

DESCRIPTION

Title of Invention: CUSTOMER INDUCEMENT SYSTEM, CUSTOMER INDUCEMENT APPARATUS, AND CUSTOMER INDUCEMENT METHOD

Technical Field

[0001]

The present invention relates to a customer inducement system, a customer inducement apparatus, and a customer inducement method and is preferably applied to a customer inducement system, a customer inducement apparatus, a customer inducement method inducing a passer-by to visit a specific section where contents are sold or exhibited.

Background Art

[0002]

In the related art, contents are sold and exhibited by exhibitors in permanent tenants of shopping malls, temporary pop-up stores, exhibitions, and the like. At the time, it is important for the exhibitors to attract customers appropriately or effectively.

[0003]

As a background art related to customer attraction, for example, PTL 1 can be cited. An information output apparatus described in PTL 1 determines an action to attract

a target person to use a service based on a state, attributes, and an action value function of a target person with respect to customer attraction using a reception robot for the service, so that the target person is attracted to use the service by performing appropriate customer attraction action without making the target person feel uncomfortable.

Citation List

Patent Literature

[0004]

PTL 1: JP2020-024517A

Summary of Invention

Technical Problem

[0005]

However, when customer attraction for the service is performed, it is common to set a user group (target user group) as a target for customer attraction, but in the case of the information output apparatus described in PTL 1, since the passer-by is uniformly treated as a target of the customer attraction action, there is a problem in that effective target marketing cannot be performed. In addition, since a reception robot disclosed in PTL 1 basically performs customer service on the one-to-one basis, in the case where there are a plurality of targets for customer

attraction, there is also the problem in that effective target marketing cannot be performed.

[0006]

The invention has been made in consideration of the above points, and the invention is to propose a customer inducement system, a customer inducement apparatus, and a customer inducement method capable of realizing effective target marketing for inducing a passer-by, to whom a content is intended to be targeted, to visit a specific section where the content is provided.

Solution to Problem

[0007]

In order to solve the problem, the invention is to provide a customer inducement system for inducing a passer-by to visit a specific section where a user provides a service, including: an imaging device imaging the passer-by within a target area provided around the specific section; a customer attraction performance device capable of executing a combination of a plurality of performances for the passer-by within the target area; and a customer inducement apparatus acquiring imaging information from the imaging device and allowing the customer attraction performance device to execute the performance, in which the customer inducement apparatus includes: an attribute

estimation unit estimating attributes of the passer-by imaged by the imaging device; a storage unit retaining attribute information of a target group intended to be attracted to the specific section; a customer attraction performance determination unit determining the customer attraction performance maximizing an effect of inducement to the specific section based on the attribute information of the target group; and a control unit controlling the customer attraction performance device to execute the customer attraction performance determined by the customer attraction performance determination unit for a target passer-by belonging to the target group among the passers-by imaged by the imaging device.

[0008]

Further, in order to solve the problems, the invention is to provide an customer inducement apparatus for inducing a passer-by to visit a specific section where a user provides a service, including: an attribute estimation unit estimating attributes of the passer-by from image information of the passer-by in a target area provided around the specific section; a storage unit retaining attribute information of a target group intended to be attracted to the specific section; a customer attraction performance determination unit determining customer attraction performance maximizing an effect of inducement

to visit the specific section based on the attribute information of the target group; and a control unit controlling a customer attraction performance device capable of executing a combination of a plurality of performances so as to execute the customer attraction performance determined by the customer attraction performance determination unit for a target passer-by belonging to the target group among the passers-by contained in the imaging information.

[0009]

Further, in order to solve the problems, the invention is to provide customer inducement method by a customer inducement system for inducing a passer-by to visit a specific section where a user provides a service, in which the customer inducement system includes: an imaging device imaging the passer-by within a target area provided around the specific section; a customer attraction performance device capable of executing a combination of a plurality of performances for the passer-by within the target area; and a customer inducement apparatus acquiring imaging information from the imaging device and allowing the customer attraction performance device to execute the performance, in which the customer inducement apparatus: retains attribute information of a target group intended to be attracted to the specific section; estimates attributes

of the passer-by imaged by the imaging device; determines the customer attraction performance maximizing an effect of inducement to visit the specific section based on the attribute information of the target group; and controls the customer attraction performance device to execute the determined customer attraction performance for a target passer-by belonging to the target group among the passers-by imaged by the imaging device.

Advantageous Effects of Invention

[0010]

According to the invention, effective target marketing to induce a passer-by, to whom a content is intended to be targeted, to visit a specific section where the content is provided can be implemented.

Brief Description of Drawings

[0011]

[Fig. 1] Fig. 1 is a block diagram illustrating a configuration example of a customer inducement system 100 according to one embodiment of the invention.

[Fig. 2] Fig. 2 is an example of customer usage situation data 121.

[Fig. 3] Fig. 3 is an example of customer attraction performance log data 122.

[Fig. 4] Fig. 4 is an example of reward pattern data 123.

[Fig. 5] Fig. 5 is a state transition diagram illustrating a specific example of a change in a state of a passer-by.

[Fig. 6] Fig. 6 is an example of customer attraction performance pattern data 124.

[Fig. 7] Fig. 7 is an example of customer attraction performance evaluation data 125.

[Fig. 8] Fig. 8 is a diagram illustrating an image example when the customer inducement system 100 executes customer attraction performance.

[Fig. 9] Fig. 9 is a flowchart illustrating an example of a procedure for using an exhibition booth 130 by a user.

[Fig. 10] Fig. 10 is an example of a search reservation screen 400.

[Fig. 11] Fig. 11 is an example of a customer attraction effect confirmation screen 500.

[Fig. 12] Fig. 12 is a flowchart illustrating an example of a processing procedure of a customer attraction performance related process.

Description of Embodiments

[0012]

An embodiment of the invention will be described in

detail below with reference to the drawings.

[0013]

In the embodiment, when selling or exhibiting a content in a specific area (specific section) such as a permanent tenant of a shopping mall, a temporary pop-up store, or an exhibition, an example of a customer inducement system for attracting the attention of the passer-by, to whom the content is intended to be targeted, among the passers-by around the specific section and inducing such a passer-by to visit the specific section will be described by exemplifying a case of the user reserving an exhibition booth in the specific section for the purpose of displaying products or exhibits for a predetermined period of time.

[0014]

To a passer-by belonging to a target user group to whom a service content is intended to be targeted, a customer inducement system 100 according to the embodiment performs performance capable of attracting the attention of the passer-by and inducing the passer-by to visit a service content providing area (specific section), using an indirect performance appealing to the five senses by combining, for example, projection at the feet of the passer-by, directional speakers, dimming of lights, air-blowing by fans, and the like, so that effective target marketing is implemented.

[0015]

(1) Configuration

Fig. 1 is a block diagram illustrating a configuration example of the customer inducement system 100 according to one embodiment of the invention. The customer inducement system 100 is configured by connecting the customer inducement apparatus 110 and one or more exhibition booths 130 via a network 140. The network 140 may be a local area network (LAN) or a global network such as the Internet.

[0016]

As illustrated in Fig. 1, the customer inducement apparatus 110 is the computer such as the server and includes a user authentication unit 111, an entrance/exit management unit 112, an attribute estimation unit 113, a reservation management unit 114, a customer attraction performance learning evaluation unit 115, a sensing device control unit 116, a customer attraction performance device control unit 117, and a customer attraction performance determination unit 118 as programs executed by a processor that controls the entire system. The details of each of these functional units will be described as appropriate in the description of the processing described later. In addition, the customer inducement apparatus 110 stores, as data stored in the storage device (for example, database) of computer, customer usage situation data 121, customer

attraction performance log data 122, reward pattern data 123, customer attraction performance pattern data 124, and customer attraction performance evaluation data 125. It is noted that, although illustration is omitted, the computer of the customer inducement apparatus 110 includes, in addition to the processor and the storage device, a memory that is a non-volatile storage device, a communication device for connecting with other apparatus, an input device such as a keyboard and a mouse for user inputting, and an output device for outputting (for example, displaying) processing results, logs, or the like, and these components are connected to each other by a data bus.

[0017]

The exhibition booth 130 is a specific section where the contents are sold or exhibited by the user (exhibitor) of the customer inducement system 100, and the user (exhibitor) designates the date and time and makes a reservation for use. As illustrated in Fig. 1, a target area 150 for the customer attraction performance is set as a predetermined area around the exhibition booth 130. The target area 150 may be replaced with a range in which information can be collected by the sensing device 133 and a range in which the customer attraction performance can be executed by the customer attraction performance device 134.

[0018]

In the exhibition booth 130, a user authentication device 132, a sensing device 133, and a customer attraction performance device 134 are connected to a control terminal 131, which is a computer.

[0019]

The user authentication device 132 is a device authenticating the exhibitor for using the exhibition booth 130, and specifically, for example, the user authentication device may be a device performing biometric authentication such as fingerprint authentication or face authentication, may be a device performing password authentication, may be a device performing reading an IC card, or may be a device performing reading a two-dimensional bar code, or the like.

[0020]

The sensing device 133 is a device that collects information of the passer-by passing through the target area 150 of the customer attraction performance of the exhibition booth 130, and is, for example, a video camera or a Time-of-Flight (ToF) camera that measures a distance to the target.

[0021]

The customer attraction performance device 134 is a device that performs the customer attraction performance to attract the attention of the passer-by corresponding to the target user group to whom the content is intended to be

targeted when the user sells and exhibits the contents in the exhibition booth 130. For example, a projection that projects a predetermined video or image at the feet of the passer-by, a directional speaker, a light that can perform dimming, a fan having the air-blowing function, or the like can be used as the customer attraction performance device 134, but the customer attraction performance device 134 is not limited to these, and various other performance devices may be combined.

[0022]

In the customer inducement system 100 configured as described above, a plurality of the customer attraction performance patterns by combining performances executable by the customer attraction performance device 134 are retained. Although the details will be described later, the customer attraction performance with the highest customer attraction performance effect is selected and executed for the target user group for the content based on the evaluation value calculated by a predetermined method. Furthermore, the customer inducement system 100 evaluates the effect of the executed customer attraction performance in the form of assigning the reward based on the change in the state of the passer-by when the customer attraction performance is executed. Then, by updating the evaluation value for each customer attraction performance pattern based

on the reward value obtained when executing the customer attraction performance of each customer attraction performance pattern, more effective customer attraction performance pattern for the target user group can be learned, and effective target marketing can be implemented.

[0023]

(2) Data Structure

As described above with reference to Fig. 1, the database of the customer inducement apparatus 110 stores the customer usage situation data 121, the customer attraction performance log data 122, the reward pattern data 123, the customer attraction performance pattern data 124, and the customer attraction performance evaluation data 125. The data structures of these various types of data will be described below with specific examples. It is noted that since the data items having the same name among data have the same content, the redundant description thereof will be omitted.

[0024]

Fig. 2 is an example of the customer usage situation data 121. The customer usage situation data 121 is a data table retaining reservation information, usage record, and the like, of users (exhibitors) using the customer inducement system 100 in the exhibition booth 130 and retains a record for each exhibition reserved by the user.

[0025]

As illustrated in Fig. 2, the customer usage situation data 121 is configured to include items of user 1211, content keyword 1212, target user 1213, reservation ID 1214, reservation date and time (start) 1215, reservation date and time (end) 1216, booth ID 1217, usage record (start) 1218, and usage record (end) 1219. However, the data configuration of the customer usage situation data 121 is not limited to the example in Fig. 2, and items may be added/deleted as necessary.

[0026]

In Fig. 2, the user 1211 is information indicating the user (exhibitor) and may be the ID or the like assigned to each user. The content keyword 1212 is information indicating the keyword of the content provided by the user in the exhibition. As also illustrated in Fig. 2, the content keyword 1212 can retain a plurality of the keywords. The target user 1213 is information indicating the target user group for the exhibited content. The reservation ID 1214 is information indicating the identifier (reservation ID) assigned to each exhibition reservation for the exhibition booth 130. The reservation date and time (start) 1215 and the reservation date and time (end) 1216 are information indicating the start date and time and the end date and time of the reserved exhibition. The booth ID 1217

is information indicating the identifier (booth ID) of the exhibition booth 130 which attends the exhibition. A uniquely identifiable booth ID is assigned in advance to each of the plurality of exhibition booths 130. The usage record (start) 1218 and the usage record (end) 1219 are information indicating the actual start date and time and the actual end date and time of the exhibition.

[0027]

In the customer usage situation data 121 configured as described above, for example, in the first record in Fig. 2, it is recorded that the user "AAA" reserves the exhibition booth "B111" for the period from "October 1, 2018; 10:00" to "October 4, 2018; 12:00" for the purpose of sales of "accessories" targeting "women" aged in "30's to 40's", and after that, the user uses the exhibition booth.

[0028]

Fig. 3 is an example of the customer attraction performance log data 122. The customer attraction performance log data 122 is a data table retaining the number of passers-by, the number of targets included in the passers-by, the performed customer attraction performance, the reward for the customer attraction performance, and the like when the user reserves and uses the exhibition booth 130, and for example, new records are created and updated at certain intervals (one hour in the example) during the

exhibition period.

[0029]

As illustrated in Fig. 3, the customer attraction performance log data 122 is configured to include items of reservation ID 1221, booth ID 1222, start date and time 1223, end date and time 1224, number of passers-by 1225, number of targets 1226, target ratio 1227, customer attraction performance pattern ID 1228, and cumulative reward 1229. However, the data configuration of the customer usage situation data 121 is not limited to the example in Fig. 3, and items may be added/deleted as necessary.

[0030]

In Fig. 3, the start date and time 1223 and the end date and time 1224 are information indicating the start date and time and the end date and time of the target period when the log information retained by the record is extracted. The number of passers-by 1225 is information indicating the number of passers-by recognized by the sensing device 133 within the target area 150 during the exhibition period. The number of targets 1226 is information indicating the number of passers-by (target users) corresponding to the conditions (target users 1213 in Fig. 2) of the target user group in the exhibition among the passers-by counted in the number of passers-by 1225. The target ratio 1227 is information indicating the ratio of the number of targets

1226 to the number of passers-by 1225. The customer attraction performance pattern ID 1228 is information indicating the identifier (the customer attraction performance pattern ID) assigned to the pattern of the customer attraction performance executed by the customer attraction performance device 134. The cumulative reward 1229 is information indicating the cumulative value of reward assigned during the target period of the record. The reward is assigned as the index representing the effect of the executed customer attraction performance based on the change in the state of the passer-by when the customer attraction performance is executed, and a specific calculation method thereof will be described later with reference to Figs. 4 and 5.

[0031]

In the customer attraction performance log data 122 configured as described above, for example, in the first record in Fig. 3, in one hour of "October 1, 2018 10:00" to "October 4, 2018 12:00" during the exhibition period of the reservation ID "11111", there are 30 target users among the 42 passers-by, that is, the target ratio is "71%", and the customer attraction performance with the customer attraction performance pattern ID "A01" is executed, and thus, it is recorded that the performance to attract customers was executed and the reward assigned as a result

was "21".

[0032]

Fig. 4 is an example of the reward pattern data 123. The reward pattern data 123 is a data table retaining preset assigning patterns for rewards representing the effect of the executed customer attraction performance. As illustrated in Fig. 4, the reward pattern data 123 is configured to include items of a pre-performance state 1231 indicating a state of the passer-by before executing the customer attraction performance, a post-performance state 1232 indicating a state of the passer-by after executing the customer attraction performance, and a reward 1233 indicating an amount of reward to be assigned when transitioning from the pre-performance state 1231 to the post-performance state 1232. However, the data configuration of the reward pattern data 123 is not limited to the example of Fig. 4, items may be added/deleted as necessary, and the setting of each item may be arbitrarily set.

[0033]

The customer inducement system 100 according to the embodiment determines and executes the pattern of the customer attraction performance with the highest customer attraction performance effect based on the evaluation value for the target user group for the content. The effect of

the executed customer attraction performance is evaluated by assigning the reward value set according to the change in the state of the passer-by when the customer attraction performance is executed, and the reward pattern data 123 retains the setting of the reward value.

[0034]

Fig. 5 is a state transition diagram illustrating a specific example of the change in the state of the passer-by. Fig. 5 illustrates a plurality of nodes 201 to 204 representing different states of the passer-by, and edges 211 to 216 representing transitions between the nodes (including transitions to the own node). The nodes 201 to 204 correspond to the states of the passer-by set in the pre-performance state 1231 or the post-performance state 1232 in the reward pattern data 123 of Fig. 4, and increased and decreased values (-1 to +2) added to the edges 211 to 216 correspond to the assigned amount of the reward set to the reward 1233 in the reward pattern data 123 of Fig. 4.

[0035]

In Fig. 5, specifically, the node 201 "passing (not interested)" represents the state in which the passer-by is not interested in the exhibition booth 130 and is passing through, and the node 202 "passing (gazing)" represents the state in which the passer-by is watching the exhibition booth 130. In addition, the node 203 "stopping

(interested)" represents the state in which the passer-by is further standing still, and the node 204 "entering (high interest)" represents the state in which the passer-by enters the exhibition booth 130 and is highly interested. In the target area 150 around the exhibition booth 130, the passer-by passes through while transitioning between the states of any of the nodes 201 to 204 described above. At the time, for example, when the state of the passer-by transitions from the node 201 of "passing (not interested)" to the node 202 of "passing (gazing)" due to the execution of the customer attraction performance, since this case denotes that the customer attraction performance has attracted the interest of the passer-by, the positive reward of "+1" is assigned as indicated in the edge 212. Similarly to the edge 212, during the transitions corresponding to the edges 214, 215, and 216, the positive reward is assigned for attraction the attention of the passer-by by the customer attraction performance. On the other hand, for example, when the state of the passer-by does not transition from the node 201 of "passing (not interested)" even if the customer attraction performance is executed, since this case denotes that the customer attraction performance is not effective, the negative reward of "-1" is assigned as indicated in the edge 211. Similarly to the edge 211, during the transitions corresponding to the edges 213 and

217, the negative rewards are assigned on the assumption that there is no effect of the customer attraction performance. Then, it can be understood that the assignment of such rewards corresponds to the settings in the reward pattern data 123 of Fig. 4. It is noted that, in Figs. 4 and 5, when transitioning from "passing (gazing)" to "entering (high interest)" (edge 216), the reward of "+2" which is higher than other transitions is assigned, and when transitioning from "stopping (interest)" to "passing (not interested)" (edge 217), the reward of "- 2" which is lower than other transitions is assigned. This is because, when the amount of transition between the states (nodes) of the passer-by is large, the effect is larger (or smaller), and it can be expected that the effect of the executed customer attraction performance can be evaluated with higher accuracy based on the reward values.

[0036]

Fig. 6 is an example of the customer attraction performance pattern data 124. The customer attraction performance pattern data 124 retains combination patterns of the customer attraction performances executed by the customer attraction performance device 134, such as the projection at the feet of the passer-by, the directional speaker, the dimming of light, and the air-blowing by the fan.

[0037]

As illustrated in Fig. 6, the customer attraction performance pattern data 124 is configured to include items of customer attraction performance pattern ID 1241, a light 1242, a projection 1243, a speaker 1244, and a fan 1245. However, the data configuration of the customer attraction performance pattern data 124 is not limited to the example of Fig. 6, and items may be added/deleted as necessary.

[0038]

In Fig. 6, the light 1242 is information indicating the pattern of light emission performance by the dimming light (for example, a dimming light 312 in Fig. 8). In the light emission performance by the dimming light, for example, a color-dimming light is used to change the emission color. Alternatively, for example, the angle of illumination may be controlled and used as a spotlight to attract the interest of the passer-by. In the case of Fig. 6, the light 1242 retains the emission color of the dimming light as a pattern. The projection 1243 is information indicating the pattern of display performance by the projector (for example, a projector 311 in Fig. 8). In the display performance by the projector, for example, an arrow, a photograph, or a movie of contents in the exhibition booth 130, or the like is projected at the feet of the passer-by to attract the interest of the passer-by. In the case of Fig. 6, the

projection 1243 retains ON/OFF of the projector (projection) as a pattern. The speaker 1244 is information indicating the pattern of sound performance by the directional speaker (for example, a directional speaker 314 in Fig. 8). In the sound performance by the directional speaker, the interest of the passer-by is attracted by, for example, reproducing back ground music (BGM) or the like for the passer-by. In the case of Fig. 6, the speaker 1244 retains ON/OFF of sound reproduction by the directional speaker as a pattern. The fan 1245 is information indicating a pattern of air-blowing performance by the fan (for example, a fan 313 in Fig. 8). In the air-blowing performance by the fan, for example, air is blown toward the passer-by, and at the time, a specific scent may be dispersed with the wind. In the case of Fig. 6, the fan 1245 retains the air blow ON/OFF as a pattern.

[0039]

Fig. 7 is an example of the customer attraction performance evaluation data 125. The customer attraction performance evaluation data 125 is a data table retaining information such as evaluation values of the customer attraction performance pattern used when determining the customer attraction performance to be executed and retains records for each combination of data items other than the evaluation function value Q1256. The customer attraction performance evaluation data 125 is updated, for example, at

predetermined time intervals (preferably at the update timing of the customer attraction performance log data 122 in Fig. 3).

[0040]

As illustrated in Fig. 7, the customer attraction performance evaluation data 125 is configured to include items of content 1251, target user 1252, number of targets 1253, target ratio 1254, customer attraction performance pattern ID 1255, and evaluation function value Q1256. However, the data configuration of the customer attraction performance evaluation data 125 is not limited to the example of Fig. 7, and items may be added/deleted as necessary.

[0041]

In Fig. 7, the content 1251 is information indicating the keyword of the content. The content 1251 retains one keyword, and the content corresponds to the individual division of one or more keywords retained in the content keyword 1212 of the customer usage situation data 121. The evaluation function value Q1256 is information indicating the evaluation value of the action of the passer-by accompanying the execution of the customer attraction performance. In the evaluation function value Q1255, each customer attraction performance pattern 1255 is set for a combination of the content 1251, the target user 1252, the

number of targets 1253 passing within the certain period of time, and the target ratio 1254, and the evaluation function value Q is updated by learning the execution result of the customer attraction performance based on the reward value (cumulative reward 1229 recorded in the customer attraction performance log data 122 in Fig. 3) assigned by the actual execution of the customer attraction performance pattern 1255. A specific method for calculating the evaluation function value Q 1256 will be described in detail in Formula 1 described later.

[0042]

According to the customer attraction performance evaluation data 125 configured as described above, when the user actually uses the exhibition booth 130, the customer inducement apparatus 110 (more specifically, the customer attraction performance determination unit 118) can determine the customer attraction performance pattern 1255 with the largest evaluation value (evaluation function value Q 1256) for a combination of the exhibited contents 1251, the target user 1252, the number of targets 1253 passing through the place, and the target ratio 1254, and can determine the execution of the corresponding customer attraction performance.

[0043]

It is noted that the reason why not only the content

1251 and the target user 1252 but also the number of targets 1253 passing during a certain period of time and the ratio (target ratio 1254) of targets to all the passers-by are considered for the customer attraction performance evaluation data 125 is to perform effective target marketing even when there are a plurality of passers-by or targets. For example, when the number of targets or the target ratio is large, it is assumed that it will be more effective when the target range is expanded by light or projection, and conversely when the number of targets or the target ratio is small, the performance having narrowed directionality is performed to the target, so that effective target marketing can be implemented without affecting the passers-by other than the target.

[0044]

(3) Processing

[0045]

Fig. 8 is a diagram illustrating an image example when the customer inducement system 100 executes the customer attraction performance. Fig. 8 illustrates a situation within the target area 150 of the exhibition booth 130 when the user (exhibitor) 301 uses the exhibition booth 130 for the purpose of selling or exhibiting the content 310. The customer inducement system 100 executes the customer attraction performance attracting the attention of the

target user group, to whom the contents 310 is intended to be targeted, within the target area 150 defined as the target range of the customer attraction performance in the exhibition booth 130.

[0046]

In Fig. 8, the target user is set for the content 310 sold or exhibited in the exhibition booth 130 when the user 301 reserves the exhibition booth 130 (see the target user 1213 in Fig. 2). The customer inducement system 100 detects the passer-by existing in the target area 150 by the sensing device 133 and determines whether or not each passer-by belongs to the target user group by analyzing the attribute of each passer-by. In Fig. 8, the target passer-by 302 is exemplified as the passer-by corresponding to the target user group, and the non-target passer-by 303 is exemplified as the passer-by not corresponding to the target user group. Then, the customer inducement system 100 determines the effective customer attraction performance that can attract interest in the content 310 by using the content 310 to be exhibited, the target user group (target user) of the content 310, the number of target passers-by 302 (number of targets), and the ratio of the target passer-by 302 to all the passers-by (target ratio) as a key and executes the customer attraction performance for the target passer-by 302.

[0047]

In addition, in the image diagram of Fig. 8, the projector 311, the dimming light 312, the fan 313, and the directional speaker 314 are set as specific examples of the customer attraction performance device 134, and the customer attraction performance is executed by combining the performances of the performance device. For example, in the case of Fig. 8, a state is illustrated where the projector 311 performs the customer attraction performance such as projection at the feet of the target passer-by 302, and thus, by attracting the attention and interest of the target passer-by 302, the route is changed to the exhibition booth 130.

[0048]

The flow when the user uses the exhibition booth 130, the processing executed by the customer inducement system 100 while using the exhibition booth 130, and the like will be described based on the image illustrated in Fig. 8 in detail below.

[0049]

(3-1) Procedures for Using Exhibition Booth 130

Fig. 9 is a flowchart illustrating an example of the procedures for using the exhibition booth 130 by the user.

[0050]

According to Fig. 9, first, the user performs usage

registration for the service (use of the exhibition booth 130) provided by the customer inducement system 100 (step S101). In the usage registration, for example, the user name, the e-mail address, and the like of the user are registered.

[0051]

Next, the user searches for the exhibition booth 130 that the user desires to use from the search reservation screen 400 provided by the customer inducement apparatus 110 through application software installed on the smartphone or the interface such as the Web and reserves the use of the exhibition booth 130 (step S102). When reserving the exhibition booth 130, in addition to the date and time of use, the content 310 to be sold or presented, the target user group, and the like are registered.

[0052]

Fig. 10 is an example of the search reservation screen 400. The search reservation screen 400 illustrated in Fig. 10 is roughly classified into an information input area 410 inputting search information for the exhibition booths and a search result display area 420 displaying search results for exhibition booths on a map, and in the user display column 401 on the upper right of the search reservation screen 400, information (for example, user name and email address) indicating the user who is operating is displayed.

[0053]

In Fig. 10, the information input area 410 is provided with a content designation column 411 designating the content desired to be exhibited, a target user selection column 412 selecting the target user group to whom the content is intended to be targeted, a location designation column 413 designating the location where the exhibition is desired, a start date and time specification column 414 specifying the scheduled start date and time of the exhibition, an end date and time specification column 415 specifying the scheduled end date and time of the exhibition, a usage history button 416 operated when being intended to view the usage history of own exhibition booth, and a search button 417 operated when being intending to search for the exhibition booth satisfying the conditions input to the above-mentioned columns (for example, the location designation column 413, the start date and time specification column 414, and the like).

[0054]

The reservation of the exhibition booth on the search reservation screen 400 is performed, for example, in the following procedure. First, in the information input area 410, the user inputs desired exhibition conditions into the above input columns 411 to 415 (not necessarily input to all the columns) and operates the search button 417, so that

candidates for exhibition booths matching the desired conditions (in the example of Fig. 10, the exhibition booth 421 with the exhibition booth ID "B111" and the exhibition booth 422 with the exhibition booth ID "B112") are displayed on a map in the search result display area 420. Then, when the user selects any of the candidates of the exhibition booth displayed in the search result display area 420, the transition is made to the reservation confirmation screen (not illustrated), and a predetermined operation is performed on the reservation confirmation screen, so that the reservation for the selected exhibition booth is completed. The information reserved on the search reservation screen 400 as described above is registered in the customer usage situation data 121 by the reservation management unit 114 of the customer inducement apparatus 110.

[0055]

The description is returned to the description of Fig. 9. After the use reservation of the exhibition booth 130 is completed in step S102, the user goes to the target exhibition booth 130 at the date and time when the reservation is actually made, performs the check-in operation, and starts using the exhibition booth 130 (step S103). The step S103 will be described in more detail. The user authentication device 132 is installed at the entrance

of the exhibition booth 130 and is controlled by the user authentication unit 111. When the user authentication unit 111 (user authentication device 132) authenticates the user making the reservation by biometric authentication such as fingerprint authentication or face authentication, password authentication, ID card reading, or two-dimensional bar code reading, the user is permitted to use the exhibition booth 130 (enter the exhibition booth 130 and start sales and exhibition). The date and time authenticated by the user authentication unit 111 are recorded in the usage record (start) 1218 of the customer usage situation data 121 by the reservation management unit 114. In addition, the entering and exiting of the exhibition booth 130 is managed by the entrance/exit management unit 112.

[0056]

Next, while the user is using the exhibition booth 130, the customer attraction performance is performed by the customer inducement system 100 (step S104). The processing on the customer inducement system 100 side related to the execution of the customer attraction performance will be described later with reference to Fig. 12.

[0057]

Then, when the usage period of the exhibition booth 130 ends, the user performs a check-out operation to end

the usage of the exhibition booth 130 (step S105). The check-out operation may be, for example, re-authentication of the user by the user authentication device 132 and may be pressing of the use end button prepared in advance. The date and time when the user ends using the exhibition booth 130 is recorded in the usage record (end) 1219 of the customer usage situation data 121 by the reservation management unit 114. In addition, exiting from the exhibition booth 130 is managed by the entrance/exit management unit 112.

[0058]

Finally, the user refers to the customer attraction effect confirmation screen 500 provided by the customer inducement apparatus 110 through application software installed on the smartphone or the web interface to confirm the customer attraction situation and the customer attraction effect at the time of use (step S106).

[0059]

Fig. 11 is an example of the customer attraction effect confirmation screen 500. The customer attraction effect confirmation screen 500 illustrated in Fig. 11 is roughly classified into the usage history display area 510 displaying the usage history of the exhibition booth by the user and the customer attraction result display area 520 displaying the customer attraction situation and the

customer attraction effect at the time of use selected from the usage history. In addition, in the user display column 501 on the upper right of the customer attraction effect confirmation screen 500, information (for example, user name and e-mail address) indicating the operating user is displayed.

[0060]

In Fig. 11, in the usage history display area 510, the list of past usage record of various exhibition booths 130 by the user is displayed, and by selecting one usage record, the detailed customer attraction result and the like in the selected target exhibition are displayed in the customer attraction result display area 520. In the customer attraction result display area 520, for example, the number of target users (target visitors) visiting the exhibition booth 130 during the entire period of the target exhibition is displayed in a period target visitor number display column 521, and the number of target visitors for each day during the period is displayed in a daily target visitor number display column 522. Further, in the detailed result display column 523, the daily target visitor number display column 522 selected in one day is further divided into certain periods (for example, one hour), and the detailed customer attraction results are displayed. For example, in the case of Fig. 11, in the upper side of the detailed

result display column 523, as the details of all the passers-by detected in the target area 150, the number of "non-target" persons not belonging to the target user group, the number of "target" persons belonging to the target user group and the number of "target visitors" actually visiting the exhibition booth 130 are displayed in a stacked bar graph for each time zone. Furthermore, on the lower side (execution performance detail display column 524) of the detailed result display column 523, specific contents of the executed customer attraction performance are displayed in divisions at each fixed time interval. By analyzing the customer attraction effect confirmation screen 500, the user can confirm in detail whether or not effective target marketing has been performed. Specifically, for example, it can be confirmed from the number of targets, the target ratio, or the number of target visitors, whether or not the timing and location of the exhibition are effective. In addition, for example, it can be confirmed from the number of target visitors and the target ratio, whether or not the executed customer attraction performance is effective.

[0061]

(3-2) Customer Attraction Related Processing

The customer inducement system 100 (mainly the customer inducement apparatus 110) detects the passer-by while the user is using the exhibition booth 130, and

determines and executes the customer attraction performances as described in step S104 of Fig. 9 and also evaluates and learns the executed customer attraction performance. In the following, the processing (the customer attraction performance related processing) related to the customer attraction performance executed by the customer inducement system 100 (customer inducement apparatus 110) will be described in detail.

[0062]

Fig. 12 is a flowchart illustrating an example of the processing procedure of the customer attraction performance related process. The processing illustrated in Fig. 12 is started, for example, when the user starts using the exhibition booth 130.

[0063]

According to Fig. 12, first, the sensing device control unit 116 and the attribute estimation unit 113 detect the passer-by within the predetermined area (target area 150) around the exhibition booth 130 and estimates the attributes (for example, gender, age, position, posture, and the like) of the passer-by (step S201). In describing step S201 in detail, first, the sensing device control unit 116 controls the sensing device 133 installed in the exhibition booth 130, so that the inside of the target area 150 for the customer attraction performance set for the

exhibition booth 130 is sensed. Next, the attribute estimation unit 113 performs a predetermined analysis process (for example, image recognition, position/posture analysis, attribute analysis processes, or the like) on the sensing information obtained by the sensing, so that the passer-by included in the sensing information is detected and the attributes (for example, gender, age, position, posture, and the like) of the detected passer-by are discriminated.

[0064]

Next, the customer attraction performance determination unit 118 associates the information obtained in step S201 with the reservation information (step S202). Specifically, the customer attraction performance determination unit 118 classifies the passers-by detected in step S201 into the customer attraction performance log data 122 based on the attributes according to the target user group (target user 1213) stored in the reservation information (record) of the exhibition being used, by referring to the customer usage situation data 121. Specifically, in the customer attraction performance log data 122, the number of passers-by 1225 is counted up, and when the passer-by belongs to the target user group, the number of targets 1226 is counted up, and then, the calculation result of the latest target ratio 1227 is stored.

[0065]

Next, the customer attraction performance determination unit 118 refers to the customer attraction performance evaluation data 125 based on a combination of the content, the number of targets, and the target ratio and determines the customer attraction performance with the highest evaluation value (step S203). In step S203, the customer attraction performance determination unit 118 selects the customer attraction performance pattern ID 1255 having the closest number of targets and target ratio and the highest evaluation value (evaluation function value Q1256) by referring to the customer attraction performance evaluation data 125 based on a combination of the exhibited content and the target user group and the number of targets and the target ratio estimated in step S202, and after that, reads the content of the customer attraction performance pattern corresponding to the customer attraction performance pattern ID 1255 selected according to the customer attraction performance evaluation data 125 and the customer attraction performance pattern ID 1241 corresponding to the customer attraction performance pattern ID 1255 by referring to the customer attraction performance pattern data 124.

[0066]

It is noted that, as the specific method of selecting

the customer attraction performance pattern ID 1255 with the highest evaluation value from the customer attraction performance evaluation data 125 in step S203, the following example is used. The customer attraction performance determination unit 118 first narrows down records to which the content 1251 and the target user 1252 match. Next, the narrowed-down records are further narrowed down to the records with similar number of targets 1253 and similar target ratios 1254 (small differences from the number of targets and the target ratios estimated in step S202). Then, the record with the largest evaluation function value Q1256 is finally selected from the narrowed down records, and the customer attraction performance pattern ID 1255 in the record is selected.

[0067]

Next, the customer attraction performance device control unit 117 controls the customer attraction performance device 134 according to the content of the customer attraction performance pattern determined in step S203, so that the customer attraction performance for the target passer-by is actually executed (step S204). That is, the customer attraction performance device control unit 117 controls the customer attraction performance device 134 (in the example of Fig. 8, for example, the projector 311, the dimming light 312, the fan 313, and the directional speaker

314) installed in the exhibition booth 130 based on the customer attraction performance pattern (performance content) determined by the customer attraction performance determination unit 118, so that the customer attraction performance is performed for the passer-by (target passer-by 302) belonging to the target user group existing in the target area 150 as illustrated in the image diagram of Fig. 8.

[0068]

Then, when the customer attraction performance is being executed in step S204, the customer attraction performance learning evaluation unit 115 accumulates the reward for the customer attraction performance based on the state transition (change of state) of the target passer-by detected and discriminated (estimated) by the sensing device control unit 116 and the attribute estimation unit 113 (step S205). Specifically, in step S205, the customer attraction performance learning evaluation unit 115 determines which state transition pattern illustrated in Fig. 4 (or Fig. 5) the state transition of the target passer-by before and after execution of the customer attraction performance detected and discriminated (estimated) by the sensing device control unit 116 and the attribute estimation unit 113 corresponds to, and accumulates the reward 1233 set to the corresponding state transition pattern in the cumulative

reward 1229 in the corresponding record of the customer attraction performance log data 122 by referring to the reward pattern data 123.

[0069]

It is noted that the state transition of the target passer-by can be specifically discriminated, for example, as follows. When discriminating (estimating) "passing (gazing)", the sensing device control unit 116 may detect the posture of the target person by using the video camera or the ToF camera which is the sensing device 133, and the attribute estimation unit 113 may perform the predetermined analysis process on the detected sensing information to determine the direction of the target person and discriminate whether or not the target person faces the exhibition booth 130 with a certain period of time or more elapsed. In addition, when discriminating (estimating) "stopping (interested)", the sensing device control unit 116 may detect the posture of the target passer-by by using the sensing device 133, and the attribute estimation unit 113 may perform the predetermined analysis process on the detected sensing information to discriminate whether or not the target person faces the exhibition booth 130 and moves for a certain period of time or more. In addition, when discriminating (estimating) that the target person is "entering (high interest)", the attribute estimation unit

113 may perform the predetermined analysis process on the sensing information detected by the sensing device 133 to discriminate whether or not the target person actually moves in an area of the exhibition booth 130.

[0070]

After the process of step S205, one of the functional units of the customer inducement apparatus 110 determines whether or not the use of the exhibition booth 130 (specific section) by the user is ended (step S206), and when the use is determined to be ended (YES in step S206), the process proceeds to step S207. On the other hand, when it is determined that the use of the exhibition booth 130 has not ended (NO in step S206), the process returns to step S201 to repeat the processing. It is noted that the usage end of the exhibition booth 130 by the user may be determined by referring to the usage record (end) 1219 of the customer usage situation data 121. As described above, while the user is using the exhibition booth 130, the customer inducement system 100 (mainly the customer inducement apparatus 110) repeatedly executes the processes of steps S201 to S205 at fixed time intervals (for example, every hour), and thus, the reward for the customer attraction performance is accumulated in the cumulative reward 1229 of the customer attraction performance log data 122.

[0071]

Then, when the use of the exhibition booth 130 by the user ends, the customer attraction performance learning evaluation unit 115 updates the evaluation function value Q1256 of the customer attraction performance evaluation data 125 based on the customer attraction performance log data 122 (step S206) and ends the customer attraction performance related process.

[0072]

It is noted that, in the embodiment, the evaluation function value Q1256 of the customer attraction performance evaluation data 125 is updated, for example, by Formula 1 below.

[0073]

[Formula 1]

$$Q(s_t, a_t) \leftarrow Q(s_t, a_t) + \alpha \left[r_{t+1} + \gamma \max_{a_{t+1}} Q(s_{t+1}, a_{t+1}) - Q(s_t, a_t) \right]$$

... Formula 1

[0074]

In Formula 1 above, "Q" is a table that stores the evaluation value of the action "a" in the state "s" and is the customer attraction performance evaluation data 125 herein. "s_t" indicates the state at time t, and "a_t" indicates the action that can be taken in the state "s_t". In other words, the state "s_t" indicates the content 1251, the target user 1252, the number of targets 1253, and the

target ratio 1254 in the customer attraction performance evaluation data 125, and the action " a_t " that can be taken in the state indicated by a combination of these is the customer attraction performance pattern ID 1255. In addition, the learning ratio α is a parameter adjusting the amount of correction of the value of the Q function and can take a value of $0 < \alpha < 1$, for example, 0.7. The discount ratio γ is a parameter determining how much the expected value of the evaluation of the next state is considered when updating the Q function and can take a value of $0 < \alpha < 1$, for example, 0.9. " r_t " indicates the reward at time t and is a reward value (cumulative reward 1229) obtained for the executed customer attraction performance retained in the customer attraction performance log data 122. In updating the evaluation function value Q using Formula 1, the action value is updated so that the value Q (s, a) of the Q function is a sum of the reward " r_{t+1} " and the maximum value among available actions in the next state " s_{t+1} ". In addition, in the case of the state that has not yet been learned (has no usage record), the action is randomly selected from among the actions " a_t " that can be taken in the state " s_t " retained in the customer attraction performance evaluation data 125 and executed.

[0075]

As described above, in the state "s", when the action

"a" (the customer attraction performance pattern) expected to have the highest value is learned, this is, when the learning of continuously taking only action with the maximum expected value proceeds, in the case where there is the difference in the expected values of the reward, it becomes difficult to take actions that have never been experienced. Therefore, the ϵ -greedy method may be used as the action selection method during learning. The ϵ -greedy method is a known action selection method of selecting and searching for one action from all actions with probability ϵ and selecting the action having the highest action value with the probability $(1 - \epsilon)$, and when ϵ is set to 0.3, the action is randomly selected with the probability of 30%, and the action having the maximum action value with the probability of 70% is selected.

[0076]

By updating the evaluation value (evaluation function value Q1256) as described above, the customer attraction performance learning evaluation unit 115 can overwrite the customer attraction performance log data 122.

[0077]

Herein, as the supplement to the embodiment, the case where the exhibition booth 130 is reserved without selecting the target user in the target user selection column 412 when the user searches for and uses the exhibition booth 130 from

the search reservation screen 400 of Fig. 10 will be described.

[0078]

In such a case, when the exhibition booth 130 is used, the customer attraction performance determination unit 118 searches for the record having the same content keyword (content 1251) as the content entered in the content designation column 411 by the user from the customer attraction performance evaluation data 125, narrow down the records having values having the same degrees as the number of targets passing through the target area 150 and the target ratio among the relevant records, tentatively sets the target user group indicated by the target user 1252 for the record with the largest evaluation function value Q1256 among the narrowed down records as the target user for the exhibition, and after that, performs the same processing as in Fig. 12 described above. By doing so, the customer inducement system 100 can recommend the most effective target user group based on past record of other users even when the user does not set the target user.

[0079]

As described above, according to the customer inducement system 100 according to the embodiment, when the user reserves and uses the exhibition booth for a certain period of time for the purpose of sales or exhibition, as

the customer attraction performance capable of attracting the passer-by belonging to the target user group, to whom the service content is intended to be targeted, and inducing such a passer-by to visit the service content provision area (specific section), an indirect performance appealing to the five senses by combining, for example, projection at the feet of the passer-by, directional speakers, dimming of lights, air-blowing by fans, and the like is performed, so that effective target marketing can be implemented. It is noted that, in the above description, the case where the user reserves the exhibition booth for a certain period of time for the purpose of sales or exhibition is taken as an example, but the customer inducement method according to the embodiment is not limited to booth-type exhibition, and the method can be widely applied when selling or exhibiting contents in a specific section such as a permanent tenant in a shopping mall, a permanent tenant in a commercial building, a temporary pop-up store, an exhibition booth, a stand stall, a branch stall, and the like.

[0080]

Furthermore, the customer inducement system 100 according to the embodiment evaluates the effect of the executed customer attraction performance in the form of assigning the reward based on the change in the state of the passer-by when the customer attraction performance is

executed. Then, by updating the evaluation value for each customer attraction performance pattern based on the reward value obtained when executing the customer attraction performance of each customer attraction performance pattern, more effective customer attraction performance pattern for the target user group can be learned, and effective target marketing can be implemented.

[0081]

It is noted that, the invention is not limited to the above-described embodiments, and includes various modified examples. For example, the above-described embodiments have been described in detail in order to explain the invention in the easy-to-understand manner, and are not necessarily limited to those having all the configurations described. Moreover, with respect to a portion of the configuration of the embodiment, addition, deletion, and replacement of another configuration can be made.

[0082]

Further, each of the above configurations, functions, processing units, processing means, and the like may be realized by hardware, for example, by designing a portion or all of the components using an integrated circuit. Moreover, each of the above configurations, functions, and the like may be realized by software by the processor interpreting and executing the program for realizing each

function. The information of programs, tables, files, and the like implementing each function can be stored in recording devices such as memories, hard disks, and SSDs (solid state drives) or recording media such as IC cards, SD cards, and DVDs.

[0083]

Further, in the drawings, control lines and information lines are illustrated as necessary for explanation, but not all control lines and information lines are necessarily illustrated on the product. Actually, it may be considered that almost all configurations are interconnected.

Reference Signs List

[0084]

- 100: customer inducement system
- 110: customer inducement apparatus
- 111: user authentication unit
- 112: entrance/exit control unit
- 113: attribute estimation unit
- 114: reservation management unit
- 115: customer attraction performance learning evaluation unit
- 116: sensing device control unit
- 117: customer attraction performance device control

unit

118: customer attraction performance determination

unit

121: customer usage situation data

122: customer attraction log data

123: reward pattern data

124: customer attraction performance pattern data

125: customer attraction performance evaluation data

130: exhibition booth

131: control terminal

132: user authentication device

133: sensing device

134: customer inducement apparatus

140: network

150: target area

301: user (exhibitor)

302: target passer-by

303: non-target passer-by

310: content

311: projector

312: dimming light

313: fan

314: directional speaker

400: search reservation screen

500: customer attraction effect confirmation screen

CLAIMS

[Claim 1]

A customer inducement system for inducing a passer-by to visit a specific section where a user provides a service, comprising:

an imaging device imaging the passer-by within a target area provided around the specific section;

a customer attraction performance device capable of executing a combination of a plurality of performances for the passer-by within the target area; and

a customer inducement apparatus acquiring imaging information from the imaging device and allowing the customer attraction performance device to execute the performance,

wherein the customer inducement apparatus includes

an attribute estimation unit estimating attributes of the passer-by imaged by the imaging device,

a storage unit retaining attribute information of a target group intended to be attracted to the specific section,

a customer attraction performance determination unit determining the customer attraction performance maximizing an effect of inducement to visit the specific section based on the attribute information of the target group, and

a control unit controlling the customer attraction performance device to execute the customer attraction performance determined by the customer attraction performance determination unit for a target passer-by belonging to the target group among the passers-by imaged by the imaging device,

wherein the customer inducement apparatus further includes a customer attraction performance evaluation unit evaluating the customer attraction performance executed under the control of the control unit,

wherein the customer attraction performance determination unit determines the customer attraction performance based on the number of targets which is the number of target passers-by in a predetermined period, a target ratio which is a ratio of the target passer-by among the passers-by in the predetermined period, and an evaluation value by the customer attraction performance evaluation unit, and

wherein the storage unit further retains

customer attraction performance pattern data having a plurality of customer attraction performance patterns according to a combination of the plurality of performances executable by the customer attraction performance device, and

customer attraction performance evaluation data

configured to have the number of targets, the target ratio, the customer attraction performance pattern, and the evaluation value with respect to the attribute information of the target group intended to be attracted to the specific section,

wherein the customer attraction performance determination unit determines the customer attraction performance pattern having a small difference to the number of targets and the target ratio and the customer attraction performance pattern being associated with a record having the largest evaluation value as the customer attraction performance by referring to the customer attraction performance evaluation data based on the information about the passer-by detected in the target area during a predetermined period.

[Claim 2]

The customer inducement system according to claim 1, wherein the customer attraction performance evaluation unit updates the evaluation value based on a reward value representing a degree of interest of the target passer-by in the specific section during the predetermined period.

[Claim 3]

The customer inducement system according to claim 2,

wherein the attribute estimation unit determines a state transition of the target passer-by before and after execution of the customer attraction performance executed under the control of the control unit, and

wherein the customer attraction performance evaluation unit assigns a positive value to the reward value when the state transition indicates that attention to the specific section is attracted and assigns a negative value to the reward value when the state transition does not indicate that attention to the specific section is attracted.

[Claim 4]

The customer inducement system according to claim 1, wherein the customer inducement apparatus provides a search reservation screen on which the user desiring to use the specific section can input the search and reservation for the specific section.

[Claim 5]

The customer inducement system according to claim 1, wherein the customer inducement apparatus provides the user who has used the specific section with a customer attraction effect confirmation screen on which the customer attraction effect when using the specific section can be confirmed.

[Claim 6]

A customer inducement apparatus for attracting a passer-by to visit a specific section where a user provides a service, comprising:

an attribute estimation unit estimating attributes of the passer-by from image information of the passer-by in a target area provided around the specific section;

a storage unit retaining attribute information of a target group intended to be attracted to the specific section;

a customer attraction performance determination unit determining customer attraction performance maximizing an effect of inducement to visit the specific section based on the attribute information of the target group; and

a control unit controlling a customer attraction performance device capable of executing a combination of a plurality of performances to execute the customer attraction performance determined by the customer attraction performance determination unit for a target passer-by belonging to the target group among the passers-by contained in the imaging information,

wherein the customer inducement apparatus further comprises a customer attraction performance evaluation unit evaluating the customer attraction performance executed under the control of the control unit,

wherein the customer attraction performance determination unit determines the customer attraction performance based on the number of targets which is the number of target passers-by in a predetermined period, a target ratio which is a ratio of the target passer-by among the passers-by in the predetermined period, and an evaluation value by the customer attraction performance evaluation unit, and

wherein the storage unit further retains

customer attraction performance pattern data having a plurality of customer attraction performance patterns according to a combination of the plurality of performances executable by the customer attraction performance device, and

customer attraction performance evaluation data configured to have the number of targets, the target ratio, the customer attraction performance pattern, and the evaluation value with respect to the attribute information of the target group intended to be attracted to the specific section,

wherein the customer attraction performance determination unit determines the customer attraction performance pattern having a small difference to the number of targets and the target ratio and the customer attraction performance pattern being associated with a record having

the largest evaluation value as the customer attraction performance by referring to the customer attraction performance evaluation data based on the information about the passer-by detected in the target area during a predetermined period.

[Claim 7]

The customer inducement apparatus according to claim 6, wherein the customer attraction performance evaluation unit updates the evaluation value based on a reward value representing a degree of interest of the target passer-by in the specific section during the predetermined period.

[Claim 8]

A customer inducement method by a customer inducement system for inducing a passer-by to visit a specific section where a user provides a service,

wherein the customer inducement system includes:

an imaging device imaging the passer-by within a target area provided around the specific section;

a customer attraction performance device capable of executing a combination of a plurality of performances for the passer-by within the target area; and

a customer inducement apparatus acquiring imaging information from the imaging device and allowing the

customer attraction performance device to execute the performance,

wherein the customer inducement apparatus:

retains, by a storage unit, attribute information of a target group intended to be attracted to the specific section;

estimates, by an attribute estimation unit, attributes of the passer-by imaged by the imaging device;

determines, by a customer attraction performance determination unit, the customer attraction performance maximizing an effect of inducement to visit the specific section based on the attribute information of the target group; and

controls, by a control unit, the customer attraction performance device to execute the determined customer attraction performance for a target passer-by belonging to the target group among the passers-by imaged by the imaging device

wherein the customer inducement apparatus further comprises a customer attraction performance evaluation unit evaluating the customer attraction performance executed under the control of the control unit,

wherein the customer attraction performance determination unit determines the customer attraction performance based on the number of targets which is the

number of target passers-by in a predetermined period, a target ratio which is a ratio of the target passer-by among the passers-by in the predetermined period, and an evaluation value by the customer attraction performance evaluation unit, and

wherein the storage unit further retains

customer attraction performance pattern data having a plurality of customer attraction performance patterns according to a combination of the plurality of performances executable by the customer attraction performance device, and

customer attraction performance evaluation data configured to have the number of targets, the target ratio, the customer attraction performance pattern, and the evaluation value with respect to the attribute information of the target group intended to be attracted to the specific section,

wherein the customer attraction performance determination unit determines the customer attraction performance pattern having a small difference to the number of targets and the target ratio and the customer attraction performance pattern being associated with a record having the largest evaluation value as the customer attraction performance by referring to the customer attraction performance evaluation data based on the information about

the passer-by detected in the target area during a predetermined period.