PICKUP REMINDING METHOD AND APPARATUS, DEVICE, AND STORAGE MEDIUM

TECHNICAL FIELD

Embodiments of the present invention relate to the field of delivery technologies, for example, a pickup reminding method and apparatus, a device, and a storage medium.

BACKGROUND

With the rapid development of e-commerce and the accelerating pace of people's lives, the number of parcels is increasing. At present, a courier sends a pickup notification to a user after delivering the parcel into a locker. If the user does not pick up the parcel, a pickup reminder is sent 24 hours after the notification time. If the parcel is still not picked up, the pickup reminder is resent 48 hours after the notification time.

This related method in which the pickup reminder is sent 24 hours and 48 hours after the time when the courier delivers the parcel into the locker is not convenient enough for the user. If the pickup reminder is pushed too early, the user needs to repeatedly check and read pickup notification information and even forgets to pick up the parcel. If the pickup reminder is pushed too late, the user has already arrived home (or company and other places) and needs to go to a delivery locker to pick up the parcel and sometimes even picks up the parcel on the next day, resulting in the retention time of the parcel in the delivery locker to be too long, and the utilization efficiency of grids is reduced.

SUMMARY

Embodiments of the present invention provide a pickup reminding method and apparatus, a device, and a storage medium, so as to effectively remind a user to pick up a parcel in time and improve the utilization rate of grids.

In a first aspect, embodiments of the present invention provide a pickup reminding method. The method includes steps described below.

Claims

1. A pickup reminding method, comprising:

acquiring pickup behavior data of a plurality of users and generating predicted pickup time of the plurality of users according to the pickup behavior data;

after receiving a notification that a parcel of a target user is delivered into a target delivery locker, sending a pickup notification to the target user; and

in response to determining that the target user does not pick up the parcel within standard pickup waiting time, sending a pickup reminding notification to the target user according to at least one of: predicted pickup time of the target user and a monitoring result of the target user in an area where the target delivery locker is located.

2. The method of claim 1, wherein acquiring the pickup behavior data of the plurality of users and generating the predicted pickup time of the plurality of users according to the pickup behavior data comprises:

presetting a plurality of time points and adding a plurality of pickup time points in the pickup behavior data of the plurality of users to the plurality of time points, respectively; and

counting numbers of times of pickup corresponding to the plurality of time points and selecting one of the plurality of time points corresponding to a maximum number of times of pickup as the predicted pickup time;

wherein in a case where the maximum number of times of pickup corresponds to a plurality of time points, one of the plurality of time points corresponding to the maximum number of times of pickup is randomly selected as the predicted pickup time.

3. The method of claim 2, wherein selecting the one of the plurality of time points corresponding to the maximum number of times of pickup as the predicted pickup time comprises:

in a case where the maximum number of times of pickup is greater than a threshold of times of pickup, determining that the selected predicted pickup time is valid.

4. The method of any one of claims 1 to 3, wherein the monitoring result of the target user in the area where the target delivery locker is located comprises:

a result for monitoring the target user by at least one of a license plate monitoring system and

an access control system matching the area where the target delivery locker is located.

5. The method of claim 4, wherein sending the corresponding pickup reminding notification to the target user according to at least one of: the predicted pickup time of the target user and the monitoring result of the target user in the area where the target delivery locker is located comprises:

after the parcel is not picked up within the standard pickup waiting time, acquiring the predicted pickup time of the target user and acquiring monitoring time between which and the predicted pickup time target waiting time exists;

in a case where at least one of an access control recognition entry record and a license plate recognition entry record of the target user is monitored before the monitoring time, sending the pickup reminding notification to the target user; or

in a case where an access control recognition entry record and a license plate recognition entry record of the target user are not monitored before the monitoring time, sending the pickup reminding notification to the target user at the monitoring time.

6. The method of claim 5, wherein in the case where the license plate recognition entry record of the target user is monitored before the monitoring time, the method further comprises:

in the case where the license plate recognition entry record is monitored, voice-broadcasting the pickup reminding notification through the license plate monitoring system.

7. The method of claim 1, wherein after sending the pickup notification to the target user, the method further comprises:

in response to determining that the target user does not pick up the parcel within the standard pickup waiting time and the predicted pickup time corresponding to the target user is not stored, acquiring at least two default reminding time points according to a current pickup location type of the target user; and

sending pickup reminding information to the target user within target waiting time before any one of the at least two default reminding time points.

8. A pickup reminding apparatus, comprising:

a predicted pickup time generation module, which is configured to acquire pickup behavior data of a plurality of users and generate predicted pickup time of the plurality of users according to the pickup behavior data;

a pickup notification sending module, which is configured to, after receiving a notification that a parcel of a target user is delivered into a target delivery locker, send a pickup notification to the target user; and

a reminding notification sending module, which is configured to, in response to determining that the target user does not pick up the parcel within standard pickup waiting time, send a corresponding pickup reminding notification to the target user according to at least one of: predicted pickup time of the target user and a monitoring result of the target user in an area where the target delivery locker is located.

9. The apparatus of claim 8, wherein the predicted pickup time generation module is further configured to:

preset a plurality of time points and add pickup time in the pickup behavior data of the plurality of users to the plurality of time points, respectively; and

count numbers of times of pickup corresponding to the plurality of time points and select one of the plurality of time points corresponding to a maximum number of times of pickup as the predicted pickup time;

wherein in a case where the maximum number of times of pickup corresponds to a plurality of time points, one of the plurality of time points corresponding to the maximum number of times of pickup is randomly selected as the predicted pickup time.

10. The apparatus of claim 9, wherein the predicted pickup time generation module comprises:

a validity determination unit, which is configured to, in a case where the maximum number of times of pickup is greater than a threshold of times of pickup, determine that the selected predicted pickup time is valid.

11. The apparatus of any one of claims 8 to 10, wherein the reminding notification sending module is further configured to send an interval reminding notification according to the monitoring result of the target user in the area where the target delivery locker is located,

wherein the monitoring result comprises a result for monitoring the target user by at least one of a license plate monitoring system and an access control system matching the area where the target delivery locker is located.

12. The apparatus of claim 11, wherein the reminding notification sending module is further configured to:

after the parcel is not picked up within the standard pickup waiting time, acquire the predicted pickup time of the target user and acquire monitoring time between which and the predicted pickup time target waiting time exists; in a case where at least one of an access control recognition entry record and a license plate recognition entry record of the target user is monitored before the monitoring time, send the pickup reminding notification to the target user; or in a case where the access control recognition entry record and the license plate recognition entry record of the target user are not monitored before the monitoring time, send the pickup reminding notification to the target user at the monitoring time.

13. The apparatus of claim 12, wherein the reminding notification sending module comprises:

a voice-broadcasting reminding unit, which is configured to, in the case where the license plate recognition entry record is monitored, voice-broadcast the pickup reminding notification through the license plate monitoring system.

14. A computer device, comprising a memory, a processor, and a computer program stored in the memory and executable by the processor; wherein the processor executes the computer program to implement the pickup reminding method of any one of claims 1 to 7.

15. A computer-readable storage medium storing a computer program, wherein the computer program is configured to, when executed by a processor, implement the pickup reminding method of any one of claims 1 to 7.