

METHOD, APPARATUS, DEVICE, STORAGE MEDIUM AND COMPUTER PROGRAM FOR PROCESSING DATA

CROSS-REFERENCE TO RELATED APPLICATION

[0001] The present disclosure claims the priority of Chinese patent application No. 201911379987.1 filed with Chinese Patent Office on December 27, 2019, the disclosure of which is incorporated herein by reference in its entirety.

TECHNICAL FIELD

[0002] The present disclosure relates to a method, apparatus, device, storage medium and computer program for processing data.

BACKGROUND

[0003] In practice, a salesperson may serve visitors differently due to their characteristics, so as to improve a visitor conversion rate and obtain greater benefits. At present, some works such as data processing and service follow-up generally have to be manually operated. In this way, the visitors can be served based on a result of the data processing. However, the manual data processing often results in data mistakes and different results from different salespersons, which affects the effect of the service follow-up. Therefore, there is an urgent demand for a method of processing data.

SUMMARY

[0004] In view of the above, the present disclosure provides a solution for processing data.

[0005] In a first aspect, embodiments of the present disclosure provides a method of processing data, and the method includes: obtaining visitor data of a target visitor; determining a visitor level of the target visitor based on the visitor data; determining to-be-pushed data corresponding to the visitor level; and pushing the to-be-pushed data to the target visitor in accordance with a data pushing scheme corresponding to the visitor level.

[0006] In one possible implementation, the visitor data includes visit data and profile data; and the visitor level includes a first visitor level determined based on the visit data and/or a second visitor level determined based on the profile data.

[0007] In one possible implementation, in response to determining that the visitor data includes the visit data and the visitor level includes the first visitor level, determining the visitor level of the target visitor based on the visitor data includes: determining, based on the visit data, a visit times and/or an average single-visit duration of the target visitor within a preset time period; and determining the first visitor level of the target visitor as High-frequency Customer in response to determining that the visit times is higher than a first threshold and/or the average single-visit duration is higher than a first duration threshold.

[0008] In one possible implementation, the visitor data further includes an identity type, where determining the visitor level of the target visitor based on the visitor data includes: determining, based on the visit data, a time interval between a last visit of the target visitor and a current moment and/or an average single-visit duration of the target visitor within the preset time period; and in response to determining that the time interval is higher than a second threshold and/or the average single-visit duration is lower than a second duration threshold, determining the first visitor level of the target visitor as Lost Customer when the identity type of the target visitor belongs to a first type, or determining the first visitor level of the target visitor as Sleeping Customer when the identity type of the target visitor belongs to a second type.

[0009] In one possible implementation, the profile data includes consumption power data of the target visitor and a concerned object of the target visitor, where in response to determining that the visitor data includes the profile data and the visitor level includes the second visitor level, determining the visitor level of the target visitor based on the visitor data includes: determining a price corresponding to the concerned object; determining a consumption range in which the target visitor locates based on the consumption power data; and determining the second visitor level of the target visitor in response to determining whether the price belongs to the consumption range.

[0010] In one possible implementation, in response to determining that the price does not belong to the consumption range, or that the price belongs to the consumption range but a difference between the price and an upper limit of the consumption range is less than a preset value, determining the to-be-pushed data corresponding to the visitor level includes: retrieving, based on the concerned object, data of another object of a same type as the concerned object, and determining the data of another object as the to-be-pushed data.

[0011] In one possible implementation, different data pushing schemes corresponding to different visitor levels differ from each other at least in part; and the data pushing scheme includes at least one of a pushing moment, a time interval between two adjacent pushes, or a pushing path.

[0012] In one possible implementation, after determining the visitor level of the target visitor, the method further includes: sending the visitor level of the target visitor to a terminal, so that the terminal stores and/or displays the visitor level in association with the target visitor.

[0013] In a second aspect, embodiments of the present disclosure provides an apparatus for processing data and the apparatus includes: an obtaining module, configured to obtain visitor data of a target visitor; a determining module, configured to determine a visitor level of the target visitor based on the visitor data; and a processing module, configured to determine to-be-pushed data corresponding to the visitor level, and push the to-be-pushed data to the target visitor in accordance with a data pushing scheme corresponding to the visitor level.

[0014] In one possible implementation, the visitor data includes visit data and profile data; and the visitor level includes a first visitor level determined based on the visit data and/or a second visitor level determined based on the profile data.

[0015] In one possible implementation, in response to determining that the visitor data includes the visit data and the visitor level includes the first visitor level, the determining module is configured to: determine, based on the visit data, a visit times and/or an average single-visit duration of the target visitor within a preset time period; and determine the first visitor level of the target visitor as High-frequency Customer in response to determining that the visit times is higher than a first threshold and/or the average single-visit duration is higher than a first duration threshold.

[0016] In one possible implementation, the visitor data further includes an identity type, where the determining module is configured to: determine, based on the visit data, a time interval between a last visit of the target visitor and a current moment and/or an average single-visit duration of the target visitor within the preset time period; and in response to determining that the time interval is higher than a second threshold and/or the average single-visit duration is lower than a second duration threshold, determine the first visitor level of the target visitor as Lost Customer when the identity type of the target visitor

belongs to a first type, or determine the first visitor level of the target visitor as Sleeping Customer.

[0017] In one possible implementation, the profile data includes consumption power data of the target visitor and a concerned object of the target visitor, where in response to determining that the visitor data includes the profile data and the visitor level includes the second visitor level, the determining module is configured to: determine a price corresponding to the concerned object; determine a consumption range in which the target visitor locates based on the consumption power data; and determine the second visitor level of the target visitor in response to determining whether the price belongs to the consumption range.

[0018] In one possible implementation, the processing module is further configured to: in response to determining that the price does not belong to the consumption range, or that the price belongs to the consumption range but a difference between the price and an upper limit of the consumption range is less than a preset value, retrieve, based on the concerned object, data of another object of a same type as the concerned object, and determine the data of another object as the to-be-pushed data.

[0019] In one possible implementation, different data pushing schemes corresponding to different visitor levels differ from each other at least in part; and the data pushing scheme includes at least one of a pushing moment, a time interval between two adjacent pushes, or a pushing path.

[0020] In one possible implementation, the processing module is further configured to: send the visitor level of the target visitor to a terminal after the determining module determines the visitor level of the target visitor, so that the terminal stores and/or displays the visitor level in association with the target visitor.

[0021] In the third aspect, embodiments of the present disclosure provide a device for processing data, including: a memory, one or more processors, and one or more computer programs stored in the memory and running on the one or more processors. When executing the one or more computer programs, the one or more processors implement the steps of the method of processing data described in the embodiments of the present disclosure.

[0022] In a fourth aspect, embodiments of the present disclosure provide a storage medium storing one or more computer programs. When being executed by one or more processors, the one or more computer programs enable the one or more processors to

perform the steps of the method of processing data described in the embodiments of the present disclosure.

[0023] According to the solutions provided by the embodiments of the present disclosure, visitor data of a target visitor is obtained; a visitor level of the target visitor is determined based on the visitor data; to-be-pushed data corresponding to the visitor level is determined; and the to-be-pushed data is pushed to the target visitor in accordance with a data pushing scheme corresponding to the visitor level. Therefore, it can overcome, at least in part, a waste of time and manpower caused by manual data processing, thereby effectively improving an efficiency of processing data. In addition, through determining the visitor level of the target visitor based on the visitor data, it can effectively divide the visitor levels of various target visitors by taking advantage of their visitor data, so as to differ or mark different target visitors. Through pushing the to-be-pushed data in accordance with the data pushing scheme corresponding to the visitor level, it can push more targeted data for the target visitors of different visitor levels, thereby further improving visitor experience and visitor conversion rate.

BRIEF DESCRIPTION OF THE DRAWINGS

[0024] FIG. 1 is a schematic flowchart of a method of processing data according to an example of the present disclosure.

[0025] FIG. 2 is a schematic flowchart of another method of processing data according to an example of the present disclosure.

[0026] FIG. 3A is a schematic diagram of visitor information displayed on a terminal side and auto-identified on a server side in one day according to an example of the present disclosure.

[0027] FIG. 3B is a schematic diagram of visitor information of a certain terminal user displayed on a terminal side according to an example of the present disclosure.

[0028] FIG. 3C is a schematic diagram of information of a single visitor displayed on the terminal side according to an example of the present disclosure.

[0029] FIG. 3D is a schematic diagram of an editable visitor interface displayed on a terminal side according to an example of the present disclosure.

[0030] FIG. 4 is a schematic flowchart of analyzing visitor levels based on visit frequency according to an example of the present disclosure.

[0031] FIG. 5A is a schematic diagram of receiving a pushed visit message by a terminal according to an example of the present disclosure.

[0032] FIG. 5B is a schematic diagram of displaying historical visit messages of a certain visitor according to an example of the present disclosure.

[0033] FIG. 5C is a schematic diagram of a visitor list displayed on a terminal side and auto-identified on a server side according to an example of the present disclosure.

[0034] FIG. 5D is a schematic diagram of analyzing visitor data within a certain time period according to an example of the present disclosure.

[0035] FIG. 6 is a schematic diagram of an interface for editing visitor tags according to an example of the present disclosure.

[0036] FIG. 7 is a schematic structural diagram of an apparatus for processing data according to an example of the present disclosure.

[0037] FIG. 8 is a schematic structural diagram of another apparatus for processing data according to an example of the present disclosure.

DETAILED DESCRIPTION OF THE EMBODIMENTS

[0038] In order to enable those skilled in the art to better understand the examples of the present disclosure, the technical solutions of the examples of the present disclosure will be clearly described below with reference to the accompanying drawings of the examples of the present disclosure. It can be seen that the examples described are just a part but not all of examples of the present disclosure.

[0039] The terms “first”, “second”, “third” and the like in the described examples and claims of the present disclosure and the drawings described above are used to distinguish similar objects, but not used to describe a particular order or sequence. Moreover, the terms “comprising/including” and “having” and any variation thereof, are intended to cover non-exclusive inclusion, e. g., the inclusion of a series of steps or units. The method, system, product or device is not limited to those steps or units that are explicitly listed, but may include other steps or units that are not explicitly listed or that are inherent to the process, method, product or device.

[0040] The examples of the present disclosure are applicable to various electronic devices, including but not limited to fixed devices and/or mobile devices. For example, the fixed device includes but not limited to a personal computer (PC), or a server, etc. The

server may be a cloud server or a normal server. The mobile devices include but not limited to one or more of a mobile phone, a tablet or a wearable device.

[0041] The examples of the present disclosure provide a method of processing data, which is applicable to the above-mentioned electronic devices. As illustrated in FIG. 1, the method mainly includes the following steps:

[0042] at step S11, visitor data of a target visitor is obtained;

[0043] at step S12, a visitor level of the target visitor is determined based on the visitor data; and

[0044] at step S13, to-be-pushed data corresponding to the visitor level is determined, and is pushed to the target visitor in accordance with a data pushing scheme corresponding to the visitor level.

[0045] In one or more examples of the present disclosure, the target visitor generally refers to a visitor to be served, for example, a customer, a visitor who is highly likely to become a customer, etc. One or more above-mentioned visitors to be served may be regarded as the target visitors. In one implementation, the target visitor may be any one of the persons who visit a target place but not fall in a white list. It can be understood that the target visitors do not include the persons who are listed in the white list.

[0046] The white list includes at least one of: one or more employees, one or more cleaners, one or more maintenance staff, one or more couriers, or one or more deliverers at the target place. It should be noted that the white list may be set or adjusted according to user requirements. In one or more examples of the present disclosure, the target place may refer to such a place where products can be exhibited or sold, including but not limited to a 4S store, a shop, a shopping mall, a supermarket, etc.

[0047] In one or more examples of the present disclosure, the visitor data may include visit data that is obtained based on one or more human-face images and/or one or more human-body images of the target visitor collected by a camera in the target place. For example, the visit data includes a visit times of the target visitor within a preset time period. As another example, the visit data includes a single-visit duration of the target visitor. As another example, the visit data includes an average single-visit duration of the target visitor within the preset time period. The preset time period may include a period of time from starting time to ending time, such as one day, one week, one month, one quarter, six months, one year, etc. The preset time period may be determined based on actual requirements, and its setting manner, specific value, etc. are not limited by the examples of

the present disclosure. It should be noted that the ending time is before a current moment (but may include the current moment).

[0048] In one or more examples of the present disclosure, the visitor data may include profile data that includes consumption power data of the target visitor and a concerned object of the target visitor. In one scenario of the present disclosure, the consumption power data may refer to parameters reflecting the financial capability of the visitor, such as occupation, monthly income, annual income, residence, etc., and the concerned object may reflect the products in which the visitor is interested, for example, an interested car.

[0049] In one or more examples of the present disclosure, the visitor level may include at least one of a first visitor level determined based on the visit data and a second visitor level determined based on the profile data. In one scenario, for example, the first visitor level may reflect a visit state of the visitor, and the second visitor level may reflect a purchase intention of the visitor. In one or more examples of the present disclosure, other visitor levels for reflecting other attributes may also be included. In the examples of the present disclosure, there are no limits to how many visitor levels there are, how many parallel items each level includes, etc.

[0050] In one implementation, the first visitor level includes High-frequency Customer, Lost Customer, Sleeping Customer, etc., and different first visitor levels correspond to different visit frequencies. The second visitor level includes Level S, Level A, Level B, Level C, and Level D. Or, the second visitor level includes Level A, Level B, Level C, Level D, and Level E. Or, the second visitor level includes Level H, Level A, Level B, Level C, and Level D. In one scenario of the present disclosure, different second visitor levels correspond to different ranges of a purchase possibility.

[0051] In one or more examples of the present disclosure, the to-be-pushed data is such data that is prepared to be pushed the target visitor and corresponds to the visitor level. In one scenario of the present disclosure, the to-be-pushed data includes content about car. For example, for the target visitor with high purchase intention, it may directly and pertinently push the content about one or more cars in which the target visitor is interested; and for the target visitor with low purchase intention, it may push the content about one or more cars which are similar or contrast to what got the target visitor interested.

[0052] In one or more examples of the present disclosure, different data pushing schemes corresponding to different visitor levels differ from each other at least in part. The data pushing scheme includes at least one of a pushing moment, a time interval between two

adjacent pushes, or a pushing path. For example, the pushing path includes Email, short Message, Call, WeChat, Friendvertising, Social Media Account, and the like.

[0053] According to the solutions provided by the examples of the present disclosure, the visitor data of the target visitor is obtained; the visitor level of the target visitor is determined based on the visitor data; the to-be-pushed data corresponding to the visitor level is determined and pushed to the target visitor in accordance with the data pushing scheme corresponding to the visitor level. Therefore, it can overcome, at least in part, a waste of time and manpower caused by manual data processing, thereby effectively improving an efficiency of processing data. In addition, through determining the visitor level of the target visitor based on the visitor data, it can effectively divide the visitor levels of various target visitors by taking advantage of their visitor data, so as to differ or mark different target visitors. Through pushing the to-be-pushed data in accordance with the data pushing scheme corresponding to the visitor level, it can push more targeted data for the target visitors of different visitor levels, thereby further improving visitor experience and visitor conversion rate.

[0054] In some possible implementations for determining the visitor level of the target visitor based on the visitor data, in the case where the visitor data includes the visit data and the visitor level includes the first visitor level, that the visitor level of the target visitor is determined based on the visitor data includes: determining, based on the visit data, a visit times of and/or an average single-visit duration of the target visitor within a preset time period; and determining the first visitor level of the target visitor as High-frequency Customer in response to determining that the visit times is higher than a first threshold and/or the average single-visit duration is higher than a first duration threshold.

[0055] It should be noted that the first threshold and the first duration threshold are both set in advance. The first threshold and the first duration threshold may be set in advance according to time, cost, etc. that have been input and/or according to requirements. Here, it does not limit the manner of setting or the like.

[0056] In this way, the first visitor level of the target visitor is determined based on the visit times and/or the average single-visit duration of the target visitor within the preset time period.

[0057] For example, the first visitor level of the target visitor is determined as High-frequency Customer when the visit times within the preset time period is higher than the first threshold, or when the average single-visit duration within the preset time period

is higher than the first duration threshold, or when the visit times within the preset time period is higher than the first threshold and the average single-visit duration within the preset time period is higher than the first duration threshold.

[0058] Considering that identity types of different target visitors may be different, for example, some target visitors are determined as ordinary visitors while some target visitors as important visitors, the target visitors of different identity types may correspond to different visitor levels. Therefore, in one possible implementation, the visitor data also includes the identity type. The identity type may include a first type such as Ordinary Visitor, and a second type such as Important Visitor. In addition, the identity type may also include a third type, such as Blacklist.

[0059] Correspondingly, that the visitor level of the target visitor is determined based on the visitor data includes: determining, based on the visit data, a time interval between the last visit of the target visitor and a current moment and/or an average single-visit duration of the target visitor within the preset time period; and in response to determining that the time interval is higher than a second threshold and/or the average single-visit duration is lower than a second duration threshold, determining the first visitor level of the target visitor of the first type as Lost Customer or determining the first visitor level of the target visitor of the second type as Sleeping Customer.

[0060] It should be noted that the second threshold and the second duration threshold are both set in advance. The second threshold and the second duration threshold may be set in advance according to time, cost, etc. that have been input and/or according to requirements. Here, it does not limit the manner of setting or the like.

[0061] In one scenario of the present disclosure, a criterion for distinguishing the first type and the second type may be whether the target visitor is a member. The identity type of the target visitor is determined to be the second type if he is the member but the first type if he is not the member.

[0062] In this way, the first visitor level of the target visitor is determined based on the visit times and/or the average single-visit duration of the target visitor within the preset time period.

[0063] For example, the first visitor level of the target visitor is determined as Lost Customer when the identity type of the target visitor is the first type and the time interval between the last visit and the current moment is higher than the second threshold, or when the identity type of the target visitor is the first type and the average single-visit duration is

lower than the second duration threshold, or when the identity type of the target visitor is the first type, the time interval between the last visit and the current moment is higher than the second threshold and the average single-visit duration is lower than the second duration threshold.

[0064] For example, the first visitor level of the target visitor is determined as Sleeping Customer when the identity type of the target visitor is the second type and the time interval between the last visit and the current moment is higher than the second threshold, or when the identity type of the target visitor is the second type and the average single-visit duration is lower than the second duration threshold, or when the identity type of the target visitor is the second type, the time interval between the last visit and the current moment is higher than the second threshold and the average single-visit duration is lower than the second duration threshold.

[0065] It should be noted that High-frequency Customer, Lost Customer, Sleeping Customer, etc. can be set or adjusted according to user requirements.

[0066] In order to determine the visitor level of the target visitor based on the visitor data, in some implementations, the profile data includes the consumption power data of the target visitor and one or more concerned objects of the target visitor. In the case where the visitor data includes the profile data and the visitor level includes the second visitor level, that the visitor level of the target visitor is determined based on the visitor data includes: determining a price corresponding to the concerned object; determining a consumption range in which the target visitor locates based on the consumption power data; and determining the second visitor level of the target visitor in response to determining whether the price belongs to the consumption range.

[0067] In one scenario of the present disclosure, the concerned object may include a concerned car, and the price thereof is determined accordingly. In this scenario, the second visitor level, which represents the purchase ability of the target visitor, is evaluated by analyzing the concerned car and the consumption power data of the target visitor. It facilitates providing different services in accordance to the determined second visitor levels. Thereby, more energy for serving visitors and maintaining visitor relationship can be selectively provided to high-value visitors, which helps to improve visitor conversion rate.

[0068] The following is described by only taking the case where the second visitor level is differentiated into Level S, Level A, Level B, Level C, and Level D as an example. The

purchase intentions of the target visitor indicated by the above second visitor levels are decreased successively, which means that the purchase intention of the visitor indicated by Level S is the highest, while the purchase intention of the visitor indicated by Level D is the lowest. It should be noted that in actual applications, the second visitor level can also be differentiated into Level S, Level A, Level B, Level C, and Level D in accordance with the purchase intention from low to high. In one or more examples of the present disclosure, it neither limits any correspondence between each category of the second visitor level (for example, Level S, Level A, Level B, Level C, and Level D) and the high-low degree of the indicated purchase intention, nor limits how many categories the second visitor level is differentiated. Those can be defined and/or adjusted according to user requirements.

[0069] In one implementation, in the case where the consumption range is $[Y1, Y2]$ and the price of the concerned car is greater than $Y5$, the second visitor level of the target visitor is Level D. That is, when the consumption range of the visitor (which often reflects financial state of the visitor) is far lower than the price of the concerned car of the visitor, it may be considered that the visitor has an extremely low purchase intention (which means that the visitor usually has no ability to purchase the concerned car, or is less likely to purchase the concerned car).

[0070] In the case where the consumption range is $(Y2, Y3]$ and the price of the concerned car belongs to $(Y4, Y5]$, the second visitor level of the target visitor is Level C. That is, when the consumption range of the visitor is lower than the price of the concerned car of the visitor with a certain gap between them, it may be considered that the visitor has a low purchase intention.

[0071] In the case where the consumption range is $(Y3, Y4]$ and the price of the concerned car belongs to $(Y3, Y4]$, the second visitor level of the target visitor is Level B. That is, when the consumption range of the visitor is the same as the range of the price of the concerned car of the visitor, it may be considered that the visitor has a moderate purchase intention (which means that the visitor has the ability to purchase the concerned car, and the price of the concerned car falls into a price range expected by the visitor).

[0072] In the case where the consumption range is $(Y4, Y5]$ and the price of the concerned car belongs to $(Y2, Y3]$, the second visitor level of the target visitor is Level A. That is, when the consumption range of the visitor is higher than the price of the concerned car of the visitor with a certain gap between them, it may be considered that the visitor has a high purchase intention.

[0073] In the case where the consumption range is $(Y5, \infty)$ and the price of the concerned car belongs to $(Y1, Y2]$, the second visitor level of the target visitor is Level S. That is, when the consumption range of the visitor is far higher than the price of the concerned car of the visitor, it may be considered that the visitor has an extremely high purchase intention (which means that the visitor has the ability to purchase the concerned car with his financial state being more than enough to pay the price of the concerned car).

[0074] Here, $0 \leq Y1 < Y2 < Y3 < Y4 < Y5$.

[0075] It should be understood that the division of the second visitor level and the division of the consumption range and the price described above are only illustrative, which are not limited by the present disclosure.

[0076] For example, it is assumed that the consumption range of the target visitor is from 300,000 to 500,000. When the price of his concerned car is 1 million, the second visitor level may be considered to represent an extremely low purchase intention of the visitor, for example, Level D. When the price of his concerned car is 600,000, the second visitor level may be considered to represent a low purchase intention of the visitor, for example, Level C. When the price of his concerned car is smaller than or equal to 500,000, the second visitor level may be considered to represent that a high purchase intention of the visitor may be decreased during determining the level since the price is near to the upper limit of the consumption range, for example, Level B. When the price of his concerned car is smaller than or equal to 400,000, the second visitor level may be considered to represent a high purchase intention of the visitor, for example, Level A. When the price of his concerned car is smaller than or equal to 300,000 which completely falls into his consumption range or be less than his lowest psychological price, the second visitor level may be considered to represent an extremely high purchase intention of the visitor, for example, Level S.

[0077] Level D indicates that the purchase probability of the target visitor is less than or equal to P1.

[0078] Level C indicates that the purchase probability of the target visitor is greater than P1 but less than or equal to P2.

[0079] Level B indicates that the purchase probability of the target visitor is greater than P2 but less than or equal to P3.

[0080] Level A indicates that the purchase probability of the target visitor is greater than P3 but less than or equal to P4.

[0081] Level S indicates that the purchase probability of the target visitor is greater than P4. Here, $0 \leq P1 < P2 < P3 < P4 < P5$.

[0082] It can be seen that the higher the level, the greater the short-term purchase probability of the target visitor. The lower the level, the lower the long-term purchase possibility of the target visitor.

[0083] In the above scenarios, determining the second visitor level of the target visitor in response to determining whether the price belongs to the consumption range includes: determining that the visitor is difficult to purchase his expected car if the price does not belong to the consumption range, so as to determine the second visitor level of the target visitor as being a level that indicates no or lowest purchase intension; and determining that the visitor has a purchase intension if the price belongs to the consumption range, so as to determine the second visitor level of the target visitor as being a level higher than the level corresponding to the case where the price does not belong to the consumption range, for example, being a level corresponding to the case where there is a purchase intension or being a level further differentiated according to the determined purchase intension.

[0084] The case where the price does not belong to the consumption range may be understood that the price does not fall into the consumption range. The case where the price does not fall into the consumption range not only includes the case where the price is higher than the upper limit of the consumption range, but also includes the case where the price is lower than the lower limit of the consumption range. For example, when the consumption range is 300,000-500,000, it states clearly that the price does not fall into the consumption range if the price of the car concerned by the target visitor is 600,000 or 200,000. In practical applications, the case where the price does not belong to the consumption range may only be understood as the case where the price is higher than the upper limit of the consumption range, or may be understood as the case where the price is higher than the upper limit of the consumption range and lower than the lower limit of the consumption range.

[0085] In the above scenarios, when the price belongs to the consumption range, the difference between the price and the upper limit of the consumption range will affect the second visitor level. The larger the difference is, the higher the purchase probability of the target visitor is, and thus the meaning of the corresponding second visitor level indicates that the target visitor is more likely to purchase this car.

[0086] In some examples, in the case where the second visitor level of the target visitor is determined based on the information such as one or more concerned objects and the consumption power data, and where the second visitor level is differentiated into multiple levels, that the visitor level of the target visitor is determined based on the visitor data may also include: determining the second visitor level of the target visitor as being one of the multiple levels in response to determining that a disposable income range reflected by the consumption power data is a first disposable range and/or a pre-disposable income range reflected by the concerned object is a first pre-disposable range. Before determining the second visitor level of the target visitor as being one of the multiple levels, the method also includes: dividing the disposable income reflected by the consumption power data into multiple disposable ranges and/or dividing the pre-disposable income reflected by the concerned object into multiple pre-disposable ranges. In this way, the second visitor level of the target visitor is determined by comparing his disposable range and his pre-disposable range. Through differentiating the second visitor level into multiple levels can make the determined second visitor level more accurate.

[0087] In order to save computing resources, in one implementation, the second visitor level of the target visitor is determined only when the first visitor level of the target visitor is High-frequency Customer. That is, in the case where the first visitor level of the target visitor is Lost Customer or Sleeping Customer, it is not to determine the second visitor level of the target visitor.

[0088] In one possible implementation, in the case where the price does not belong to the consumption range or where the price belongs to the consumption range but the difference between the price and the upper limit of the consumption range is less than the preset value, that the to-be-pushed data corresponding to the visitor level is determined includes: retrieving, based on the concerned object, data of another object of the same type as the concerned object, and determining the data of the another object as being the to-be-pushed data.

[0089] In a scenario, in the case where the price does not belong to the consumption range, data of other cars of the same type as the concerned car may be retrieved and determined as the to-be-pushed data. In this way, it is helpful to push the cars in line with his financial state to the target visitor, thereby facilitating improving the visitor conversion rate.

[0090] In another scenario, in the case where the price belongs to the consumption range but is closer to the upper limit of the consumption range, data of other cars of the same type as the concerned car may be retrieved and determined as the to-be-pushed data.

[0091] In this way, it is helpful to push the car in line with the purchase intention of the visitor to his user equipment, thereby facilitating providing more cars of the same type for being selected by the visitor, and facilitating improving the visitor conversion rate.

[0092] In some examples, after determining the visitor level of the target visitor, the method further includes: sending the visitor level of the target visitor to a terminal, so that the terminal stores and/or displays the visitor level in association with the target visitor. The terminal includes, but not limited to, a personal computer, a mobile phone, a tablet computer, a wearable device, and the like. That the visitor level is displayed in association with the target visitor may include: displaying the visitor level in association with the target visitor in a form of tags. Also, that the visitor level is displayed in association with the target visitor may include: displaying the visitor level in association with the target visitor in a visitor list and/or a visitor page.

[0093] In some examples, the method further includes: sending a part of the visitor data of the target visitor, such as the identity type, the visit data, etc., to the terminal, so that the terminal stores and/or displays the part of the visitor data in association with the target visitor. Similarly, the part of the visitor data may be displayed in association with the target visitor in the visitor list and/or the visitor page in the form of tags.

[0094] In one scenario, through displaying the visitor level of the visitor on the terminal, it is convenient for the salespersons responsible for visitor follow-up in a store to perform efficient data management. For example, it is convenient for the terminal users such as the salespersons to intuitively learn the visit state and/or the purchase intention of the target visitor, thereby assisting to find high-value visitors of the store. It is also convenient for the terminal users such as the salespersons to provide different services in accordance with the determined visitor levels, so that more energy for serving visitors and maintaining visitor relationship can be selectively provided to high-value visitors, which helps to improve visitor conversion rate.

[0095] In some examples, in the case where the visitor data includes the visit data, the step S11 includes: acquiring historical visit information of the target visitor; and determining the visit data of the target visitor based on the historical visit information.

[0096] The historical visit information includes at least the visit moment.

[0097] It should be noted that the historical visit information may be information of all visits of the target visitor before this visit. Alternatively, of course, the historical visit information may be information of visits within a certain time period until this visit. The certain time period may be set or adjusted according to design or requirements.

[0098] In one scenario, the historical visit information may also include at least one of the following: visit location information or visit store, checkout purchase information, stay duration, consultation duration, purchase intention, etc. The stay duration mentioned here refers to a time period collected by a camera, which is from the target visitor entering the store to the target visitor leaving the store.

[0099] It should be noted that the present disclosure does not limit the degree of subdividing the historical visit information. The more detailed the historical visit information, the more conducive to the subsequent discovery of the target visitor.

[0100] In this way, the visit data of the target visitor is determined by analyzing the historical visit information, and the first visitor level is determined for the target visitor based on the visit data, which facilitates providing different services in accordance with the determined first visitor levels. Thereby, more energy for serving visitors and maintaining visitor relationship can be selectively provided to high-value visitors, which helps to improve visitor conversion rate.

[0101] In some examples, in the case where the visitor data includes the profile data, the step S11 includes: collecting the consumption power data and the one or more concerned objects of the target visitor; and determining the profile data of the target visitor based on the consumption power data and the one or more concerned objects.

[0102] In one scenario, a visitor may be provided with a questionnaire when he visits. The questionnaire includes multiple options such as one or more expected products to be purchased, ideal prices, age, education, position, company, etc. For each option, there may be multiple answers and the visitor ticks off one or more of the multiple answers.

[0103] In this way, it is convenient to determine the profile data of the visitor based on the data provided by the questionnaire, which in turn helps to analyze and find high-value visitors based on the profile data.

[0104] In another scenario, after the target visitor visits, the terminal user may provide evaluation data based on the visit record of the target visitor. The evaluation data includes at least one of purchase capability data or purchase intention data.

[0105] The terminal user may be understood as a person who can provide the evaluation data based on the visit record of the target visitor, such as a salesperson.

[0106] As an example, during serving the target visitor, the salesperson determines the purchase capability and the purchase intention of the target visitor based on his own experience, and scores or grades the target visitor on the terminal in accordance with one or more evaluation items of known evaluation criterion. For example, the evaluation items include purchase capability evaluation items and purchase intention evaluation items, and the evaluation data includes a scoring or grading result. A server or another device determines the purchase probability of the target visitor based on the evaluation data. It should be noted that different evaluation items may correspond to identical or different evaluation criteria.

[0107] In this way, during serving the target visitor, the salesperson judges the purchase capability and the purchase intention of the target visitor based on his own experience, and inputs the evaluation data about the target visitor on the terminal as the profile data, so that the server or another device can determine the visitor level of the target visitor based on the evaluation data. For salespersons, the operation is convenient and fast. It is also convenient for the server or another device to provide the evaluation information for different target visitors based on a uniform criterion.

[0108] Based on the foregoing method of processing data, the examples of the present disclosure also provide a method of processing data which is applicable to a terminal. As illustrated in FIG. 2, the method includes the following steps.

[0109] At step S21, visitor level information of a target visitor is received.

[0110] At step S22, the visitor level information of the target visitor is displayed. The terminal stores and/or displays the visitor level in association with the target visitor. In particular, the visitor level information may be displayed in association with the target visitor in a visitor list and/or a visitor page in a form of tags.

[0111] In this way, it is convenient for a terminal user to quickly identify whether the target visitor is a new visitor based on the visitor level information. In addition, it can realize a rapid distribution of processing tasks based on the visitor level of the target visitor. On the one hand, it is beneficial to the salesperson to provide targeted operations and services, which improves work efficiency. On the other hand, it is also convenient for providing different services in accordance with the determined visitor levels, so as to

selectively provide more energy for serving visitors and maintaining visitor relationship to high-value visitors, which helps to improve visitor conversion rate.

[0112] In some examples, the method further includes: receiving an analysis result of the visitor level information corresponding to the target visitor; and displaying the analysis result.

[0113] In this way, it is convenient for the terminal user to know the analysis result of the visitor level information on the target visitor in time, which in turn facilitates the user to perform targeted operations based on the analysis result, thereby improving the visitor experience and the visitor conversion rate.

[0114] In one or more examples, the salesperson may combine the two types of tags, the first visitor level and the second visitor level, to adopt different marketing strategies for the visitors. For example, based on such tags that the second visitor level indicates a higher level but the first visitor level is Lost Customer, the salesperson is to adopt a richer and more effective follow-up and marketing strategy to bring back the visitor.

[0115] For example, based on such tags that the second visitor level indicates a lower level but the first visitor level is High-frequency Customer, the salesperson may re-evaluate a real purchase intention of the visitor so as to maintain the relationship with the key visitor, and review whether there is some mistake during determining high-value visitors in the follow-up process.

[0116] In some examples, the method further includes: receiving a part of visitor data, such as the identity type and the visit data, and storing and/or displaying it in association with the target visitor. In particular, the part of the visitor data may be displayed in association with the target visitor in the visitor list and/or the visitor page in the form of tags.

[0117] FIG. 3A - FIG. 3D illustrate visitor information displayed on a terminal side in a specific scenario. FIG. 3A illustrates visitor information displayed on the terminal side and auto-identified on a server side in one day. It can be seen from FIG. 3A that the interface displays the information of all visitors who visited that day. For each visitor, in particular, the information includes being a first-time visit or not, a visit times, visit moments, follow-up or not, and the like. Such information provides detailed data support for the terminal user, which is convenient for the terminal user to learn the information of the visitors based on the data displayed on the interface and to determine whether to follow up with the visitors. FIG. 3B illustrates a schematic diagram of visitor information of a

certain terminal user displayed on the terminal side. It can be seen from FIG. 3B that the visitor information of each visitor of the terminal user displayed the interface specifically includes being a first-time visit or not, a visit times and visit moments. FIG. 3C illustrates a schematic diagram of information of a single visitor displayed on the terminal side. In particular, the information includes a cumulative visit times, a moment of the last visit, accompanying persons in each visit, etc. FIG. 3D illustrates a schematic diagram of an editable visitor interface displayed on the terminal side. As illustrated in FIG. 3D, an item of Potential Customer Level is displayed on the interface, which represents the second visitor level. The user may edit the Potential Customer Level of the visitor, that is, the user may select a specific level of the second visitor level. For example, according to the communication with the visitor this time, the user determines whether to change the level evaluated last time. In this way, it is convenient for the terminal user to not only learn the information of the visitors visited the store so as to provide different services for them based on the visitor level information of the visitors, but also rank the visitors based on experience.

[0118] FIG. 4 illustrates a schematic flowchart of analyzing the visitor level based on a visit frequency in a specific scenario. As illustrated in FIG. 4, one or more cameras are configured to collect human-face images and/or human-body images in an environment. The collected original images are transferred through a unified access service to the server side for subsequent processing. On the server side, the features of the human-face images and/or the human-body images are extracted and indexed through an image processing and forwarding service. The obtained data is transferred to a Kafka message queue through a data standardization service. A retrieval service is called to perform a noise and duplication elimination for the data in the Kafka message queue. The human-face and/or human-body feature data obtained after the noise and duplication elimination is taken as retrieval objects to retrieve whether the data of this visitor occurs in the current database, so as to determine whether this visitor collected at this time is a new visitor. When being determined as the new visitor, this visitor is given with a first type of tag, for example, a tag of Customer. When being determined as a regular visitor, a second type of match, e.g., identifying whether this visitor is a member or not, is performed in the database, and thereby the first visitor level is determined. For example, according to an example, a customer who has appeared more than or equal to 3 times in the last 15 days is marked as High-frequency Customer, a member who visited the store for the last time before 30 days

is marked as Sleeping Member, and a customer who visited the store for the last time before 30 days is marked as Lost Customer. In particular, if this visitor is determined to be a member, the moment of the last visit is queried for determining whether it is more than 30 days since the last visit. The visitor is marked as Sleeping Member when it has exceeded 30 days. Otherwise, the visitor is not marked. If this visitor is a non-member, i.e., a customer, it is to query the visit times of the customer within 15 days, add 1 to the visit times, and then determine whether the visit times within 15 days is greater than or equal to 3. If it is greater than or equal to 3, the customer is marked as High-frequency Customer. If the visit times within 15 days is less than 3, it is to query the moment of the last visit to determine whether the last visit exceeds 30 days. When it is determined that it exceeds 30 days, the customer is marked as Lost Customer.

[0119] It can be understood that the process illustrated in FIG. 4 can be set or adjusted according to user requirements or design requirements.

[0120] FIG. 5A - FIG. 5D illustrate schematic diagrams of pushing, displaying, classifying and analyzing visit messages in a specific scenario. FIG. 5A illustrates a schematic diagram of receiving a pushed visit message by a terminal. By receiving the pushed visit message about a visitor in real time, a terminal user, such as a salesperson, may query the identity type and the visitor level of the visitor and provide high-quality service for the visitor immediately. In addition, by receiving a pushed warning message about a blacklist in real time, a terminal user, such as a security person, may determine the persons in the blacklist and their locations immediately, which helps to efficiently eliminate risks. FIG. 5B illustrates a schematic diagram of displaying historical visit messages about a certain visitor. By displaying the historical visit records of the visitor on the terminal side, it is greatly convenient for the terminal user to distinguish and trace the key information in the previous service processes. It may also assist in determining the purchase intention and the purchase price of the visitor by integrating the historical visit states. In this way, it can promote the terminal user to learn the information of visitors, which in turn facilitates improving the visitor conversion rate. FIG. 5C illustrates a schematic diagram of a visitor list displayed on the terminal side and auto-identified on the server side. On the server side, it can be supported to classify the visitors based on tags. Managers and salespersons, as the terminal users, can perform targeted customer marketing and customer operations for the visitors with a certain tag. FIG. 5D illustrates a schematic diagram of analyzing visitor data within a certain time period. Through this

schematic diagram, it can learn visitor group analysis data and customer traffic trend data, such as a comparison chart of total customer traffic amount and member visit amount, and a comparison chart of new visitors and regular visitors. By being combined with sales data, it can help the managers analyze and find current business and operation issues, and thus reasonably improve job skills and design marketing campaigns for the next phase.

[0121] FIG. 6 illustrates a schematic diagram of an interface for editing visitor tags in a specific scenario, which may be edited by a terminal user. As illustrated in FIG. 6, this interface may allow the terminal user to manage the visitors. Taking the identity type of the visitors being the member as an example, the items of each member such as an avatar, personnel ID, name, tags, and operations are displayed on the interface. The user may perform an edition for each member by clicking an edit button corresponding to an operation item. For example, the user may select a tag that is thought to be suitable for the member from a tag option library, or customize a tag for the member, etc. The user may also delete a member who is thought to have completed a withdrawal procedure or have low value through the delete button corresponding to the operation item.

[0122] In this scenario, for example, when an operation of searching for a designated visitor input by the user is received, the terminal displays a brief introduction page of the designated visitor, on which the tags of the designated visitor are displayed. Upon receiving an operation of entering a detailed page of this visitor input by the user, the terminal displays a detailed introduction page of the designated visitor, including the historical visit records of the designated visitor. When receiving an operation of editing custom tags for this visitor input by the user, the terminal receives and displays the custom tags of the designated visitor edited by the user.

[0123] In this scenario, for example, tag information of multiple visitors is displayed on the terminal interface. Upon receiving a left or right sliding operation aimed at one visitor in the interface from the user, the tags of this visitor is in an editable state. When receiving the edited information input by the user, the terminal performs an editing operation on the tags of this visitor based on the edited information input by the user.

[0124] In this scenario, for example, upon receiving an operation of pulling up a scrollbar on the interface input by the user, the terminal updates a visitor list displayed on the current interface. When a user finds a visitor who visits a designated store on a designated date on the current interface, he clicks to enter the detailed page of this visitor. Upon receiving an operation of converting the visitor from Customer to Member input by the

user, the identity type of the visitor is changed from Customer to Member based on the operation.

[0125] It can be understood that the above-mentioned processes are only illustrative, and in actual applications, differentiated setting operations can be provided for the user to implement different above-mentioned functions.

[0126] According to the examples of the present disclosure, the one or more cameras are configured to collect images and transmit the collected images to the server, so that the server can recognize the images and obtain the human-face and/or human-body features of the target visitor contained in the images. The visitor data of the target visitor in the images, such as the identity type, the visit data and the profile data, are obtained based on the human-face and/or human-body features. The profile data may include evaluation information, and the visit data may include historical visit information. The visitor level information of the visitor is determined based on the identity type, the visit data and the profile data. The tag information of the target visitor is transmitted by the server to the user terminal installed with a certain APP, so as to be displayed by the user terminal, which is convenient for the terminal user to provide different services in accordance with the determined tags of the target visitor, so as to selectively provide more energy for serving visitors and maintaining visitor relationship to high-value visitors, which helps to improve visitor conversion rate.

[0127] The examples of the present disclosure also provide an apparatus for processing data. As illustrated in FIG. 7, the apparatus includes an obtaining module 10, a determining module 20, and a processing module 30. The obtaining module 10 is configured to obtain visitor data of a target visitor. The determining module 20 is configured to determine a visitor level of the target visitor based on the visitor data. The processing module 30 is configured to determine to-be-pushed data corresponding to the visitor level, and push the to-be-pushed data to the target visitor in accordance with a data pushing scheme corresponding to the visitor level.

[0128] In some examples, the visitor data includes visit data and profile data. The visitor level includes a first visitor level determined based on the visit data and/or a second visitor level determined based on the profile data. In one scenario, for example, the first visitor level may reflect a visit state of the visitor, and the second visitor level may reflect a purchase intention of the visitor.

[0129] In some examples, in the case where the visitor data includes the visit data and the visitor level includes the first visitor level, the determining module 20 is configured to determine, based on the visit data, a visit times and/or an average single-visit duration of the target visitor within a preset time period; and determine the first visitor level of the target visitor as High-frequency Customer in response to determining that the visit times is higher than a first threshold and/or the average single-visit duration is higher than a first duration threshold.

[0130] In some examples, the visitor data further includes an identity type. The determining module 20 is configured to determine, based on the visit data, a time interval between a last visit of the target visitor and a current moment and/or an average single-visit duration of the target visitor within the preset time period. In response to determining that the time interval is higher than a second threshold and/or the average single-visit duration is lower than a second duration threshold, the determining module 20 is configured to determine the first visitor level of the target visitor as Lost Customer when the identity type of the target visitor belongs to a first type, or as Sleeping Customer when the identity type of the target visitor belongs to a second type.

[0131] In some examples, the profile data includes consumption power data of the target visitor and a concerned object of the target visitor. In the case where the visitor data includes the profile data and the visitor level includes the second visitor level, the determining module 20 is configured to determine a price corresponding to the concerned object; determine a consumption range in which the target visitor locates based on the consumption power data; and determine the second visitor level of the target visitor in response to determining whether the price belongs to the consumption range.

[0132] In some examples, in the case where the price does not belong to the consumption range, or where the price belongs to the consumption range but a difference between the price and an upper limit of the consumption range is less than a preset value, the processing module 30 is further configured to retrieve, based on the concerned object, data of another object of a same type as the concerned object and determine the data of another object as the to-be-pushed data.

[0133] In some examples, different data pushing schemes corresponding to different visitor levels differ from each other at least in part. The data pushing scheme includes at least one of a pushing moment, a time interval between two adjacent pushes, or a pushing manner.

[0134] In some examples, the processing module 30 is further configured to send the visitor level of the target visitor to a terminal after the determining module 20 determines the visitor level of the target visitor, so that the terminal stores and/or displays the visitor level in association with the target visitor. The visitor level may be displayed in association with the target visitor in a visitor list and/or a visitor page in a form of tags.

[0135] In some examples, the processing module 30 is further configured to send a part of the visitor data of the target visitor, such as the identity type, the visit data, etc., to the terminal, so that the terminal stores and/or displays the part of the visitor data in association with the target visitor. Similarly, the part of the visitor data may be displayed in association with the target visitor in the visitor list and/or the visitor page in the form of tags.

[0136] It should be understood by those skilled in the art that in some alternative or additional examples, the function implemented by each operation module in the apparatus for processing data illustrated in FIG. 7 may be understood with reference to the relevant description of the foregoing methods of processing data.

[0137] It should be understood by those skilled in the art that in some alternative or additional examples, the functions of various operation units in the apparatus for processing data illustrated in FIG. 7 may be implemented by one or more programs running on one or more processors, or be implemented by a specific logic circuit.

[0138] In practice, the specific structures of the above-mentioned obtaining module 10, determining module 20, and processing module 30 may all correspond to a processor. The specific structure of the processor may be an electronic component or a set of electronic components having a processing function, such as a Central Processing Unit (CPU), a Micro Controller Unit (MCU), a Digital Signal Processor (DSP), or a Programmable Logic Controller (PLC). The processor includes executable codes stored in a storage medium. The processor may be coupled to the storage medium through a communication interface such as a bus. The processor reads the executable codes from the storage medium and run to perform a specific corresponding function of each unit. The part of the storage medium for storing the executable codes is preferably a non-transitory storage medium.

[0139] Through the apparatuses for processing data provided by the examples of the present disclosure, it can effectively divide the visitor levels of various target visitors by taking advantage of the visitor data, so as to differ or mark different target visitors. Through pushing the to-be-pushed data in accordance with the data pushing scheme

corresponding to the visitor level, it can push more targeted data for the target visitors of different visitor levels, thereby further improving visitor experience and visitor conversion rate.

[0140] The examples of the present disclosure also provide an apparatus for processing data, which is applicable to a terminal. As illustrated in FIG. 8, the apparatus includes:

[0141] a communicating module 40 that is configured to receive visitor level information of a target visitor; and

[0142] a display-processing module 50 that is configured to display the visitor level information of the target visitor.

[0143] The visitor level includes a first visitor level and/or a second visitor level.

[0144] In one possible implementation, the display-processing module 50 is configured to store and/or display the visitor level information in association with the target visitor. The visitor level information may be displayed in association with the target visitor in a visitor list and/or a visitor page in a form of tags.

[0145] In one possible implementation, the display-processing module 50 is further configured to store and/or display a part of the visitor data in association with the target visitor. Similarly, the part of the visitor data may be displayed in association with the target visitor in the visitor list and/or the visitor page in the form of tags.

[0146] It should be understood by those skilled in the art that in some alternative or additional examples, the function implemented by each operation module in the apparatus for processing data illustrated in FIG. 8 may be understood with reference to the relevant description of the foregoing methods of processing data.

[0147] It should be understood by those skilled in the art that in some alternative or additional examples, the functions of various operation units in the apparatus for processing data illustrated in FIG. 8 may be implemented by one or more programs running on one or more processors, or be implemented by a specific logic circuit.

[0148] In practice, the specific structures of the communicating module 40 and the display-processing module 50 described above may both correspond to a processor. The specific structure of the processor may be an electronic component or a set of electronic components having a processing function, such as a CPU, an MCU, a DSP, or a PLC. The processor includes executable codes stored in a storage medium. The processor may be coupled to the storage medium through a communication interface such as a bus. The processor reads the executable codes from the storage medium and run to perform a

specific corresponding function of each unit. The part of the storage medium for storing the executable codes is preferably a non-transitory storage medium.

[0149] Through the apparatuses for processing data described by the examples of the present disclosure, it facilitates a terminal user to know the visitor level of the current target visitor in time and provide different services in accordance with the determined visitor level tags, so that more energy for serving visitors and maintaining visitor relationship can be selectively provided to high-value visitors, which helps to improve visitor conversion rate.

[0150] The examples of the present disclosure provide a device for processing data. The device including a memory, one or more processors, and one or more computer programs stored in the memory and running on the one or more processors. When executing the one or more computer programs, the one or more processors implement the steps of the method of processing data described in the examples of the present disclosure.

[0151] The examples of the present disclosure provide a storage medium storing one or more computer programs. When being executed by one or more processors, the one or more computer programs enable the one or more processors to perform the steps of the method of processing data described in the examples of the present disclosure.

[0152] It should be understood by those skilled in the art that the functions of various programs in the computer storage medium of the examples of the present disclosure can be understood with reference to the relevant description of the methods of processing data described in the foregoing examples.

[0153] It should also be understood that the various optional examples listed in the present disclosure are only illustrated to help those skilled in the art to better understand the technical solutions of the examples of the present disclosure, and should not be construed as a limit to the examples of the present disclosure. A person having ordinary skill in the art can make various changes and substitutions on the basis of the various optional examples described herein, which should also be understood as a part of the examples of the present disclosure.

[0154] In addition, the description of the technical solutions here focuses on emphasizing the differences between the various examples. For the sake of brevity, the identical or similar parts, which can be referred to each other, will not be repeated.

[0155] In addition to various examples provided by the present disclosure, it should be understood that the disclosed apparatuses and methods may be implemented in other ways.

The apparatus examples described above are merely schematic, for example, the division of the units is merely a logical function division. There may be another division manner in actual implementation, for example, a plurality of units or components may be combined, or may be integrated into another system, or some features may be ignored or not performed. Moreover, the coupling, or direct coupling, or communication connection between the components illustrated or discussed may be implemented through some interfaces. Indirect coupling or communication connection of devices or units may be electrical, mechanical, or in other forms.

[0156] The units described as separate components may or may not be physically separate, and the components displayed as units may or may not be physical units. They may be located in one place or distributed to a plurality of network units. Some or all of the units may be selected according to actual needs to achieve the purpose of the examples of the present disclosure.

[0157] In addition, all the functional units in the examples of the present disclosure may be integrated into one processing unit, or each functional unit separately serves as one unit, or two or more functional units may be integrated into one unit. The integrated units may be implemented in the form of hardware or in the form of hardware together with software function units.

[0158] Persons of ordinary skill in the art may understand that all or part of the steps of the foregoing method examples may be implemented by hardware relevant to program instructions. The foregoing programs may be stored in a computer readable storage medium. When the programs are executed, the steps of the foregoing method examples are executed. The foregoing storage medium includes various media that can store program codes, such as a removable storage device, a read-only memory (ROM), a random access memory (RAM), a magnetic disk, or an optical disk.

[0159] Alternatively, if the above integrated unit in the present disclosure is implemented in the form of a software function module and sold or used as an independent product, the integrated unit may also be stored in a computer readable storage medium. Based on such understanding, the technical solutions provided by the examples of the present disclosure in nature or a part thereof that make a contribution to the related art may be embodied in the form of a software product. The computer software product is stored in a storage medium and includes several instructions to enable a computer device (which may be a personal computer, a server, or a network device, etc.) to perform all or a part of the

method described in various examples of the present disclosure. The foregoing storage medium includes various media that can store program codes, such as a removable storage device, an ROM, an RAM, a magnetic disk, or an optical disk.

CLAIMS

1. A method of processing data, comprising:
 - obtaining visitor data of a target visitor;
 - determining a visitor level of the target visitor based on the visitor data;
 - determining to-be-pushed data corresponding to the visitor level; and
 - pushing the to-be-pushed data to the target visitor in accordance with a data pushing scheme corresponding to the visitor level.
2. The method according to claim 1,
 - wherein the visitor data comprises visit data and profile data; and
 - wherein the visitor level comprises a first visitor level determined based on the visit data and/or a second visitor level determined based on the profile data.
3. The method according to claim 2, wherein in response to determining that the visitor data comprises the visit data and the visitor level comprises the first visitor level, determining the visitor level of the target visitor based on the visitor data comprises:
 - determining, based on the visit data, a visit times and/or an average single-visit duration of the target visitor within a preset time period; and
 - determining the first visitor level of the target visitor as High-frequency Customer in response to determining that the visit times is higher than a first threshold and/or the average single-visit duration is higher than a first duration threshold.
4. The method according to claim 3, wherein the visitor data further comprises an identity type,
 - wherein determining the visitor level of the target visitor based on the visitor data comprises:
 - determining, based on the visit data, a time interval between a last visit of the target visitor and a current moment and/or the average single-visit duration of the target visitor within the preset time period; and
 - in response to determining that the time interval is higher than a second threshold and/or the average single-visit duration is lower than a second duration threshold,
 - determining the first visitor level of the target visitor as Lost Customer when the identity type of the target visitor belongs to a first type, or
 - determining the first visitor level of the target visitor as Sleeping Customer when the identity type of the target visitor belongs to a second type.

5. The method according to claim 2, wherein the profile data comprises consumption power data of the target visitor and a concerned object of the target visitor,

wherein in response to determining that the visitor data comprises the profile data and the visitor level comprises the second visitor level, determining the visitor level of the target visitor based on the visitor data comprises:

determining a price corresponding to the concerned object;

determining a consumption range in which the target visitor locates based on the consumption power data; and

determining the second visitor level of the target visitor in response to determining whether the price belongs to the consumption range.

6. The method according to claim 5, wherein in response to determining that the price does not belong to the consumption range, or that the price belongs to the consumption range but a difference between the price and an upper limit of the consumption range is less than a preset value, determining the to-be-pushed data corresponding to the visitor level comprises:

retrieving, based on the concerned object, data of another object of a same type as the concerned object, and

determining the data of another object as the to-be-pushed data.

7. The method according to any one of claims 1 to 6, wherein different data pushing schemes corresponding to different visitor levels differ from each other at least in part; wherein the data pushing scheme comprises at least one of a pushing moment, a time interval between two adjacent pushes, or a pushing path.

8. The method according to any one of claims 1 to 7, wherein after determining the visitor level of the target visitor, the method further comprises:

sending the visitor level of the target visitor to a terminal, so that the terminal stores and/or displays the visitor level in association with the target visitor.

9. An apparatus for processing data, comprising:

an obtaining module, configured to obtain visitor data of a target visitor;

a determining module, configured to determine a visitor level of the target visitor based on the visitor data; and

a processing module, configured to determine to-be-pushed data corresponding to the visitor level, and push the to-be-pushed data to the target visitor in accordance with a data pushing scheme corresponding to the visitor level.

10. The apparatus according to claim 9,
wherein the visitor data comprises visit data and profile data; and
wherein the visitor level comprises a first visitor level determined based on the visit data and/or a second visitor level determined based on the profile data.

11. The apparatus according to claim 10, wherein in response to determining that the visitor data comprises the visit data and the visitor level comprises the first visitor level, the determining module is configured to:

determine, based on the visit data, a visit times and/or an average single-visit duration of the target visitor within a preset time period; and

determine the first visitor level of the target visitor as High-frequency Customer in response to determining that the visit times is higher than a first threshold and/or the average single-visit duration is higher than a first duration threshold.

12. The apparatus according to claim 11, wherein the visitor data further comprises an identity type,

wherein the determining module is configured to:

determine, based on the visit data, a time interval between a last visit of the target visitor and a current moment and/or the average single-visit duration of the target visitor within the preset time period; and

in response to determining that the time interval is higher than a second threshold and/or the average single-visit duration is lower than a second duration threshold,

determine the first visitor level of the target visitor as Lost Customer when the identity type of the target visitor belongs to a first type, or

determine the first visitor level of the target visitor as Sleeping Customer when the identity type of the target visitor belongs to a second type.

13. The apparatus according to claim 10, wherein the profile data comprises consumption power data of the target visitor and a concerned object of the target visitor,

wherein in response to determining that the visitor data comprises the profile data and the visitor level comprises the second visitor level, the determining module is configured to:

determine a price corresponding to the concerned object;

determine a consumption range in which the target visitor locates based on the consumption power data; and

determine the second visitor level of the target visitor in response to determining whether the price belongs to the consumption range.

14. The apparatus according to claim 13, wherein the processing module is further configured to:

in response to determining that the price does not belong to the consumption range, or that the price belongs to the consumption range but a difference between the price and an upper limit of the consumption range is less than a preset value, retrieve, based on the concerned object, data of another object of a same type as the concerned object, and determine the data of another object as the to-be-pushed data.

15. The apparatus according to any one of claims 9 to 14, wherein different data pushing schemes corresponding to different visitor levels differ from each other at least in part; wherein the data pushing scheme comprises at least one of a pushing moment, a time interval between two adjacent pushes, or a pushing path.

16. The apparatus according to any one of claims 9 to 15, wherein the processing module is further configured to:

send the visitor level of the target visitor to a terminal after the determining module determines the visitor level of the target visitor, so that the terminal stores and/or displays the visitor level in association with the target visitor.

17. A device for processing data, comprising:

a memory,

one or more processors, and

one or more computer programs stored in the memory and running on the one or more processors;

wherein when executing the one or more computer programs, the one or more processors implement the steps of the method of processing data according to any one of claims 1 to 8.

18. A storage medium storing one or more computer programs, wherein when being executed by one or more processors, the one or more computer programs enable the one or more processors to perform the steps of the method of processing data according to any one of claims 1 to 8.

19. A computer program comprising computer-readable codes, wherein when running on a device, the computer-readable codes enable one or more processors in the device to perform the method of processing data according to any one of claims 1-8.