

CLAIMS

1. An allocation system (100) comprising:

a receiving unit (114) configured to receive a delivery order having a cash flow value of cash money, and configured to determine a cash on hand value of each of a plurality of delivery drivers (DD);

a subset (132, 134, 136) generator unit (116) communicatively coupled with the receiving unit (114), and configured to generate at least a subset (132, 134, 136) of the plurality of delivery drivers (DD), based on the cash flow value of the delivery order and the cash on hand value of each of the plurality of delivery drivers (DD);

a memory (126) configured to store the plurality of delivery drivers (DD) including the subset (132, 134, 136) of the plurality of delivery drivers (DD); and

a transmitter unit (118) configured to transmit the delivery order only to the subset (132, 134, 136) of the plurality of delivery drivers (DD), wherein only a part of the memory (126) is searched for the subset (132, 134, 136) of the plurality of delivery drivers (DD),

wherein the receiving unit (114) is further configured to:

receive an acceptance of the delivery order from a delivery driver among the subset (132, 134, 136) of the plurality of delivery drivers (DD);

obtain an initial cash on hand value of the delivery driver at a beginning of a current shift of the delivery driver;

based on a predetermined time period of the current shift being elapsed, update the cash on hand value of the delivery driver to be the initial cash on hand value of the delivery driver plus the cash flow value of the delivery order; and based on the predetermined time period of the current shift being not elapsed, update the cash on

hand value of the delivery driver to be the cash on hand value of the delivery driver plus the cash flow value of the delivery order, such that the subset (132, 134, 136) generator unit (116) scores the delivery driver based on the updated cash on hand value of the delivery driver for future allocation.

2. The allocation system (100) of claim 1, wherein the subset (132, 134, 136) of the plurality of deliver drivers (DD) is generated such that each delivery driver among the subset (132, 134, 136) of the plurality of delivery drivers (DD) comprises a cash on hand value larger than a cash-out value of the delivery order, and

wherein the cash-out value is a value of cash money that is paid by the delivery driver for fulfilling the order.

3. The allocation system (100) of claim 1 or 2, wherein, based on the cash flow value of the delivery order being positive or zero, the subset (132, 134, 136) of the plurality of deliver drivers (DD) is generated such that each delivery driver among the subset (132, 134, 136) of the plurality of delivery drivers (DD) comprises a cash on hand value below a predetermined lower cash on hand threshold value.

4. The allocation system (100) of claim 1 or 2, wherein, based on the cash flow value of the delivery order being negative, the subset (132, 134, 136) of the plurality of deliver drivers (DD) is generated such that each delivery driver among the subset (132, 134, 136) of the plurality of delivery drivers (DD) comprises a cash on hand value above a predetermined upper cash on hand threshold value.

5. The allocation system (100) of any one of claims 1 to 4, wherein each of the plurality of delivery drivers (DD) comprises a mobile communication device configured to receive a plurality of delivery orders from the transmitter unit (118), and

wherein the delivery order is received by a delivery service provider hosting at least the receiving unit (114) and the transmitter unit (118).

6. An allocation device (120), comprising:
one or more processors (124); and
a memory (126) storing instructions that, when executed by the one or more processors (124), cause the one or more processors (124) to perform acts comprising:

determining, by a subset (132, 134, 136) generator unit (116), a score value for each of a plurality of delivery drivers (DD), based on a cash flow value of cash money of a delivery order and a cash on hand value of each of the plurality of delivery drivers (DD);

generating, by the subset (132, 134, 136) generator unit (116), at least one subset (132, 134, 136) of plurality of delivery drivers, wherein each delivery driver among the subset (132, 134, 136) of the plurality of deliver drivers (DD) has the score value that is beyond a predetermined threshold value;

storing the plurality of delivery drivers (DD) including the subset (132, 134, 136) of the plurality of delivery drivers (DD) in the memory (126);

transmitting, by a transmitter unit (118), the delivery order only to the subset (132, 134, 136) of the plurality of delivery drivers (DD), wherein only a part of the memory (126) is searched for the subset (132, 134, 136) of the plurality of delivery drivers (DD);

receiving, by a receiving unit (114), an acceptance of the delivery order from a delivery driver among the subset (132, 134, 136) of the plurality of delivery drivers (DD);

obtaining, by the receiving unit (114), an initial cash on hand value of the delivery driver at a beginning of a current shift of the delivery driver;

based on a predetermined time period of the current shift being elapsed, updating, by the receiving unit (114), the cash on hand value of the delivery driver to be the initial cash on hand value of the delivery driver plus the cash flow value of the delivery order; and based on the predetermined time period of the current shift being not elapsed, updating, by the receiving unit (114), the cash on hand value of the delivery driver to be the cash on hand value of the delivery driver plus the cash flow value of the delivery order, such that the one or more processors (124) perform scoring, by the subset (132, 134, 136) generator unit (116), the delivery driver based on the updated cash on hand value of the delivery driver for future allocation.

7. The allocation device (120) of claim 6, wherein the score value is determined based on the cash flow value of the delivery order being positive or zero and a cash on hand value below a predetermined lower cash on hand threshold value.

8. The allocation device (120) of claim 6, wherein the score value is determined based on the cash flow value of the delivery order being negative and a cash on hand value above a predetermined upper cash on hand threshold value.

9. An allocation method (200) comprising:

receiving (210), by a receiving unit (114), a delivery order having a cash flow value of cash money;

determining (220), by the receiving unit (114), a cash on hand value of each of a plurality of delivery drivers (DD);

generating (230), by a subset (132, 134, 136) generator unit (116), at least a subset (132, 134, 136) of the plurality of delivery drivers based on the cash flow value of the delivery order and the cash on hand value of each of the plurality of delivery drivers (DD);

storing the plurality of delivery drivers (DD) including the subset (132, 134, 136) of the plurality of delivery drivers (DD) in a memory (126);

transmitting (250), by a transmitter unit (118), the delivery order only to the subset (132, 134, 136) of the plurality of delivery drivers (DD), wherein only a part of the memory (126) is searched for the subset (132, 134, 136) of the plurality of delivery drivers (DD);

receiving (302), by the receiving unit (114), an acceptance of the deliver order from a delivery driver among the subset (132, 134, 136) of the plurality of delivery drivers (DD);

obtaining (308), by the receiving unit (114), an initial cash on hand value of the delivery driver at a beginning of a current shift of the delivery driver; and

based on a predetermined time period of the current shift being elapsed, updating (310), by the receiving unit (114), the cash on hand value of the delivery driver to be the initial cash on hand value of the delivery driver plus the cash flow value of the delivery order; and based on the predetermined time period of the current shift being not elapsed, updating (310), by the receiving unit (114), the cash on hand value of the delivery driver to be the cash on hand value of the delivery driver plus the cash flow value of the delivery order, such that the subset (132, 134, 136) generator unit (116) scores the delivery driver based on the updated cash on hand value of the delivery driver for future allocation.

10. The allocation method (200) of claim 9, wherein the cash flow value of the delivery order is defined by a cash-in value of cash money that is paid to the delivery driver for fulfilling the order and a cash-out value of cash money that is paid by the delivery driver for fulfilling the order.

11. The allocation method (200) of claim 10, wherein the subset of the plurality of deliver drivers (DD) is generated such that each delivery driver among the subset (132, 134, 136) of the plurality of delivery drivers (DD) comprises a cash on hand value larger than the cash-out value of the delivery order.

12. The allocation method (200) of any one of claims 9 to 11, wherein, based on the cash flow value of the delivery order being positive or zero, the subset (132, 134, 136) of the plurality of deliver drivers (DD) is generated such that each delivery driver among the subset (132, 134, 136) of the plurality of delivery drivers (DD) comprises a cash on hand value below a predetermined lower cash on hand threshold value.

13. The allocation method (200) of any one of claims 9 to 11, wherein, based on the cash flow value of the delivery order being negative, the subset (132, 134, 136) of the plurality of deliver drivers (DD) is generated such that each delivery driver among the subset (132, 134, 136) of the plurality of delivery drivers (DD) comprises a cash on hand value above a predetermined upper cash on hand threshold value.