

Claims

What is claimed is:

1. A computer-implemented method for automatic package tracking, the method performed by at least one processor connected to a computer system through a network interface; and a database connected to the processor through the network interface, the method comprising steps for:
 - receiving, through the network interface, aggregated information
 - comprising an order, a first package identifier associated with a first package, and event data associated with a plurality of package identifiers that include the first package identifier, the order comprising a first group of items,
 - the first package associated with the first group of items and is to be delivered to a first recipient within a first predetermined period of time through one or more existing routes;
 - parsing the event data based on the first package identifier;
 - determining whether the first package exists based on the parsed event data, wherein:
 - if it is determined that the first package does not exist, flagging the first package identifier as meeting a first condition; and
 - if it is determined that the first package does exist, determining whether the first package was not delivered because of lack of resources, wherein:

if it is determined that the first package was not delivered because of lack of resources, flagging the first package identifier as meeting a second condition if the first predetermined period of time has passed by more than a first threshold; and transmitting a signal to the computer system to deliver the first package or to reorder the first package based on the determinations.

2. The computer-implemented method of claim 1,
wherein the order further comprises a second group of items corresponding to a second package and the plurality of package identifiers further comprises a second package identifier associated with the second package;
wherein the second package is to be delivered to the first recipient within a second predetermined period of time through the one or more existing routes; and
wherein the steps for parsing, determining, and transmitting are repeated for the second package and the second package identifier.
3. The computer-implemented method of claim 1, wherein parsing the event data comprises:
filtering the event data to isolate the event data associated with the first package identifier;

parsing the isolated event data to determine a temporal relationship among the events;
determining the chronological sequence of events; and
determining ~~at~~ the status of the first package based on the chronological sequence of events.

4. The computer-implemented method of claim 1, wherein the first package was attempted to be delivered to the first recipient.
5. The computer-implemented method of claim 1, wherein reordering the first package comprises:
 - cancelling a portion of the order corresponding to the first group of items;
 - creating a new order with the first group of items;
 - creating a new package identifier associated with a new package for holding the first group of items;
 - flagging the new package identifier as high-priority;
 - transmitting the new package identifier to the computer system; and
 - forwarding the first package to be restocked.
6. The computer-implemented method of claim 5, wherein flagging the new package identifier comprises updating a parameter associated with the new package identifier.

7. The computer-implemented method of claim 6, wherein the new package identifier causes the computer system to process the new package more quickly based on the parameter.
8. The computer-implemented method of claim 7, wherein the new package identifier further causes a device to display a notification upon scanning the new package using the device, the notification comprising specific instructions about the new package.
9. The computer-implemented method of claim 7, wherein the new package identifier causes the computer system to create a new route optimized for delivering the new package.
10. The computer-implemented method of claim 6, wherein reordering the first package further comprises calculating a new period of time for delivering the new package to the first recipient.
11. The computer-implemented method of claim 1, further comprising:
 - receiving the aggregated information relating to an order through the
 - network interface based on the aggregated information relating to
 - the order being updated.

12. The computer-implemented method of claim 1, wherein receiving the aggregated information relating to an order is repeated at a first predetermined interval.
13. The computer-implemented method of claim 1, wherein the steps for parsing, determining, and transmitting are repeated at a second predetermined interval longer than the first predetermined interval.
14. The computer-implemented method of claim 1, wherein the lack of resources comprise at least one of lack of time, lack of workers, or lack of space.
15. The computer-implemented method of claim 14, wherein the first threshold is variable based on the particular resource that was lacking.
16. The computer-implemented method of claim 1, wherein ~~at~~ the status of the first package is determined by a request manually input by a user.
17. The computer-implemented method of claim 1, wherein if it is determined that the first package was not delivered because of other reasons, flagging the first package to as meeting a third condition if the first predetermined period of time has passed by more than a second threshold.

18. The computer-implemented method of claim 1, wherein ~~at~~the status of the first package comprises: arrived at a warehouse, departed for delivery, delivery attempt unsuccessful, or delivery successful.
19. A computer-implemented system for automatic package tracking, the system comprising:
- a memory storing instructions;
 - at least one processor;
 - a database connected to the processor through a network interface; and
 - a computer system connected to the processor through the network interface,
- wherein the processor is configured to execute the instructions to perform steps for:
- receiving, through the network interface, aggregated information comprising an order, a first package identifier associated with a first package, and event data associated with a plurality of package identifiers that include the first package identifier, the order comprising a first group of items, the first package associated with the first group of items, and is to be delivered to a first recipient within a first predetermined period of time through one or more existing routes;
 - parsing the event data based on the first package identifier;

determining whether the first package exists based on the parsed event data, wherein:
if it is determined that the first package does not exist,
flagging the first package identifier as meeting a first condition; and
if it is determined that the first package does exist,
determining whether the first package was not delivered because of lack of resources, wherein:
if it is determined that the first package was not delivered because of lack of resources,
flagging the first package identifier as meeting a second condition if the first predetermined period of time has passed by more than a first threshold; and
transmitting a signal to the computer system to deliver the first package or to reorder the first package based on the determinations.

20. A computer-implemented system for automatic package tracking of multiple packages, the system comprising a first computer system, a mobile device, a database, and a second computer system, wherein
the mobile device comprises:
a memory storing instructions; and

at least one processor configured to execute the instructions to:

generate event data by scanning package identifiers
corresponding to a plurality of packages, the
generated event data comprising at least one of a
location, a time, a device identifier, or a user identifier;
send the generated event data to the database via a
network; and

the first computer system comprises:

a memory storing instructions; and

at least one processor configured to execute the instructions for:

receiving, from the database through the network,
aggregated information comprising a plurality of
orders, a plurality of package identifiers, and the
generated event data, each order comprising at least
one group of items,

wherein each package is associated with a group of items
and is to be delivered to a respective recipient within
a respective predetermined period of time through
one or more existing routes;

parsing the event data based on the plurality of package
identifiers;

determining whether each package exists based on the
parsed event data, wherein:

if it is determined that a particular package does not exist, flagging the particular package as meeting a first condition; and

if it is determined that a particular package does exist, determining whether the particular package was not delivered because of lack of resources, wherein:

if it is determined that the particular package was not delivered because of lack of resources, flagging the corresponding package identifier as meeting a second condition if the corresponding predetermined period of time has passed by more than a threshold; and

based on the determinations, transmitting a signal to the second computer system via the network to cause delivery of each package or to reorder the flagged packages.