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INFORMATION DELIVERY SYSTEM AND AUTOMATIC TICKET GATE

BACKGROUND OF THE INVENTION



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1. Field of the Invention

The present invention relates to an information delivery system for delivering information to a user registered as a member, and an automatic ticket gate applied to this information delivery system.

2. Description of Related Art

Conventionally, there has been an information delivery system in which information on goods, stores, events, areas and the like (hereinafter referred to as delivery information) is delivered to a user registered as a member (hereinafter referred to as a registrant). In the conventional information delivery system, attribute information (age, gender, interest, taste, etc.) showing the attribute of a user, a delivery destination of the delivery information and the like are registered in an information delivery apparatus at the time of member registration. The information delivery apparatus extracts the delivery information meeting the interest and taste among many pieces of delivery information on the basis of the attribute information for each registrant, and delivers the delivery information extracted here to the registered delivery destination.

There is proposed an information delivery system in which as the delivery destination of the delivery information, an e-mail address (hereinafter simply referred to as a mail address) of a cellular phone capable of being connected to the Internet is registered, and the delivery information corresponding to the whereabouts of the registrant who is out on the road is delivered. This information delivery system includes a system in which an automatic ticket gate installed in a station is used for detection of the whereabouts of the registrant. In this information delivery system, when a user having entered a station yard or having exited from the station yard through a passage of the automatic ticket gate is the registrant, the vicinity of the entrance or exit station is detected as the present whereabouts of the registrant.

A commutation ticket is used for identification of the user having passed through the passage of the automatic ticket gate. An identification code capable of identifying the user (owner of the commutation ticket) is stored on the commutation ticket. The automatic ticket gate reads out the identification code from the commutation ticket inserted in its main body. Identification codes of commutation tickets are registered for the respective registrants in the

information delivery apparatus for delivering the delivery information to the registrants. The automatic ticket gate outputs an identification code of its own machine, the identification code of the commutation ticket, and the like to the information delivery apparatus. The information delivery apparatus identifies from the identification code of the commutation ticket transmitted from the automatic ticket gate whether the user having passed through the passage of the automatic ticket gate is the registrant, and specifies the person when the user is the registrant. Besides, the information delivery apparatus specifies the station where the automatic ticket gate is installed, from the identification code of the automatic ticket gate transmitted from the automatic ticket gate, and detects the present whereabouts of the registrant. When specifying the registrant and the present whereabouts of the registrant in the manner as described above, the information delivery apparatus delivers the delivery information corresponding to the attribute information of the registrant and the present whereabouts to the registered mail address of the cellular phone.

By this, the delivery information corresponding to not only the attribute information of the registrant, but also the present whereabouts can be delivered to the

registrant, so that information useful for the registrant to decide a subsequent action can be provided. For example, JP-A-8-18523 discloses the foregoing information delivery system.

However, in the above information delivery system using the automatic ticket gate, as described above, the commutation ticket is used for the detection of the whereabouts of the registrant. Among users having passed through the passage of the automatic ticket gate to enter the station yard or to exit from the station yard through the passage of the automatic ticket gate, there are also many persons using other kinds of passenger tickets, such as an ordinary ticket or a prepaid card, not the commutation ticket. Since the identification code capable of identifying the user is not stored in the ordinary ticket or the prepaid card, it is impossible to identify the user having passed through the passage of the automatic ticket gate by the ordinary ticket or the prepaid card. Accordingly, there has been a problem that the service by the information delivery system can not be provided to the user passing through the passage of the automatic ticket gate by the ordinary ticket or the prepaid card.

Incidentally, as the prepaid card usable as the passenger ticket, a coupon-type one or a money-type one

is put to practical use.

SUMMARY OF THE INVENTION

An object of the invention is to provide an information delivery system in which irrespective of the kind of a first medium, for example, a commutation ticket, an ordinary ticket or a prepaid card, used for the passing of a passage of an automatic ticket gate, delivery information can be delivered to a user having passed through the passage, and an automatic ticket gate applied to this information delivery system.

The information delivery system of the invention comprises the following structure to solve the above problem.

It comprises an information delivery apparatus for delivering, when a delivery request for delivery information, including an identification code is received, the delivery information to a delivery destination corresponding to the identification code included in the delivery request, and

an automatic ticket gate including

medium information read means for reading out passing information used for judgment of passing acceptability/unacceptability of a passage from a first medium inserted in a main body and reading out the identification code from a second medium inserted in the

main body,

passing acceptability/unacceptability judgment means for judging the passing acceptability/unacceptability of the passage by using the passing information read out from the first medium by the medium information read means, and

delivery request output means for outputting the delivery request including the identification code read out from the second medium by the medium information read means to the information delivery apparatus.

In this structure, the medium information read means of the automatic ticket gate reads out the passing information used for the judgment of the passing acceptability/unacceptability of the passage from the first medium inserted in the apparatus body, and reads out the identification code from the second medium inserted in the apparatus body. For example, in the case where this automatic ticket gate is an automatic ticket gate installed in a station, the first medium is a commutation ticket, an ordinary ticket, a prepaid card, or the like, and the passing information is, although varying according to the kind of the first medium, passenger ticket information based on which it is possible to judge the acceptability/unacceptability of the entrance into the station yard or the exit from the

station yard, such as a valid period, a valid section, an issuance station, an issuance sum of money, an available remaining count, or an available balance. Besides, the second medium is a member card issued to a user (registrant) who has registered as a member, and stores the identification code by which the user can be specified.

The passing acceptability/unacceptability judgment means of the automatic ticket gate judges the passing acceptability/unacceptability of the passage on the basis of the passing information read out from the first medium. For example, on the basis of the passenger ticket information, it is judged whether or not the user is allowed to enter the station yard or to exit from the station yard. Besides, the delivery request output means outputs the delivery request for the delivery information, including the identification code read out from the second medium to the information delivery apparatus.

When receiving the delivery request transmitted from the automatic ticket gate, the information delivery apparatus delivers the delivery information to the delivery destination corresponding to the identification code included in the delivery request. Information in which respective identification codes are made to correspond to delivery destinations of delivery

information is registered in the information delivery apparatus.

Accordingly, by issuing the second medium to the user having registered as a member, the delivery information can be delivered irrespective of the kind of the first medium used at the time of passing through the passage of the automatic ticket gate. For example, also with respect to a user having used an ordinary ticket or a prepaid card for the passing of the passage of the automatic ticket gate installed in the station, if the user is the registrant to whom the second medium is issued, the delivery information can be delivered, and the service to the user can be improved.

Besides, it is preferable that when the judgment result of the acceptability/unacceptability of the passing of the user through the passage in the passing acceptability/unacceptability judgment means is the unacceptability, the delivery request output means of the automatic ticket gate does not transmit the delivery request to the information delivery apparatus.

For example, most of the reasons why the automatic ticket gate installed in the station judges that the passing of the user through the passage is unacceptable are that the user inserts an inappropriate passenger ticket, such as a passenger ticket outside of a valid

section or a passenger ticket expiring a valid period, and in this case, the user gets an appropriate passenger ticket, inserts the appropriate ticket gotten this time into the automatic ticket gate again, and passes through the passage of the automatic ticket gate.

Incidentally, to get the appropriate ticket is, for example, to purchase an ordinary ticket by a ticket dispenser or to adjust the fare by a fare adjustment machine and to get a fair-adjustment card.

Here, if the configuration is such that when judging that the passing of the passage is unacceptable, the automatic ticket gate outputs the delivery request to the information delivery apparatus, then the delivery request with respect to the user whose passing through the passage is judged unacceptable is outputted twice in a short time (several minutes). Thus, the delivery information is delivered to this user from the information delivery apparatus twice in the short time (several minutes), and there is a high possibility that the same delivery information is delivered in this two deliveries. When the user receives the same delivery information twice in several minutes, he/she feels annoyance. Besides, the load of the information delivery apparatus is uselessly increased.

Accordingly, the configuration is made such that

when the judgment result in the passing acceptability/unacceptability judgment means is the unacceptability of the passing of the user through the passage, the delivery request is not transmitted by the delivery request transmission means to the information delivery apparatus, so that it is possible to prevent the service to the user from degrading and the load of the information delivery apparatus from uselessly increasing.

Further, in the case where one of the first medium and the second medium is not inserted before a predetermined time has passed since the other medium was inserted, the output of the delivery request is stopped. In other words, in the case where one of the first medium and the second medium is inserted before the predetermined time has passed since the other medium was inserted, the delivery request is outputted. In the case where the user having inserted the first medium and the second medium is the same person, since an interval when these media are inserted is a relatively short time, the first medium and the second medium inserted by the user can be made to correspond to each other. Besides, the delivery information can be delivered to only the user having inserted the first medium and the second medium. It is possible to prevent the delivery information from being delivered to the user having inserted only the

second medium.

BRIEF DESCRIPTION OF DRAWINGS

Fig. 1 is a view showing an information delivery system of an embodiment of the invention.

Fig. 2 is a block diagram showing a structure of an information delivery apparatus.

Fig. 3 is a view showing attribute information.

Fig. 4 is a view for explaining magnetic data recorded on a member card and an ordinary ticket.

Fig. 5 is a view for explaining delivery information.

Fig. 6 is a block diagram showing a structure of an automatic ticket gate of an embodiment of the invention.

Fig. 7 is a view showing the outer appearance of the automatic ticket gate of the embodiment of the invention.

Fig. 8 is a flowchart showing the operation of the automatic ticket gate of the embodiment of the invention.

Fig. 9 is a flowchart showing the operation of the automatic ticket gate of the embodiment of the invention.

Fig. 10 is a flowchart showing the operation of the information delivery apparatus of the embodiment of the invention.

Fig. 11 is a view for explaining delivery information in the information delivery system of the embodiment of the invention and the flow of data.

Fig. 12 is a view showing an example of a display

screen in a cellular phone having received a delivery mail message.

DESCRIPTION OF PREFERRED EMBODIMENTS

Hereinafter, an automatic ticket gate of an embodiment of the invention and an information delivery system will be described.

Fig. 1 is a view showing a structure of an information delivery system of an embodiment of the invention. An automatic ticket gate of an embodiment of the invention is applied to the information delivery system of the embodiment. In Fig. 1, reference numeral 1 denotes a station; and 2, an information delivery center. An automatic ticket gate 11, an automatic fare adjustment machine 12, a ticket dispenser 13 and the like are installed in the station 1. Besides, the automatic ticket gate 11, the automatic fare adjustment machine 12 and the ticket dispenser 13 are connected to a host apparatus 14 for controlling passengers getting on and off trains in the station 1. The host apparatus 14 is connected to a not-shown server apparatus of a railway company through a dedicated line or a public line. An information delivery apparatus 21 is installed in the information delivery center 2. The host apparatus 14 installed in the station 1 and the information delivery apparatus 21 installed in the information delivery center 2 can be connected to an

internet 4 through a public line network 3. Besides, the host apparatus 14 and the information delivery apparatus 21 are configured to be capable of communicating with each other. A communication path between the host apparatus 14 and the information delivery apparatus 21 may be a dedicated line or may be a path through the public line network 3 or the Internet 4.

Besides, in Fig. 1, reference numeral 5 denotes a user; and 6, a cellular phone owned by the user 5. The cellular phone 6 has a function to connect with the Internet 4. A mail address is given to the cellular phone 6 so that transmission/reception of e-mail can be performed through the Internet 4. Reference numeral 7 denotes a member card (second medium in this invention); and 8, a passenger ticket (first medium in this invention). The passenger ticket 8 includes an ordinary ticket, a commutation ticket, a coupon-type prepaid card, a money-type prepaid card, and a fare-adjustment card issued by the fare adjustment machine 12.

The user 5 has the member card 7 and the passenger ticket 8. When the user 5 inserts the member card 7 and the passenger ticket 8 in the automatic ticket gate 11, the automatic ticket gate 11 reads out the information. The information read out by the automatic ticket gate 11 is transmitted to the information delivery apparatus 21

of the information delivery center 2, and the information delivery apparatus 21 delivers delivery information to the cellular phone 6 owned by the user 5.

Fig. 2 is a block diagram showing a structure of the information delivery apparatus 21. The information delivery apparatus 21 includes a control part 211 for controlling the operation of a main body, a delivery information storage part 212 for storing delivery information to be delivered to users, an attribute information storage part 213 for storing attribute information, such as a name, an age, a gender, an interest, and a taste, which is made to correspond to an identification code for each user, a transmission part 214 for transmitting (delivering) the delivery information to the user, and a reception part 215 for receiving information transmitted from another equipment.

The delivery information stored in the delivery information storage part 212 is various information, such as an advertisement of a company or a store, news, weather forecast, and traffic information. The information delivery apparatus 21 acquires the various delivery information through the Internet 4, and stores them in the delivery information storage part 212. The attribute information storage part 213 stores, for each user 5, the user identification code for identification

of the user 5 and the attribute information indicating the attribute of the user 5, which are made to correspond to each other. The attribute information includes a user's name, an age, a gender, an occupation, classification of delivery information requested to be delivered, delivery information not requested to be delivered, necessity/unnecessity of delivery of a train timetable, necessity/unnecessity of delivery of train delay guidance, a transmission destination (mail address of the cellular phone 6) of delivery information, existence of delivery request at the time of getting on, existence of delivery request at the time of getting off, a mainly used boarding section (including a through station), home telephone number, telephone number of user's place of work, and the like (see Fig. 3). A user whose user identification code is recorded in the attribute information storage part 213 is a registrant who registered to request the delivery of delivery information by the information delivery system of this embodiment, and the member card 7 is issued to the registrant. The member card 7 is a magnetic card on which the user identification code is stored as magnetic data (see Fig. 4(A)).

A plurality of pieces of delivery information are stored in the delivery information storage part 212 of

the information delivery apparatus 21. A delivery condition for differentiating the user 5 to whom delivery may be made from the user 5 to whom delivery is inhibited is attached to the delivery information. This delivery condition can be freely set by an advertiser as a provider of the delivery information. For example, in the case where delivery information for women is provided, a setting can be made such that the delivery condition to limit the user 5 to whom delivery is made to a woman, and delivery is not made to a man. Besides, an age group (twenties, thirties, etc.), the number of times of delivery, and the like can also be attached as the delivery condition.

Fig. 5 is a view showing an example of delivery information stored in the delivery information storage part. The delivery information storage part 212 causes a delivery condition (see Fig. 5(A)) to correspond to delivery information (see Fig. 5(B)) and stores them. Besides, the delivery information is given a delivery information number for identification of the delivery information. The example shown in Fig. 5 indicates a delivery condition for narrowing down users to whom the delivery information is to be delivered to persons who are women and are 20 to 29 years old. Besides, the valid period of the delivery information is limited to a period

of from September 1, 2001 to October 31, 2001. When the valid period expires, this delivery information is not delivered to the user 5. The limiting number of times of delivery is 300, and it is not delivered to a total of 301 or more users 5. Further, a delivery information number is K0001.

The automatic ticket gate 11 is an apparatus for restricting the entrance of the user 5 into the station yard or the exit thereof from the station yard, and is installed at a ticket barrier of the station 1. The automatic fare adjustment machine 12 is an apparatus by which when the user 5 having ridden past exits from the station yard, the user adjusts an excess fare and acquires a fare-adjustment card. The ticket dispenser 13 is an apparatus by which the user 5 now entering the station yard purchases an ordinary ticket corresponding to a boarding section. Passenger ticket information (corresponding to the passing information of this invention) indicating a ticket issue station, a ticket issue sum of money, a valid period (normally, a ticket issue date) and the like is recorded as magnetic data in the ticket issued by the ticket dispenser 13 (see Fig. 4(B)).

Incidentally, in addition to the above ordinary ticket, a commutation ticket, a coupon-type prepaid card,

a money-type prepaid card, a fare-adjustment card issued by the fare adjustment machine 12, or the like is also inserted as a medium (first medium in this invention) storing passenger ticket information into the automatic ticket gate 11. The plural kinds of media storing the passenger ticket information are collectively called the passenger ticket 8.

Fig. 6 is a block diagram showing a structure of the automatic ticket gate as the embodiment of the invention, and Fig. 7 is a view showing the outer appearance of the automatic ticket gate.

The automatic ticket gate 11 includes a control part 111 for controlling the operation of a main body, a storage part 112 for storing information used at the time of the operation and information generated at the time of the operation, a clocking part 113 for clocking the present time, a transmission part 114 for outputting information to the host apparatus 14, an insertion detection part 115 for detecting that the passenger ticket 8 such as a commutation ticket or an ordinary ticket or the member card 7 is inserted in the main body, a conveyance part 116 for conveying the passenger ticket 8 or the member card 7 inserted in the main body, a read part 117 for reading magnetic data recorded on the passenger ticket 8 or the member card 7 under conveyance,

and a door drive part 118 for opening and closing a door 118a to restrict the passing of the user 6. The automatic ticket gate 11 closes the door 118a to close up the passage formed by the automatic ticket gate 11 and to forbid the user 5 to pass through the passage (forbid the user to enter the station 1 or to exit from the station 1).

The automatic ticket gate 11 includes an insertion port 116a for the insertion of the passenger ticket 8 or the member card 7 at the right side of an entrance of the passage, and a release port 116b for the release of the passenger ticket 8 or the member card 7 inserted in the main body at the right side of an exit. A conveyance path 116c for conveying the passenger ticket 8 or the member card 7 is provided between the insertion port 116a and the release port 116b. Besides, in the middle of the conveyance path 116c, there are provided a collection path (not shown) for conveying the ordinary ticket or the fare-adjustment card inserted in the insertion port 116a to a collection box (not shown), and a conveyance path changeover mechanism part (not shown) for changing the conveyance destination of the ordinary ticket inserted in the insertion port 116a to one of the release port 116b and the collection box. An insertion detection sensor 115a for detecting the insertion of the passenger ticket

8 or the member card 7 is provided at the insertion port 116a. When this insertion detection sensor 115a detects the insertion of the passenger ticket 8 or the member card 7, the conveyance part 116 conveys the passenger ticket 8 or the member card 7 inserted in the insertion port 116a to the release port 116b. Besides, a magnetic head 117a reads out magnetic data recorded on the passenger ticket 8 or the member card 7 under conveyance along the conveyance path 116c.

The automatic ticket gate 11 for entrance is installed so that the passing direction shown in Fig. 7 is the direction toward the station yard, and the automatic ticket gate 11 for exit is installed so that the passing direction shown in Fig. 7 is the direction toward the outside from the station yard. Besides, the storage part 114 also stores a gate code for identification of its own apparatus, and information indicating whether its own apparatus is for entrance or exit.

Incidentally, when the automatic ticket gate 11 for entrance and the automatic ticket gate 11 for exit are arranged to be opposite to each other at both sides of a passage, the one passage can be used for two-way (entrance direction and exit direction) passing.

Hereinafter, the operation of the information

delivery system of this embodiment will be described. Fig. 8 and Fig. 9 are flowcharts showing the operation of the automatic ticket gate of this embodiment, Fig. 10 is a flowchart showing the operation of the information delivery apparatus, and Fig. 11 is a view for explaining the flow of information in the information delivery system of this embodiment.

When detecting by the insertion detection sensor 115a that a ticket is inserted in the insertion port 116a (s1), the automatic ticket gate 11 conveys the ticket inserted in the insertion port 116a to the release port 116b. At this time, the automatic ticket gate 11 uses the magnetic head 117a to read out information stored as magnetic data on the ticket conveyed to the release port 116b (s2), and watches whether a second ticket is inserted in the insertion port 116a in a predetermined time (for example, 2 to 3 seconds) (s3, s4). By the processing of s3 and s4, it is judged whether or not one user 5 inserted two tickets, and the two tickets inserted by the one user can be correlated.

When the second ticket is not inserted in the insertion port 116a within the predetermined time, the automatic ticket gate 11 judges whether or not the first ticket is the passenger ticket 8 (commutation ticket, ordinary ticket, prepaid card, fare-adjustment card,

etc.) (s5), and if it is the passenger ticket 8, it is judged whether or not the user 5 having inserted the passenger ticket 8 is allowed to pass through the passage (s6). The judgment at s5 and s6 is made on the basis of the magnetic data (passenger ticket information) read out at s2.

When judging at s6 that the passing is allowed, the automatic ticket gate 11 opens the door 118a (s7), opens the passage to allow the user 5 to pass through, and ends the processing. At this time, the passenger ticket 8 inserted in the insertion port 116a is released at the release port 116b or is collected in the collection box. In general, the automatic ticket gate 11 for entrance does not collect the passenger ticket 8 inserted in the insertion port 116a into the collection box, but releases it at the release port 116b, however, the automatic ticket gate 11 for exit releases the passenger ticket at the release port 116b when the passenger ticket 8 inserted in the insertion port 116a is a commutation ticket or a prepaid card, and collects it into the collection box when it is an ordinary ticket or a fare-adjustment card.

Besides, in the case where it is judged that the ticket inserted at s5 is not the passenger ticket 8 (in the case where the user erroneously inserts the ticket

which is not the passenger ticket 8), or in the case where it is judged that the passing of the passage is not allowed at s6, the automatic ticket gate 11 closes the door 118a (s8), closes up the passage to forbid the user 5 to pass, and ends the processing. At this time, the automatic ticket gate 11 does not collect the ticket inserted in the insertion port 116a into the collection box, but releases it at the release port 116b. When the inserted passenger ticket 8 is the inappropriate passenger ticket 8 since the valid period expires or the section is not valid, the automatic ticket gate 11 judges at s6 that the passing of the passage is not allowed.

When the door 118a is closed at s8 and the passing of the passage is not allowed, the user receives the ticket released at the release port 116b, and then, acquires an appropriate ticket 8. To acquire the appropriate ticket 8 means, for example, to purchase an ordinary ticket by the ticket dispenser 13 or to adjust a fare by the adjustment machine 12 to acquire a fare-adjustment card.

Next, the operation at the time when two tickets are inserted in the automatic ticket gate 11 will be described with reference to Fig. 9.

When detecting at s3 that the second ticket is inserted in the insertion port, the automatic ticket gate

11 conveys the second ticket inserted in the insertion port 116a to the release port 116b. At this time, the automatic ticket gate 11 uses the magnetic head 117a to read out the magnetic data stored on the second ticket under conveyance toward the release port 116b (s9). The automatic ticket gate 11 judges whether or not the first ticket inserted in the main body is the passenger ticket 8 (s10). When it is judged that the first ticket inserted in the main body is not the passenger ticket 8, it is judged whether or not the second ticket inserted in the main body is the passenger ticket 8 (s11).

When judging that the two tickets inserted in the insertion port 116a are not the passenger ticket 8, the automatic ticket gate 11 closes the door 118a (s8), closes up the passage to forbid the user to pass, and ends the processing. At this time, the automatic ticket gate 11 releases the tickets at the release port 116b in a state where the two tickets are put on top of each other.

When judging that the first or the second ticket inserted in the main body is the passenger ticket 8, the automatic ticket gate 11 judges, on the basis of the information of the passenger ticket 8 read out from the passenger ticket 8, whether or not the user 5 is allowed to pass through the passage (s12). When judging at s12

that the passing of the passage is not allowed, the automatic ticket gate 11 closes the door 118a (s13), closes up the passage to forbid the user 5 to pass, and ends the processing. At this time, the automatic ticket gate 11 releases the tickets at the release port 116b in the state where the two tickets inserted in the main body are put on top of each other.

On the other hand, when judging at s12 that the passing of the passage is allowed, the automatic ticket gate 11 opens the door 118a (s14), and opens the passage to allow the user 5 to pass. Besides, the automatic ticket gate 11 judges whether or not the member card 7 is inserted in addition to the passenger ticket 8 (s15). Specifically, it is judged whether or not the other ticket which is not the ticket judged to be the passenger ticket 8 at s10 or s11 is the member card 7. When judging at s15 that the member card 7 has been inserted in the main body, the automatic ticket gate 11 outputs the delivery request including the identification code read out from the member card 7 to the information delivery apparatus 21 (s16), and ends the processing.

On the contrary, when judging that the member card 7 has not been inserted, the processing is ended at s16 without outputting the delivery request. At this time, with respect to the passenger ticket 8 inserted in the

main body, there is also a case where the automatic ticket gate 11 does not release it at the release port 116b, but collects it into the collection box. Besides, the ticket (member card 7, etc.) which is not the passenger ticket 8 is released at the release port 116b.

Incidentally, when the two inserted tickets are released at the release port 116b, they are released in the state where these two tickets are put on top of each other.

As stated above, if two tickets of the passenger ticket 8 and the member card 7 are continuously inserted in the main body and the information of the passenger ticket 8 stored on the inserted ticket 8 is appropriate, the automatic ticket gate 11 of this embodiment outputs the delivery request to the information delivery apparatus 21 at s16. In other words, even if the two tickets of the passenger ticket 8 and the member card 7 are continuously inserted in the main body, if the information of the passenger ticket 8 stored on the inserted passenger ticket 8 is not appropriate, the delivery request is not outputted to the information delivery apparatus 21.

The delivery request outputted by the automatic ticket gate 11 to the information delivery apparatus 21 at s16 includes the identification code read out from the

member card 7, the gate code for identifying its own machine, and the like. The delivery request outputted from the automatic ticket gate 11 is inputted to the host apparatus 14, and the host apparatus 14 transmits this delivery request to the information delivery apparatus 21.

Incidentally, as is apparent from Figs. 8 and 9, with respect to the order of the passenger ticket 8 and the member card 7 inserted by the user into the automatic ticket gate 11, either may be the first. Accordingly, the user may not pay attention to the order of insertion of these two tickets.

Next, the operation of the information delivery apparatus having received the delivery request will be described with reference to Fig. 10. When receiving the delivery request outputted from the automatic ticket gate 11 at the reception part 215 (s21), the information delivery apparatus 21 specifies the user 5 on the basis of the identification code included in the delivery request (s22). The information delivery apparatus 21 uses the identification code included in the delivery request as a key to search the attribute information of the respective users stored in the attribute information storage part 213, and specifies the user 5.

When specifying the user at s22, the information delivery apparatus 21 extracts suitable delivery

information from many pieces of delivery information stored in the delivery information storage part 212 on the basis of the registered attribute information of the user 5 specified here, and prepares delivery mail composed of the delivery information extracted here (s23). At s23, the present whereabouts of the user 5 (station where the automatic ticket gate 11 having outputted the delivery request is installed) is specified from the gate code included in the delivery request, and not only the attribute information of the user 5 specified at s22, but also the present whereabouts of the user 5 specified here is used to extract the suitable delivery information from the many pieces of delivery information stored in the delivery information storage part 212, and the delivery mail corresponding to the whereabouts of the user 5 is prepared.

Further, the delivery mail may also be prepared based on whether the user 5 enters the station 1 or exits from the station 1.

The information delivery apparatus 21 transmits the delivery mail prepared at s23 to the registered mail address (mail address of the cellular phone 6) of the user 5 (s24), and ends the processing.

The user 5 can confirm the delivery mail transmitted from the information delivery apparatus 21 on the display

screen of the cellular phone 6 as shown in Fig. 12, and can get useful information for determination of a subsequent action.

As stated above, in the information delivery system of this embodiment, even to the user 5 using the passenger ticket 8, such as an ordinary ticket or a prepaid card, on which the identification code for specifying the user 5 is not recorded, it is possible to deliver the delivery information corresponding to the present whereabouts of the user 5 from the information delivery apparatus 21, and the service to the user can be improved.

Besides, in the case where the user 5 does not insert the appropriate passenger ticket 8 in the automatic ticket gate 11, since the automatic ticket gate 11 does not output the delivery request to the information delivery apparatus 21, there does not occur such a case where the same delivery information is repeatedly transmitted to the user 5 in a short time (several minutes). Accordingly, it is possible to prevent the user 5 from feeling annoyance, and the service to the user 5 can be improved. Besides, in the information delivery apparatus 21, since wasteful delivery mail is not transmitted to the user 5, the load is suppressed. Further, when a person other than the registrant passes

through the passage of the automatic ticket gate 11, since the member card 7 is not inserted in the automatic ticket gate 11, the delivery request is not outputted to the information delivery apparatus 21. Accordingly, the load of the information delivery apparatus 21 can be further suppressed.

Incidentally, in the above embodiment, although the information delivery apparatus 21 prepares the delivery mail at s23 after the reception of the delivery request, the delivery mail may be prepared for each registrant at night when there is no user of the automatic ticket gate 11.

As stated above, according to the invention, irrespective of the kind of the first medium used for the passing of the passage of the automatic ticket gate, the delivery information can be delivered to the user having registered as a member, and the service to the user can be improved.

Besides, since the same delivery information is not repeatedly transmitted to the user in a short time (several minutes), it is possible to prevent the user from feeling annoyance. Besides, it is also possible to prevent the load of the information delivery apparatus from wastefully increasing.

Drawings

[FIG. 1]

- 2 INFORMATION DELIVERY CENTER
- 3 PUBLIC LINE NETWORK
- 4 INTERNET
- 1 STATION

[FIG. 2]

- 21 INFORMATION DELIVERY APPARATUS
- 214 TRANSMISSION PART
- 211 CONTROL PART
- 215 RECEPTION PART
- 213 ATTRIBUTE INFORMATION STORAGE PART
- 212 DELIVERY INFORMATION STORAGE PART

[FIG. 3]

ATTRIBUTE INFORMATION

USER IDENTIFICATION CODE	123456789	147258369	147259000
NAME	ICHIRO YAMADA	HANAKO SUZUKI	SUSUMU SATOU
AGE	35	20	18
GENDER	MAN	WOMAN	MAN
OCCUPATION	OFFICE WORKER	STUDENT	STUDENT
CLASSIFICATION OF REQUESTED DELIVERY INFORMATION	SPORTS, MOVIE	FASHION, MUSIC	PART-TIME JOB RESTAURANT
UNREQUESTED DELIVERY INFORMATION	aaa STORE	bbb STORE	NOTHING
TIME TABLE	UNNECESSARY	NECESSARY	UNNECESSARY
DELAY GUIDANCE	UNNECESSARY	NECESSARY	UNNECESSARY
MAIL ADDRESS	yanada@abc.ne.jp	suzuki@abc.ne.jp	satou@abc.ne.jp
REQUEST AT GETTING ON	REQUESTED	REQUESTED	REQUESTED
REQUEST AT GETTING OFF	REQUESTED	UNREQUESTED	REQUESTED
BOARDING SECTION	HACHIOUJI - TOKYO VIA SINJUKU	ODAWARA - SINJUKU	YOKOHAMA - SIBUYA
HOME TELEPHONE NUMBER	03-3333-1234	045-2564-1245	045-3254-1745
TELEPHONE NUMBER OF PLACE OF WORK	03-3789-1234	03-3257-1547	03-5426-4697
MEMBER	XXX MEMBER	—	—

[FIG. 4]

(A)

MAGNETIC DATA

USER IDENTIFICATION CODE

7 MEMBER CARD

MEMBER NUMBER 123456789

MEMBER NAME ICHIRO YAMADA

(B)

MAGNETIC DATA

TICKET ISSUE STATION

TICKET ISSUE SUM OF MONEY

VALID PERIOD

ORDINARY TICKET

SINJUKU STATION 250 YEN

ADULT

[FIG. 5]

(A)

DELIVERY CONDITION OF DELIVERY INFORMATION

WOMAN

20 TO 29 YEARS OLD

USER VIA SINJUKU STATION

VALID PERIOD

LIMITING NUMBER OF TIMES OF DELIVERY

(B)

DELIVERY INFORMATION

DELIVERY INFORMATION NUMBER: K0001

UNTIL TODAY 18:00-20:00

SHAMPOO・RINSE FAIR IS OPEN!!

WE HAVE LOVELY SOUVENIR AND ARE WAITING FOR YOU.

SOUTHERN ENTRANCE OF SHINJUKU STATION ABC STORE

TEL 03-3256-9875

URL XXX@ABC.ne.jp

[FIG. 6]

- 11 AUTOMATIC TICKET GATE
- 111 CONTROL PART
- 112 STORAGE PART
- 113 CLOCKING PART
- 114 TRANSMISSION PART
- 115 INSERTION DETECTION PART
- 116 CONVEYANCE PART
- 117 READ PART
- 118 DOOR DRIVE PART

[FIG. 7]

11 AUTOMATIC TICKET GATE

PASSING DIRECTION

[FIG. 8]

AUTOMATIC TICKET GATE

s1 WHETHER TICKET IS INSERTED?

s2 READ OUT MAGNETIC DATA

s3 WHETHER SECOND TICKET IS INSERTED?

s4 WHETHER PREDETERMINED TIME HAS PASSED?

s5 PASSENGER TICKET?

s6 WHETHER PASSING IS ALLOWED?

s7 OPEN DOOR

s8 CLOSE DOOR

[FIG. 9]

s9 READ OUT MAGNETIC DATA OF SECOND TICKET

s10 FIRST PASSENGER TICKET?

s11 SECOND PASSENGER TICKET?

s12 WHETHER PASSING IS ALLOWED?

s13 CLOSE DOOR

s14 OPEN DOOR

s15 MEMBER CARD?

s16 OUTPUT DELIVERY REQUEST

[FIG. 10] INFORMATION DELIVERY APPARATUS

s21 WHETHER THERE IS DELIVERY REQUEST?
s22 SPECIFY REGISTRANT
s23 PREPARE DELIVERY MAIL
s24 TRANSMIT DELIVERY MAIL

[FIG. 11]

8 PASSENGER TICKET
PASSENGER TICKET INFORMATION
7 MEMBER CARD
USER IDENTIFICATION CODE
11 AUTOMATIC TICKET GATE
DELIVERY REQUEST
21 INFORMATION DELIVERY APPARATUS
E-MAIL (DELIVERY INFORMATION)
6 CELLULAR PHONE

[FIG. 12]

CITYSCAPE OF EXOTIC SPOT, VENICE OF WATER CITY, IS
REPRODUCED. A STREAM GLIDES AMONG WESTERN BRICK HOUSES,
AND GONDOLAS ARE FLOATING. ATMOSPHERE OF FOREIGN
COUNTRIES MAY BE EXPERIENCED TO SUCH A DEGREE THAT YOU
FORGET THAT YOU ARE IN JAPAN. TEN MINUTES FROM JIYUGAOKA
STATION.

CONTACT NUMBER 03-1234-9876

What is claimed is:

1. An Information delivery system comprising:

an information delivery apparatus for delivering, when a delivery request for delivery information, including an identification code is received, the delivery information to a delivery destination corresponding to the identification code included in the delivery request; and

an automatic ticket gate including

medium information read means for reading out passing information used for judgment of passing acceptability/unacceptability of a passage from a first medium inserted in a main body and reading out the identification code from a second medium inserted in the main body,

passing acceptability/unacceptability judgment means for judging the passing acceptability/unacceptability of the passage by using the passing information read out from the first medium by the medium information read means, and

delivery request output means for outputting the delivery request including the identification code read out from the second medium by the medium information read means to the information delivery apparatus.

2. An automatic ticket gate comprising:

medium information read means for reading out passing information used for judgment of passing acceptability/unacceptability of a passage from a first medium inserted in a main body and reading out an identification code from a second medium inserted in the main body;

passing acceptability/unacceptability judgment means for judging the passing acceptability/unacceptability of the passage by using the passing information read out from the first medium by the medium information read means; and

delivery request output means for outputting a delivery request including the identification code read out from the second medium by the medium information read means to an information delivery apparatus for delivering, when the delivery request for delivery information, including the identification code is received, the delivery information to a delivery destination corresponding to the identification code included in the delivery request.

3. An automatic ticket gate according to claim 2, wherein when a judgment result of the passing acceptability/unacceptability judgment means is the passing unacceptability of the passage, the delivery request output means does not output the delivery request

to the information delivery apparatus.

4. An automatic ticket gate according to claim 2 or 3, further comprising insertion judgment means for judging whether the other medium is inserted before a predetermined time has passed since one of the first medium and the second medium was inserted,

wherein when the insertion judgment means judges that the other medium is inserted before the predetermined time has passed since the one medium was inserted, the delivery request output means outputs the delivery request.