# Description

## Purchaser Value Optimization System

[001] Background Of The Invention

[002] The invention concerns optimizing purchaser valve when making on-line computer purchases that involve rewards benefits granted through seller loyalty programs. More specifically, the invention concerns a system and method assisting purchasers in making purchase decisions based on the consolidated, simultaneous display of plural purchase options for products and/or services from plural providers, where each purchase option includes a purchase price and a corresponding rewards benefit such as rewards miles. Presentation of consolidated purchase options allows the purchaser to readily compare one purchase option, from a first provider, to the other remaining purchase options from other providers, and thereby the invention puts the purchaser in position to make an optimal purchase decision that optimizes purchaser value.

[003] In application to travel purchases, the invention responds to a traveler's travel request by simultaneously displaying plural travel options that satisfy a travel request, and for each displayed travel option, the invention displays both a purchase cost and resulting total rewards miles that accrues to the traveler upon purchase of that travel option. By simultaneously presenting both cost and total rewards miles for each travel option from the competing providers, the traveler can promptly make an optimal purchase decision since the traveler can compare, on an "apples to apples" basis, the cost and rewards benefit of each travel option against to the cost and rewards benefits of the remaining travel options. In this way, the traveler can determine the best value as the traveler can readily decide which travel option has the best net cost (where, for instance, net cost = purchase cost – awarded miles) and thereby optimize purchaser value.

[004] Description Of The R elated Art

[005] On-line computer purchasing has become commonplace with the explosion of the Internet. Yet, that same Internet explosion has made on-line purchasing very difficult when searching for a best deal, since an Internet purchase query returns so many responses that the user has information overload. Put another way, when a user asks the Internet about purchasing a specific item in order to compare value from competing providers, there are often too many responses concerning alternative purchase options and the user therefore becomes overwhelmed and unable to readily determine the best purchaser value.

[006] In the area of travel purchasing, computerized travel reservation systems were originally designed for use by professional travel agents and call center agents. These systems helped optimize sales for travel agents and call center agents. Recent Internet

prior art systems that allow travelers themselves to book travel, are an outgrowth of these professional travel agent systems and therefore retain much of the prior art focus of having been developed for the travel sales professional.

[007] From a technical viewpoint, these prior art reservation systems contain databases or are connected to other systems containing the necessary databases. These databases store inventory, availability, and prices. Utilizing these databases, a traveler can check for availability and prices in order to make a travel reservation.

[008] The travel databases can be personalized for individual travelers. There are on-line travel systems that take advantage of various databases with user profiles, awards information and programs, and automated travel booking. However, these prior art systems are disparate in nature and fail to provide the comparative information necessary for making optimal purchase decisions. For example, the British Airways Executive Club website shows rewards in different formats for different hotel choices. For a first hotel the rewards is shown as miles awarded per stay whereas for a second hotel the rewards is shown as miles awarded per U.S. dollar spent. Neither shows a specific room reservation for a specific cost and a specific total rewards miles for making that reservation. Thus, the traveler is not in a position to readily make a direct comparison between hotel alternatives.

[009] LYNCH et al. U.S. 6,018,715 discloses an automated travel planning system utilizing a traveler portfolio database containing information that is used to determine an individual customer's preferred travel plan in response to any itinerary submitted by that individual. The traveler portfolio information may include, for example, the name and address of each individual customer of the travel agency, the air carriers, automobile rental agencies, or hotels preferred by each individual, frequent flier or renter programs in which the individual participates, and the seating and/or smoking preferences for each individual.

[010] LYNCH et al. discloses a system that, under the control of a decision engine module, queries the user to input whether the information in the traveler portfolio should be considered in the process of determining a recommended travel plan. If so, the system automatically retrieves the traveler portfolio information from the traveler portfolio residing in a database. The traveler portfolio information can include the air carriers, automobile rental agencies, or hotels preferred by the traveler, frequent flier or renter programs in which the traveler participates, and the traveler's seating and/or smoking preferences.

[011] LYNCH et al. seeks to provide an optimized solution to the user's travel request, based on previously stored user preferences. This approach, however, fails to present the user with consolidated travel solutions that show both cost and rewards benefits. Therefore, the user is not in a position to readily make an optimal purchase decision

between the travel alternatives offered by plural airlines.

[012] Loyalty rewards programs are also known where making a purchase results in the purchasers receiving a loyalty reward, e.g., receiving airline miles for purchasing an airline flight. In loyalty rewards programs, there is an emphasis on loyalty program affiliation between sellers and affiliation levels and benefits. Several travel service providers have mutual affiliations in order to mutually promote sales of the affiliated providers' products and services.

[013] It is known in the prior art to show rewards benefits for a given purchase and to convey this information to an on-line user. For example, STEINBERG WO 03 012600 discloses that a user can make on-line inquiries to determine available incentive programs. Individual airlines, such as Quantas, have frequent flyer programs that display a travel solution with rewards miles information for its flights.

[014] But the individual airlines have shown no interest in making available "apples to apples" comparison information available to the user in a manner sufficient to let the user optimize the travel purchase. For example, in the case of the Quantas Frequent Flyer system, there is displayed to the user a number of rewards points per dollar cost of the flight purchase. Calculation of the total rewards points for each purchase options, and comparison to other carrier's flight purchase options, is left to the travel user.

[015] In the Quantas Frequent Flyer system, for hotels, a points per dollar spent format is also used. For each hotel there is indicated how many points will be rewards for each dollar spent. However, there is no display of a specific room reservation for a specific cost and a specific total rewards miles for making that reservation. Indeed, the web page showing rewards miles does not indicate the availability of the hotels. Thus, the traveler is again not in a position to readily make a direct comparison between hotel alternatives as to actual costs and rewards that will accrue.

[016] The prior art also directs specific rewards programs to specific users based on user profiles. For instance, GARG et al. U.S. 6,571,216 discloses a system that tailors the rewards offer to a user based on that user's profile.

[017] Such prior art programs are directed at optimizing results for the sellers by promoting offers optimized for the seller's products and programs rather than focusing on presenting the user with information so that the user can make an optimal purchase decision. Because of the bias of the prior art systems, the traveler is not able to readily determine which travel option is the best value.

[018] Similar issues exist in the on-line purchase of non-travel goods and services.

[019] Summary Of The Invention

[020] The invention shifts the focus of the on-line purchase process from the prior art query and response model optimizing seller sales to a new query and response model

optimizing purchaser value. The invention applies to both travel and non-travel purchases.

[021] The invention provides a system and method to assist users make "best for the purchaser" decisions based on the consolidated, simultaneous display of plural purchase options from plural providers, e.g., of plural purchase prices and a corresponding total rewards benefit. For airline flight reservations, the invention would consolidate available fares from plural airlines and simultaneously display the flight information, the seat cost, and the total airline rewards miles awarded for each seat. Presentation of consolidated travel options allows the user can readily compare one travel solution to the other travel solutions and thus make an optimal purchase decision that optimizes purchaser value.

[022] In general, the invention displays rewards earned by product or service being purchased or booked, consolidating the offers from plural providers. Also, there is displayed plural products or services (from multiple loyalty programs) and the rewards for each product or service. In this way, multiple loyalty programs can be evaluated on a single screen.

[023] In one embodiment, an on-line travel services purchaser (user) makes an airline travel request query. In response to the purchaser's query, there are displayed plural travel solutions that satisfy the travel request. The plural travel solutions include products (services) from plural loyalty programs on a single screen. For each travel solution, there is also displayed both a purchase cost and resulting rewards miles that accrues to the purchaser upon purchase of that travel solution option.

[024] In another embodiment, there are displayed costs and rewards benefits for a plurality of purchase options such that a purchaser can make an "apples to apples" comparison. The invention allows a purchaser to compare the cost and rewards benefit of each purchase option against to the cost and rewards benefits of the other purchase options. The user thus can readily determine the best value.

[025] The invention provides a system and method that allows a purchaser to evaluate alternative purchase options in a multi-variable setting that includes both costs and rewards benefits so as to come to an optimal purchase decision. Purchasers using the invention can make net cost evaluations where the net cost discounts the apparent purchase cost by the value of the corresponding rewards benefits, e.g., award miles.

[026] The invention advances an important criteria for the traveler purchasers; that is, offering traveler purchasers who have loyalty program affiliation an effective means of optimizing their travel purchases.

[027] The invention includes applications to (but is not limited to these examples):

[028] Online users of hotel/hotel brand or chain websites;

[029] Hotel/hotel chain call center users (e.g., call center agents for a specific hotel

chain);

[030] Online travel agency websites;

[031] Offline travel agents;

[032] Airline websites; and

[033] Airline call centers (e.g., call center agents for a specific airline).

[034]

[035] Brief De scription Of The Drawings

[036] Figure 1 illustrates one system embodiment of the invention directed to travel services.

[037] Figure 2 illustrates one system embodiment of the invention directed to a general on-line service and product system.

[038] Figure 3 illustrates the display of a consolidated travel query response on a purchaser's computer monitor.

[039] Figure 4 illustrates the consolidated display of travel packages.

[040] Description Of The Preferred Embodiments

[041] Figure 1 illustrates one system embodiment of the invention oriented to purchasing travel services.

[042] On-line sales involve sellers (travel service providers) and purchasers (travelers). Travel purchasers make travel requests. In the invention, available products and services that satisfy the travel service request are found, and rewards benefits that accrue upon purchase, to the specific traveler, are determined.

[043] The illustrated embodiment utilizes a request query and response coordination database 30 to connect information concerning travel goods and services with travel purchasers.

[044] The coordination database 30 includes rules implementing computer methodology for finding travel products and services that satisfy the traveler's needs as specified in the travel request. These computer rules are maintained a rules dataset 20. Customer profiles are assembled into a customer profiles database 10 in the coordination database 30. The coordination database 30 also includes a loyalty program rules database 60. The loyalty program rules database maintains each of plural sellers' sales programs and their loyalty program rules.

[045] The coordination database 30 may be consolidated on a single network server 45, or may be distributed over plural computers connected via a network 50. The travel server 45 is connected to the network 50 and, via the network, links plural travel provider computers 80 to plural traveler computers 70 to form a many-to-many system.

[046] In this embodiment of the invention, on-line sales also involve seller inventory recorded on seller inventory databases 90, e.g. travel inventory recorded on travel inventory databases 90. The seller inventory represents available possible available

purchase options 100 for offer by sellers to purchasers.

[047] In response to a purchase query 75 made by user purchaser through an input 72, the coordination database 30 extracts relevant data elements from the purchase query 75. The data elements serve as selection factors to find items from the available sellers' inventory, as recorded on seller inventory databases 90, to offer for sale to the purchaser. For example, in the case of a travel query, the travel query data elements, together with rules from the rules dataset 20, drive the coordination database 30 to find available seats (purchase options) on airline flights that satisfy the travel requirements of the travel query.

[048] Additionally, the data elements and the satisfying purchase options available from the sellers' inventory serve as selection factors for querying against the loyalty program rules database 60 for each of plural sellers' sales programs taking into account the individual purchaser's profile 10 or information input directly from the purchaser as well as the rules dataset 20.

[049] The coordination database 30 thus determines plural available purchase solutions that satisfy the purchaser's purchase query and the total rewards benefits that would be granted by each seller to the purchaser for each of the purchase solutions. The available purchase solutions are purchase options that may be presented to the purchaser. These purchase options, from plural sellers, are consolidated into a common presentation for simultaneous display to user purchaser by sending an appropriate query response 120, in the form of a file, over the network 50 for display on the purchaser's computer 70. The file normally causes a web page to be displayed on the purchaser's computer. The file may comprise an email, an email attachment, and/or a downloadable file for printing.

[050] The purchase options are simultaneously displayed on the purchaser's (traveler's) computer 70. The simultaneous display includes details of each seller item (airline travel seat), the item's cost (seat's cost), and the total rewards benefit (total rewards miles) that accrue upon purchase of each seller item. Each information relating to each displayed component is in the same format, e.g., total miles for purchase of a airline seat or total miles for reserving a hotel room, in order to provide direct comparison between displayed alternatives. Note, in the invention, it is available product that is displayed and the total miles that accrue for the available product at the indicated cost and based on the purchaser's loyalty program membership and membership level or tier.

[051] Thus, the invention will display different results for different purchasers who have different loyalty memberships and/or different membership tiers.

[052] Where rewards miles accrue to more than one loyalty program, the invention will display the rewards miles for each loyalty program. For example, booking a hotel room

might award the purchaser with miles to both an airline loyalty program and to a hotel loyalty program.

[053] The computer monitor display 110 presents the query response 120 to the purchaser showing the consolidation of the purchase options, cost, and total rewards benefit in consistent manner so that the purchaser can determine which purchase option is optimal and thereby assist the purchaser optimize the purchase value.

[054] For example, as shown in Figure 3, in response to a traveler's booking request query for an airline ticket from location A to location B, the purchaser's computer monitor displays the query response 120. Also see table 1.

[055] From the query response 120, the travel purchaser can readily determine which purchase option is optimal for that travel purchaser. For example, it may be that Airline C's offer of 950 miles is optimal for the travel purchaser even though the ticket cost of $250 is more than the ticket costs for Airlines A and B. Note that where the traveler does not have a loyalty membership with an airline, e.g., Airline E, there is no rewards miles shown, even if some rewards miles would accrue had the traveler had a loyalty membership with this airline. Also note that, where rewards accrue to more than one loyalty program, the total miles accruing to each loyalty program is displayed. See that for the seat on Airline A, there accrues 500 miles to the Airline A program and 250 miles to the Airline B program.

[056] The system also provides that the query response 120 may also be printed out as a hard copy result table, received by the purchaser as an email, an email attachment, or other known downloadable file type. The hard copy table is represented by Table 1 below.

[057] Table 1 (Query Response 120)

[058] Airline Cost Rewards Miles

[059] A $225 500 miles by Airline A

[060] 250 miles by Airline B

[061] B $225 650 miles by Airline B

[062] C $250 950 miles by Airline C

[063] D $250 800 miles by Airline D

[064] E $250 0 miles

[065]

[066] Implementation of the inventive system is explained more fully below.

[067] A traveler inputs a travel request query 75, e.g., an airline flight query using an input 72 of the traveler's computer 70. The travel request query 75 is sent via the network 50 to the coordination database 30. In response to the received travel query 75, the coordination database 30 collects, either directly from the traveler or from the traveler's profile found in the customer profiles database 10, at least a minimum

required amount of information about the traveler's loyalty program(s) membership(s).

[068] The system extracts relevant flight data elements from the airline flight query in order to search the airline (sellers) inventory in order to develop travel options for each airline. The search is done by checking the travel inventory database 90 for available inventory that satisfies the search query as expressed by the extracted flight data elements. The relevant flight data elements serve as selection factors to find available seats on flights from the airlines' inventory. These available seats are travel purchase options 100 and may be offered the traveler.

[069] Information on the traveler's loyalty program(s) membership(s) is matched with each purchase option 100 and that airline's loyalty program rules database 60 in order to determine the total rewards miles that will accrue for that purchase option (seat purchase). The system may also search for special promotional or membership benefits offered by each airline having available seats that meet the travel query and adjust the total rewards miles accordingly. For instance, if Airlines A and B are commonly owned and the common owner wants to promote Airline A, a promotion might be to offer rewards miles to the loyalty programs of both Airline A and Airline B. As an example, see Figure 3, the $225 seat to Airline A.

[070] In determining the rewards miles, the airline's loyalty program rules database 60 may provide different miles depending on the traveler's membership level or tier. That is, for the same seat, there may be awarded 500 miles for a basic level member, 750 miles for an executive level member, and no miles for a government level member.

[071] The coordination database 30 thus determines plural purchase solutions (available airline seats) that satisfy the traveler's travel query and the total rewards benefits that would be granted by each airline for each seat purchase based on the traveler's loyalty program membership(s) as input directly or extracted from the customer profiles database 10. These purchase solutions are presented, via a file sent over the network, as flight seat options to the traveler presented by the query response 120. The seat options are displayed as a seat options on the monitor 110 of the traveler's computer 70. There is simultaneously shown (See Figure 3) details of each available airline seat including cost and the total rewards miles that accrue with purchase of each seat.

[072] Since the traveler is presented with the travel options in a consistent manner, the purchaser can readily compare costs and rewards, and thereby optimize the purchase value when making the seat purchase.

[073] The invention also includes embodiments for use in making hotel reservations. For example, consider a traveler with both Air France and Qantas frequent flyer program memberships, looking for a hotel in Paris for 3 nights from September 1$^{st}$ through September 4$^{th}$. The system returns, as purchase options, available rooms together with rewards miles earned under each of the Air France and Qantas frequent flyer programs.

The purchase options may be sorted by number of miles earned as shown in Table 2 below.

[074] Table 2

[075] Hotel Cost Rewards Miles

[076] A $225 500 miles Air France

[077] 550 miles Qantas

[078] A $250 650 miles Air France

[079] 900 miles Qantas

[080] B $250 950 miles Air France

[081] 500 miles Qantas

[082]

[083] B $260 950 miles Air France

[084] 900 miles Qantas

[085] Note that at the same hotel, a slightly higher cost room may provide a significantly greater rewards benefit. Also, awarded miles can also vary as a function of various criteria including affiliate travel partner service provider, time bound special offers, products offered by the travel service provider, and membership levels.

[086] Another embodiment provides for the consolidated display of travel packages, as illustrated by Figure 4.

[087] In the embodiment illustrated by Figure 4, there is displayed a query response 120 that consolidates four travel packages showing combinations of three airlines and two hotels. In package 1, purchase of Airline A with hotel A accrues miles to the loyalty programs of Airline A, Airline B, and Hotel A. In package 2, miles accrue to loyalty programs of Airline B and Hotel A. In package 3, miles accrue to loyalty programs of Airline C and Hotel A. In package 4, miles accrue to loyalty programs of Airline C and Hotel B. Note that, when comparing packages 3 and 4, selecting Hotel B results in greater miles accruing to the loyalty program of Airline C.

[088] The invention is not limited to only travel purchasing. The invention includes embodiments for generalized on-line purchase query and response systems. Figure 2 illustrates one system embodiment of the invention directed to a general on-line service and product system.

[089] This embodiment includes a master server 450 connected to a computer network 500. The master server 450, via the network 500, links product and service inventory databases 900 to plural consumer computers 700. The master server 450 acts as a hub and establishes a many-to-many system.

[090] The product and service inventory databases 900 store product and service inventory available as consumer purchase options 1000.

[091] A query and response coordination database 300 is hosted on the master server 450.

The coordination database 300 comprises a customer profiles database 100, a loyalty program rules database 600, a purchase rules dataset 200, and optionally an inventory database 900. As shown, the inventory databases 900 may also be on seller computers 800.

[092] The coordination database 300 is configured to coordinate plural operations. A first operation is receiving a purchase request query 750 generated by a purchaser on one of the purchaser computers 700 using input 720. Purchase data elements are extracted from the received purchase request query 750 to set up a query against the inventory databases 900.

[093] A second operation is, using purchase rules from the rules dataset 200, applying the extracted data elements to form a purchase query. The purchase query is applied to the inventory databases 900.

[094] A third operation is receiving purchase options 1000 from each inventory database 900, the purchase options being generated responsive to the sent purchase query 750. The received purchase options representing available inventory that can be offered to the purchaser.

[095] A fourth operation is applying the purchase options to rules found in the loyalty program rules database to determine a total rewards benefit accruing to the purchaser for each available purchase option. In this way, the purchaser will know what products and services are available for purchase and what the total rewards benefit is for each alternative.

[096] A fifth operation is creating a file to be sent via the network to the purchaser's computer to display the query response 1200 on monitor 1100, where the display simultaneously shows each purchase option together with the determined total rewards benefit for each purchase option. The file provides a consolidated, simultaneous display of the plural purchase options, where each displayed purchase option includes a purchase price and the corresponding total rewards benefit, the simultaneous display allowing the user to readily compare one purchase option to other remaining purchase options to make an optimal purchase decision based on net cost to optimize purchaser value to the user.

[097] As with other embodiment, the simultaneous display may comprise rewards benefits from plural loyalty programs.

[098] REFERENCES

[099] 10. customer profiles database

[100] 20. rules dataset

[101] 30. coordination database

[102] 45. network server

[103] 50. network

[104] 60. loyalty program rules database
[105] 70. traveler computers
[106] 72.input
[107] 75.purchase query
[108] 80. travel provider computer
[109] 90. inventory databases
[110] 100. available purchase options
[111] 110. display (monitor)
[112] 120. query response
[113] 200. rules dataset
[114] 300. coordination database
[115] 450. master server
[116] 500. network
[117] 600. loyalty program rules database
[118] 700. consumer computers
[119] 720. input
[120] 750. purchase query
[121] 800. seller computers
[122] 900. travel inventory databases
[123] 1000. purchase options
[124] 1100. display (monitor)
[125] 1200. query response

# Claims

[001] 1. An on-line travel purchase query and response system, comprising: a computer network (50); plural travel provider computers (80) connected to the network; a travel inventory database (90) hosted on each travel provider computer, each travel inventory database storing travel inventory available as travel purchase options (100); plural traveler computers (70) connected to the network, each traveler computer comprising an input (72) for originating a travel request query (75) and a monitor (110) for displaying a query response (120) comprising selected ones of the travel purchase options; a travel server (45) connected to the network and, via the network, linking the plural travel provider computers to the plural traveler computers as a many-to-many system; and a query and response coordination database (30) hosted on the travel server, the coordination database comprising a customer profiles database (10), a loyalty program rules database (60), and a rules dataset (20), the coordination database i) receiving the travel request query and extracting travel data elements from the received travel request query, ii) using rules from the rules dataset, applying the extracted data elements to form a travel query, the travel query being sent to query each travel inventory database, iii) receiving travel purchase options from each travel inventory database generated responsive to the sent travel query, the received travel purchase options representing available travel inventory satisfying the travel request query, iv) using rules from the loyalty program rules database, applying the travel purchase options to the loyalty program rules database to determine a total rewards miles accruing to the user for each travel purchase option, and v) creating a file to display on the display of the traveler computer a consolidated query response comprising travel purchase options from plural travel providers together with the determined total rewards miles for each travel purchase option.

[002] The system of claim 1, comprising further travel inventory databases (90) hosted on the travel server.

[003] The system of claim 1, wherein the coordination database when iv) determining the total rewards miles that will accrue to the user for each travel purchase option, extracts information concerning the user from the customer profiles database (10), the extracted user information also being used to determine the total rewards miles accruing to the user for each travel purchase option.

[004] The system of claim 3, wherein the coordination database when iv) determining the total rewards miles that will accrue to the user for each travel purchase option, uses user information, input by the user as part of the travel request

query, to determine the total rewards miles accruing to the user for each travel purchase option.

[005] The system of claim 3, wherein, the extracted user information comprises loyalty program membership information, the loyalty program membership information being used to determine the total rewards miles accruing to the user for each purchase option, and the consolidated query response indicates zero miles to be accrued for a travel purchase option for an airline where the user is not a loyalty program member of the airline.

[006] The system of claim 1, wherein the coordination database searches for travel promotions that increase the total rewards miles accruing to the user for any purchase option.

[007] The system of claim 1, wherein the file to display the query response simultaneously displays plural available airline travel seats, costs for each available airline seat, and the determined total rewards miles that accrue to the user for purchasing each available airline seat.

[008] The system of claim 1, the file to display the query response, further prints a hard copy report of the query response comprising each travel purchase option together with the determined total rewards miles for each travel purchase option.

[009] The system of claim 1, wherein the coordination database, after receiving the travel request query from the user, solicits from the user information about loyalty program membership.

[010] The system of claim 1, wherein the coordination database, after receiving the travel request query from the user, solicits from the customer profiles database user information about loyalty program membership.

[011] The system of claim 3, wherein the extracted user information comprises loyalty program membership information, the loyalty program membership information comprising membership level information, the membership level information being used to determine the total rewards miles accruing to the user for each purchase option.

[012] The system of claim 11, wherein the determined total rewards miles that accrue to the user for each purchase option is determined as a function of affiliate travel partner service providers, time bound promotions, and products offered by travel service providers.

[013] The system of claim 1, wherein, creating the file to display the query response, simultaneously displays plural available hotel rooms, rate costs for each room, and the determined total rewards miles that accrue to the user for reserving each room at the displayed rate costs, and the determined total rewards miles that accrue to the user for each purchase option is determined as a function of affiliate

travel partner service providers, time bound promotions, and products offered by travel service providers.

[014] An on-line service and product purchasing system, comprising: a master server (450) linking to a product and service inventory database (900) and, via a computer network (500), to plural consumer computers (700), the product and service inventory database storing available product and service inventory; and a query and response coordination database (300) hosted on the master server, the coordination database (300) comprising a customer profiles database (100), a loyalty program rules database (600), and a purchase rules dataset (200), the co-ordination database configured to coordinate plural operations including receiving a purchase request query (750) generated by a purchaser on one of the purchaser computers (700), extracting purchase data elements from the received purchase request query, using purchase rules from the rules dataset, applying the extracted purchase data elements to form a purchase query, applying the purchase query to the inventory database to determine available product and service inventory that satisfy the purchase request query, the determined available product and service inventory that satisfy the purchase request query being identified as purchase options, applying rules to the received purchase options to determine a total rewards benefit accruing to the purchaser for each available purchase option, creating a file for sending via the network to the purchaser's computer to display available purchase options from plural sellers as a query response, where the display of the query response simultaneously shows each purchase option together with the determined total rewards benefit for each purchase option.

[015] An on-line travel purchase query and response system, comprising: a travel server (45) connected to a computer network and, via the network, linking travel inventory databases to plural traveler computers as a many-to-many system, the travel inventory databases storing travel inventory available as travel purchase options (100); and a query and response coordination database (30) hosted on the travel server, the coordination database comprising a customer profiles database (10), a loyalty program rules database (60), and a rules dataset (20), the co-ordination database i) receiving a travel request query (75) from one of the traveler computers and extracting travel data elements from the received travel request query, ii) using rules from the rules dataset, applying the extracted data elements to form a travel query, the travel query being sent to query each travel inventory database, iii) receiving travel purchase options from each travel inventory database generated responsive to the sent travel query, the received travel purchase options representing available travel inventory of plural travel

service providers, iv) applying the travel purchase options to the loyalty program rules database to determine a total rewards benefit accruing to the traveler for each travel purchase option, and v) creating a file to display on the display of the traveler computer a query response comprising the travel purchase options from the plural travel service providers together with the determined total rewards benefit for each travel purchase option, wherein, the file provides a consolidated, simultaneous display of the plural travel purchase options, where each travel purchase option includes a purchase price and the corresponding total rewards benefit, the simultaneous display allowing the traveler to readily compare one purchase option to other remaining purchase options to make an optimal purchase decision based on net cost to optimize purchaser value to the traveler, the simultaneous display comprising rewards benefits from plural loyalty programs.

[016] The system of claim 15, wherein the coordination database when iv) using the loyalty program rules database to determine total rewards miles that will accrue to the traveler for each travel purchase option, extracts information concerning the traveler from the customer profiles database (10), the extracted traveler information also being used to determine the total rewards miles accruing to the traveler for each travel purchase option.

[017] The system of claim 15, wherein the coordination database when iv) using the loyalty program rules database to determine total rewards miles that will accrue to the traveler for each travel purchase option, also uses traveler information, input by the traveler as part of the travel request query, to determine the total rewards miles accruing to the traveler for each travel purchase option.

[018] The system of claim 15, wherein, the extracted traveler information comprises loyalty program membership information, the loyalty program membership information being used to determine total rewards miles accruing to the traveler for each purchase option, the coordination database searches for travel promotions that increase the total rewards miles accruing to the traveler for any purchase option and determines rewards miles from plural loyalty programs for the same purchase, the determined total rewards miles that accrue to the traveler for each purchase option is determined as a function of affiliate travel partner service providers, time bound promotions, and products offered by travel service providers, and the file providing a consolidated, simultaneous display of the plural travel purchase options, includes total awards benefits for each of plural loyalty programs for a single travel purchase option.

[019] The system of claim 15, wherein the file to display the query response, simultaneously displays travel seats of plural airlines, costs for each seat, and the

determined total rewards miles that accrue to the traveler for purchasing each seat.

[020] The system of claim 15, wherein the file to display the query response, simultaneously displays hotel rooms of plural hotels, costs for each room, and the determined total rewards miles that accrue to the traveler for reserving each room.