(54) Title: PRICING SYSTEM AND METHOD

(57) Abstract: The invention provides a method for pricing a product or a combination of products for sale by one or more vendors to a customer. The method comprises the steps of obtaining a time and/or date range from a customer, the time and/or date range representing the customer's desired time and/or date range for availability of the product or combination of products and obtaining one or more flexibility parameter values from a customer, the flexibility value(s) representing the flexibility of the customer in relation to the product or combination of products. The flexibility parameter(s) are stored in computer memory. Maximum values from the vendor for each of the parameter values are obtained and stored in computer memory. A price is calculated for the product based on one or more of the flexibility parameter values and the maximum values corresponding to those flexibility parameter values. The invention also provides a related pricing system of a product or a combination of products for sale by one or more vendors to a customer.

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PRICING SYSTEM AND METHOD

FIELD OF INVENTION

5   The present invention relates to a system and method for pricing a product (any good or service) for sale to a customer. The product could include a travel product such as an airline, train, bus or ferry service, or could include a freight service in which a customer pays for goods to be transported from one place to another. The product could also include such things as manufactured items, medical services, accommodation, utilities,

10   raw materials and the like.

BACKGROUND TO INVENTION

Airline travel is one example of a product provided by a vendor to a customer. The costs

15   to the vendor for providing an airline travel product are made up of fixed costs and variable costs. An airline incurs a cost for transporting an aeroplane from one location to another regardless of the number of passengers on that plane. This cost is known as a fixed cost, which is independent of the number of airline products or airline seats sold. Variable costs are the costs associated with the availability of each airline product, which

20   are generally smaller than the fixed cost. Variable costs could include for example the cost of providing refreshments to each passenger on a particular flight.

Research indicates that some airlines typically have a loading of 70% on average on each flight. This means that in an average flight, only 70% of the available airline seats are

25   sold, leaving 30% carrying capacity unused. Airlines have developed several methods for attempting to attract customers to purchase airline products on particular flights to reduce the wasted carrying capacity on an individual flight. Some airlines discount a limited number of advance purchase tickets for leisure travel in an attempt to increase the loading on each flight. Some airlines attempt to sell unused airline products to "standby"

30   travelers, in which a standby traveler registers interest in an airline product and is only

permitted sale of the product if there is an available seat on an aircraft just before departure.

The price of airline seats is generally a function of how much time the ticket is booked before the flight is scheduled to depart as well as how many restrictions are put on the ticket. A similar method is used by many hotels in order to differentiate different markets and to apply separate rates to them.

In most cases, the disadvantage of discounting is that the vendor receives no indication from the customer as to whether a particular price is likely to induce the customer to purchase that product. In many cases the vendor is unaware that a particular potential purchaser may have purchased a product, had it been at a lower price, or an actual purchaser may have paid a higher price for the product, had the discount not been offered. Both of these outcomes reduce potential revenue.

It would be particularly desirable to enable the price of products to be calculated in accordance with an individual and private agreement between a purchaser and a vendor in order to maximise the number of sales of a product or a combination of products and to maximise the revenue from sales of the product or a combination of products.

SUMMARY OF INVENTION

In broad terms in one form the invention comprises a method for pricing a product or a combination of products for sale by one or more vendors to a customer, the method comprising the steps of obtaining a time and/or date range from a customer, the time and/or date range representing the customer's desired time and/or date range for availability of the product or combination of products; obtaining one or more flexibility parameter values from a customer, the flexibility value(s) representing the flexibility of the customer in relation to the product or combination of products; storing the flexibility parameter(s) values in computer memory; obtaining maximum values from the vendor for each of the parameter values; storing the maximum value(s) in computer memory; and

calculating a price for the product based on one or more of the flexibility parameter values and the maximum values corresponding to those flexibility parameter values.

In broad terms in another form the invention comprises a pricing system of a product or a combination of products for sale by one or more vendors to a customer, the system comprising a user interface component configured to obtain a time and/or date range from a customer, the time and/or date range representing the customer's desired time and/or date range for availability of the product or combination of products, and to obtain one or more flexibility parameter values from a customer, the flexibility values representing the flexibility of the customer in relation to the product or combination of products; maximum values from the vendor for each of the parameter values stored in computer memory; and a price calculator configured to calculate a price for the product based on one or more of the flexibility parameter values and a maximum values corresponding to those flexibility parameter values.

BRIEF DESCRIPTION OF THE FIGURES

The pricing system and method will now be described with reference to the accompanying figures in which:

Figure 1 illustrates a block diagram of a system in which one form of the invention may be implemented;

Figure 2 illustrates a preferred form method of the invention;

Figure 3 illustrates the synchronization of combinations of products;

Figure 4 shows a constraint applied to the products of Figure 3; and

Figure 5 shows a smoothing process.

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DETAILED DESCRIPTION OF PREFERRED FORMS

Figure 1 illustrates a block diagram of a system 10 in which one form of the invention may be implemented. The system 10 enables one or more customers 20, for example 20A, 20B and 20C to obtain prices for purchasing a product from a vendor 30, for example 30A, 30B and 30C. A product as used in the specification is intended to encompass any goods or services provided by a vendor 30 to a customer 20 for value. A product, for example, could include passage on an aeroplane, train, bus or boat. A product could also include the transport of freight by a carrier vendor from one place to another. A product could also include manufactured goods, which are manufactured in production runs of a known quantity. The invention enables a vendor 30 to determine the desirability of products over a particular time frame and to calculate a price to enable products to be sold to a customer in a way which will maximise the number of products sold and maximise the revenue for a vendor.

It is often helpful to know how desirable a product is in a particular timeframe. For example, leisure flights over school holidays are forecast to be quite full. This means that this period is a desirable one. It is envisaged that the invention generate prices which will easily sell every seat on that flight but the prices calculated would be higher than over another period that was not so desirable.

The system 10 includes a workstation 40 further comprising a memory 50 and processor 60. The workstation 40 could be maintained by one or more vendors 30 or by a third party. The workstation 40 has stored in it or is at least interfaced to several computer-implemented modules or programs 70 which will be further described below. Each module or program in one form comprises a memory or part of a memory programmed to perform a specific function and in another form each module or program comprises software program code stored in a memory and configured to control operation of the workstation 40 in accordance with the invention.

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Each customer 20 transfers data to the workstation 40 over a network or networks 80. Customer 20A for example could operate a mobile telephone and communicate with the workstation 40 using WAP protocols and technology. Customer 20B could operate a personal computer or other computing device interfaced to the workstation 40 over the

5   Internet. Customer 20C could operate a personal digital assistant or PDA either connected to the Internet or WAP-enabled. It is envisaged that network(s) 80 could comprise any suitable network to enable a customer 20 to communicate with the workstation 40 and could include a wired, wireless, Internet or other suitable network or any combination of the foregoing. It is envisaged that each vendor 30 communicates also

10 with the workstation 40 over network(s) 80. Each vendor could operate any computing device, although it is envisaged that each vendor operates a personal computer connected to the Internet in order to transfer data between the vendor 30 and workstation 40.

In one form of the invention a vendor 30 could comprise an airline selling travel products

15 to a customer 20. Each vendor 30 could maintain a product database (not shown) storing information on the travel products available for sale. The database could comprise for example a series of flight numbers, corresponding origin and destination identifiers, as well as departure date and time, stopover information, arrival date and time, availability of seats on each flight, retail price and other data such as meal options.

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The vendor 30 may also maintain a database of historical sales 100 from which a vendor may forecast the expected sales during a particular period and thereby indicating the level of desirability of the product during that period. For example, if a vendor 30 has experienced heavy sales during a peak period such as a traditional vacation or holiday

25 period, the vendor can expect similar sales the following year during the same period.

In order to sell travel products to customers of various levels of time flexibility, the vendor 30 may submit to the workstation 40 several parameters relating to sale of a product. These parameters could include for example minimum price 110, maximum

30 price 120, the maximum period of notice permitted 130, and any other suitable parameter important to the vendor 30.

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It is also envisaged that each vendor 30 may submit a weighting or weightings 140 representative of the importance of a particular parameter to the vendor. A weighting could be a real number in the range from 0 to 1, or could alternatively comprise any suitable scaling system.

The workstation 40 comprises a user interface, which is arranged to display to a customer 20 on a customer device data relating to a product available for sale from a vendor 30. The user interface obtains from the customer 20 a time and/or date range representing the customer's desired time and/or date range for availability of the product. In the case of an airline, the time frame 150 represents the time frame within which the customer wishes to travel. The time frame in this case represents the desired time frame within which the customer 20 wishes the vendor 30 to make the travel product available.

Some products, particularly service-related products, will have a duration value. The user interface may optionally obtain from the customer 20 a duration 220, which may, for an airline, represent the time between arrival at destination and the return flight or, for a hotel, represent the length of stay at the hotel.

The user interface may optionally obtain from the customer 20 a notice period 160 representing the prior notice a customer 20 requires of the availability of a travel product. A flexible customer 20 could specify a very short notice period, making the customer essentially a standby customer. Alternatively a flexible customer could specify a wide time frame during which the customer is prepared to fly. An inflexible customer may require a longer notice period, for example several days, weeks or months, and wish to fly within a tight time frame.

The user interface obtains the time frame 150 and optionally the notice period 160, or duration 220, and any other applicable parameters from the customer 20 and stores these values in the memory 50. A product availability calculator 170 identifies the time frame 150 within which the customer 20 may travel. The product availability calculator 170

checks the product database 90 to obtain the number of flights leaving within the time frame 150 and the number of seats on each flight, giving the total number of products during the time frame 150. The product availability calculator 170 also accesses the historical sales database 100 to forecast the number of sales during the time frame 150.

5   The product availability calculator 170 can then calculate the expected excess products available during the time frame 150 by the difference between the total number of products and the demand for those products based on historical sales. The product calculator, furthermore, may reduce the expected excess products available by an amount equalling the number of sales made through the use of this subject system within the time

10   frame 150.

The product calculator 170 may also reduce the amount of availability of expected excess products as a function of the length of stay 220.

15   The system 10 may also include a notice calculator 180 which will calculate a value based on a function of the notice requested by the customer 160 and the maximum notice permitted by the vendor 130.

The system 10 may also include further general parameter calculators 190. The results of

20   the product availability calculator 170, the notice calculator 180 and/or the general parameter calculator 190 are then input to a Delta calculator 200 which is configured to calculate a scaling value in order to pass to the price calculator 210, as will be described below.

25   In some circumstances it will be appreciated that it is undesirable for a vendor 30 to open up product database 90 and historical sales database 100 to a third party. Where credit card details are stored by the vendor 30, these credit card details could be open to exploitation. Furthermore, where product data and sales databases are controlled by a third party and not by the vendor, there is a risk that the security of the databases could be

30   called into question where the third party does not have the same stringent security procedures in place as the vendor.

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An optional additional feature of the invention could be the placement of a programmable appliance 230 in the premises of the vendor, for example vendor 30C. The appliance 230 could be a programmable computing device. It is programmed to store in a database all details supplied by the customer for a particular booking. Such storage is necessary for audit purposes. It is also envisaged that the appliance also store credit card details for a customer. The appliance 230 maintains log files of all activities and a reporting capability through a reporting engine could be available.

It is envisaged that customers make bookings through the network 80 and these booking details are stored in the appliance 230. Where the customer supplies a prior notice value, bookings are transferred from the appliance 230 to the main booking system of the vendor 30C. From the notice period onwards, the booking is simply treated as a normal booking by the vendor 30C.

It is envisaged that the vendor 30C will continue to take enquiries and other bookings from customers independent of the invention. An enquiry servlet enables both the main booking system of the vendor 30C and the bookings stored in the appliance 230 to be queried, for example in a call centre facility where a customer will contact the vendor 30C through a call centre to get existing product details.

The advantage of the appliance 230 is that the vendor maintains physical control of booking records, reducing the risk of loss of these booking records by a third party. The remaining components of the invention provide a customer with a price for a product. Bookings for this product are then made and these details are stored in the appliance 230 and these are transmitted to the main system and turned into hard bookings once the notice period has been reached where applicable.

It is important that support and maintenance be available for the appliance 230 and that this support and maintenance does not comprise a vendor network. It is envisaged that

remote support and maintenance of the appliance 230 be enabled by a secure SSH mechanism, for example SSHD remote support interface.

In one form the Delta calculator 200 could be programmed to perform the following function:

$$\delta = (1 - A/A_{max})^{\alpha} \tag{1}$$

where A is the expected excess goods calculated by the product availability calculator 170 and A_{max} is the maximum expected products available over a vendor-defined scope of the system. A_{max} for example could be a function of a time period of 12 months where 12 months is the extent that a customer can purchase a travel product in advance. The value α is an example of a weighting 140 supplied by the vendor 30.

In another form where the customer 20 supplies a desired notice value 160, the Delta calculator 200 could use the following function:

$$\delta = (1 - A/A_{max})^{\alpha} \cdot (N/N_{max})^{\beta} \tag{2}$$

where N is the notice 160 desired by a customer 20 and N_{max} is the maximum notice 130 permitted by the vendor 30. It is envisaged that max notice 130 will also be greater than or equal to notice 160. The value β is another example of a weighting supplied by the vendor.

More generally, the system 10 may obtain more than one parameter from customer 20 and the Delta calculator 200 could calculate a Delta value using the following general function:

$$\delta = (1 - A/A_{max})^{\alpha} \cdot (N/N_{max})^{\beta} \cdot (1 - P_1/P_{1max})^{\mu 1} \dots (1 - P_n/P_{n\,max})^{\mu n} \cdot (Q_1/Q_{1\,max})^{\varphi 1} \dots (Q_m/Q_{m\,max})^{\varphi m} \tag{3}$$

Where P_{1max}, P_{2max}, and P_{nmax} are parameters determined by the vendor 30 and α, β, $\mu 1$, μn, $\varphi 1$, φm are weighting values 140 supplied by the vendor 30. P_1, P_2 and P_n are parameter values supplied by the customer 20.

The Delta calculator 200 calculates a Delta value and passes the Delta value to the price calculator 210. The price calculator 210 preferably calculates a price for a particular product as a function of the minimum price 110 and maximum price 120 supplied by the vendor 30 and the Delta value calculated by the Delta calculator 200. The price calculator 210 typically calculates a price using the following function:

$$price = price_{min} + \delta * (price_{max} - price_{min}) \tag{4}$$

Where $price_{min}$ is the minimum price 110 supplied by the vendor 30, $price_{max}$ is the maximum price 120 supplied by the vendor, and δ is the Delta value calculated in any one of equations (1) to (3) above.

The calculated price is then passed from the price calculator 210 to the workstation 40 and transmitted to the customer 20.

It will be appreciated that the functions 1, 2 and 3 implemented in the Delta calculator and the pricing function 4 implemented in the price calculator represent a small selection of the range of different functions available. It is envisaged that the Delta calculator and the price calculator have implemented in them any range of functions suitable for the purpose to which the invention is put.

It is envisaged that the customer 20 be permitted to submit several sets of parameters to the workstation 40, thereby obtaining several price values from the workstation 40 in an interactive fashion. The system is preferably configured so that a customer specifying a narrow time frame 150 will generally receive a higher price than a customer specifying a

wider time frame. It is also envisaged that a customer 20 requiring little notice will receive a lower price than a customer requiring more notice. Once a customer 20 is satisfied with a particular price for a product, the purchaser 20 may then conclude a transaction with the vendor 30 for sale and supply of the product.

It is envisaged that the product availability calculator 170 reduces the number of products expected to be available as products are sold to customers, thereby increasing the prices offered to subsequent customers. This enables a vendor to maximise returns as unsold capacity is used as a direct input to the price calculator.

A person wishing to travel for a week over a two week period, for example, is more flexible than a person wishing to travel for 10 days over the same two week period. The invention calculates the optimum point of travel and then looks at the forecast excess capacity on either side of this optimum point of travel. Therefore, in the first case the invention will sum up 7 days, calculated as 14 days minus 7 days, of forecast excess capacity. In the second case, the invention will only sum up 4 days, calculated as 14 days minus 10 days, forecast excess capacity. As a product is sold, the invention tends to generate higher prices because the amount of product available is now less within a particular timeframe. This is a form of "dynamic pricing".

It will be appreciated that the same system could be used for any type of good or service provided to a customer 20 by a vendor 30. It is envisaged that where the system is used for different types of goods or services, that the parameters be adjusted accordingly. For example, where a vendor sells a manufactured item, for example clothing, the customer could specify a time frame by which the customer wishes to take possession of the item. An inflexible customer could demand the item immediately, whereas a more flexible customer could be prepared to wait for several months. A further parameter could be colour of a garment. An inflexible customer could specify a colour of garment with a narrow tolerance, whereas a more flexible customer could specify a wider tolerance of garment colour. In each case, it is expected that the customer supply a time frame to the system and optionally several product specific parameters.

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Figure 2 illustrates a preferred form flowchart of the invention. The time frame is first obtained from the customer 300 and is stored in the workstation 40.

5   Where there are further parameters 310 to obtain from the customer, for example the notice period and any other parameters, these further parameters are obtained from the customer 320.

Product availability within the time frame specified by the customer is then calculated
10   330.

Where there are further parameters 340, the price is calculated based on the product quantity and these further parameters 350. Where there are no further parameters, the price is simply calculated based on product quantity 360.

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The invention enables capacity in industries, which have high fixed costs in relation to the variable costs, to be sold to an alternative market of customers that are willing to trade flexibility for price.

20   The invention provides a price which enables an individual and private agreement to be reached between a purchaser and a vendor. Each individual transaction is a one-to-one "one off" arrangement between the purchaser and the vendor, and the general public is not normally privy to that agreement. The advantage to the vendor is that the vendor does not have to advertise that the vendor is selling products cheaper than normal.

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The invention is not limited to handling excess products, known as "distressed inventory". It is envisaged that the invention be applied to all of the available products. Instead of linking the price to how far in advance a customer books a product and other restrictions such as non-refundability as is the case with traditional systems, the invention
30   derives a price from the forecast excess capacity, which denotes desirability, over the

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window of time in which the customer is happy to receive the product. Further parameters such as prior notice may further refine this price.

In some circumstances, the price may actually be higher than what is charged using
5   traditional pricing, for example in the case of an inflexible customer.

The invention may also be used to synchronise and combine combinations of products, such as a flight with a stay in a hotel. Figure 3 illustrates the results of such synchronization. The forecast load factor for an airline 400 can be synchronized with the
10   forecast occupancy rate for a hotel 410. The forecast excess capacity for the airline is shown as a scale from 0 to 100 and the forecast occupancy rate for the hotel is also shown as a scale from 0 to 100 indicated at 412.

The date/time range 420 extends from the current day forward for a duration which could
15   be specified by the vendors of the hotel and airline. Within the date/time range 420 will be a window in which the customer is happy to travel. It is envisaged that the invention permit the customer to specify this period. This date/time range is shown graphically as a band 430 which is synchronized between airline 400 and hotel 410.

20   The user is also able to specify a notice period representing the amount of prior notice a user requires before being informed of the exact travel dates within the window 430. The prior notice period is indicated by the line 440.

Figure 4 illustrates the process of breaking up a total window up into sub-windows and
25   doing calculations within each sub-window. The customer may specify a date/time range 430A in which the customer is happy to travel and a prior notice period indicated at 440A. In some cases the customer may have a constraint applied within the date/time range 430A. The customer may have a prior commitment meaning that certain date/time ranges within the preferred date/time range 430A are not suitable for the customer. This
30   constraint is indicated graphically at 450. The constraint effectively divides the date/time range 430A into two separate date/time ranges indicated at 460 and 470 respectively.

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The customer can travel within the range 430A but must more specifically travel in the range indicated at 460 or 470 but not a range which covers both ranges 460 and 470.

The range or window 430A is broken up into two separate ranges or sub-windows and
5 prices are calculated separately within each range.

Referring to Figure 5, another feature of the invention is smoothing out demand fluctuations known as load leveling. Once a price is calculated, a person is booked once the date of prior notice is reached, and a booking is made at the point of the most excess
10 capacity, or least desirability within the timeframe.

Figure 5 illustrates the process of smoothing out demand fluctuations between forecast demand 500 and forecast excess capacity 510. During periods of expected low forecast demand, for example indicated at 520, it is envisaged that the price mechanism will
15 operate to increase sales of the product during these periods, and periods of expected high forecast demand, for example indicated at 530, will be reduced by higher prices during this period.

Where a customer decides to make certain dates within the window unavailable for
20 travel, the customer's level of flexibility may be substantially reduced. This reduced level of flexibility is reflected by an increase in Delta values and subsequently prices.

It is also envisaged that the invention provide a way of integrating the pricing method with client networks.
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The foregoing describes the invention including preferred forms thereof. Alterations and modifications as will be obvious to those skilled in the art are intended to be incorporated within the scope hereof, as defined by the accompanying claims.

CLAIMS:

1.   A method for pricing a product or a combination of products for sale by one or more vendors to a customer, the method comprising the steps of:

5   obtaining a time and/or date range from a customer, the time and/or date range representing the customer's desired time and/or date range for availability of the product or combination of products;

obtaining one or more flexibility parameter values from a customer, the flexibility value(s) representing the flexibility of the customer in relation to the product or

10   combination of products;

storing the flexibility parameter(s) values in computer memory;

obtaining maximum values from the vendor for each of the parameter values;

storing the maximum value(s) in computer memory; and

calculating a price for the product based on one or more of the flexibility

15   parameter values and the maximum values corresponding to those flexibility parameter values.

2.   A method as claimed in claim 1 further comprising the steps of obtaining a weighting factor from the vendor for one or more of the flexibility parameters and storing

20   the weighting factor(s) in computer memory.

3.   A method as claimed in claim 2 wherein the step of calculating the price for the product is based on a series of flexibility parameter values, one or more of the parameter values having a weighting factor applied.

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4.   A method as claimed in claim 3 wherein the flexibility parameter values include minimum and maximum values.

5.   A method as claimed in any one of the preceding claims further comprising the

30   steps of calculating a scaling value wherein the step of calculating the price is based at least partly on the scaling value.

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6.   A pricing system of a product or a combination of products for sale by one or more vendors to a customer, the system comprising:

a user interface component configured to obtain a time and/or date range from a customer, the time and/or date range representing the customer's desired time and/or date

5   range for availability of the product or combination of products, and to obtain one or more flexibility parameter values from a customer, the flexibility values representing the flexibility of the customer in relation to the product or combination of products;
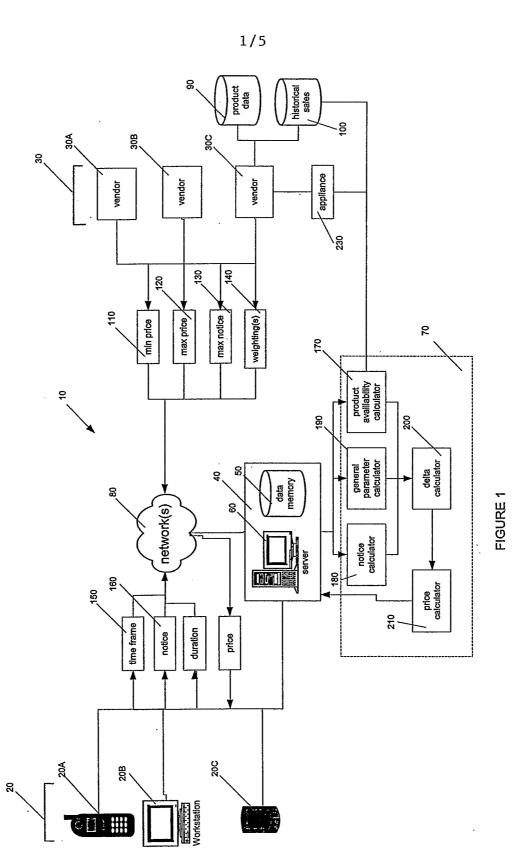
maximum values from the vendor for each of the parameter values stored in computer memory; and

10   a price calculator configured to calculate a price for the product based on one or more of the flexibility parameter values and a maximum values corresponding to those flexibility parameter values.

7.   A pricing system as claimed in claim 6 further comprising a weighting factor from

15   the vendor for one or more of the flexibility parameters stored in computer memory.

8.   A pricing system as claimed in claim 7 wherein the price calculator is configured to calculate the price for the product based on a series of flexibility parameter values, one or more of the parameter values having a weighting factor applied.

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9.   A pricing system as claimed in claim 8 wherein the flexibility parameter values include minimum and maximum values.

10.   A pricing system as claimed in any one of claims 6 to 9 further comprising a delta

25   calculator configured to calculate a scaling value, the price calculator configured to calculate the price based at least partly on the scaling value calculated by the delta calculator.
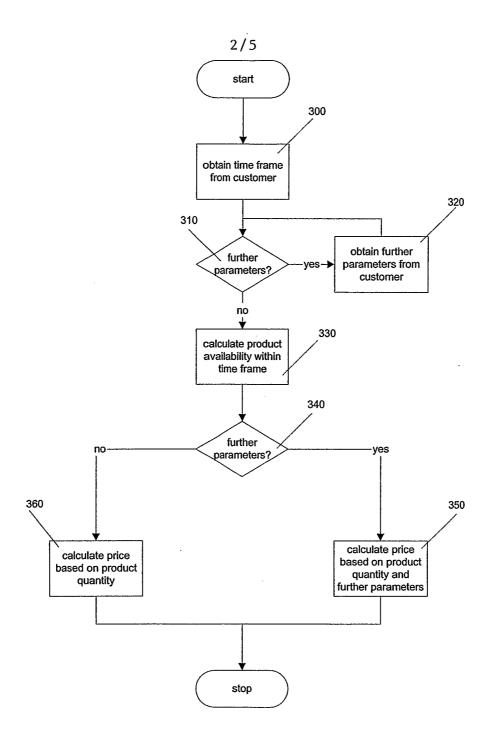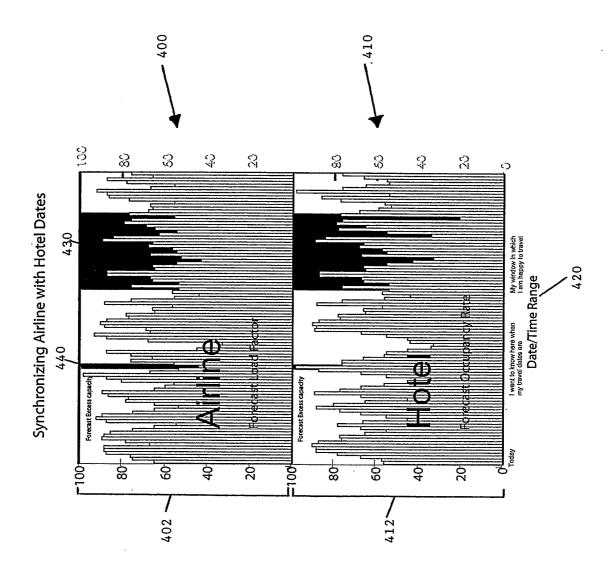
FIGURE 1

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                    ┌─────────┐
                    │  start  │
                    └────┬────┘
                         │                    300
                         ▼
                ┌─────────────────┐
                │ obtain time frame│
                │  from customer   │
                └────────┬─────────┘
                         │                              320
     310                 │          ┌─────────────────┐
        ◇─────────       ▼          │  obtain further │
      ◇   further  ◇──yes─►         │ parameters from │
        ◇parameters?◇               │    customer     │
          ◇──────◇                  └─────────────────┘
             │
             no
             ▼
      ┌──────────────┐    330
      │calculate product│
      │availability within│
      │   time frame    │
      └───────┬─────────┘
              │              340
              ▼
     no──────◇  further  ◇──────yes
            ◇parameters?◇
              ◇──────◇

 360                                            350
  ┌──────────────┐                    ┌──────────────────┐
  │calculate price│                    │ calculate price  │
  │based on product│                   │ based on product │
  │   quantity    │                    │  quantity and    │
  └───────┬───────┘                    │further parameters│
          │                            └────────┬─────────┘
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                    │  stop   │
                    └─────────┘
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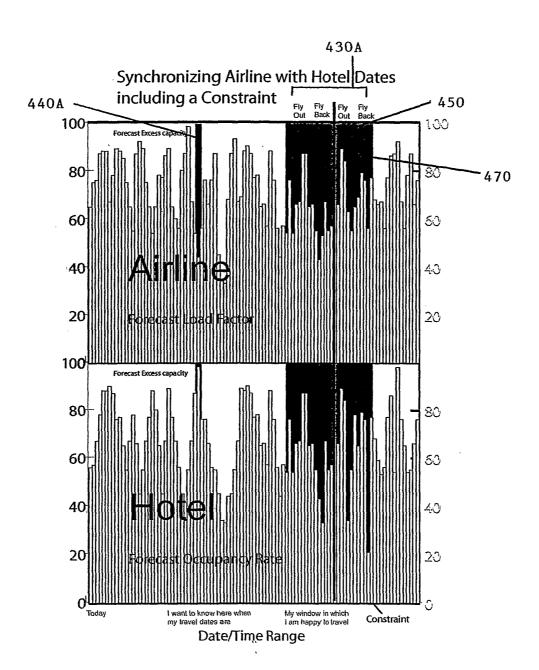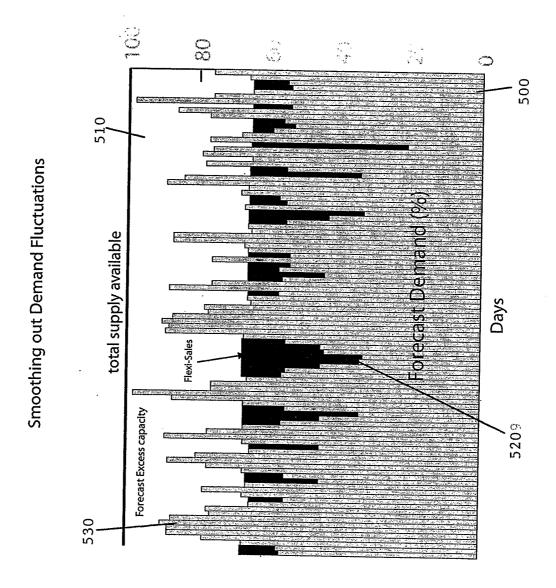
FIGURE 2

FIGURE 3

4 / 5

FIGURE 4

FIGURE 5

A.	CLASSIFICATION OF SUBJECT MATTER

Int. Cl. [7]:   G06F 17/60

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)

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

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
USPTO, DWPI (fare, airfare, airline, travel, ticket, flight, pricing, negotiate, flexibility, itinerary, internet, walker digital, walker asset management, priceline.com)

C.	DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 01/08024 A (WALKER DIGITAL, LLC) 1st February 2001 the whole document	1-10
X	WO 01/37164 A (WALKER DIGITAL, LLC) 25th May 2001 pages 1-19, 24-27 & 35-36; figures 13-15 & 21	1-10
A	WO 01/24043 A (MICROSOFT CORPORATION) 5th April 2001 the whole document	1-10

☒ Further documents are listed in the continuation of Box C	☒ See patent family annex

*	Special categories of cited documents:		
"A"	document defining the general state of the art which is not considered to be of particular relevance	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E"	earlier application or patent but published on or after the international filing date	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O"	document referring to an oral disclosure, use, exhibition or other means	"&"	document member of the same patent family
"P"	document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search	Date of mailing of the international search report
25 September 2002	- 2 OCT 2002
Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustralia.gov.au Facsimile No. (02) 6285 3929	Authorized officer **J W Thomson** Telephone No : (02) 6283 2214

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

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6,085,169 A (WALKER et al) 4th July 2000 the whole document	1-10
A	WO 00/55780 A (CEDANT PUBLISHING, INC.) 21st September 2000 the whole document	1-10
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This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

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