A central data processing system (608) creates a market in a good by accepting bids in response to a previously received ask. Initially, the central data processing apparatus is connected to a public network accessible by a large number of people (610/604), such as the Internet. Next, the central data processing system receives an ask from the public network for a good to be sold. After the ask has been received, a plurality of bids for the goods is received from the public network. The central data processing system then compares a price term associated with each bid to a price term associated with the ask. Depending upon the relative values of these terms, the central data processing system then adjusts the price associated with the ask. Finally, the central data processing system matches a particular bid to the ask for the good. In this manner, the central data processing apparatus makes a market in the good.
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BACKGROUND OF THE INVENTION

1. TECHNICAL FIELD

The present invention relates generally to establishing a web site on the Internet where goods can be bought and sold. More specifically, the present invention relates to establishing a web site which automatically makes a market in a given good by automatically adjusting the seller's price of a good in response to bids placed and orders received for the good.

2. DESCRIPTION OF THE RELATED ART

As more and more people obtain access to the Internet, companies, in increasing numbers, are establishing web sites in hopes of conducting business on the Internet. Companies view the Internet with such great promise because a company's goods can be exposed to large numbers of people at a relatively low cost on the Internet.

One type of Internet site that is now available is similar to the traditional mail order catalog. In this type of site, a retailer can display selected articles, and can accept orders at a fixed price for these articles. Another type of Internet site available today specializes in selling used, refurbished, close-out, and one-of-a-kind items. These sites are designed to recreate an auction environment. In this type of site, buyers can bid for certain goods, with the goods ultimately going to the highest bidder(s).

However, neither of these types of Internet sites has a truly flexible pricing arrangement. For the retail-style Internet sites, there is no flexibility in the selling price of a good with respect to demand for that good. Thus, there may be a shortage of the goods because the selling price is too low, or the goods may not be selling at all because the price is too high. In the auction style web sites, goods usually cannot be bought on a continuous
basis, as a number of bids first have to be received, then a number of winning bids determined. Also, bids are fixed and cannot be deleted or changed.

Thus, there is a need for a web site which incorporates a flexible pricing structure for the buying and selling of new, used, and one-of-a-kind goods. Such a site would adjust the price of a good in response to the demand for that good. Such a site would, in essence, make markets in the goods being bought and sold at the site.
BRIEF SUMMARY OF THE INVENTION

It is therefore one object of the present invention to provide an Internet site which allows buyers to submit bids and sellers to place asks for various goods.

It is yet another object of the present invention for the site to adjust the price of the various goods being sold in accordance with demand for those goods.

It is still another object of the present invention to provide a web site which has an easy to use and efficient user interface.

These and other objects are achieved as follows. When characterized as an apparatus, a central data processing system creates a market in a good by accepting bids in response to a previously received ask. Initially, the central data processing apparatus is connected to a public network accessible by a large number of people, such as the Internet. Next, the central data processing system receives an ask from the public network for a good to be sold. After the ask has been received, a plurality of bids for the good is received from the public network. The central data processing system then compares a price term associated with each bid to a price term associated with the ask. Depending upon the relative values of these terms, the central data processing system then adjusts the price associated with the ask. Finally, the central data processing system matches a particular bid to the ask for the good. In this manner, the central data processing apparatus makes a market in the good.

The above as well as additional objectives, features, and advantages of the present invention will become apparent in the following detailed written description.
BRIEF DESCRIPTION OF THE DRAWINGS

The novel features believed characteristic of the invention are set forth in the appended claims. The invention itself, however, as well as a preferred mode of use, further objectives and advantages thereof, will best be understood by reference to the following detailed description of an illustrative embodiment when read in conjunction with the accompanying drawings, wherein:

Figure 1 depicts a data processing system which can be programmed to operate in accordance with the present invention;

Figure 2 is a more detailed high level diagram which further illustrates the major components of the data processing system of Figure 1;

Figure 3 illustrates a public network, such as the Internet, on which the present invention may be implemented;

Figure 4 illustrates a buyer's home page according to the present invention;

Figure 5 illustrates a seller's home page according to the present invention;

Figure 6 is a chart showing the logical relationship between the various software modules of the present invention;

Figure 7 is a flowchart illustrating a method according to the present invention; and

Figure 8 is a more detailed view of one of the steps shown in Figure 7.
DETAILED DESCRIPTION OF THE INVENTION

Figure 1 depicts data processing system 20, which includes processor 22, keyboard 24, and display 26. Keyboard 24 is coupled to processor 22 by cable 28. Display 26 includes display screen 30, which may be implemented utilizing a cathode ray tube (CRT), a liquid crystal display (LCD), an electroluminescent panel, or the like. Data processing system 20 also includes pointing device 32, which may be implemented utilizing a trackball, joystick, touch sensitive tablet or screen, trackpad, glidepad, or as illustrated in Figure 1, a mouse. Pointing device 32 may be utilized to move a pointer or cursor on display screen 30. Processor 22 may also be coupled to one or more peripheral devices, such as modem 34, CD-ROM 36, network adaptor 38 and floppy disk drive 40, each of which may be internal or external to the enclosure of processor 22. An output device such as printer 42 may also be coupled to processor 22.

Those persons skilled in the art of data processing system design should recognize that display 26, keyboard 24, and pointing device 32 may each be implemented utilizing any one of several known off-the-shelf components. Data processing system 20 may be implemented utilizing any general purpose computer or so-called personal computer, such as those sold by Compaq, Dell, Apple, Sun, and others.

With reference now to Figure 2, there is depicted a high level block diagram which further illustrates the major components that may be included in data processing system 20 of Figure 1. Data processing system 20 is controlled primarily by computer readable instructions, which may be in the form of software, wherever, or by whatever means such software is stored or accessed. Such software may be executed within central processing unit (CPU) 50 to cause data processing system 20 to do work. In many workstations and personal computers, central processing unit 50 is implemented by a single-chip CPU called a microprocessor. An example of such a microprocessor is the microprocessor sold under the trademark “PENTIUM” by Intel Corporation.

Coprocessor 52 is an optional processor, distinct from main CPU 50, that performs additional functions or assists CPU 50. One common type of coprocessor is the floating-
point coprocessor, also called a numeric or math coprocessor, which is designed to perform numeric calculations faster and better than general-purpose CPU 50. Today, however, the functions of many coprocessors have been incorporated into more powerful single-chip microprocessors.

CPU 50 fetches, decodes, and executes instructions, and transfers information to and from other resources via the computer's main data-transfer path, system bus 54. Such a system bus connects the components in data processing system 20 and defines the medium for data exchange. System bus 54 typically includes data lines for sending data, address lines for sending addresses, and control lines for sending interrupts and for operating the system bus. In some embodiments, system bus 54 uses the same lines for both data and address communications. An example of such a system bus is the PCI (Peripheral Component Interconnect) bus. Many system busses provide a function called bus arbitration that regulates access to the bus by extension cards, controllers, and CPU 50. Devices that attach to such a system bus and arbitrate to take-over the bus are called bus masters.

Memory devices coupled to system bus 54 include random access memory (RAM) 56, read only memory (ROM) 58, and nonvolatile memory 60. Such memories include circuitry that allows information to be stored and retrieved. ROMs contain sorted data that cannot be modified. Data stored in RAM can be read or changed by CPU 50 or other hardware devices. Nonvolatile memory is memory that does not lose data when power is removed from it. Nonvolatile memories include ROM, EPROM, EEPROM, bubble memory, or batter-backed CMOS RAM. As shown in Figure 2, such battery-backed CMOS RAM may be utilized to store system configuration information.

Access to RAM 56, ROM 58, and nonvolatile memory 60 may be controlled by memory controller 62 and bus controller 64. Memory controller 62 may provide an address translation function that translates virtual addresses into physical addresses as instructions are executed. Memory controller 62 may also provide a memory protection function that isolates processes within the system and isolates system processes from user processes. Thus, a program running in user mode can access only memory mapped by its
own process virtual address space; it cannot access memory within another process’s virtual address space unless memory sharing between the processes has been set up.

An expansion card or expansion board is a circuit board, that includes chips and other electronic components connected in a circuit, which adds functions or resources to the computer. Typical expansion cards add memory, disk-drive controllers 66, video support, parallel and serial ports, and internal modems. For laptop, palmtop, and other portable computers, expansion cards usually take the form of PC Cards, which are credit card-size devices designed to plug into a slot in the side or back of a computer. An example of such a slot is the PCMCIA slot (Personal Computer Memory Card International Association) which defines type I, II and III card slots. Thus, empty slots 68 may be used to receive various types of expansion cards or PCMCIA cards.

Disk controller 66 and diskette controller 70 both include special-purpose integrated circuits and associated circuitry that direct and control reading from and writing to a hard disk drive 72 and a floppy disk or diskette 74, respectively. Such disk controllers handle tasks such as positioning the read/write head, mediating between the drive and the microprocessor, and controlling the transfer of information to and from memory. A single disk controller can usually control more than one disk drive.

CD-ROM controller 76 may be included in data processing 20 for reading data from CD-ROMs 78 (compact disk read-only memory). Such CD-ROMs use laser optics rather than magnetic means for reading data.

Keyboard mouse controller 80 is provided in data processing system 20 for interfacing with keyboard 82 and a pointing device, such as mouse 84. Such pointing devices are typically utilized to control an on-screen element, such as a cursor, which may take the form of an arrow having a hot-spot that specifies the location of the pointer when the user presses a mouse button. Other pointing devices include the graphics tablet, the stylus, the light pen, the joystick, the puck, the trackball, and the trackpad.

Direct memory access (DMA) controller 86 may be used to provide a memory access that does not involve CPU 50. Such memory access are typically employed for
data transfer directly between memory and an “intelligent” peripheral device, such as between memory 56 and disk controller 66.

Communication between data processing system 20 and other data processing systems may be facilitated by serial controller 88 and network adaptor 90, both of which are coupled to system bus 54. Serial controller 88 is utilized to transmit information between computers, or between a computer and peripheral devices, one bit at a time over a single line. Serial communications can be synchronous (controlled by some time standard such as a clock) or asynchronous (managed by the exchange of control signals that govern the flow of information). Examples of serial communications standards include the RS-232 interface and the RS-422 interface.

As illustrated, such a serial interface may be utilized to communicate with modem 92. A modem is a communications device that enables a computer to transmit information over a standard telephone line. Modems convert digital computer signals to analog signals suitable for communication over telephone lines. Modem 92 may provide a connection to sources of software, such as a server, an electronic bulletin board, and the Internet or World Wide Web.

Network adapter 90 may be used to connect data processing system 20 to a local area network 94. Network 94 may provide computer users with means of communicating and transferring software and information electronically. Additionally, network 94 may provide distributed processing, which involves several computers and the sharing of workloads or cooperative efforts in performing a task.

Display 96, which is controlled by display controller 98, is used to display visual output generated by data processing system 20. Such visual output may include text, graphics, animated graphics, and video. Display 96 may be implemented with a CRT-based video display, an LCD-based flat-panel display, or a gas plasma-based flat-panel display. Display controller 98 includes electronic components required to generate a video signal that is sent to display 96.
Printer 100 may be coupled to data processing system 20 via parallel controller 102. Printer 100 is used to put text or a computer-generated image on paper or on another medium, such as a transparency. Other types of printers may include an image setter, a plotter, or a film recorder.

Parallel controller 102 is used to send multiple data and control bits simultaneously over wires connected between system bus 54 and another parallel communication device, such as printer 100. The most common parallel interface is the Centronics interface.

During data processing operations, the various devices connected to system bus 54 may generate interrupts which are processed by interrupt controller 104. An interrupt is a request for attention from CPU 50 that can be passed to CPU 50 by either hardware or software. An interrupt causes the microprocessor to suspend currently executing instructions, save the status of the work in progress, and transfer control to a special routine, known as an interrupt handler, that causes a particular set of instructions to be carried out. Interrupt controller 104 may be required to handle a hierarchy of interrupt priorities and arbitrate simultaneous interrupt requests. Interrupt controller 104 may also be used to temporarily disable interrupts.

Figure 3 illustrates a simplified view of a large computer network available to the public, such as the Internet. Data processing systems 304 are connected with internet 302 in such a way that data processing systems 304 can communicate with each other and with many other data processing systems located around the world. Not shown in Figure 3 are the countless computing devices (e.g., routers, switches, servers, etc.) and networks, both public and private, which comprise today's Internet. As applied to the present invention, internet 302 is important because it allows many remotely-located people to inexpensively "come together" at a single location and transact business. Thus, any networks developed in the future which share these important characteristics with the Internet of today should be considered within the scope of this invention. In addition, any device which allows access to internet 302 besides data processing systems 304 is also within the scope of this invention.
The present invention may be implemented on the data processing system as shown in Figures 1 and 2. This data processing system can be programmed to operate in accordance with the present invention by using web site development software which causes the data processing system described above to operate as a web site. Programming a data processing system to operate as a web site, and the integration of such a data processing system into the Internet are well known in the art.

The first time one visits a web site operating according to the present invention, they will be given the option of registering as a buyer or a seller. To register as a buyer, one supplies the web site with some user information and a credit card number. This credit card number is used to guarantee payment of items purchased by the buyer. The buyer then selects a password. The buyer uses this password during subsequent sessions with the web site. Like a buyer, a seller must register with the web site before they can begin selling items using the web site. During this registration process, the seller enters into a legal relationship with the operators of the web site regarding commissions, and supplies the operators with information on the goods the seller wishes to sell.

After one completes the registration process, the web site provides both buyers and sellers with their own home pages. This allows each buyer and seller to bypass any intermediate web pages on the web site, and to go directly to their own home page. Each person's home page will display important, personalized information for the buyer or seller, and will allow the buyers and sellers to choose from a list of often-used functions.

An example of a buyer's home page is shown in Figure 4. As stated above, a buyer can navigate to this home page by simply entering the address of the home page, along with the buyer's password. Once a buyer has reached his own home page, the buyer is presented with several items of information, and a list of often-used functions. In lines 402 and 404, the buyer is shown how many of his bids are outstanding, along with the number of orders. An order results from one of the buyer's bids being matched to an ask. In addition to displaying the number of bids and orders, the buyer can activate functions to view details regarding all of his outstanding bids and orders. A buyer may change or
delete his bids, so long as the bid has not been matched to an ask. Typically, a bid will include an expiration date, a minimum and maximum order quantity, and the unit price which the buyer is willing to pay for the goods.

A buyer can activate the catalog function in line 406 to view products upon which he can bid. Also shown in Screen 400 are several miscellaneous functions, such as obtaining help and changing the buyer’s password.

A typical seller’s home page is shown in Figure 5. Like the buyer’s home page, the seller’s home page provides the seller with information, along with a list of often-used functions. For instance, line 502 displays the total number of asks for the seller, while line 504 displays the number of bids that have not been matched to asks. Lines 502 and 504 allow the seller to activate a function to view the details of a particular ask. A seller may change or delete the ask, and may change the amount of inventory available. A typical ask will include a minimum and maximum order quantity, as well as a minimum unit price for the goods.

Figure 6 illustrates the relationships between the various software modules which comprise a web site operating according to the present invention. Central to web site 600 is transaction engine 608. Transaction engine 608 works to manage bids from buyer module 610 and ask from seller module 604. In managing these transactions, transaction engine 608 attempts to match bids and asks to form orders. As will be described below, transaction engine 608 can also alter the price of goods in response to bids received for those goods.

Buyer module 610 serves as an interface between buyers and web site 600. Buyer module 610 handles the process of registering a new buyer with transaction engine 608, as well as creating a financial relationship between a buyer and accounting system module 602. When a buyer enters a bid on goods offered for sale, buyer module 610 transmits this information to transaction engine 608. If a bid is matched to an ask, buyer module 610 will receive this information from transaction engine 608 and will notify the buyer.
In a similar manner, seller module 604 serves as an interface between sellers and web site 600. Seller module 604 receives information about the goods a seller wishes to sell, and transmits this information to transaction engine 608. Seller module 604 also communicates with accounting system module 602 to transfer money to a seller once a buyer has purchased the goods being sold.

For the sake of clarity, there are two seller modules shown in Figure 6: seller module 604 and seller module 612. In the actual implementation of the web site shown in Figure 6, seller module 604 and seller module 612 would be one logical unit. Seller module 612 interfaces with transaction engine 608 and buyer module 610 to handle goods that have been purchased by a buyer but, for one reason or another, have been returned to the seller.

As stated above, accounting system module 602 interfaces with both seller module 604 and buyer module 610 to handle the transfer of money from a buyer to a seller. Bank module 606 interfaces with credit card institutions to charge a buyer’s credit card after a buyer's bid is matched to an ask.

Figure 7 illustrates a process of buying goods according to the present invention. Initially, the web site receives an ask from a seller (702). This ask contains information about the minimum and maximum quantity of the goods to be sold, as well as the minimum price the seller is willing to accept for his goods.

After an ask has been entered into the web site, the goods offered for sale will be displayed to potential buyers, and these potential buyers can bid on the goods. At some point, a buyer will bid for the goods being sold by the seller (704). This bid will usually contain the price willing to be paid for the goods by the buyer, as well as the quantity of goods the buyer wishes to purchase. A bid will also contain an expiration date, which, in a preferred embodiment of the present invention, can be from 1 to 14 days from the date the bid is entered.
If the price contained in the bid is greater than or equal to the asking price, the website will match the bid and ask into an order, and a purchase will have taken place. In the alternative, a buyer may offer a lower price for the goods than the seller is asking. In this case, the bid offered by the buyer will remain pending until cancelled by the buyer or accepted by the seller. Also, the bid may expire on its own accord, which will have the effect of canceling the bid.

At some point, the asking price of a good may be lowered until it matches the bid price offered by a seller (706). In the alternative, a buyer may raise his bid price so that it matches the asking price for the goods. When either of these situations occur, the website will match the ask and bid to create an order for the goods (708). If the price specified in an ask and a bid never intersect, no transaction will ever be completed, and no goods will either be bought or sold with respect to the particular bid and ask.

Figure 8 illustrates the process where the website automatically adjusts the asking price for a good being sold. Initially, the website receives an ask containing price and quantity terms (802). The time and date at which this ask is received are noted. The website then schedules a time in the future at which to evaluate this ask. This evaluation time period may be adjusted by the website operator, or the seller. In a preferred embodiment of the present invention, asks are evaluated every 48 hours.

After the evaluation time period elapses, the website will evaluate the ask (804). In evaluating the ask, it is first determined whether an order has been placed against the ask since the previous evaluation (806). If an order has been placed against the ask since the previous evaluation, the price for the ask is adjusted according to the higher of the following equations:

\[
\text{New Price} = P_1 \times \left( \frac{E((Q_1 - Q_2) / Q_1) + 1}{Q_1} \right) \text{ or } \frac{P_1}{Q_1}
\]
where \( P_1 \) is the current price of the goods, \( Q_2 \) is the current quantity of goods available, \( Q_1 \) is the quantity of goods available during the last evaluation, and \( E(x) \) is a function that normalizes \( x \) to the nearest 1/8. Operating in this manner increases the price of the goods being sold as demand for those goods increases.

If there have not been any orders placed against the ask since the previous evaluation, the price of the ask is adjusted to the higher result of the following formulas:

\[
\text{New Price} = P_1 - [(P_1 - B_H) \cdot E(1 - (B_H / P_1))] \text{ or } \\
\text{New Price} = F
\]

where \( B_H \) is the highest bid against the good for which the ask is based, and \( F \) is the floor price for the ask. Repricing goods according to the two formulas found above allows the web site to gradually decrease the price of a good in response to a series of low offers. After the price of a good has been adjusted, the web site reschedules the ask to be reevaluated after another evaluation period elapses.

While the invention has been particularly shown and described with reference to a preferred embodiment, it will be understood by those skilled in the art that various changes in form and detail may be made therein without departing from the spirit and scope of the invention.
WHAT IS CLAIMED:

1. A method for making a market in a good by receiving bids associated with the good in response to a previously received ask associated with the good, comprising:
   providing a central data processing system;
   providing a public network accessible by a large number of people;
   connecting the central data processing system to the public network;
   receiving the ask for the good from the public network;
   receiving a plurality of bids for the good from the public network;
   comparing a price term associated with each bid to a price term associated with the ask;
   adjusting the price term associated with the ask; and
   matching a particular bid to the ask for the good, wherein the central data processing system makes a market in the good.

2. The method as described in claim 1, further comprising:
   notifying an entity which caused the ask to be transmitted to the central data processing system that the ask has been matched to the bid; and
   notifying an entity which caused the particular bid to be transmitted that the bid has been matched to the ask.

3. The method as described in claim 2, wherein the notifying steps include sending information from the central data processing system over the public network.

4. The method as described in claim 1, wherein the ask includes a minimum price term below which the central data processing system cannot adjust the price term of the ask associated with the good.
5. The method as described in claim 1, further comprising:
providing a seller data processing system;
providing a buyer data processing system;
connecting the seller data processing system and the buyer data processing system
to the public network; and
transmitting the ask from the seller data processing system to the central data
processing system over the public network.

6. The method as described in claim 5, further comprising:
transmitting one of the plurality of bids from the buyer data processing system to
the central data processing system over the public network;
adjusting the price associated with the ask upward if, after an expiration of an
evaluation period, an order has been placed against the ask; and
adjusting the price associated with the ask downward if, after the expiration of the
evaluation period, no orders have been placed against the ask.

7. The method as described in claim 5, further comprising:
after transmitting the ask from the seller data processing system to the central data
processing system, transmitting information about the good associated with the ask over
the public network to data processing systems which requested the information.
3. A central data processing system which creates a market in a good by accepting bids in response to a previously received ask, comprising:

a public network accessible by a large number of people, wherein the central data processing system is connected to the public network;

the central data processing system being operable in a market making mode of operation, wherein the central data processing system receives the ask for the good from the public network;

receives a plurality of bids for the good from the public network;

compares a price term associated with each bid to a price term associated with the ask;

adjusts a price associated with the ask; and

matches a particular bid to the ask for the good, wherein the central data processing system makes a market in the good.

9. The central data processing system as described in claim 8, wherein the market making mode of operation further includes:

the central data processing system notifying an entity which caused the ask to be transmitted to the central data processing system that the ask has been matched to the bid;

and

the central data processing system notifying an entity which caused the particular bid to be transmitted that the bid has been matched to the ask.

10. The central data processing system as described in claim 9, wherein the central data processing system notifies the entities which caused the ask and the particular bid to be transmitted by sending information over the public network to the entities.

11. The central data processing system as described in claim 8, wherein the ask includes a minimum price term below which the central data processing system cannot adjust the price term of the ask associated with the good.

12. The central data processing system as described in claim 8, further comprising:
a seller data processing system connected to the public network; and

a buyer data processing system connected to the public network, wherein the seller
data processing system transmits the ask to the central data processing system over the
public network.

13. The central data processing system as described in claim 12, wherein the market
making mode of operation further includes:

the buyer data processing system transmitting one of the plurality of bids to the
central data processing system over the public network;

the central data processing system adjusting the price associated with the ask
upward if, after an expiration of an evaluation period, an order has been placed against the
ask; and

the central data processing system adjusting the price associated with the ask
downward if, after the expiration of the evaluation period, no orders have been placed
against the ask.

14. The central data processing system as described in claim 12, wherein the market
making mode of operation further includes:

after the central data processing system receives the ask from the seller data
processing system, the central data processing system transmitting information about the
good associated with the ask over the public network to a data processing system which
requested the information.
Libby Farris' Home Page

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-------|-------|---------|----------|----------
yes   | bidder seller | register about us | search |
no     | guest | guest help service | fan mail |

Seller: PC*USA

You have 8 total ask(s). Please note that this number may reflect asks based on inventory that has been depleted. 502

View Seller's Asks

[View Asks] You have 2 ask(s) that have non-matched bids. 504

[View Orders] You have 6 order(s).

[Registration] Update seller registration information.

[Seller Agent] Register another seller agent to place asks in the bid4it system.
**FIG. 7**

702. RECEIVE AN ASK FROM A SELLER

704. RECEIVE A BID FROM A BUYER

706. ADJUST ASK PRICE

708. MATCH ASK AND BID TO CREATE AN ORDER

**FIG. 8**

802. RECEIVE AN ASK

804. EVALUATE THE ASK

806. HAS AN ORDER BEEN PLACED AGAINST THE ASK?

808. RAISE THE PRICE OF THE PRODUCT

810. LOWER THE PRICE OF THE PRODUCT

SUBSTITUTE SHEET (RULE 26)
A. CLASSIFICATION OF SUBJECT MATTER
IPC(6) : G06F 17/60
US CL : 705/37, 36, 29
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED
Minimum documentation searched (classification system followed by classification symbols)
U.S. : 705/37, 36, 29, 26, 28, 39, 40, 395/200.48, 200.49

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
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Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
West 1.0/Derwent, APS, Netscape - Web On Line.
search terms: market#, goods, adjust? or edit? or correct?, bid? or offer?, network?, match?, price? or amount# or value#

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
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<tbody>
<tr>
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<td>US 5,845,266 A (LUPIENT et al.) 01 December 1998, the abstract, col.3 lines 61-67, col.4 lines 28-65, and col.6 lines 5-28.</td>
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[X] Further documents are listed in the continuation of Box C. □ See patent family annex.

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Date of the actual completion of the international search
02 MARCH 1999

Date of mailing of the international search report
15 APR 1999

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### C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

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