
	Total:	$35.28	

Figure 13

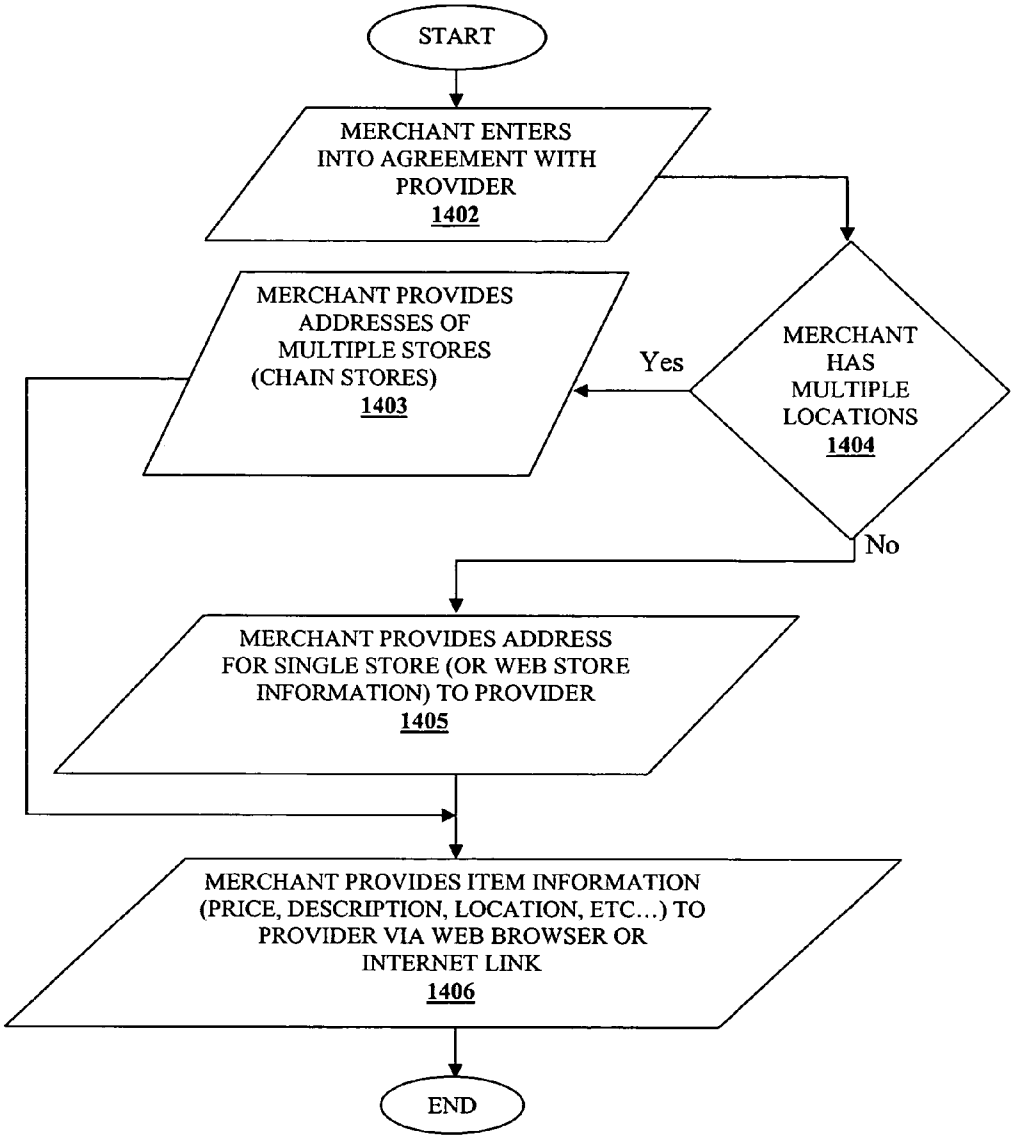

START
MERCHANT ENTERS INTO AGREEMENT WITH PROVIDER
1402
MERCHANT HAS MULTIPLE LOCATIONS
1404
Yes
MERCHANT PROVIDES ADDRESSES OF MULTIPLE STORES (CHAIN STORES)
1403
No
MERCHANT PROVIDES ADDRESS FOR SINGLE STORE (OR WEB STORE INFORMATION) TO PROVIDER
1405
MERCHANT PROVIDES ITEM INFORMATION (PRICE, DESCRIPTION, LOCATION, ETC...) TO PROVIDER VIA WEB BROWSER OR INTERNET LINK
1406
END

Figure 14

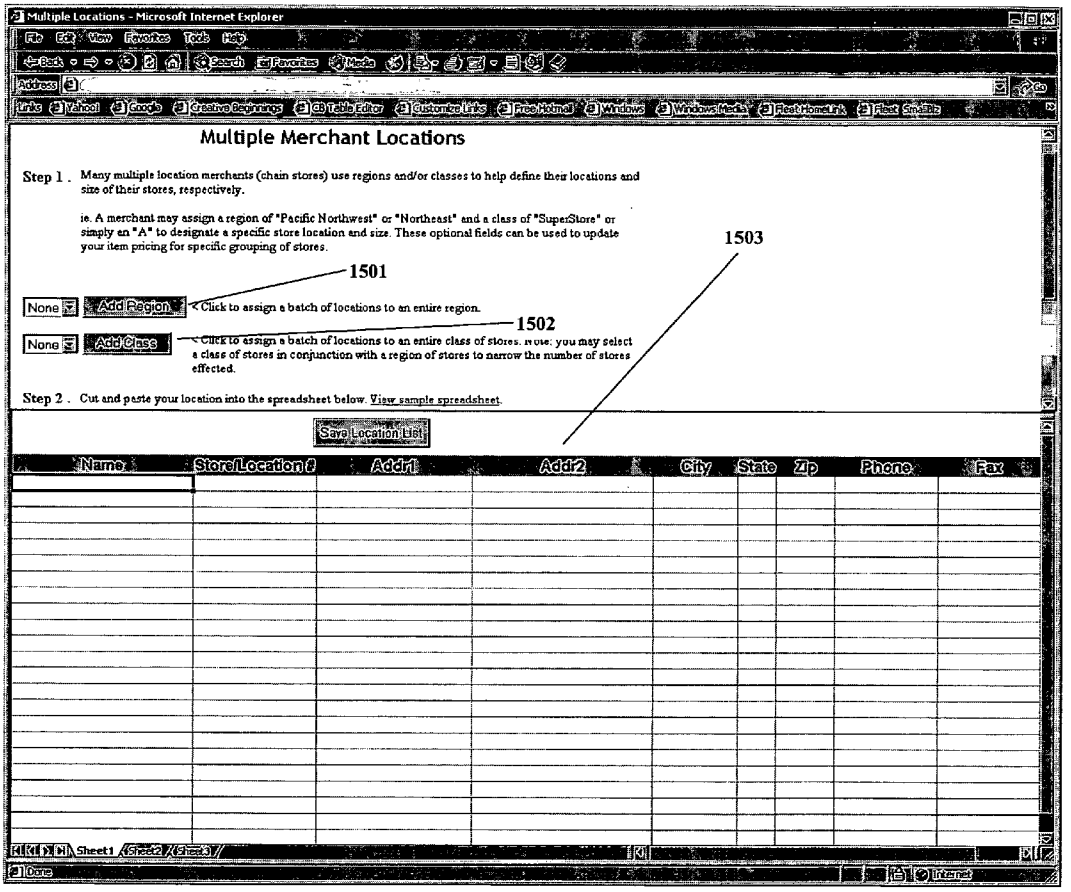

Multiple Locations - Microsoft Internet Explorer
Multiple Merchant Locations
Step 1 . Many multiple location merchants (chain stores) use regions and/or classes to help define their locations and size of their stores, respectively.
ie. A merchant may assign a region of "Pacific Northwest" or "Northeast" and a class of "SuperStore" or simply an "A" to designate a specific store location and size. These optional fields can be used to update your item pricing for specific grouping of stores.
1501
1503
None
Add Region
Click to assign a batch of locations to an entire region.
1502
None
Add Class
Click to assign a batch of locations to an entire class of stores. NOTE: you may select a class of stores in conjunction with a region of stores to narrow the number of stores effected.
Step 2 . Cut and paste your location into the spreadsheet below. View sample spreadsheet.
Save Location List
Name
Store/Location #
Addr1
Addr2
City
State
Zip
Phone
Fax
Sheet1
Sheet2
Sheet3
Done
Internet

Figure 15

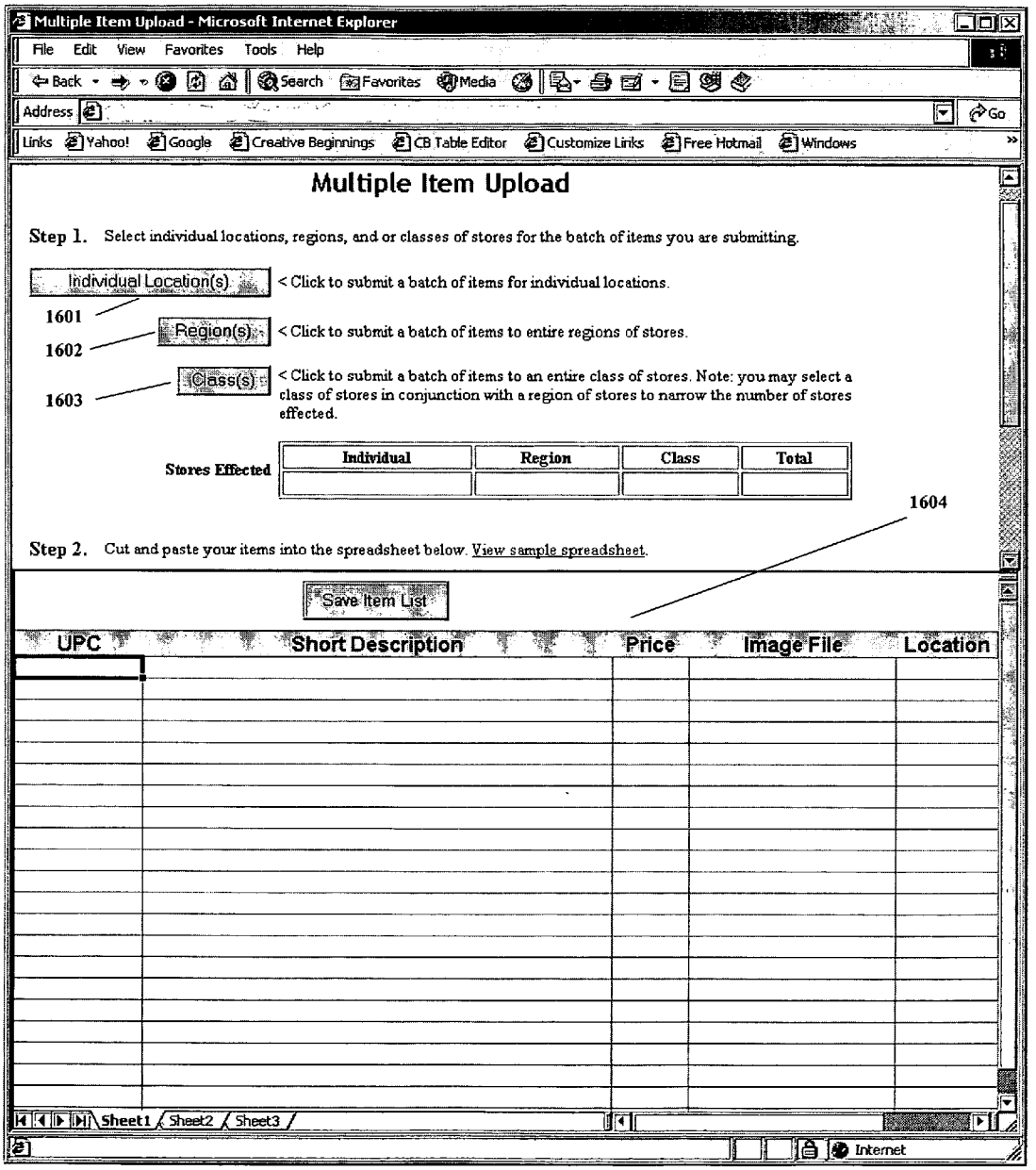

Multiple Item Upload - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address
Go
Links Yahoo! Google Creative Beginnings CB Table Editor Customize Links Free Hotmail Windows
Multiple Item Upload
Step 1. Select individual locations, regions, and or classes of stores for the batch of items you are submitting.
Individual Location(s)
< Click to submit a batch of items for individual locations.
1601
Region(s)
< Click to submit a batch of items to entire regions of stores.
1602
Class(s)
< Click to submit a batch of items to an entire class of stores. Note: you may select a class of stores in conjunction with a region of stores to narrow the number of stores effected.
1603
Stores Effected
Individual
Region
Class
Total
1604
Step 2. Cut and paste your items into the spreadsheet below. View sample spreadsheet.
Save Item List
UPC
Short Description
Price
Image File
Location
Sheet1 Sheet2 Sheet3
Internet

Figure 16

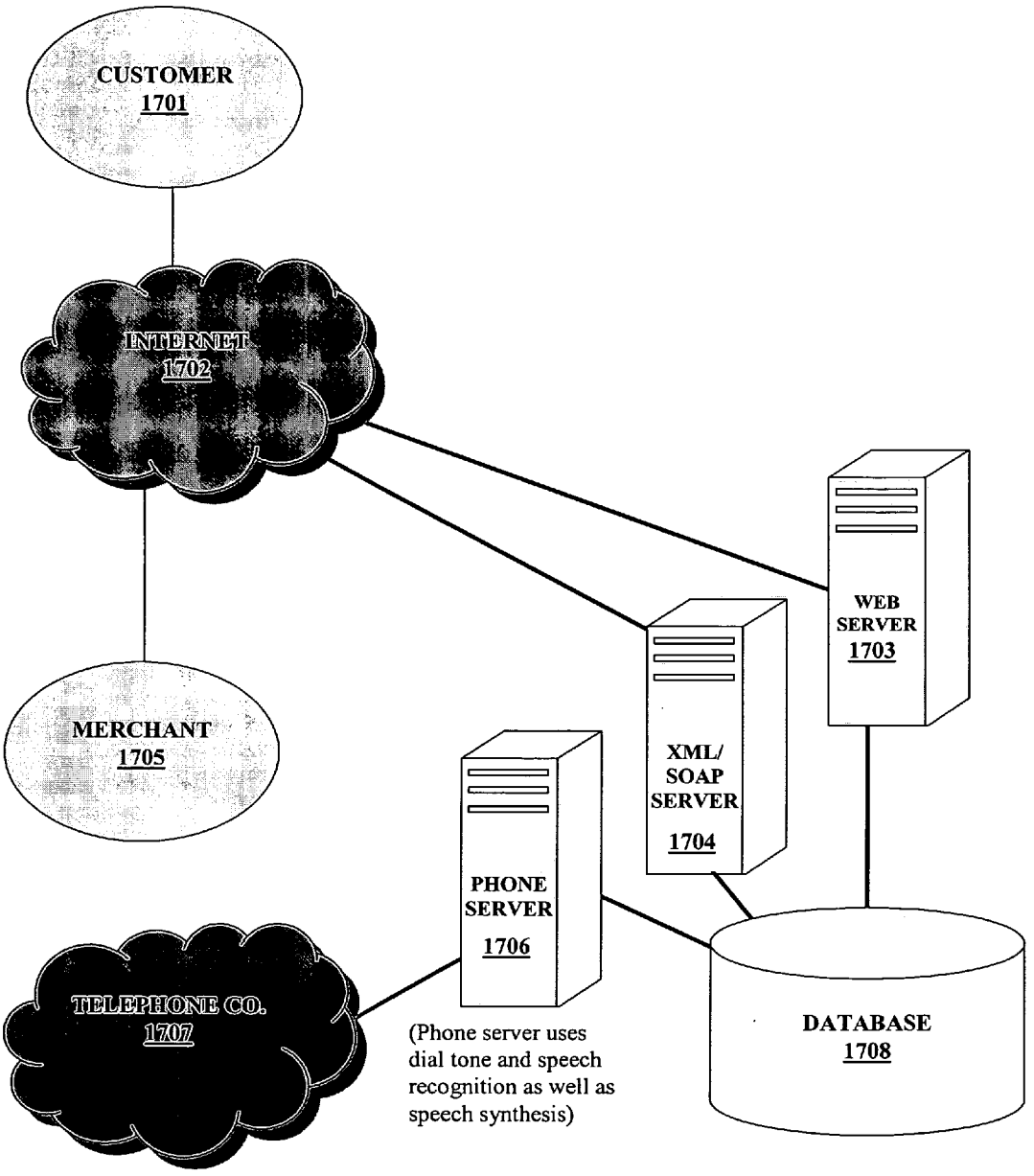

CUSTOMER
1701
INTERNET
1702
MERCHANT
1705
TELEPHONE CO.
1707
PHONE
SERVER
1706
(Phone server uses
dial tone and speech
recognition as well as
speech synthesis)
XML/
SOAP
SERVER
1704
WEB
SERVER
1703
DATABASE
1708

Figure 17

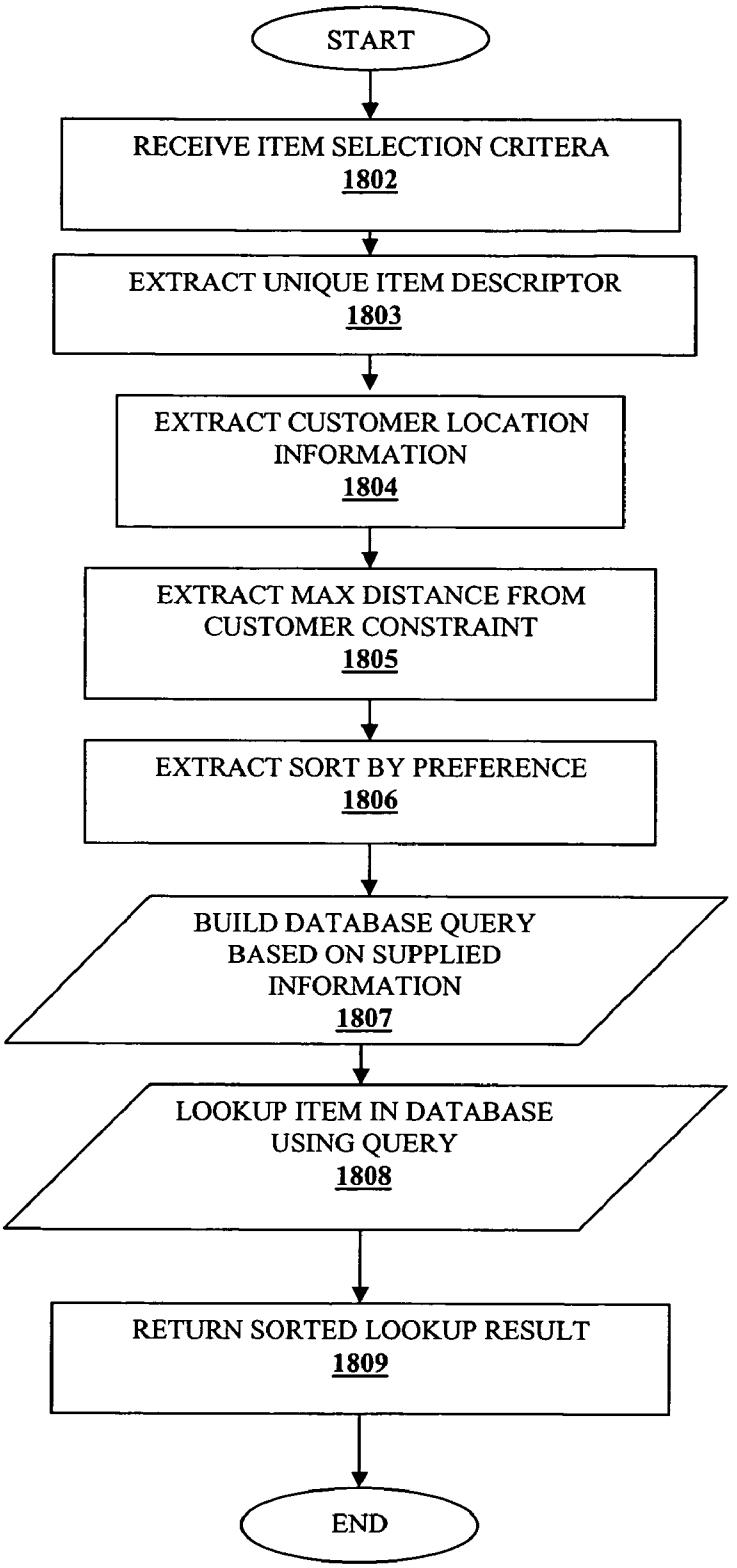

START
RECEIVE ITEM SELECTION CRITERA
1802
EXTRACT UNIQUE ITEM DESCRIPTOR
1803
EXTRACT CUSTOMER LOCATION INFORMATION
1804
EXTRACT MAX DISTANCE FROM CUSTOMER CONSTRAINT
1805
EXTRACT SORT BY PREFERENCE
1806
BUILD DATABASE QUERY BASED ON SUPPLIED INFORMATION
1807
LOOKUP ITEM IN DATABASE USING QUERY
1808
RETURN SORTED LOOKUP RESULT
1809
END

Figure 18

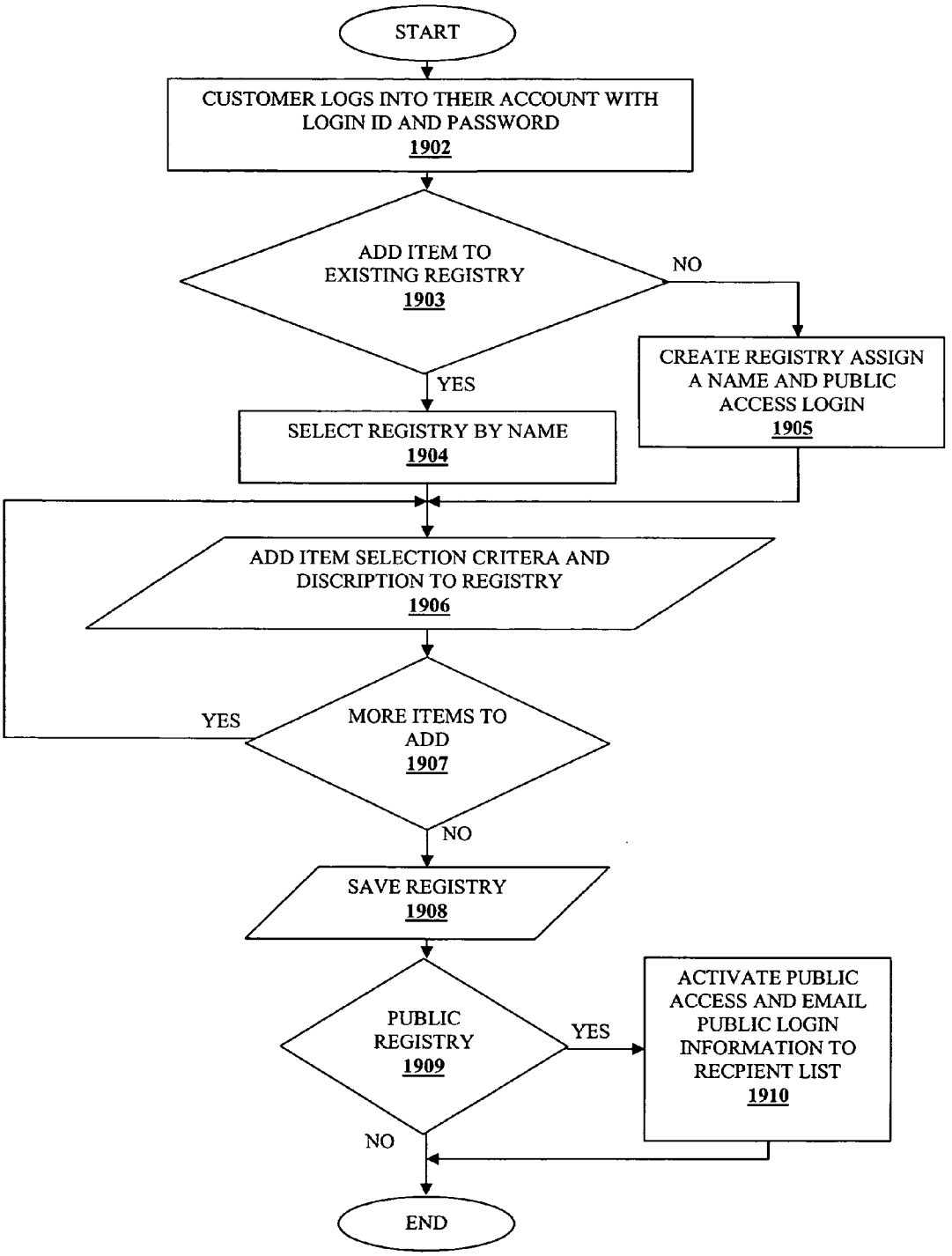

START
CUSTOMER LOGS INTO THEIR ACCOUNT WITH LOGIN ID AND PASSWORD
1902
ADD ITEM TO EXISTING REGISTRY
1903
NO
YES
CREATE REGISTRY ASSIGN A NAME AND PUBLIC ACCESS LOGIN
1905
SELECT REGISTRY BY NAME
1904
ADD ITEM SELECTION CRITERA AND DISCRIPTION TO REGISTRY
1906
MORE ITEMS TO ADD
1907
YES
NO
SAVE REGISTRY
1908
PUBLIC REGISTRY
1909
YES
ACTIVATE PUBLIC ACCESS AND EMAIL PUBLIC LOGIN INFORMATION TO RECPIENT LIST
1910
NO
END

Figure 19

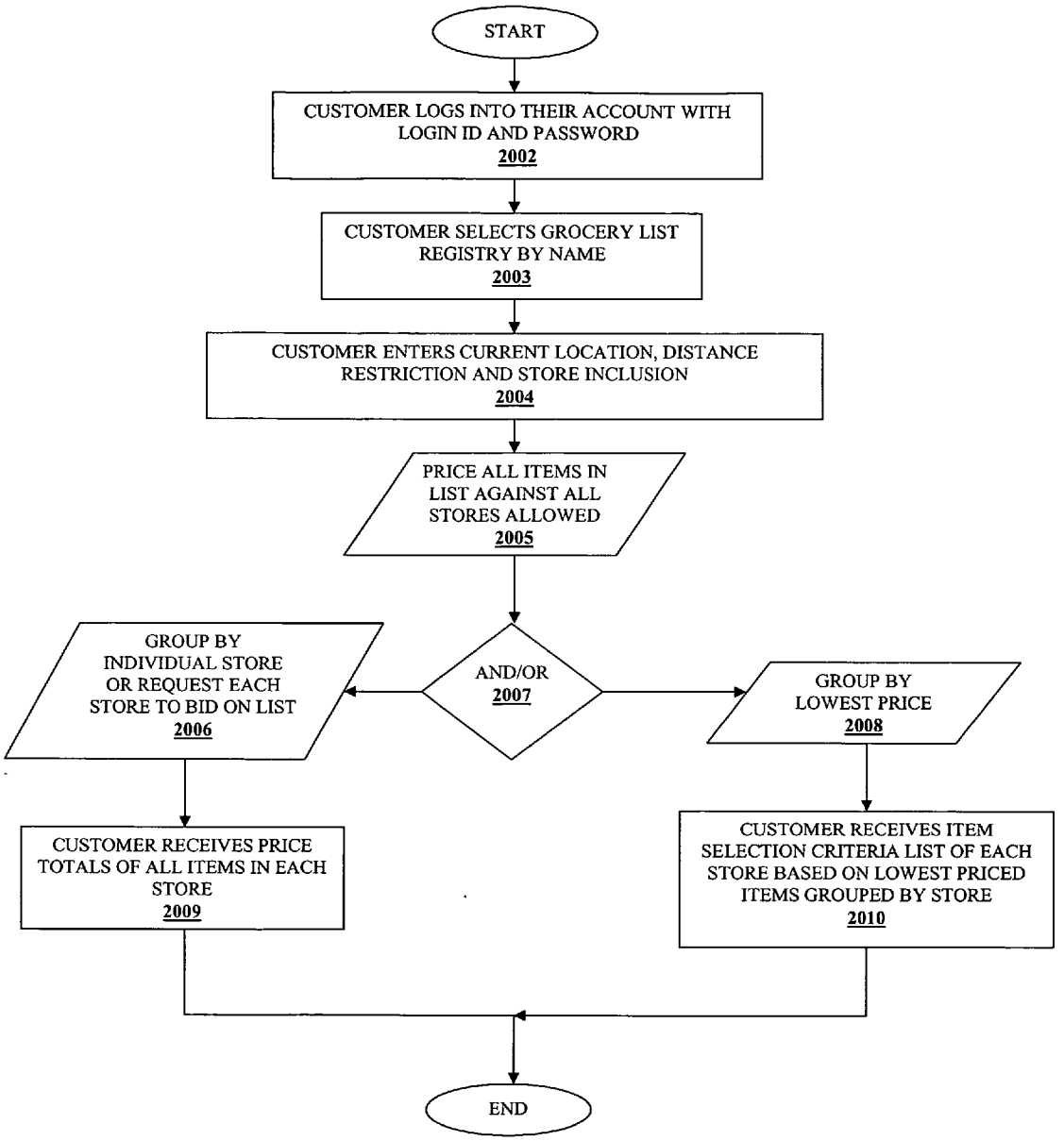

START
CUSTOMER LOGS INTO THEIR ACCOUNT WITH LOGIN ID AND PASSWORD
2002
CUSTOMER SELECTS GROCERY LIST REGISTRY BY NAME
2003
CUSTOMER ENTERS CURRENT LOCATION, DISTANCE RESTRICTION AND STORE INCLUSION
2004
PRICE ALL ITEMS IN LIST AGAINST ALL STORES ALLOWED
2005
AND/OR
2007
GROUP BY INDIVIDUAL STORE OR REQUEST EACH STORE TO BID ON LIST
2006
GROUP BY LOWEST PRICE
2008
CUSTOMER RECEIVES PRICE TOTALS OF ALL ITEMS IN EACH STORE
2009
CUSTOMER RECEIVES ITEM SELECTION CRITERIA LIST OF EACH STORE BASED ON LOWEST PRICED ITEMS GROUPED BY STORE
2010
END

Figure 20

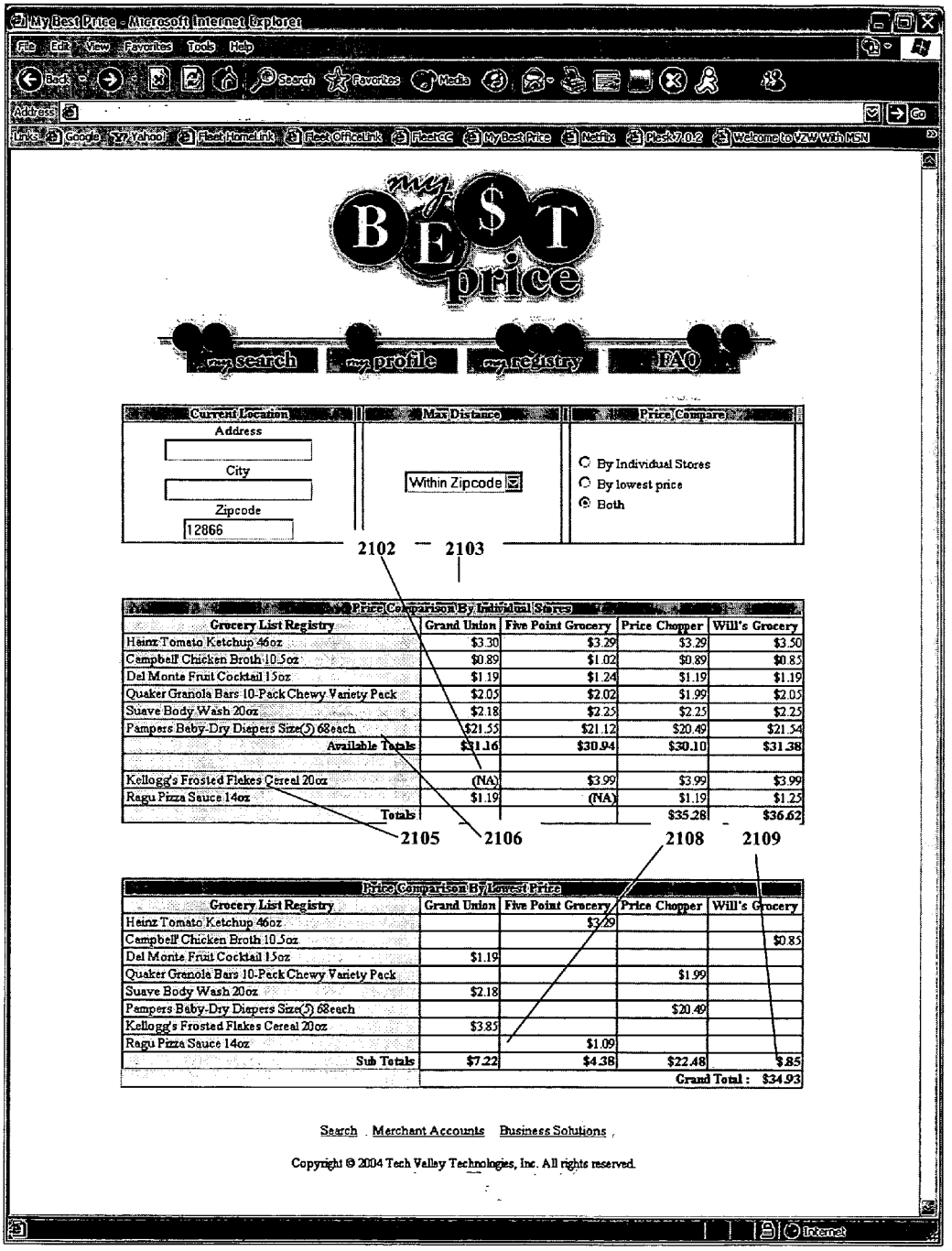

My Best Price - Microsoft Internet Explorer
my BEST price
search
profile
registry
FAQ
Current Location
Address
City
Zipcode
12866
Max Distance
Within Zipcode
Price Compare
By Individual Stores
By lowest price
Both
2102
2103
Price Comparison By Individual Stores
Grocery List Registry | Grand Union | Five Point Grocery | Price Chopper | Will's Grocery
Heinz Tomato Ketchup 46oz | $3.30 | $3.29 | $3.29 | $3.50
Campbell Chicken Broth 10.5oz | $0.89 | $1.02 | $0.89 | $0.85
Del Monte Fruit Cocktail 15oz | $1.19 | $1.24 | $1.19 | $1.19
Quaker Granola Bars 10-Pack Chewy Variety Pack | $2.05 | $2.02 | $1.99 | $2.05
Suave Body Wash 20oz | $2.18 | $2.25 | $2.25 | $2.25
Pampers Baby-Dry Diapers Size(5) 68each | $21.55 | $21.12 | $20.49 | $21.54
Available Totals | $31.16 | $30.94 | $30.10 | $31.38
Kellogg's Frosted Flakes Cereal 20oz | (NA) | $3.99 | $3.99 | $3.99
Ragu Pizza Sauce 14oz | $1.19 | (NA) | $1.19 | $1.25
Totals | | | $35.28 | $36.62
2105
2106
2108
2109
Price Comparison By Lowest Price
Grocery List Registry | Grand Union | Five Point Grocery | Price Chopper | Will's Grocery
Heinz Tomato Ketchup 46oz | | $3.29 | | |
Campbell Chicken Broth 10.5oz | | | | $0.85
Del Monte Fruit Cocktail 15oz | $1.19 | | |
Quaker Granola Bars 10-Pack Chewy Variety Pack | | | $1.99 |
Suave Body Wash 20oz | $2.18 | | |
Pampers Baby-Dry Diapers Size(5) 68each | | | $20.49 |
Kellogg's Frosted Flakes Cereal 20oz | $3.85 | | |
Ragu Pizza Sauce 14oz | | $1.09 | |
Sub Totals | $7.22 | $4.38 | $22.48 | $.85
Grand Total : $34.93
Search Merchant Accounts Business Solutions
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Figure 21

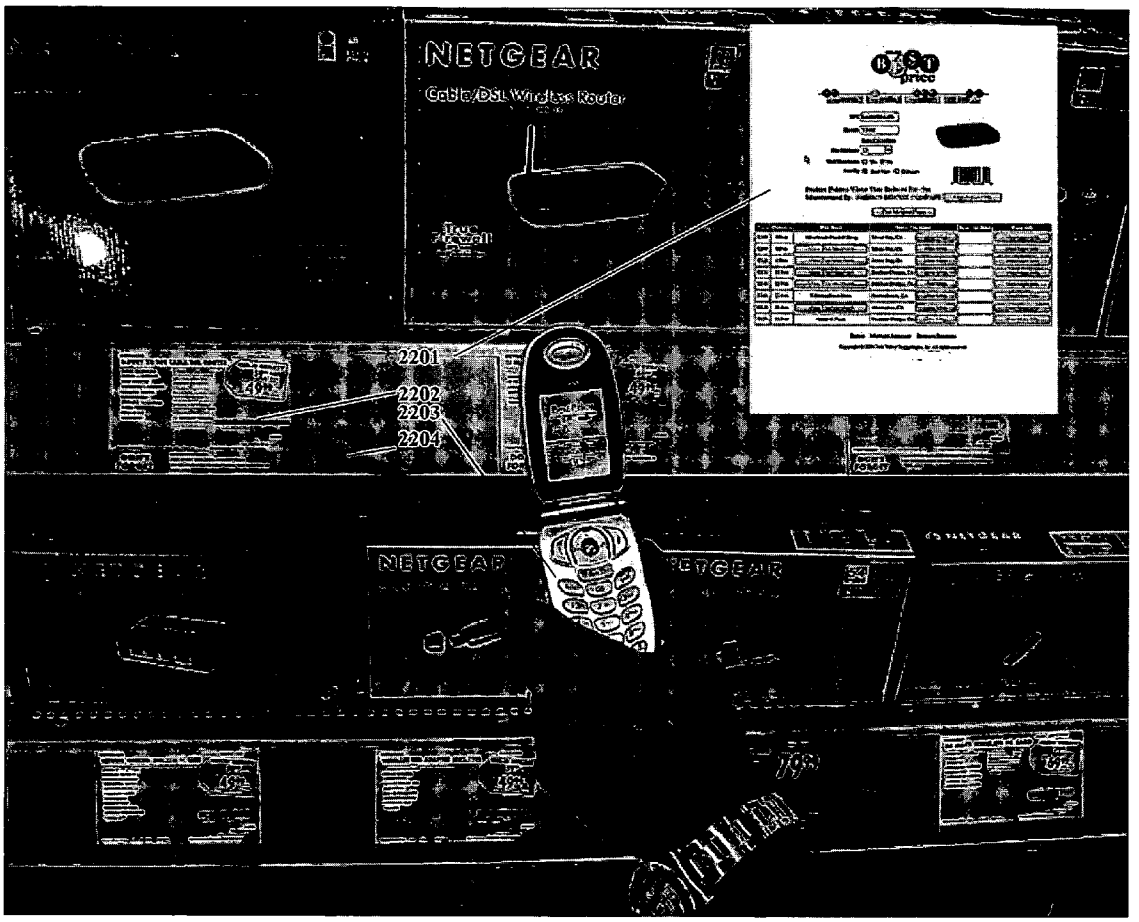

Figure 22

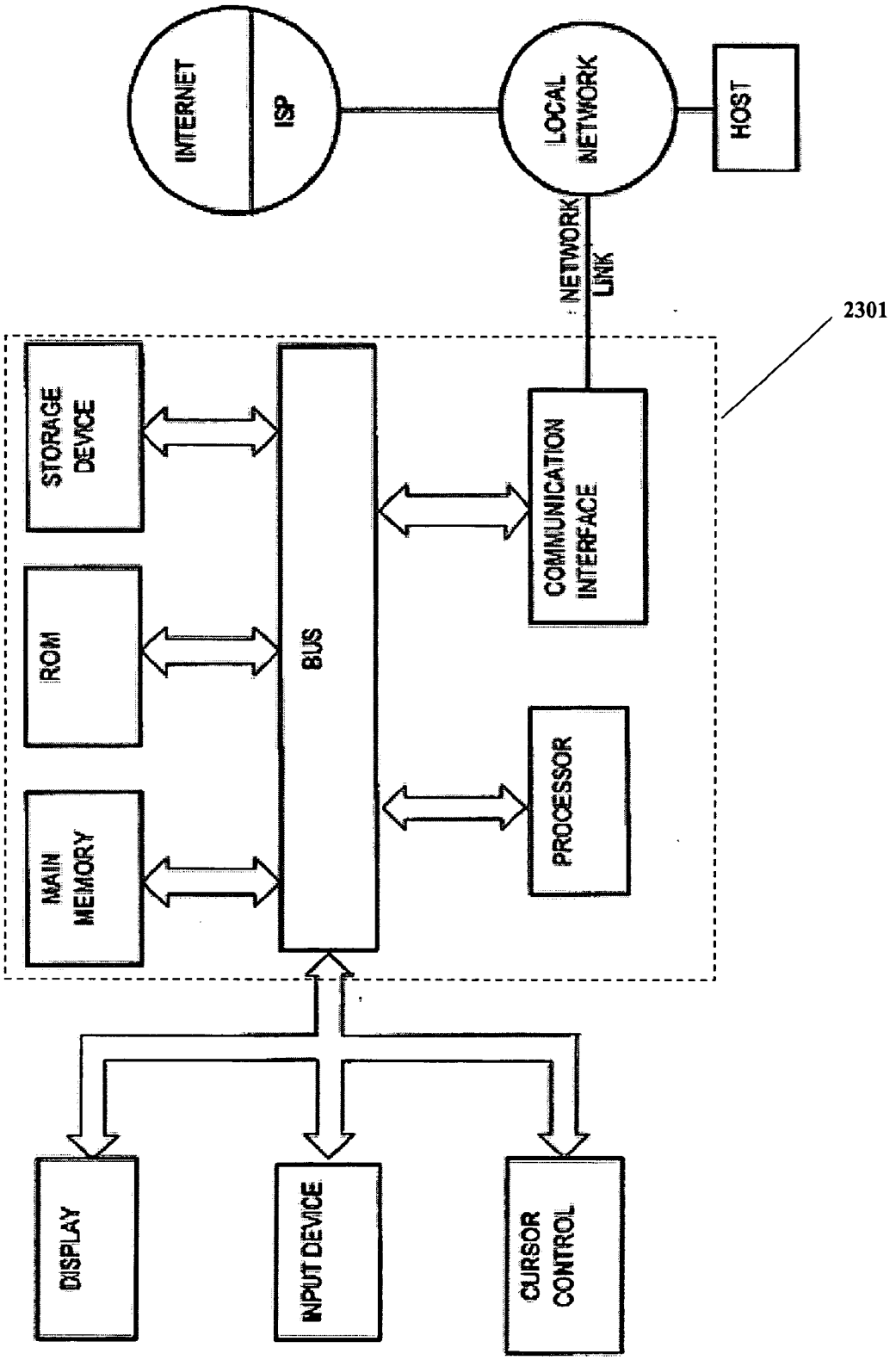
INTERNET
ISP
LOCAL NETWORK
HOST
NETWORK LINK
2301
STORAGE DEVICE
ROM
MAIN MEMORY
BUS
COMMUNICATION INTERFACE
PROCESSOR
DISPLAY
INPUT DEVICE
CURSOR CONTROL

Figure 23

METHOD AND APPARATUS FOR RETRIEVING AND FORMATTING INFORMATION

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the benefit of U.S. Provisional Patent Application No. 60/509,208 entitled Method and Apparatus for Retrieving and Formatting Information, filed on Oct. 6, 2003, which application is incorporated herein by reference in its entirety.

TECHNICAL FIELD

[0002] The present application relates to a method for retrieving item information and more specifically, to a computer-implemented approach for selecting and retrieving item information for customers.

BACKGROUND

[0003] Conventional store models involve the customers having to physically find a store that carries the item they desire. Moreover to price compare an item, a customer must find multiple stores that carry that item in order to make the optimal purchasing decision. There is further need for an approach to locating items for customers that ensures the correct selection of the item descriptors needed for the item selection criteria across a medium.

[0004] Conventional store models require a customer to call or physically go to the store to see if the item they desire is in stock. Customers are often unaware of all the locations within close proximity that carry the item they desire. Once in a store customers would like to know where items are located within the store to make there shopping experience as time efficient as possible. Conventional store models require the customer to utilize their internal registry system in order to make desired item lists available to others. Currently there is no way to price compare a grocery list against multiple store location in an efficient manner.

[0005] Conventional search engines often return results in the hundreds and even thousands of records when performing a search on a single item. Price comparison search engines often perform price comparison on web merchants only, but not traditional brick and motor type stores.

[0006] Given the current demand for a unified solution and the limitations of current conventional store models, a new approach is needed to assist customers in locating items by best price and/or best location.

SUMMARY

[0007] A method and apparatus of the present application in one aspect allows customers to retrieve information on one or many items sorted by best price and/or best location. This embodiment uses a unified solution that includes but is not limited to UPC codes, RFID tags, MPN, keywords, category, ad-hoc expression, hand (barcode) scanners, cell phones, Global Positioning Systems (GPS), personal data assistants (PDA), computers and the Internet.

[0008] Further features as well as the structure and operation of various embodiments are described in detail below with reference to the accompanying drawings. In the drawings, like reference numbers indicate identical or functionally similar elements.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] **FIG. 1** is a diagram illustrating an approach for retrieving item information including but not limited to location, price, and stock status for customers according to one embodiment of the present disclosure.

[0010] **FIG. 2** is a diagram illustrating an approach for customer and provider to exchange information over the Internet according to one embodiment of the present disclosure.

[0011] **FIG. 3** is a flow diagram illustrating an example approach for selecting a unique item descriptor using a category search engine.

[0012] **FIG. 4** is a flow diagram illustrating an example of how a customer would enter a UPC code via web enabled cell phone.

[0013] **FIG. 5** is a flow diagram illustrating an approach a customer would use to create item selection criteria according to one embodiment.

[0014] **FIG. 6** is a flow diagram illustrating an embodiment of how a customer would create one or more item selection criteria using devices with different capabilities.

[0015] **FIG. 7** is a flow diagram illustrating an embodiment of how a provider would allow the customer to select a unique item descriptor starting from an ad-hoc, non-unique search expression.

[0016] **FIG. 8** is a screen shot showing an embodiment of a category search engine opening web page.

[0017] **FIG. 9** is a screen shot showing an embodiment of a category search engine sub category web page.

[0018] **FIG. 10** is a screen shot showing an embodiment of an item listing for a sub category web page.

[0019] **FIG. 11** is a screen shot of a web page that has just returned from a category search and has the requested item's UPC code inserted into the search field.

[0020] **FIG. 12** is a screen shot of a web browser response to a unique item search request in one embodiment.

[0021] **FIG. 13** is a printout that a customer would receive from the provider that pertains to a desired grocery store showing the customers grocery list and the store floor plan in one embodiment.

[0022] **FIG. 14** is a flow diagram illustrating an approach for a merchant to upload all of its physical store addresses as well as its items and item in store locations in one embodiment.

[0023] **FIG. 15** is an example screen shot of a web page showing a multiple merchant location upload screen in one embodiment.

[0024] **FIG. 16** is an example screen shot of a web page showing a multiple item upload screen in one embodiment.

[0025] **FIG. 17** is a diagram showing how the customer and merchant access the provider's web server, XML/SOAP server and phone server in one embodiment.

[0026] **FIG. 18** is a flow diagram of the events that take place on the provider's server in order to process an item selection criteria search request in one embodiment.

[0027] **FIG. 19** is a flow diagram of the events a customer needs to perform in order to create and or add items to their registry in one embodiment.

[0028] **FIG. 20** is a flow diagram illustrating the events a customer performs in order to price compare items in their grocery list registry in one embodiment.

[0029] **FIG. 21** is a screen shot of a web page showing a price comparison request of a customers grocery list register in one embodiment.

[0030] **FIG. 22** is a picture showing a person using a web enabled cell phone with UPC scanner in one embodiment.

[0031] **FIG. 23** is a diagram showing examples of the internal components of a Web Server and its external connections in one embodiment.

DETAILED DESCRIPTION

[0032] In one embodiment, a unique item descriptor may include but is not limited to the following examples. A UPC (Universal Product Code) is a unique item descriptor. A unique UPC represents a unique item. There should only be one unique UPC assigned by manufactures to each unique product that is sold by merchants. We will not discuss further or go into detail about how and where a UPC is to be used; this information would be known by one of ordinary skill in the art. Another unique item descriptor EAN (European Article Number) is a unique item descriptor. A unique EAN represents a unique item. There should only be one unique EAN assigned by manufactures to each unique product that is sold by merchants. We will not discuss further or go into detail about how and where a EAN is to be used; this information would be known by one of ordinary skill in the art. Another unique item descriptor GTIN (Global Trade Item Number) is a unique item descriptor. A unique GTIN represents a unique item. There should only be one unique GTIN assigned by manufactures to each unique product that is sold by merchants. We will not discuss further or go into detail about how and where a GTIN is to be used; this information would be known by one of ordinary skill in the art. Another unique item descriptor could be an RFID (Radio Frequency Identification) tag. A unique RFID tag represents a unique item. There should only be one unique RFID tag assigned by the manufactures to each unique product that is sold by merchants. We will not discuss further or go into detail about how and where a RFID tag is to be used, this information would be known by one of ordinary skill in the art. Another unique item descriptor could be an MPN (Manufacture Part Number). A unique MPN represents a unique item. There should only be one unique MPN assigned by manufactures to each of the products they manufacture. A unique ISBN (International Standard Book Number) represents a unique item. There should only be one unique ISBN assigned by the manufactures to each unique product that is sold by merchants. We will not discuss further or go into detail about how and where an ISBN is used, this information would be known by one of ordinary skill in the art.

[0033] As used herein, the term "item(s)" refers to any goods that can be sold, rented or loaned to customers. Customers **101** may create lists of items using one or more unique item selection criteria **102** separate from submitting a list to the provider **104** for lookup using the current selection criteria as shown in **FIG. 1**. The provider then returns information based on the request back to the customer **103**.

[0034] According to another embodiment, if a peripheral device supports a Graphical User Interface (GUI) then that is the preferred method of entering and receiving information to and from the provider.

[0035] Provider is illustrated as a single entity for the purposes of explanation only. Provider may be centralized or distributed depending upon the requirements of a particular embodiment. For example, provider may be a centralized server(s) or may be distributed across a network of clustered server(s).

[0036] In the following description, for the purposes of explanation specific details are set forth in order to provide a thorough understanding of this embodiment. However, it will be apparent that this embodiment may be practiced without these specific details described below. Accordingly in this aspect of the embodiment, a method is provided for retrieving information on items from merchants via the provider for customers.

[0037] According to one embodiment, one or more item selection criteria are received, through a medium (Internet, phone line, etc.), by the provider that indicate one or more unique items, which a customer desires to receive information on. The provider will deliver, according to this embodiment, through a medium, (Internet, phone line, etc), a sorted list by location and/or price for each desired item. The customer may then select one or more item(s)/location(s) supplied by the provider to receive more detailed information (Address, phone number, Street Map, Stock status, In Store Location, etc.).

[0038] Customers communicate with the provider over links **208-212** the global packet-switched network referred to as the "Internet"**204** as shown in **FIG. 2**. Links, in this embodiment may be any medium for transferring data between customers and the Internet and the provider **202** respectively. This embodiment is not limited to any particular medium. In the present example links may be connections provided by one or more Internet Service Provider(s) (ISP) and customers. Customers can use but are not limited to standard telephone(s) **205** using a standard phone line **213**, non-web enabled cell phone(s) using touchtone/speech recognition technologies, generic Internet web browser(s) **206**, web enabled cell phone(s) **201**, Personal Data Assistant(s) (PDA) **203**, Global Positioning System (GPS) device(s) **207** with or without a UPC or RFID equipped scanner. Links may be secure or unsecured depending upon the requirements of a particular embodiment.

[0039] The present application employs several types of devices to communicate with the provider's computer server(s) **1703** & **1704** over the Internet **1702** as shown in **FIG. 17**. The present application is not limited to utilizing such said devices, but are given by way of example. A customer may use a number of different devices to communicate with the provider's server(s) to extract the information they are looking for from the provider's databases **1708**. One such device is a web enabled cellular telephone with or without a UPC/RFID scanner **201**, equipped with a web browser that is able to connect to the internet **204** as shown in **FIG. 2**. A customer would need to connect to the internet via their web

browser equipped cellular telephone **201**. Once connected to the Internet **204** a connection to the provider **202** would be established. The customer would then enter item selection criteria **502** into the web browser of their cellular telephone as shown in **FIG. 5**. Item selection criteria may include but is not limited to a unique item descriptor **1101** such as a UPC or RFID, a zip code **1103**, a max search distance **1105**, type of merchants to be included **1106** and sort constraints **1107** as shown in **FIG. 11**. The item selection criteria would then be sent to the provider **503** via the cellular telephone connection as shown in **FIG. 5**.

[**0040**] Another such device to communicate with the provider's server(s) could be a wireless, web enabled PDA (Personal Data Assistant) with or without a UPC/RFID scanner **203** as shown in **FIG. 2**. The PDA would need to be equipped with a web browser that is capable of connecting to the internet. Once connected to the internet a connection to the provider **202** would is established. The customer would then enter item selection criteria **502** into the web browser of their wireless PDA as shown in **FIG. 5**. Item selection criteria may include but is not limited to a unique item descriptor **1101** such as a UPC or RFID, a zip code **1103**, a max search distance **1105**, type of merchants to be included **1106** and sort constraints **1107** as shown in **FIG. 11**. One or more item selection criteria would be sent to the provider **503** via the wireless PDA's wireless connection as shown in **FIG. 5**.

[**0041**] Another such device to communicate with the provider's server(s) could be a PC or Macintosh computer **206** as shown in **FIG. 2**. The PC or Macintosh computer are equipped with a web browser that is capable of connecting to the internet. Once connected to the internet a connection to the provider **202** is established. An internet connection could be facilitated through but is not limited to one of the following types of connections; a modem on a standard telephone line, a T1 line, a DSL line or coaxial cable connection. The customer may enter one or more item selection criteria **502** into the web browser on their computer as shown in **FIG. 5**. Item selection criteria may include but is not limited to a unique item descriptor **1101** such as a UPC or RFID, a zip code **1103**, a max search distance **1105**, type of merchants to be included **1106** and sort constraints **1107** as shown in **FIG. 11**. One or more item selection criteria is sent to the provider **503** via the computers internet connection according to one embodiment of the present disclosure as shown in **FIG. 5**.

[**0042**] Another such device to communicate with the provider's server(s) could be a non-wireless touch tone telephone **205** as shown in **FIG. 2**. The touchtone telephone connects to the providers telephone server(s) **1706** via a local telephone company's connection **1707** as shown in **FIG. 17**. Once connected to the providers server(s) the customer enters item selection criteria **502** via the key pad on their telephone or through speech recognition technologies as shown in **FIG. 5**. Item selection criteria may include but is not limited to a unique item descriptor **1101** such as a UPC or RFID, a zip code **1103**, a max search distance **1105**, type of merchants to be included **1106** and sort constraints **1107** as shown in **FIG. 11**. The item selection criteria may be entered by the user as prompted by the providers interactive voice assisted phone server(s) **1706** in one embodiment, for example, as shown in **FIG. 17**.

[**0043**] Another such device to communicate with the providers server(s) could be a wireless GPS (Global Positioning System) unit, with or without a UPC/RFID scanner **207** as shown in **FIG. 2**. The GPS unit may be equipped with a web browser that is capable of connecting to the internet. Once connected to the internet a connection to the provider **202** may be established. The customer enters item selection criteria **502** into the web browser of their wireless GPS unit as shown in **FIG. 5**. Item selection criteria may include but is not limited to a unique item descriptor **1101** such as a UPC or RFID, longitude and latitude, a max search distance **1105**, type of merchants to be included **1106** and sort constraints **1107** as shown in **FIG. 11**. One or more item selection criteria may be sent to the provider **503** via the wireless web browser enabled GPS unit according to one embodiment, for example, as shown in **FIG. 5**.

[**0044**] Another such device to communicate with the provider's server(s) could be a wireless non web enabled cellular telephone. The wireless non web enabled cellular telephone may connect to the providers telephone server(s) **1706** via a local telephone company's connection **1707** as show in **FIG. 17**. Once connected to the providers server(s) the customer enters one or more item selection criteria **502** via the key pad on their cellular telephone or through speech recognition technologies as shown in **FIG. 5**. Item selection criteria may include but is not limited to a unique item descriptor **1101** such as a UPC or RFID, a zip code **1103**, a max search distance **1105**, type of merchants to be included **1106** and sort constraints **1107** as shown in **FIG. 11**. The item selection criteria may be entered by the user as prompted by the providers interactive voice assisted phone server(s) **1706** in one embodiment, for example, as shown in **FIG. 17**.

[**0045**] In one embodiment, customers having a web enabled cell phone can scan a UPC **402** code if they have a UPC or RFID scanner **401** as shown in **FIG. 4**. Or the customer can take a picture **404** of the UPC label if they have an embedded camera **403** in their cell phone, PDA, etc. The image can be sent to the provider's web server **405** for recognition and the recognized UPC number can be returned and entered into the search input field **409**. Otherwise if the UPC is human readable **407** the customer can manually enter the UPC using touchtone or speech recognition technologies **406**. If the UPC is not human readable the customer can use the category search technique **408** as described in **FIG. 3**.

[**0046**] In one embodiment, customers create and provide one or more item selection criteria to the provider over links and the Internet. A customer **1701** can use but is not limited to using the communication devices described above, to communicate via links and the Internet, for example, as shown in **FIG. 17**. By way of example a customer may provide the following one or more item selection criteria using one of the communication devices described above, for example, as shown in **FIG. 11**:

[**0047**] Search For=UPC: 731004123450 (**1101**), Zip code=93442 (**1103**), Max Distance=25 mi. (**1105**), Web Merchant=No (**1106**), and Sort By=Best Price (**1107**)

[**0048**] Search For=Keyword: Gas (**1101**), Zip code=12833 (**1103**), Max Distance=25 mi. (**1105**), Web Merchant=No (**1106**), and Sort by=Distance (**1107**)

[0049] Search For=ISBN: 0-78920538-6 (1101), Zip code=93442 (1103), Max Distance=25 mi. (1105), Web Merchant=No (1106), and Sort by=Best Price (1107)

[0050] Search For=MPN: DVP-CX985V (1101), Address=54 Wilton Road (1104), City=Greenfield (1104), State=NY (1104), Zip code=12833 (1103), Max Distance=25 mi.(1105), Web Merchant=No (1106), and Sort by=Distance (1107)

[0051] Search For=AD-HOC Expression: Canon camera (1101), Zip code=12833 (1103), Max Distance=25 mi.(1105), Web Merchant=No (1106),and Sort by=Distance (1107)

[0052] Search For=EAN: 9780446528382 (1101), Latitude=43.1289, Longitude=73.8570 (1104), Max Distance=25 mi.(1105), Web Merchant=No (1106), Sort by=Best Price (1107)

[0053] In one embodiment of the approach, a customer communicating with the provider to search for an item by unique item descriptor could use but is not limited to the following routine. A customer creates item selection criteria 502 as shown in FIG. 5. Customer then provides item selection criteria to the provider 503. Once customer has sent the item selection criteria, through a link, to the provider, the provider finds all applicable information based on the customers item selection criteria and sends that information back through a link to the customer. The provider provides item information such as store location and pricing that match the item selection criteria to the customer 504. Customer selects a merchant to receive more information on 505. The provider then gives additional options to the customer after the merchant has been selected such as: address, phone number, directions, map, stock status, and in store item location 506.

[0054] In one embodiment, a customer communicating with the provider to search for an item by unique item descriptor could use but is not limited to the following method. The customer would enter the unique item descriptor desired into the search input field 1101, a positional point of reference 1103 or 1104, a maximum search distance 1105, type of merchants desired 1106, and sort by constraint 1107 as shown in FIG. 11. For example as described in FIG. 6, a customer enters a store and locates a desired item, if that item has a Radio Frequency Identification tag (RFID) or a Universal Product Code (UPC) 602 and the user has a portable wireless web enabled device with a RFID or barcode scanner capability 603, respectively, the user simply scans the unique item identifier 604 into search field 1101 as shown in FIG. 11. If the user does not have a barcode scanner capable device and the UPC code has human readable barcode numbers 605 the user can manually enter 608 the UPC numbers on their cell phone or PDA 607 as shown in FIG. 6. If neither a barcode nor human readable UPC code exists the user can use a standard telephone 609 and use the touch tone/speech recognition based category search engine 606 as described in FIG. 3 to lookup the unique item descriptor. The customer then either enters address and or zip code of their current physical location in order to pinpoint their exact global position 610. This location information is used to derive their current latitude and longitude to be used for distance, proximity, directions, map, site, etc. Or the provider can automatically determine the customer's location by using the cell phone tower triangulation or GPS location for a point of reference. One or more item selection criteria may be composed of a UPC or RFID number 1101 along with the customer's current location 1103 or 1104, merchant type 1106, as well as the sort by information (Best Price or Distance) 1107 as shown in FIG. 11. The Customer then submits the one or more item selection criteria by clicking the "Find My Best Price" button 1108. The search request is sent through an internet link to the provider as one or more item selection criteria. The provider returns a list of merchants that match the item selection search criteria 504 as shown in FIG. 5. Once the customer receives a list of merchants 1207, prices 1205, and relative distance 1206 from the provider, this may conclude the item lookup or the customer may request additional information 1209 for this embodiment as shown in FIG. 12.

[0055] In one embodiment, because keywords are not unique by nature they will resolve to a unique item descriptor. Keywords can be assigned to unique item descriptors by merchants or by the provider. This embodiment is not limited to any particular approach for specifying and or binding Keyword(s) to an item selection descriptor.

[0056] In one embodiment, when a Keyword or Ad-Hoc expression is used in the search Field 1101 as shown in FIG. 11, the provider's web server compares the search field to all keywords already assigned a unique identifier. If the keyword is an exact match the provider will insert the assigned unique identifier in the Search field 1101. If the search field is an Ad-Hoc expression and is not assigned to a unique identifier the provider will return to the customer a list of items sorted by relevance. Relevance for an item could be measured in a multitude of different ways. For example, the provider could return a list of 100 items the most relevant item being on the top of the returned list with the following relevancy values: Item has the most inquires by customers (most popular), and or item is in stock at merchants within a specified distance, and or item is the best price at merchants within a specified distance in comparison to other like items within the same specified distance, and or item is sponsored in the providers database by a merchant(s). These values are calculated by the provider's internal metrics and weighted, and then sorted from most relevant to least relevant. The item at the bottom of the list of 100 relevant items would have the least relevant values at that specific time. Sponsored item(s) in the provider's database can be favored and displayed more prominently than items that are not sponsored. Relevant values will be constantly changing depending on the many factors that go into them. The provider will monitor and record the constantly changing data so that real time inquires (searches) are as accurate as possible at any given time.

[0057] In one embodiment, a customer can enter into the search field 1101 as shown in FIG. 11, an Ad-Hoc expression that is a non-unique item descriptor 702 as described in FIG. 7. In this embodiment the provider is not limited to but can process the input using the following steps: First the input is compared to category key words using standard Boolean search techniques 703. If there is a match, the customer will use the category search engine 704 as described in FIG. 3 to select the unique item descriptor. If there is no match the provider will build a database query 705 that will perform a Boolean search against the item description and attribute fields. If a unique item descriptor is

returned **706** from that query then it is inserted into the search field **712**. Otherwise a list of items matching the query are returned **707**. That list of items is then compared against the list of paying merchants **708**, popularity, and availability (stock status) to determine the displayed order. If any of the items in the listed are sponsored by paying merchants they are presented to the customer in a more prominent manner **709**. Otherwise they are sorted using a relevancy of popularity and availability or number of items in stock **710**. The customer must then select the item they desire from that list **711** and the corresponding unique item descriptor will be loaded into the search field **712**.

[**0058**] In this embodiment a customer may store their own wish list of items on the provider's web site and access the item descriptors for each unique item using their own personal registry. Customers can create multiple registries i.e. Wedding, Shower, Birthday, Christmas, Shopping, Wish List or Grocery List, etc. This account may be secured or unsecured depending upon the requirements of a particular embodiment. In this embodiment a similar function can be found with the personal registry where a customer can walk around to different stores collecting unique item descriptors for desired items to upload into their own personal registry. They then may setup a separate login and password that they give to friends and family to access those registries. Friends and family can access the list from the provider by using a web browser, cell phone, PDA, etc. Friends and family can also print out a listing of each item with its corresponding unique identifiers and bring the list with them shopping. Or using a web enabled device they simply select a unique item descriptor from the registry and request, along with their selection criteria, information from the provider. The provider will deliver across a link a sorted list based on added item selection criteria information.

[**0059**] A customer may not have exact item selection criteria for the search input field **1101** which is used for but not limited to such descriptors as a UPC, RFID, MPN, ISBN or a Keyword(s) as shown in **FIG. 11**. A customer can select the "Search By Category"**1102** link to search by category and find a unique item descriptor. A category search for an item will resolve to a unique item descriptor. The embodiment is not limited to any particular approach for specifying or providing a technique of searching categories that resolve to a unique selection descriptor.

[**0060**] In accordance with an embodiment, customers create and provide item category selection criteria to the provider over internet links. A customer can use but is not limited to using the communication devices described above, for example, to communicate via internet links. For example, a customer may provide the following category selection criteria's using one of the communication devices previously described. By way of example, a "Search By Category"**1102** routine may result with the following as shown in **FIGS. 8, 9, 10**, and **11**:

> [**0061**] Category=Digital Cameras **801**, Sub Category=6 Mega pixels & Up **901**, Final Item Selection=Canon EOS-10D 6.3 MP Digital SLR Camera (Body Only) **1001** unique item descriptor=UPC 75084581133 **1101**.

[**0062**] In one embodiment, one example of a customer communicating with the providers "Search By Category"**1102** routine may include but is not limited to the following steps as shown in **FIG. 11**: A customer creates category selection criteria based on a provider supplied item category list **302** as described in **FIG. 3**. Customer provides category selection criteria to the provider **303**. Provider queries the database with the customer's category selection criteria **304**. If items are not available for this category **306**, provider selects subcategories from category selection criteria and creates a new category list **305** and starts back at the beginning of the category selection routine **301**. If items are available for this category **306**, the provider supplies a list of items that are associated with the current category **307**. The customer selects an item by manufacturer and/or model number or an equivalent unique identifier, submits it to the provider **308**. The provider inserts UPC, RFID, ISBN, MPN or other unique identifier into the search field **309**.

[**0063**] Once an item selection is made from the provider's database **1708** as shown in **FIG. 17** using the "Search by Category"**1102** function on a web browser, a unique item descriptor is given back to the customer as shown in **FIG. 11**. This unique item descriptor is automatically loaded into the search field **1101** for later submission by the customer to the provider. This unique item descriptor along with the other parameters, for example, shown in **FIG. 11**, are used to compose a search item criteria.

[**0064**] Once all pertinent item selection criteria has been selected using but not limited to any of the previously mentioned customer interfaces, a customer selects the "Find My Best Price" button **1108** to submit their request to the provider.

[**0065**] **FIG. 12** is a screen shot that illustrates an embodiment of the approach a provider uses to respond to a customers item selection criteria search request. The customer enters in a unique identifier of the desired item **1201**, a positional reference point (zip code) **1202**, sort by option **1211**, web merchant option **1210**, and maximum distance proximity constraint **1203** for the item selection criteria. The response showing the price **1205**, distance **1206**, merchant **1207**, location **1208**, description **1214**, and more information button **1209**, is generated by the provider and delivered to the customer across a link to their web enabled device or web browser. Each line of the listing designates a price and location of the desired item. The listings that include the merchant name are merchants that have chosen to pay the flat rate pay-per-item (PPI) billing option. The listings that include the "View This Merchant" button **1207** are merchants that have chosen the pay-per-click (PPC) billing option. In this embodiment the customer can click on one of the "View Map" buttons **1208** to view a street map showing them how to get to the designated store from where they are currently located. The customer clicks on the "View More Info" button **1209** to view the floor plan as shown in **FIG. 13** of the designated store and an indicator showing where in the store the desired item(s) are located as well as if the item(s) is currently in stock. If the desired item is out of stock the customer can request an email notification of when the item is available at that store location.

[**0066**] **FIG. 12** also illustrates merchant buttons showing both a web merchant **1212** and a brick and mortar pay-per-click (PPC) merchant(s) **1213**. The web merchant button, in this embodiment, will link the customer to the web merchant store by embedding the provider's identification into the URL associated with that button. If the customer purchases

the item desired from the web merchant through the supplied link, the provider will obtain a referral fee from the web merchant. And/or in another embodiment, the provider would obtain a pay-per-click (PPC) fee from the web merchant for the customer link. In one embodiment, the "View This Merchant" button is displayed for merchants that subscribe to the pay-per-click (PPC) billing option that do not appear in the first or top slot search result listing position. The customer may click the "View This Merchant" button in order to obtain the merchant name and other detailed information. Upon being clicked by the customer, the provider will record the PPC for billing purposes as well as the UPC or unique item descriptor as metric data. In one embodiment, a Flat Rate or pay-per-item (PPI) merchant **1216** will have their merchant name and detailed information displayed regardless of search result listing position. For example, since the merchant "Image"**1216** is a PPI merchant and their billing does not depend on any click information associated with that merchant, their information is displayed regardless. In one embodiment, the first PPC merchant **1215** that is presented in the top position among other PPC merchants will automatically have that merchant information displayed such that a customer need not click on the link/button to view its information. That first PPC merchant is billed for a click automatically. For example, the PPC merchant "Best Buy"**1215** is displayed without the "View This Merchant" button because that merchant may be in the top position of the PPC merchants shown.

[**0067**] **FIG. 13** is an example of a printout that a customer receives from the provider that pertains to a desired grocery store. The printout shows the customers grocery list and the store floor plan. On the floor plan the isle **1301** includes shelves with designators **1303** that uniquely identify product location within the store. In this embodiment the provider generates the floor plan map of the desired store and the locations in that store where each item is located **1304**. The provider can also embed applicable coupons **1305** in the floor plan map or separately for customer's desired items. If the customer desires the provider can also supply the customer with a list on their cell phone, PDA, or GPS unit of each item with its corresponding location designator **1306** (e.g. Ketchup-**5**A, Chicken Soup-**4**B) queued up and ordered by the most efficient route through the store. If the customer does not have a web-enabled cellular telephone they can use the providers interactive touch tone voice based menu driven interface to direct them to items throughout the store.

[**0068**] **FIG. 14** is a flow diagram that illustrates an embodiment of the approach a merchant uses to access the providers service. This approach shows a few of the steps in setting up a new merchant on the providers system. A merchant enters into an agreement with the provider at **1402**. If the merchant has only one location or has only a web store or mail order location **1404** then the merchant uploads that location and associated information **1405**. If the merchant has multiple locations **1404**, the merchant could upload multiple locations and associated information of their stores **1403**. The merchant uploads all of the items and associated item information **1406** such as but not limited to Price, Description, Stock Status, In store Location, etc. There are several ways that a merchant can upload their store and item information to the provider. One embodiment is, but is not limited to the provider having an XML (Extended Markup Language) or SOAP (Simple Object Access Protocol) server to receive information from the merchant. Another embodiment of data exchange with merchants is, but is not limited to polling the information from the merchant's server.

[**0069**] As part of the provider and merchant agreement, in this embodiment the merchant chooses a payment option offered by the provider for their services. Two possible options are given by way of example and are not the only payment options available. One option would be a pay-per-item (PPI) method whereas the merchant would pay the provider a flat fee based on the number of items and number of stores the merchant uploaded to the provider. A second option would be a pay-per-click (PPC) method whereas the merchant would pay a fee to the provider based on the number of items and stores uploaded to the provider. In addition, the merchant would also pay for each merchant link **1207** clicked on by a customer as shown in **FIG. 12**.

[**0070**] **FIG. 15** is an example of a screen shot of a web browser that illustrates an embodiment of the approach a provider uses to have a merchant upload all of their store locations. A Region designator **1501** is used to describe a grouping of stores located with certain proximity of each other. For example Regions could be described as "Nationwide", "North East", "North West", or "New York City", "Phoenix Arizona", etc. A Class designator **1502** is used to describe a type of store based on certain attributes. For example, Class designators could be described as "Super Store", "Regular Store", "Outlet Store", or simply "Class A", "Class B", etc. The merchant creates and selects an applicable Region and Class that pertains to the batch of store locations they are currently uploading to the provider. Steps are repeated for all unique combinations of Regions and Classes until all store locations **1503** are uploaded to the provider.

[**0071**] **FIG. 16** is an example of a screen shot of a web browser that illustrates an embodiment of the approach a provider uses to have a merchant upload all the item information to each store groupings of Regions **1602** and Classes **1603**. If a merchant desires to apply this item upload **1604** to one or more individual store location then the merchant presses the "Individual Location(s)" button **1601** and selects each and every store that the items inserted into the spreadsheet **1604** applies to. If the merchant desires to apply this item upload **1604** to a Region of store locations then the merchant presses the "Regions(s)" button **1602** and selects each and every Region that the items inserted into the spreadsheet **1604** applies to. If the merchant desires to apply this item upload **1604** to a Class of store locations then the merchant presses the "Class(s)" button **1603** and selects each and every Class that the items inserted into the spreadsheet applies to. If the merchant desires to apply this item upload **1604** to a combination of both Regions and Classes of store locations then the merchant presses both the "Region(s)"**1602** and the "Class(s)"**1603** buttons and selects each and every Region and Class that the items inserted into the spreadsheet **1604** applies to. By way of example, a merchant could have the following groupings:

[**0072**] Region="Nationwide"

[**0073**] Region="North East" and "North West" and Class="Super Store"

[**0074**] Region="Nationwide" and Class="All Stores"

[**0075**] **FIG. 17** is a diagram that illustrates an embodiment of the approach where both the customer **1701** and the

merchant **1705** transfer information through the Internet **1702** to the providers Web Server **1703**. In this embodiment, the providers Web Server **1703** will process store address upload/update request from a merchant **1705** by transferring their list of store address **1503** to the Database **1708**. The providers Web Server **1703** will process item upload/update request from a merchant **1705** by transferring their list of items **1604** as shown in **FIG. 16** to the Database **1708**, **FIG. 17** and associate them with each applicable store location **1503** as shown in **FIG. 15**.

[**0076**] In this embodiment, when a customer sends an item selection criteria request, the item search criteria may include, a unique item descriptor (UPC, ISBN, EAN, RFID, etc) **1101**, a positional point of reference identifier (Address **1104** or Zip code **1103** or Latitude, Longitude **1104**), maximum search distance constraint **1105**, type of merchant **1106**, and a sort by option (Price, Distance) **1107** as shown in **FIG. 11**. They are transferred to the Web Server **1703**. The Web Server **1703** builds and submits, using known database algorithms, a query to the database **1708** requesting all matching records based on the customer's item selection criteria as shown in **FIG. 17**. Each item that matches the query is returned to the Web Server **1703** and formatted into a web page by the Web Server **1703**, sent back to the customer **1701**.

[**0077**] **FIG. 18** is a flow diagram that illustrates an embodiment of the approach of the events that take place on the provider's web server in order to process an item selection criteria lookup request. Once the provider's web server receives an item selection criteria lookup request **1802**, it extracts the unique item descriptor **1803**, the customer location **1804**, maximum distance constraint **1805** and sort by preference **1806** used in building the database query. The database query is constructed from the item selection criteria **1807** and submitted to the database engine. The database engine looks up the item in the database using the query **1808**. The web server returns the requested information **1809** from the database to the customer via an internet link.

[**0078**] **FIG. 19** is a flow diagram that illustrates an embodiment of the approach of the events a customer needs to perform to create and or add items to their registry. The customer logs in to their account with a login ID and password **1902**, if they have already created a registry they simply request it by name **1904**. If they have not yet created a registry then they would create one and assign it a unique name **1905**. The customer enters in the unique item descriptor **1903** using the techniques described above. Once they have completed adding **1907** all desired unique item descriptors **1906**, they save the registry either on their device (Cell Phone, PDA, GPS system, etc.) on their machine, for example, as a web browser cookie and/or on the provider's server **1908**. In this embodiment if the list were to be accessed by friends and family, the customer would create a list of email address of recipients to receive the private access login information for that registry **1910**. The provider's server would allow access to the public registry **1909** via the public access login and would send emails out to all recipients accordingly.

[**0079**] **FIG. 20** is a flow diagram that illustrates an embodiment of the approach of the events a customer needs to perform in order to request a price comparison of items in their grocery list registry. In this embodiment the customer logs into their account with login identifier (ID) and password **2002** and selects the grocery list registry by name **2003**. The customer enters in their positional point of reference, maximum distance constraint and one or more store inclusion criteria **2004**. In this embodiment a typical maximum distant constraint could be a mile radius from customer, a town, city, or state boundary. In this embodiment a typical store inclusion criteria could use the max distance constraint to determine inclusion, a maximum count of stores, or select them from a preferred list of stores **2005**. The customer decides whether to view the price comparison request as individual stores **2006** and/or lowest price **2007** to scan across stores looking for the least expensive price of each item in the grocery list registry. In this embodiment, if the customer chooses to view the comparison by individual stores, a list of prices for each item is displayed for each store **2009**. If the store does not have a particular item then a (NA) **2102** designator is displayed indicating that the item is not available at that store as shown in **FIG. 21**. All items that are not available in all stores are displayed below **2105**. Item totals are only given for available items for true comparisons **2106**. If the customer chooses to compare prices based on lowest price **2008** across a group of stores, then the price comparison by lowest price chart will be displayed **2010**. This chart reflects the lowest price for each item in the grocery list registry at the select group of stores **2103**. In this embodiment if multiple stores have the same price for a particular item then only the closest store will have that item's price displayed. A subtotal of each stores price is displayed **2108** along with a grand total **2109**. These totals show the customer what price they would pay for the list of groceries if they were to go to each store and purchase only the lowest priced items. The embodiment of price comparisons has been illustrated by way of example, and not by way of limitation.

[**0080**] **FIG. 21** is an example of a screen shot of a web page showing a result of a price comparison request of a customers grocery list register according to one embodiment. This illustrates the results from the flow diagram of **FIG. 20**.

[**0081**] **FIG. 22** is a picture that illustrates an embodiment of a customer using a web enabled cell phone **2203** that has UPC scanning capability **2204**. The customer would simply scan the barcode **2202** of the desired product and quickly get a listing of merchants and prices for the desired product within a 25 mile radius **2201**.

[**0082**] **FIG. 23** is a diagram that illustrates an embodiment of the approach displaying the internal components of a Web Server and its external connections. The area under the dotted line **2301** is considered sub components of the Web Server's computer. The external connections through the Communication Interface supply the necessary connections to the Internet and the Database Server.

[**0083**] In one embodiment of the approach the provider can suggest and display coupons to the customer based on the relevancy of the items the customer is looking for. For example, a customer enters an item through one of the previously mentioned routines (UPC, RFID, MPN, Category search, or Ad-Hoc expression), like "Quaker Granola Bars"**1306** in search of the Best Price or the closest location to purchase that item as shown in **FIG. 13**. The provider

would return the requested information along with relevant coupons **1305** for that exact item or similar items. Similar items can be suggested based on customers inquiry patterns or by other factors such as items that have the most inquires by customers (most popular), and/or item is in stock at merchants within a specified distance, and/or item is the best price at merchants within a specified distance in comparison to other like items within the same specified distance, and/or item is sponsored in the providers database by a merchant(s). For example, a customer's inquiry pattern shows a list of the following items: diapers, baby bottles, baby wipes. A suggested coupon generated from the algorithm above could be "baby formula". Coupons are supplied to the customer along with a map identifying each items location within the store that the customer ultimately chooses. Coupons are coded in a fashion suitable for the merchant to redeem the coupon in an efficient manner, for example, a UPC code or special offer code printed on the coupon. A merchant can track the success of the items listed on the provider's web site by tracking the sales volume of each item that the merchant has listed on the provider's site. In addition the merchant can calculate the total number of coupons redeemed by customers.

[0084] In one embodiment of the approach, proof of purchase is received from the customer after a purchase is made for an item so that the provider can track its success rate from its initial search result. Customers are rewarded to give proof of purchase data back to the provider in a number of different ways. These ways are given by way of example only. A customer might receive points, addition discounts, rebates, free merchandise, or a higher ranking on the provider's web site. The proof of purchase data received from the customer can be but is not limited to, a receipt number, a serial number from the item purchased, a code on a receipt given to them by the merchant, a credit card purchase approval number, etc. The provider can assemble this data into an infinite number of reports to be given back to the merchant for there own sales analysis.

[0085] The provider may offer merchants many levels of services that they may participate in either for free or for profit. For example, a merchant can opt in for: item location inclusion, item price inclusion, item attributes inclusion, item registry inclusion etc.

[0086] In one embodiment of the approach a customer could select in their profile to include "store brands" in their search results. Store brands are items that are similar to brand name items but are labeled with a private label or a label with the store name that is selling it. Store brands are often of equal quality and sometimes are even produced by the same manufacture as the name brand counterpart. Store brands are used to increase margin to the store selling the items because they are not paying for national advertising, etc. Typically a store or chain of stores will have their own UPC prefix that they use to uniquely identify there "store branded items." If a merchant carried store brands and they wanted to associate there store brands with their like name branded items they would identify the items prior to or after uploading the data to the providers site. A merchant would identify each store brand item and cross-reference it to a name brand item. Store brand and name brand association can be limited by the provider at the provider's discretion. For instance, the provider may only allow one store brand item to be associated with one name brand item. This allowance would control the amount of relevant and irrelevant item associations that a merchant may try to cross-reference in the provider's database.

[0087] In this embodiment Latitude & Longitude values can be determined by but not limited to the provider, a customer, a Merchant, a cellular service provider, a cellular device, a GPS enabled device, mapping software, an ISP (Internet Service Provider), or an ASP (Application Service Provider).

[0088] This embodiment of metric data would be but is not limited to data that is mined and sold to both merchants and manufacturers in order to assist them in better sales projections and product distribution. Mining the metric data would assist the provider in intelligent reporting. For example, the provider would monitor where the customer is searching from web or wireless, which items are popular, inquires based on demographic and or geographic areas, where the merchant items are ranked in the item list as compared to other merchants.

[0089] In one embodiment of the approach the provider receives a unique item descriptor, for example, UPC (Universal Product Code) from the customer via, but is not limited, to one or more of the devices described above. The provider extracts the UCC (Universal Code Council) prefix from the UPC code. The UCC prefix is a combination of numbers (digits) of the 12 total numbers (digits) in the UPC. An algorithm will compute this function and return to the provider a unique identifier. The provider then references a database, its own or a third parties, that includes a unique UCC prefixes along with other associated data. The unique UCC prefixes will act as the key field to a record in the database and therefore be linked to other data that is associated with the prefix. The provider can then use the entire record in the database for additional information requirements. An example of this calculation could return manufacturer information to the customer **1204** as shown in **FIG. 12**.

[0090] The embodiments described above are illustrative examples and it should not be construed that the present invention is limited to these particular embodiments. Thus, various changes and modifications may be effected by one skilled in the art without departing from the spirit or scope of the invention as defined in the appended claims.

We claim:

1. A method for retrieving and formatting information, comprising:

receiving a unique item descriptor and one or more selection criteria, the one or more selection criteria including at least a position reference and information sorting criteria;

searching a database of merchant uploaded information, the searching based on the unique item descriptor and at least one of the one or more selection criteria;

providing a list of results of the searching, the list of results being formatted based on the information sorting criteria, the list of results including at least one or more locations where an item associated with the unique item descriptor is available; and

providing an option to retrieve additional information about the at least one or more locations, the additional

information including at least a layout of the at least one or more locations, the layout including a marker where the item associated with the unique item descriptor is located.

2. A method for retrieving and formatting information, comprising:

receiving a list of unique item descriptors and one or more selection criteria, the one or more selection criteria including at least a position reference and information sorting criteria;

searching a database of information based on the list of unique item descriptors and one or more selection criteria;

identifying one or more locations where an item associated with at least one unique item descriptor in a list of unique item descriptors is available;

providing the one or more locations based on the information sorting criteria;

providing a price associated with each of the unique item descriptors found in each of the one or more locations; and

providing a total price of the unique item descriptors in the list for each of the one or more locations.

3. The method of claim 2, further including:

allowing a user to create a registry; and

allowing a user to enter one or more items in the registry, wherein the list of unique item descriptors are received from the registry.

4. The method of claim 2, wherein the database of information is uploaded by one or more merchants of one or more items associated with the unique item descriptors.

5. The method of claim 2, further including:

providing a layout of at least one of the one or more locations, and

providing one or more markers on the layout where one or more items associated with the one or more item descriptors in the list are located.

6. The method of claim 5, further including:

providing a route through the one or more location for locating the one or more items.

7. The method of claim 2, further including:

listing the one or more items in an optimum order for locating the one or more items in one of the one or more locations.

8. The method of claim 2, wherein the position reference includes one or more of zip code, address, GPS location coordinate, or combinations thereof.

9. The method of claim 2, wherein the information sorting criteria includes one or more of location, price, or combinations thereof.

10. The method of claim 2, wherein the receiving and the providing is performed over a network.

11. The method of claim 2, wherein the receiving and the providing is performed from and to one or more of wireless device, cellular phone, personal digital assistant, personal computer, or combinations thereof.

12. The method of claim 2, further including allowing a third party to view the registry.

13. The method of claim 2, wherein the unique item descriptor includes one or more of UPC, RFID, product model number, or combinations thereof.

14. The method of claim 1, wherein the unique item descriptor includes one or more of UPC, RFID, product model number, or combinations thereof.

15. The method of claim 2, wherein the method further includes allowing a merchant to upload information to the database according to pay-per-click basis, pay-per-item basis, or combinations thereof.

16. The method of claim 2, wherein the providing a total price of the unique item descriptors in the list for each of the one or more locations includes presenting one or more total prices corresponding to the one or more locations, the total prices presented in proximity of one another in a manner appropriate for easy comparison of the total prices among the one or more locations.

17. A method for retrieving and formatting information, comprising:

receiving a unique item descriptor and one or more selection criteria, the one or more selection criteria including at least a position reference and information sorting criteria;

searching a database of merchant uploaded information, the searching based on the unique item descriptor and at least one of the one or more selection criteria;

providing a list of results of the searching, the list of results being formatted based on the information sorting criteria, the list of results including at least one or more physical locations where an item associated with the unique item descriptor is available, the at least one or more physical locations including one or more brick and mortar stores; and

providing an option to retrieve additional information about the at least one or more locations.

18. The method of claim 17, further including receiving an item descriptor and converting the item descriptor into the unique item descriptor.

19. A method for retrieving and formatting information, comprising:

receiving at least one item identifier and a geographic reference;

searching a database for one or more merchants that provide one or more items associated with the at least one item identifier within a selected distance from the geographic reference;

providing a list of the one or more merchants; and a if the list includes more than one merchant,

providing a comparison list of prices offered by the merchants.

20. A system for retrieving and formatting information, comprising:

a server computer operable to receive information from one or more merchants;

a user interface module operable to receive a unique item descriptor and one or more selection criteria, the one or more selection criteria including at least a position reference; and

a search module operable to search the information received from the one or more merchants, the searching based on the unique item descriptor and at least one of the one or more selection criteria, the search module further operable to provide a list of one or more merchants that provide at least one item associated with the unique item descriptor within a selected distance from the position reference, and if the list includes more than one merchant, the search module further operable to provide a comparison list of prices offered by the merchants.

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