

ABSTRACT

A computer-implemented system for delivery scheduling from a fulfillment center. The system includes a memory storing instructions and one or more processors configured to execute the instructions to perform operations. The operations may include maintaining a first data structure representing a fulfillment center, where the data structure has elements representing portions of the fulfillment center the portions are associated with a plurality of physical locations and a cutoff time. The operations may also include maintaining a second data structure including a mapping between physical locations and product identifiers, receiving a request to provide a delivery time estimate, searching the second data structure to identify at least one physical location associated with the requested product, searching the first data structure to determine cutoff times associated with each of the at least one physical location, and returning, responsive to the request, a fast cutoff time selected from the cutoff times.