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Same Day Delivery Pre-Injection Sortation

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SAME DAY DELIVERY PRE-INJECTION SORTATION

ABSTRACT

A system and method for prioritizing orders in a specific sequence in a fulfillment queue is disclosed. The system scans and groups the orders in the fulfillment queue according to zip code into a plurality of groups. The system then prioritizes the order in the fulfillment queue based on number of orders present in the plurality of groups. The system processes the orders present in the prioritized group and the processed orders are then palletized. The method creates fulfillment logic for same-day delivery and prioritizes the orders in a specific sequence in the fulfillment queue. Carriers can spend less time on sortation, dispatch their orders earlier in the day, and more orders can be delivered on-time.

KEYWORDS: order fulfillment, delivery, prioritization, route optimization, delivery location

BACKGROUND

Carriers, such as same-day delivery carriers, typically sort orders after they have been picked up from their respective stores and injected into a sort facility. Carriers may use different criteria for sortation of orders, but the criteria are usually based on a geographic marker such as a zip code or address. Orders with the same delivery zip codes will be grouped together at the sortation facility. This makes it easier for dispatch to determine which drivers should deliver certain zip codes based off volume for each zip code. Orders that are picked up from stores will be injected into the sortation facility by pallet. Each pallet has orders from different zip codes. The pallets are broken down as they are injected into the sortation facility and the orders are then manually moved to a designated area within the facility based off of the zip code of the order. The manual sorting is inefficient and provides an opportunity for improvement.

DESCRIPTION

A system and method for sorting customer orders by prioritizing the store fulfillment queue is disclosed. The system may include at least a processor and a memory unit connected to a server through a network. The system is configured to receive customer orders and place them in fulfillment queue. The system groups the orders based on the delivery zip code into a plurality of groups and determines order volume associated with each group. The group with highest number of orders is prioritized. An alternative implementation may involve changing the prioritization sequence of the fulfillment queue by prioritizing the group with least number of orders. For example, the high-volume zip codes may be deprioritized so that last-minute orders are grouped with them. All the orders present in the prioritized group are processed and palletized. An exemplified system receiving orders from two or more zip codes is shown in FIG. 1.

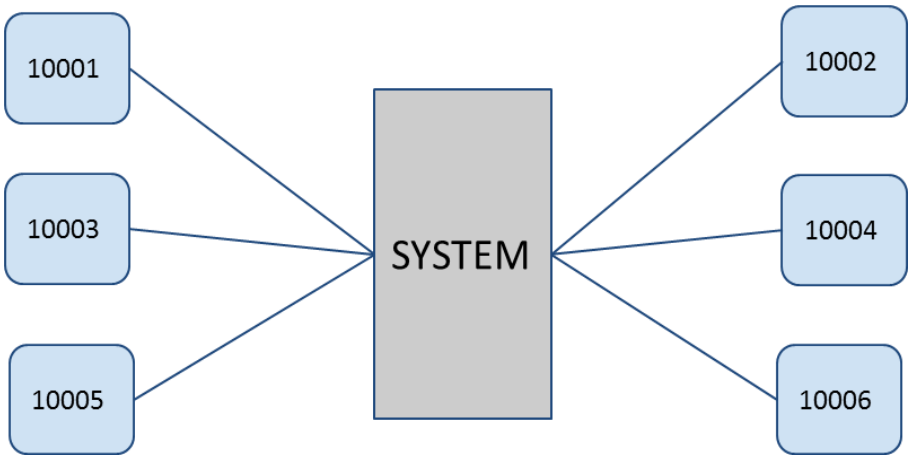

FIG. 1: System receiving orders from multiple zip codes

The method for prioritizing as shown in FIG. 2 involves the following steps. In step A, the system determines order sortation criteria. The order sortation criteria may be geographically based and include zip code or address of customer. In step B, the system determines sortation sequence of the carriers delivering the customer orders. The sortation sequence of the carrier

may depend on the number of orders received. Further, in step C, the system receives the customer orders. In step D, the system determines the requirements of the order fulfillment. The requirements may state whether the order is to be delivered urgently, including on the same day or the next day. If the order is to be delivered urgently as in step E, the system determines whether the sortation criteria group is fully processed for the carrier in step F. If the sortation criteria group is fully processed, then the system deprioritizes the order and processes the item last in step J. For example, if an order drops later whose zip code group has already been processed, the order will be deprioritized to be processed after the 'grouped' zip codes. Alternatively, if the sortation criteria group is not fully processed, the system fulfills the order in sequence based on determined criteria in step G. The order delivery instructions are sent to the carrier in step H. If the order is not necessarily delivered on the same day, then the system fulfills the order in sequence in step I.

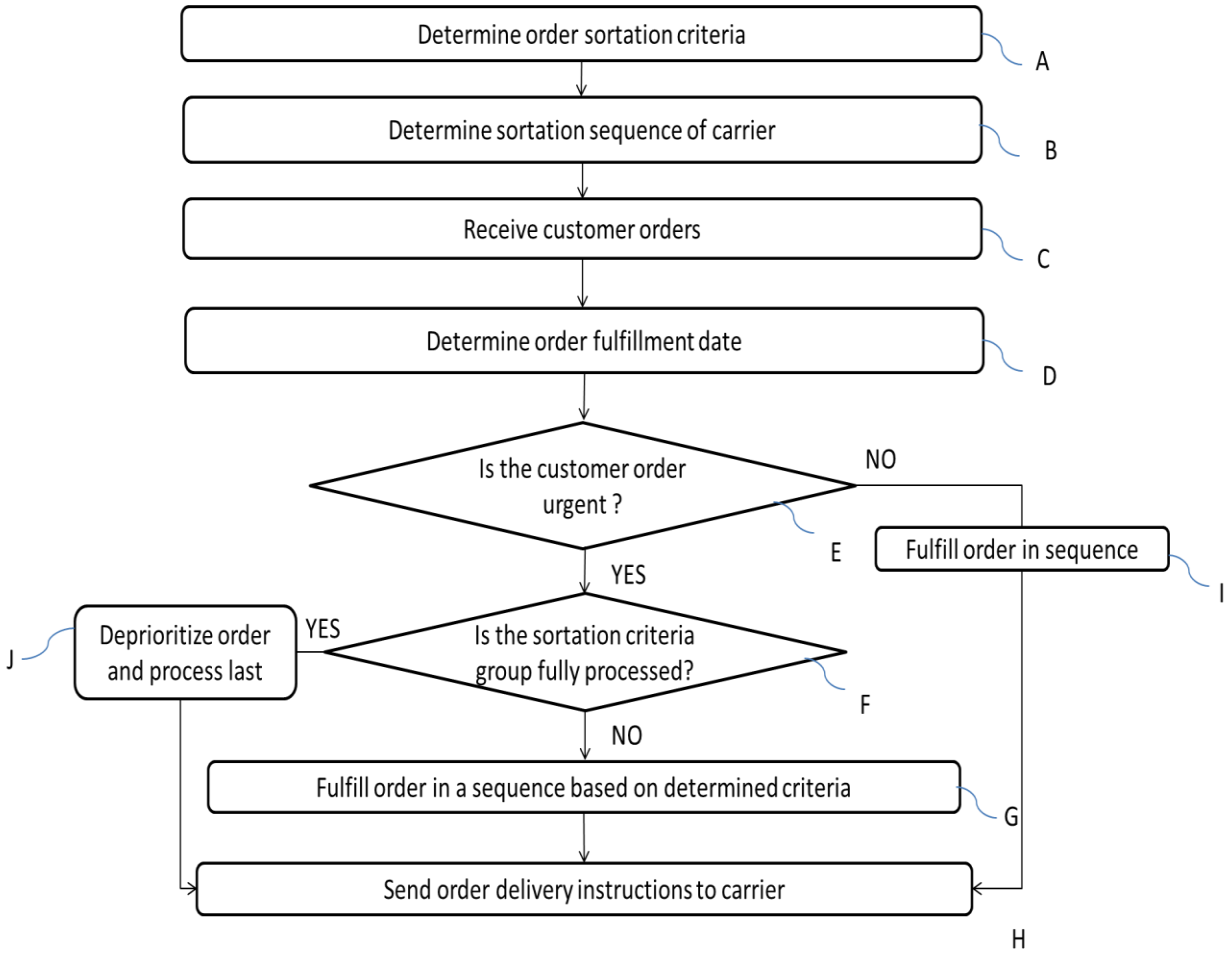

FIG. 2: Method to prioritize orders in a specific sequence

An example illustrates the method as follows. An operator shifts start at 6 AM in the morning. At the beginning of the shift, there are 300 items in queue for zip code 10010, 200 items in queue for zip code 10011, and 100 items in queue for zip code 10012. Since zip code 10010 has the most items, all orders for zip code 10010 will be processed and packed first. Since orders for 10010 are being packed first, they are also being palletized together. After the 10010 orders have been processed, 10011 then gets processed, and 10012 next. While the orders for 10012 are being processed, assume that a customer from 10010 places an order. Since the 10010 orders have already been processed, the new 10010 order is deprioritized and will be processed last and grouped with the other 'last-minute' orders. With this logic for prioritizing the same-day

fulfillment queue, most orders will be packed and palletized together by zip code. However, last-minute same-day orders that are placed between 6AM and 1PM may not be grouped with their respective zip code group unless their zip code group has not been fully processed yet at the time of order placement.

The system sorts orders at the fulfillment level instead of the carrier level, without adding any costs or impact to the fulfillment operation. Carriers can spend less time on sortation, dispatch their orders earlier in the day, and more orders can be delivered on-time.