****

**FUNCTIONAL DOCUMENT**

**DIGITAL DELIVERY SOLUTION**



**Date: 11/03/23**

**Version: 1.01**

|  |
| --- |
| 1. This document contains proprietary trade secret and confidential information to be used solely for evaluating DigiTS. The information contained herein is to be considered confidential. Client, by receiving this document, agrees that neither this document nor the information disclosed herein, nor any part thereof, shall be reproduced or transferred to other documents, or used or disclosed to others for any purpose except as specifically authorized in writing by DigiTS. |

**STATEMENT OF CONFIDENTIALITY**

Table of Contents

[Table of Contents 2](#_Toc131439645)

[Software Components: 2](#_Toc131439646)

[Process: 3](#_Toc131439647)

Software Components:

|  |  |  |  |
| --- | --- | --- | --- |
| S# | Type | Technology | Description |
| 1 | **Integration** | Web service/Staging | Web Service - Will be using Web APIs to communicate in-between ERP and DigiTS.  SQL Staging – The staging database will be maintained in the database server, and it can be used to communicate in-between ERP and DigiTS. |
| 2 | **Digital Delivery Backend Application** | Asp.net with SQL Server 2016 or later | Middleware application for Back-office users to maintain the solution |
| 3 | **Digital Picking App** | Android Native App | For Inventory Picking (Android App Only) |
| 4 | **Digital Delivery App** | Android Native App | For Last Mile Delivery (Android App Only) |
| 5 | **Digital Re-confirmation App** | Android Native App | For Inventory Re-confirmation (Android App Only) |

Process:

1. Once the picking confirmation for a date is confirmed in the ERP for an order, the data flows to DigiTS backend – **Integration**

Exceptions:

* In case, if any order placed for future dates and if it needs to be delivered for today, they have to cancel that order and create a new order for today.

1. By default, each order is mapped with a customer and route, once the data comes from ERP to DigiTS, anytime there is a form where route can be modified till the last picking slip completion of the order. – **Digital Delivery Backend Application**
2. Orders are of different types:
3. **Delivery Orders** – Through normal delivery routes using Digital Delivery App.
4. **Pickup Orders** Through pickup routes using Digital Delivery App – One common device will be assigned to manage the pickup orders in the warehouse along with the printer, till completion of picking the route can be changed.
   * 1. Instead of the delivery done by the delivery person, if the salesperson takes the order and does the delivery himself, in this scenario, the Pickup route operations has to be followed.
     2. Incorporate OTP Authentication for Staff pickup orders.

To achieve this along with the order, staff mobile number has to be provided in the order.

1. **Export Orders** (**06-Apr-23**) – A separate route needs to be maintained for export.
2. **Invoicing Orders** – This cannot be managed through DigiTS, but through ERP. These types of orders don’t need to send to DigiTS at all.
3. For the cash customer, delivery address needs to be provided with the order itself (While Integration).
4. Each order will be split into different picking list based on the picking location – **Integration**
5. Items in each order will have SKU details with Item Type (Sales, Transactional Promotions, Periodic Promotion. Without sales, the transactional promotions will not work, but periodic promotion can occur even without sales.)
   1. Without sales, the transactional promotions will not work, but periodic promotions can occur even without sales.
   2. While picking and load-in, need to show the items and item type.
   3. Picking – Show separate lines.
   4. Load In also should show as a separate line and while delivery it should be separate. (System will force the user to change the promotions first and then the sales line).
6. Picking list will be either available for the pickers in each picking location to start picking or the supervisor from the backend can assign it – **Digital Delivery Backend Application**
7. The picking process will be started. Once the picking is started,

the users will have three options: - **Digital Picking App**

1. Complete
2. Park
3. Park & Release

If the user is parking the picking, the same user only can restart the picking.

If the user is opting for park & release option, any other users can resume the picking.

If the picking is restarted by another user, the following things will happen:

1. Details of the final picker will only be available in the system.
2. We will keep track of the users who have picked the picking list in header level only.

Exceptions:

* In an order, if any one of the picking slips has started in DigiTS, then the existing order update cannot be done.
  + 1. If new item adding /quantity increase are there - this scenario can be handled by creating a new order from the ERP.
    2. If item quantity reduction/cancellation is there, then proper update has to be given to the picker outside the system to pick lesser quantity or while load in also the same can be achieved.
* Route re-assignment can be done till the last picking list completion of the order.

1. Three types of picking are there – **Digital Picking App**
   1. Firstly, in the batch method, if there is a stock discrepancy, choosing a new batch option will be available with reason (ERP API)
   2. Secondly, in the serial method, if there is a stock discrepancy, choosing a new serial number will be available with reason (ERP API)
   3. Finally, the none-method does not involve either batch or serial numbers, allowing quantity reduction in any unit of measure.
2. In a picking list, while picking each item either Full picking/ Partial

picking/ Zero picking can be done – **Digital Picking App**

1. Full Picking – Life cycle will be over for that particular item in that picking list.
2. Partial Picking/ Zero Picking – Either can be Re-scheduled/Cancelled from the backend, till load-in confirmation it will be on hold and after load-in confirmation only it will be available for Re-scheduling/Cancelling.
3. Once Re-scheduling is done, no integration takes place.
4. If cancellation takes place from customer service, life cycle will be over for those particular items in that order and instant integration takes place.
5. Based on the item-level setting for re-schedule enabled, it be can re-scheduled/cancelled the remaining un-picked quantity.
6. Send an SMS/WhatsApp message to the salesperson if its partial/zero picking.

Exceptions:

* Any of the picking slip is started for an order (Assume in an order, 3 picking slips are there) till completion of the load-in re-scheduling/Cancellation cannot be performed.
* In the case of a partially picked/partially loaded order, it is the responsibility of the backend user to cancel the order manually in order to release the reserved quantity from the ERP system. Failure to do so will result in the order remaining in the system indefinitely, preventing the reserved quantity from being used for other orders.

1. Batch change while picking:
2. When changing the batch for an item picking, along with the batch number and quantity, the sales-person name and free on-hand batch also has to be shown.
3. Batch/Serial number Selection - If multiple pickers are selecting the same batch for an item:
   1. Upon picking completion, need to call an API to verify the newly selected batches and the second picker cannot complete the picking transaction.
   2. Need to show the salesman’s name along with available batch and quantity.
   3. Reason has to be selected by the user.
4. Order-Splitting while picking is not started: If picking list is already generated in DigiTS, and hence been scheduled for delivery at a later time and picking is not yet started, in this stage if they want to deliver an item or more earlier, they can split the current picking list into multiple picking list and same can be dispatched for delivery.

Exceptions:

* Item Wise Dispatching/invoicing will not be there, always it’s going to be order-wise invoicing only. In case if this is required, need to split the picking slip further into multiple picking slips. (Through DigiTS Backend).

1. There should be an option in the backend to **undo picking** until the final picklist is completed.
2. Once undo-picking is done, all the picking transactions will be reverted and the order will be in the initial stage.
3. Already picked items need to be transferred to the warehouse manually and it cannot be managed through the App.
4. After completing the picking process for all the picking list in an order, while dispatching, the following processes are involved: **Digital Delivery Backend Application**
   * 1. Auto Dispatch: Once the last picking slip is completed, the system will automatically dispatch the order to the default route.
     2. Manual Dispatch:
5. Complete Dispatch: If route is not defined for a customer, then manual dispatch has to be done by selecting the desired route.
6. Cancel Dispatch: This option will be available only for manual dispatching and it has to be done before completion of the dispatch.

The integration will take place here and the life cycle will be completed.

1. Dispatch cancellation:
2. Before load-in:
3. It will occur only before load-in.
4. Dispatched whole order can be cancelled (Through backend this can be achieved) – **Digital Delivery Backend Application**
5. Send to Re-schedule
6. Cancel the remaining order

This order will be sent to inventory receiving person for re-confirmation.

1. Inventory receiving re-confirmation takes place in DigiTS Picking App for the above point ii (I and II).
   1. While receiving the items, if any quantity mismatch is there, a debit note should be passed for the inventory controller and ERP Integration should happen for this missing item **(06-Apr-23)**
2. After load-in:
3. Only load-out can be done, without doing the delivery from the Digital Delivery App.
4. Dispatch to different route:
5. Before Load in:
6. Dispatched whole order can be changed to different route (Through backend this can be achieved)
7. **Dispatch Splitting**: Dispatched items from an order can be changed to different route - Current dispatch will be cancelled and two new dispatches will be created. (Through backend this can be achieved)
8. Partial Load-In:
9. Partial Load in can be performed in the Digital Delivery App, and the remaining quantities can be performed in the backend, as following:
10. Send to Re-schedule
11. Cancel the remaining Order
12. **Dispatch Splitting**: Re-dispatch the remaining quantity to other routes (Out of 100, partial-load in 80 has been done, remaining 20)
13. Inventory receiving re-confirmation takes place in DigiTS Picking App. (Applicable only for a and b).
14. After Load-In:
    * 1. Whole Order – Van-to-Van can be performed.
15. The delivery user will be able to filter the orders by the picking location, and the system will display the number of orders that are ready to be loaded-In at that location.

The user will have three options available for an order: **Digital Delivery App**

1. **Confirm Load-In** - Once the loading process is finished, the order will be marked as ready for delivery.
2. If there is any change in quantity for an item while load-in, it will be moved for an approval and upon approval from the next-level user only it will be marked as confirmed.
3. It will happen either for fully picked quantity or partially-picked quantities, if it’s for partially load-in based on the picking, the remaining quantity will be made available for re-scheduling or cancellation and the process is same for partially load-In orders.
4. Item Batch-wise Certificates need to be sent to the customer after completion of the load-in. (Through ERP Integration)
   1. Customer should receive an email with the dispatch details as well as the health certificates **(06-Apr-23)**
5. Zero picked or partial picked orders need to notify the salesperson after load-in completion (Through SMS/WhatsApp).
6. **Reject Load-In** - If the dispatcher approves the rejection – **Digital Picking App**
7. The same order will be made available for re-scheduling/cancellation/route re-assignment and the process can be performed in the backend.

Inventory receiving re-confirmation takes place in DigiTS Picking App. (Applicable only for re-scheduling and cancellation).

1. **Park** - The order can be placed on hold, and the truck cannot leave the warehouse until all parked orders are either marked as confirmed or rejected.

Exceptions:

* After Load-In confirmation, the route change can be done by Van-to-Van order transfer from the Digital Delivery App.
* Load-In - Informative view of (Batch, Serial Number, No Batch), if picked batch is not found while load-in, they can reduce the quantity according to batch availability. (Cannot change batch at all).
* Re-scheduling/Cancellation of the order cannot be performed in-between any of the picking slip starting and load-in completion. Only after load-in completion, it can be performed.

1. Load -In can be accomplished in three ways. **Digital Delivery App**
   1. Firstly, in the batch method, if there is a stock discrepancy, choosing a new batch is not possible. The only option available is to reduce the quantity in the base unit of measure.
   2. Secondly, in the serial method, if there is a stock discrepancy, selecting a new serial number is not possible. The only option is to mark the item as out of stock in the base unit of measure.
   3. Finally, the none method does not involve either batch or serial numbers, allowing quantity reduction in any unit of measure.
2. Based on the customer-wise settings:
3. Full-order dispatch.
4. Picking location (Category-wise) – **Both picking location and category are the same.**

Based on the different picking location, system will again split the order into multiple dispatch, hence multiple deliveries.

1. **Van-to-Van Transfer** - After load-in completion till delivery, in case order has to be changed from one to another route, we will incorporate van-to-van transfer and both the route should be online to perform this task.
2. Transfer out request - Either for 1 order or multiple order and select the desired route. (QR Code will be generated from the desired route to avoid wrong selection).
3. The moment transfer-out and transfer-in has started, all other transactions will be disabled.
4. After completing the transfer-out and transfer-in operations in each route, all the other transaction will be enabled.

1. There are four delivery options available: **Digital Delivery App**
   1. **Fully Delivered**: This means the entire order has been delivered successfully and will be marked as completed. It will be integrated into the ERP system in real-time at a 5-minute interval.
   2. **Partially Delivered**: In this case, backend approval is required for partial delivery. Only after approval, the delivery note will be created. The delivered quantity will be sent to the ERP system in real-time, and the adjusted items with their respective quantities will be ready for Load-out. The life cycle of those items will be over. Approvals will be as given below:
2. Online – A request will be generated from the App and the backend user can either approve/reject order wise, but each item wise approval status have to be updated.
3. In a visit, partial delivery for an order, can make a request and can continue the next order delivery without exiting the customer visit.
4. If suppose one item, from the backend they have rejected for the partial delivery, delivery can happen for either the zero/full load-in quantity.
5. Offline – An override password needs to be provided by the backend team to the App user. Password can be generated from backend with a pre-shared key from the App user. (It can be done only in Header-level). The item wise approval needs to be managed outside the system (**06-Apr-23**)
   1. **Not Delivered**: If the delivery person visits the customer but is unable to complete the delivery due to any reason, the order will be marked as not delivered. The items will be ready for Load-out, and the life cycle of those orders will be over. Since any operations are not taking place, no approval process will be involved.
      1. Bring a reason code while customer exit and based on this reason they can carry forward to next day.
   2. **Not Processed**: If the delivery person does not visit the customer and wants to complete the day, the order will be marked as not processed. The items will be ready for Load out (**Carry forward also will be there**), and the life cycle of those orders will be over. Since any operations are not taking place, no approval process will be involved.

Exceptions:

* All the Cash customer by default is configured as Temporary Credit with a minimal Credit Limit. While delivery system will show cash as default, if customer refuse to pay the delivery person will have the option to select as a Temporary Credit delivery and to complete this process it requires an override password from backend.
* Partially delivery offline approval can only be done in for header-level, not for each item level. Changing quantity cannot be accessed in the backend while approving.
* After load-In confirmation till delivery, if the any of the items from same order need to be given to another customer, that needs to be managed out of system.

1. If the delivery person needs to change the price of an item during delivery – **Digital Delivery App**

**Need to discuss and finalize with Fresh Express.**

1. While doing delivery only, the price change request can be initiated from the Digital Delivery App not from the backend.
2. A request will be generated for an item/multiple items in an order.
3. In system during the delivery inside customer visit, then only price change request can be done.
4. After making price change request, user can hold the current order and continue the next order for the same customer.
5. At the customer level, there are two settings for invoicing, either delivery note or invoice. – **Digital Delivery App**
6. **Delivery note**: While delivery completion, the system will proceed for delivery note printing.
7. **Invoice**:
8. While delivery completion, the system will not proceed for any printing and after all the delivery notes are completed, before customer exit, they can map multiple delivery notes to invoices (based on the LPO number) without completing the invoice process the system will not proceed for customer exit.
9. In this same case, if the price request has been requested for any of the delivery note, without completing the invoicing, the system will let to proceed further.
   1. During customer visit, there should be an option to print the Draft-Delivery Note or invoices. They can select multiple delivery note for the same customer.
10. When delivering, if re-print is required, can let the user to reprint and in the system the count has to be tracked.
11. A Backend support user info needs to be shown in the App.

Exceptions:

* Delivery-note plus invoicing

1. In this scenario, after delivery completion, the user has to choose from the multiple delivery notes listed and then can generate the invoice. Without completing the invoice generation, the system will not proceed further.
2. In this same case, if the price request has been requested for any of the delivery note, without completing the invoicing, the system will let to proceed further.
3. Promotions are created in DigiTS and integrated to the ERP. - **Digital Delivery App Need to discuss and finalize with Fresh Express.**
4. Transaction Promotions are coming from ERP along with promotional quantities.
5. In case partial delivery happens then transaction promotions will be re-calculated.
6. For each periodic promotions “carry -forward” flag is set at the backend master data.
7. If periodic promotions (Time Based, Qty Based) qualifies then users will be notified with total promotion quantities and respective assignment items
   1. Integrated with ERP and once this data is shared to ERP then allocation and quantities of promotional items are decided by ERP users
   2. Once the above promotions are assigned by ERP users then it will flow to DigiTS.
8. Free Good – Transactional / Periodical Basis (Time, Qty & Items) – **Integration**
9. Previous Returns**:**
10. First initiation (SharePoint) users have to key-in (No Change)
11. Approval has to be done from SharePoint (No change)
12. Integration takes place between SharePoint and DigiTS Backend within a time-interval.
13. Next day, the same approved request will flow to the DigiTS App.
14. During the customer visit, the user can receive the Previous returns, either in excess/less quantity.
15. Return items through load-out are sent to the warehouse.
16. Only one return type is available in DigiTS (General Returns), for both good and bad items, it has to be returned through general return.

Exceptions:

* In the previous returns, requests will be made available in the Digital Delivery App the next working day. In any case, they need to do it on the same day, they have to perform master data download in the App.

1. After load-in confirmation, life cycle of each order will be over. Either one of the below scenarios will occur:
2. Full Delivery and no load-out.
3. Partial Delivery and remaining quantity load-out.
4. Not Delivered/Not Processed and the full load-in stock will be load-out.
5. The life cycle of each load-out order will end at this point, and the relevant information will be transmitted to the ERP system.
6. Load-out will have two options:
7. Carry-forward- Only Not processed/Not Delivered orders can be carry-forwarded to the next day. The user has to select the orders needs to be carry forward.
8. Off-load- Partial delivered/Not Processed/Not Delivered & Previous Returns.
9. The above load-out off-loaded transaction will flow to the Inventory receiving re-confirmation. (Applicable only for load-out offload).

Exceptions:

* After load-out offload (Partial delivered/Not Processed/Not Delivered), the item will not be there for re-scheduling. The item and quantity will be cancelled against the booking in the ERP.
* Not Delivered/Not Processed orders can be load out straight away, no approval will be required for this.

1. In the event of any discrepancies during loadout, a debit note will be generated and associated with the delivery person. This debit note will then be transmitted to the settlement system and subsequently to the ERP system.
2. In the event of any discrepancies occurred during (Partial-Load In, Load-In Cancellation, Load-In Rejection, Load-out) and inventory re-confirmation, the debit note will be passed against the respective user. (Need to check the user profile name with Neeraj)
3. Settlement can be done either from the App or Web.
4. End day.

Phase 2:

1. Partial or Not Delivered deliveries can be assigned to new order either 1 or multiple.