Title: METHOD AND SYSTEM FOR PROVIDING AIR CARGO RESERVATION AND INFORMATION SERVICES

Abstract: The present invention relates to a method and system for providing air cargo reservation and information services. The method includes the step of downloading a plug-in client module management program. Subsequently, the user sets up the management program. The user enters a keyword for air cargo reservation or air cargo reservation number. If the entered content is a keyword, a new reservation service is provided. If the air cargo reservation number has been issued by an airline company, a server of the airline company is accessed on-line and distribution information of a corresponding air cargo is provided. If the air cargo reservation number has been issued by an air cargo agency, a number of the airline company corresponding to the cargo reservation number is learned, a server of the airline company is accessed on-line and distribution information of a corresponding air cargo is provided.
METHOD AND SYSTEM FOR PROVIDING AIR CARGO RESERVATION
AND INFORMATION SERVICES

Technical Field

The present invention relates generally to a method and system for providing air cargo reservation and information services, and more particularly to a method and system for providing air cargo reservation and inquiry services, which can provide to users an air cargo reservation service and the logistical information of a reserved air cargo by analyzing a keyword for air cargo reservation or an air cargo reservation number entered in an address box on a Web browser by a user.

Background Art

Generally, a user directly enters a domain of a desired Web site in an address (URL) box on a Web browser or selects a domain previously registered at bookmarks or favorites so as to access the Web site through the Internet.

The user who accesses the specific Web site through the above process enters a keyword in a query box provided by the corresponding Web site to search for information so as to obtain required information, and selects and checks searched results. If the selected result does not correspond to information which the user desires to find, the user undergoes inconvenience of selecting and checking a plurality of results one by one.

Recently, a plurality of Internet service companies provide keyword domain services to overcome the inconvenience of a conventional search process. The keyword domain services are provided in two types: a first service type of outputting contents search results, to which addresses of affiliated companies
possessed by a corresponding Internet service company are hyperlinked on a screen, when a user directly enters the Korean alphabets in an address box through a plug-in Web browser; and a second service type of communication service providers providing automatic search services, that is, keyword domain services to users who use leased lines provided by the communication service providers who provide Internet accessing services.

Meanwhile, reservation services through the Internet are used in broad application areas such as reservation of theater and movie tickets and reservation of air tickets and tourist facilities, and the application areas continue to broaden.

Recently, agencies handling air cargoes provide air cargo reservation services through the Internet. However, users familiar with conventional call reservation services do not actively utilize the air cargo reservation services through the Internet. Further, the agencies provide logistical states of cargoes requested by users using their own information networks, so accurate logistical states of the cargoes cannot be provided to the users.

Further, if a user personally visited an airline company and made an air cargo transport reservation, there is not provided to the user a method of checking the present status of the user's cargo.

Disclosure of the Invention

Accordingly, the present invention has been made keeping in mind the above problems occurring in the prior art, and an object of the present invention is to provide a method and system for providing air cargo reservation and inquiry services, which analyzes a keyword for air cargo reservation and an air cargo reservation number entered in an address box on a Web browser by a user and connects to a corresponding airline company or an air cargo agency on-line, thus
providing to users present logistical information of a reserved air cargo through the airline company as well as an air cargo reservation service.

In order to accomplish the above object, the present invention provides a method of providing air cargo reservation and inquiry services, comprising the steps of allowing an Internet user who registers as a member to download a plug-in client module operating program; installing the plug-in client module operating program in a client terminal and executing a Web browser; entering a keyword for air cargo reservation or an air cargo reservation number into an address box of the Web browser by the user; analyzing a content entered in the address box of the Web browser; providing a new reservation service, if the entered content is a keyword for air cargo reservation; determining whether the air cargo reservation number has been issued by an airline company or air cargo agency, if the entered content is an air cargo reservation number; accessing a server of the airline company on-line and being provided with logistical information of a corresponding air cargo, if the air cargo reservation number has been issued by an airline company; and checking an airline company corresponding to the air cargo reservation number, accessing a server of the checked airline company on-line and being provided with logistical information of a corresponding air cargo, if the air cargo reservation number has been issued by an air cargo agency.

The present invention further provides an apparatus for providing air cargo reservation and inquiry services, comprising a client terminal comprised of a web browser for allowing a user to access the Internet and a client module for analyzing a keyword for air cargo reservation or an air cargo reservation number entered in an address box on the Web browser and requesting air cargo reservation and inquiry services from a server module; the Internet which is a network for transmitting/receiving data through remote communication; a client module providing system for allowing each Internet user who registers as a member to a
download a plug-in client module operating program to the client terminal; a
database for storing and managing membership information, air cargo reservation
and logistical information of a reserved air cargo; and the server module for
providing an air cargo reservation service if the keyword for air cargo reservation is
received from the client module while providing an air cargo logistical information
inquiry service if the air cargo reservation number is received from the client
module; an air cargo agency connected to the server module through the Internet
on-line for assigning a number to an air cargo reserved and received from the server
module, informing the client terminal of said number through the server module,
and accepting a corresponding air cargo, and transmitting the accepted
 corresponing air cargo to a corresponding airline company; and the airline
company connected to the server module through the Internet on-line for inquiring
about logistical information of a corresponding air cargo through the air cargo
reservation number if a request for logistical information inquiry is received from
the server module, and transmitting inquired logistical information to the client
terminal through the server module.

**Brief Description of the Drawings**

The above and other objects, features and other advantages of the present
invention will be more clearly understood from the following detailed description
taken in conjunction with the accompanying drawings, in which:

Fig. 1 is a block diagram of a system for providing air cargo reservation
and inquiry services according to a preferred embodiment of the present invention;
and

Figs. 2 to 4 are flowcharts of a method of providing air cargo reservation
and inquiry services according to the present invention.
* Description of numerals of main components in the drawings *

10: client terminal  
11: Web browser  
12: client module  
20: Internet  
30: server module  
31: client module providing system  
32: contents database  
40: air cargo agency  
50: airline company  

**Best Mode for Carrying Out the Invention**

Hereinafter, a method and system for providing air cargo reservation and inquiry services according to the present invention will be described in detail with reference to the attached drawings.

Fig. 1 is a block diagram of a system for providing air cargo reservation and inquiry services of the present invention, and Figs. 2 to 4 are flowcharts of a method of providing air cargo reservation and inquiry services according to the present invention.

Referring to Fig. 1, the system for proving air cargo reservation and inquiry services of the present invention comprises a client terminal 10, a server module 30 of a service provider to provide air cargo reservation and inquiry serves through the Internet 20, an air cargo agency 40 and an airline company 50.

The client terminal 10 is comprised of a web browser 11 to allow users to access the Internet 20 and a client module 12 to analyze a keyword for air cargo reservation or an air cargo reservation number entered in an address box on the Web browser 11 and to request inquiry from the server module 30 which provides air cargo reservation and inquiry services. For example, the client terminal 10 is a personal computer, an Internet television, or a personal digital assistant (PDA) terminal.
The server module 30 receives the keyword for air cargo reservation and the air cargo reservation number requested by the client module 12, and transmits them to a Web server (not shown) of the corresponding air cargo agency 40 or the airline company 50. The server module 30 is comprised of a client module providing system 31 to provide a download transmission service so as to allow each user who registers as a member to download a plug-in client module operating program to the client terminal 10, and a database 32 to store and manage contents for providing membership information, air cargo reservation and logistical information of a reserved air cargo.

The client module 12 is a plug-in operating program downloaded by the user so as to be provided with air cargo reservation and inquiry services. The client module 12 analyzes a keyword for air cargo reservation and an air cargo reservation number entered in the address box on the Web browser 11. The client module 12 executes an air cargo reservation process through the server module 30 connected thereto via the Internet 20 on-line if the entered content is the keyword for air cargo reservation. After the reservation is completed, the server module 30 transmits a reservation result screen to the corresponding air cargo agency 40 on-line.

If the content entered by the user is an air cargo reservation number, the client module 12 transmits the air cargo reservation number to the airline company 50 connected to the server module 30 on-line to request present logistical information of a corresponding air cargo. The airline company 50 searches for logistical information of the corresponding air cargo on the basis of the received air cargo reservation number and transmits the searched result to the server module 30.

The air cargo agency 40 is connected to the server module 30 of a service company on-line, which provides air cargo reservation and inquiry services through the Internet 20. Further, the cargo agency 40 assigns an air cargo number (House
Air Way Bill: HAWB) to an air cargo reserved and received from the user, accepts the corresponding air cargo, and executes the transport of the cargo to the airline company 50 and payment on behalf of the user.

The airline company 50 is connected to the server module 30 through the Internet 20 on-line. The airline company 50 inquires about present logistical information of a corresponding air cargo on the basis of the air cargo reservation number and transmits the inquired logistical information to the server module 30 if there is any request for logistical information of the air cargo reserved by a user. Further, the airline company 50 assigns an air cargo number (Master Air Way Bill: MAWB) to an air cargo reserved by a user who personally visits the airline company 50, and processes the transport of the corresponding air cargo.

A method of providing air cargo reservation and inquiry services of the present invention having the above construction is described in detail with reference to Figs. 2 and 3.

First, a Web site for providing air cargo reservation and inquiry services according to the present invention establishes cooperation with the air cargo agency 40 and the airline company 50, and recommends that users who use the air cargo agency 40 and the airline company 50 register as members. The Web site stores and manages personal information of users who register as members in the database 32, and provides a download service of a plug-in client module operating program to the Internet users. When the Web browser of the client terminal 10 is run by the user, an initializing routine of the client module 12 for air cargo reservation and inquiry services is executed, thus allowing a service for notifying a user of a new version of the client module operating program, and executing a routine for upgrading the client module operating program.

As shown in Fig. 2, the user who desires to be provided with the air cargo reservation and inquiry services through the Internet 20 executes a conventional
Internet accessing program stored in his client terminal 10, for example, a personal computer to access the Internet 20 at step S11. Then, if the user enters a domain address of the Web site for providing the air cargo reservation and inquiry services, the server module 30 loads a Web page, for example, a home page, reads overall service contents of the air cargo reservation and inquiry services from the database 32, and displays the read contents on the screen at step S12.

If the user selects a log-in field on the screen, the server module 30 outputs a log-in message on the screen to perform a user authentication procedure for determining whether the user is an authenticated member. If the user is not an authenticated member, the server module 30 outputs a member agreement and a membership information input box on the screen to process a member registration procedure, and stores personal information entered by the user in the database 32 at step S13. In this case, the membership information can be an address, a contact, an email address, a job, a hobby, special ability, a new identification (ID) and a password of the user, which are directly entered by the user.

If the user is the authenticated member, the server module 30 executes a download for transmitting the stored client module operating program to the client terminal 10 of the user through the client module providing system 31 when a download icon of the plug-in client module operating program allowing the user to be provided with the air cargo reservation and inquiry services is selected on the screen by the user at step S14.

The user installs the plug-in client module operating program downloaded to the client terminal 10 in his client terminal 10. When the user executes the operating program of the Web browser 11 by rebooting the client terminal 10, for example, a personal computer, the plug-in client module operating program for providing the air cargo reservation and inquiry services is simultaneously executed at step S15.
After the user accesses the Internet 20 by executing the Web browser 11 of his client terminal 10, the user enters a keyword for air cargo reservation or an air cargo reservation number to the address box of the Web browser 11 at step S16. Then the client module 12 determines whether entered content is a keyword for reservation or an air cargo reservation number at step S17. If the entered content is a keyword for reservation, the client module 12 executes an air cargo reservation process at step S18.

In this case, the air cargo reservation process is executed such that if the user enters a transmission place, a reception place, a transmission item, weight, and payment condition to reserve a corresponding air cargo using an air cargo reservation box provided from the server module 30 connected to the client module 12 through the Internet 20, the server module 30 transmits the reserved contents to the air cargo agency 40 connected on-line thereto to be assigned with an air cargo number HAWB, and sends the air cargo number HAWB to the client terminal 10 of the user.

If the information entered in the address box is an air cargo reservation number, the client module 10 sends the entered air cargo reservation number to the server module 30. The server module 30 provides an air cargo logistical information inquiry service for transmitting the received air cargo reservation number to the airline company 50, receiving present logistical information of a corresponding air cargo from the airline company 50, transmitting the received logistical information to the client terminal 10 of the user, and displaying the logistical information on the screen of the Web browser 11 at step S19.

As shown in Fig. 3, the air cargo logistical information inquiry service is processed such that when the user enters a two-character airline company code and a serial air cargo number (HAWB), for example, “OZ/1234567” to the address box after executing the Web browser 11 of the client terminal 10 at step S21, the client
module 12 checks the airline company code of the entered air cargo reservation number at step S22. Then, the client module 12 requests the user to reenter the air cargo reservation number while outputting an error message if there is an error in the entered air cargo reservation number at step S23.

If there is no error in the entered air cargo reservation number, the client module 12 transmits the air cargo number (HAWB) to a server of the corresponding airline company 50 through the server module 30 connected to the client module 12 via the Internet 20 at step S24. The corresponding airline company 50 searches for logistical information of the corresponding air cargo through its own network on the basis of the received air cargo number, and transmits the searched logistical information of the corresponding air cargo to the server module 30 at step S25.

The server module 30 sends the logistical information received from the airline company 50 to the client terminal 10 of the user, and the client terminal 10 displays the inquired logistical information on the screen through the Web browser at step S26.

As shown in Fig. 4, the air cargo logistical information inquiry service is processed such that when the user enters a three-character airline company code and a serial air cargo number (MAWB), for example, “988123456” to the address box after executing the Web browser 11 of his client terminal 10 at step S31, the client module 12 checks the entered air cargo reservation number at step S32. Then, the client module 12 requests the user to reenter the air cargo reservation number while outputting an error message if there is an error in the entered air cargo reservation number at step S33.

If there is no error in the entered air cargo number, the client module 12 checks the airline company 50 on the basis of first three digits of the entered air cargo reservation number, for example, “988” through the server module 30.
connected to the client module 12 via the Internet 20 at step S34. The client module 12 transmits the air cargo number MAWB to the server of the corresponding airline company 50 at step S35.

The corresponding airline company 50 searches for logistical information through its own network on the basis of the received air cargo number MAWB, and transmits the searched logistical information of the corresponding air cargo to the server module 30 at step S36. The server module 30 provides the air cargo logistical information inquiry service for sending the logistical information received from the airline company 50 to the client terminal 10 of the user and allowing the client terminal 10 to display the searched logistical information on the screen through the Web browser 11 at step S37.

As described above, the method and system for providing air cargo reservation and inquiry services can provide to users logistical information of a reserved air cargo through an airline company as well as an air cargo reservation service by analyzing a keyword for air cargo reservation or an air cargo reservation number entered by a user in an address box on a Web browser and connecting to a corresponding airline company or an air cargo agency on-line.

The method and system for providing air cargo reservation and inquiry services according to the present invention is not restricted to the above described embodiment, but those skilled in the art will appreciate that various modifications, additions and substitutions are possible, without departing from the scope and spirit of the invention.

Industrial Applicability

As described above, the present invention provides a method and system for providing air cargo reservation and inquiry services, which provides present
logistical information of a reserved air cargo to users through an airline company as well as an air cargo reservation service by analyzing a keyword for air cargo reservation and an air cargo reservation number entered by a user in an address box on a Web browser of a client terminal, and connecting to a corresponding airline company or an air cargo agency on-line on the basis of the analyzed result, thus allowing the air cargo reservation and inquiry services to be provided so as to increase the convenience of users.
Claims

1. A method of providing air cargo reservation and inquiry services, comprising the steps of:
   allowing an Internet user who registers as a member to download a plug-in
   client module operating program;
   installing the plug-in client module operating program in a client terminal
   and executing a Web browser;
   entering a keyword for air cargo reservation or an air cargo reservation
   number into an address box of the Web browser by the user;
   analyzing a content entered in the address box of the Web browser;
   providing a new reservation service, if the entered content is a keyword for
   air cargo reservation;
   determining whether the air cargo reservation number has been issued by
   an airline company or air cargo agency, if the entered content is an air cargo
   reservation number;
   accessing a server of the airline company on-line and being provided with
   logistical information of a corresponding air cargo, if the air cargo reservation
   number has been issued by an airline company; and
   checking an airline company corresponding to the air cargo reservation
   number, accessing a server of the checked airline company on-line and being
   provided with logistical information of a corresponding air cargo, if the air cargo
   reservation number has been issued by an air cargo agency.

2. An apparatus for providing air cargo reservation and inquiry services, comprising:
   a client terminal (10) comprised of a web browser (11) for allowing a user
to access the Internet (20) and a client module (12) for analyzing a keyword for air
cargo reservation or an air cargo reservation number entered in an address box on
the Web browser (11) and requesting air cargo reservation and inquiry services
from a server module (30);

the Internet (20), which is a network for transmitting/receiving data
through remote communication;

a client module providing system (31) for allowing each Internet user who
registers as a member to download a plug-in client module operating program to
the client terminal (10); a database (32) for storing and managing membership
information, air cargo reservation and logistical information of a reserved air cargo;
and the server module (30) for providing an air cargo reservation service if the
keyword for air cargo reservation is received from the client module (12) while
providing an air cargo logistical information inquiry service if the air cargo
reservation number is received from the client module (12);

an air cargo agency (40) connected to the server module (30) through the
Internet (20) on-line for assigning a number to an air cargo reserved and received
from the server module (30), informing the client terminal (10) of said number
through the server module (30), and accepting a corresponding air cargo, and
transmitting the accepted corresponding air cargo to a corresponding airline
company (50); and

the airline company (50) connected to the server module (30) through the
Internet (20) on-line for inquiring about logistical information of a corresponding
air cargo through the air cargo reservation number if a request for logistical
information inquiry is received from the server module (30), and transmitting
inquired logistical information to the client terminal (10) through the server module
(30).
Fig. 1
Fig. 2

START

S11 ACCESS INTERNET

S12 GUIDE AIR CARGO RESERVATION SERVICE

S13 REGISTER AS MEMBER

S14 DOWNLOAD CLIENT MODULE PROGRAM

S15 INSTALL PROGRAM

S16 ENTER KEYWORD FOR AIR CARGO RESERVATION OR AIR CARGO RESERVATION NUMBER

S17 KEYWORD FOR RESERVATION?

No

S19 PROVIDE AIR CARGO LOGISTICAL INFORMATION INQUIRY SERVICE

Yes

S18 EXECUTE RESERVATION PROCESS

END
LOGISTICAL INFORMATION INQUIRY SERVICE

S21 ENTER AIR CARGO NUMBER (HAWB) IN ADDRESS BOX ON WEB BROWSER

S22 AIRLINE COMPANY CODE CHECKED?
  Yes
  S24 TRANSMIT AIR CARGO NUMBER (HAWB) TO SERVER OF CORRESPONDING AIRLINE COMPANY
  S25 SEARCH FOR CORRESPONDING AIR CARGO AND TRANSMIT LOGISTICAL INFORMATION
  S26 DISPLAY SEARCHED LOGISTICAL INFORMATION ON SCREEN THROUGH WEB BROWSER

S23 DISPLAY ERROR MESSAGE

END
Fig. 4

LOGISTICAL INFORMATION INQUIRY SERVICE

S31 ENTER AIR CARGO NUMBER (MAWB) IN ADDRESS BOX ON WEB BROWSER

S32 ENTERED NUMBER CHECKED?

S33 OUTPUT ERROR MESSAGE

 Yes

S34 CHECK AIRLINE COMPANY ON THE BASIS OF ENTERED AIR CARGO RESERVATION NUMBER

S35 TRANSMIT AIR CARGO NUMBER (MAWB) TO SERVER OF CORRESPONDING AIRLINE COMPANY

S36 SEARCH FOR CORRESPONDING AIR CARGO AND TRANSMIT LOGISTICAL INFORMATION

S37 DISPLAY SEARCHED LOGISTICAL INFORMATION ON SCREEN THROUGH WEB BROWSER

END
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
IPC7 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)
IPC7 G06F 17/60

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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
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17 APRIL 2002 (17.04.2002)

Date of mailing of the international search report
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