# **INVENTORY SYSTEM REQUIREMENTS AND DESIGN**

This system is to manage the general inventory of Nick TC Scan (Gambia) Ltd.

The first is the Tracking devices management which would have the modules as listed below:

## 1. Inventory menu(Sub-menus i,ii,iii,iv)

i-Devices/Trackers (to hold devices in use)

ii-Stores/Device stock (to hold devices that would be used in the future)

**iii-Transfers** To approve device transfers from:

Stores to Devices/Trackers

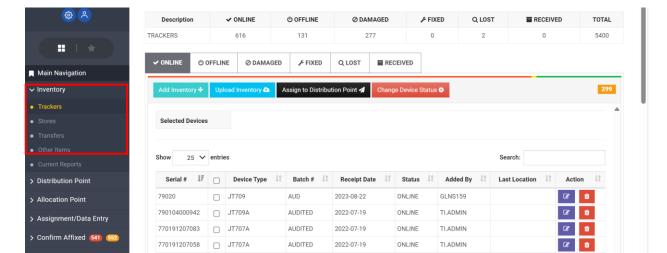
Distribution Point to Another Distribution Point

**Distribution Point to Allocation Point** 

Allocation Point to another Allocation Point

Note that a device would have statuses which is (Online, Offline, Damaged, Repaired/Fixed Lost) which would be a dropdown to select status from.

iv-Other items (to hold other items like lock rope which are in different sizes of length)



Trackers Sub menu.

> Reports

When the Devices/Trackers sub-menu is clicked, user should be able to:

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Add Devices/Trackers, Upload Devices/Trackers, Assign to a Distribution Point and Change Device/Trackers status.

AUDITED

AUDITED

2022-07-19

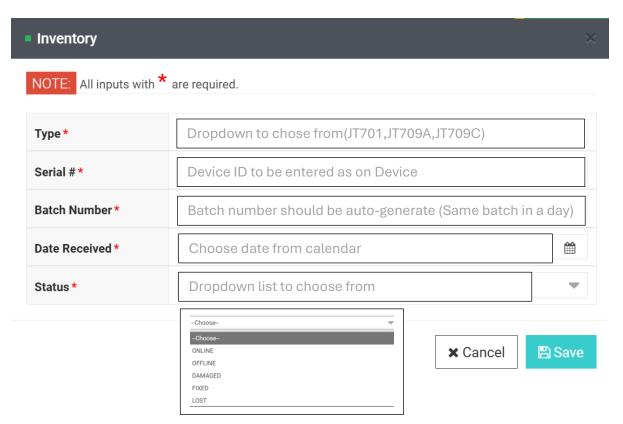
2022-07-19

ONLINE

TI.ADMIN

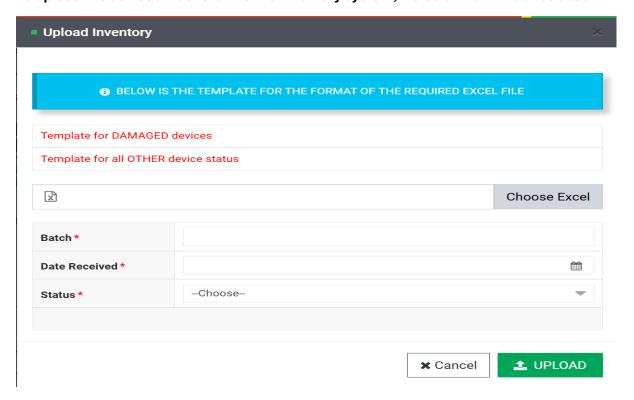
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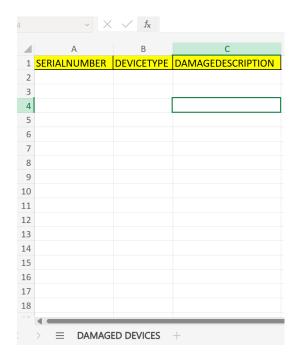
**To Add Devices/Trackers,** the form to complete is as shown below:

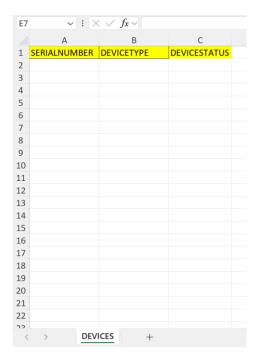


# **To Upload Devices**

To upload the devices/trackers into the inventory system, the below form must be used.

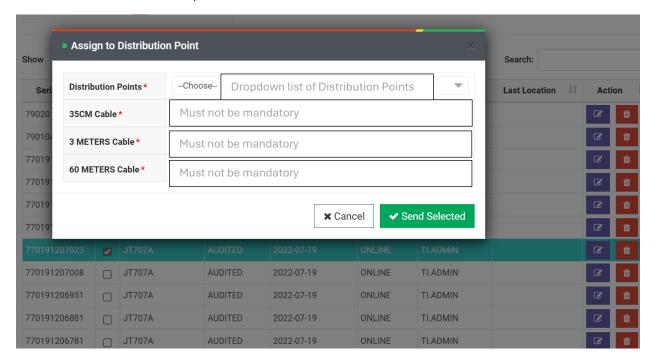






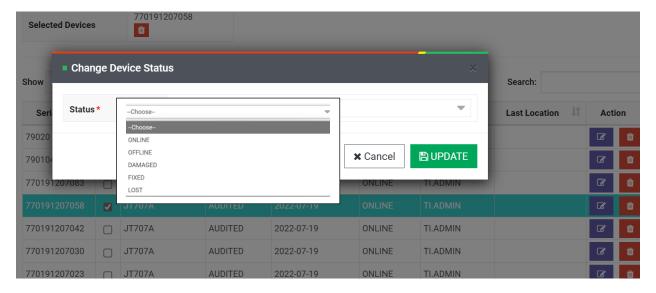
## **Assign to Distribution**

To assign devices/tracker to a Distribution Point, the device(s)/tracker(s) must be selected from the list before it can be assigned, else the assignment to distribution point must throw an Error("Error, No device/tracker selected")



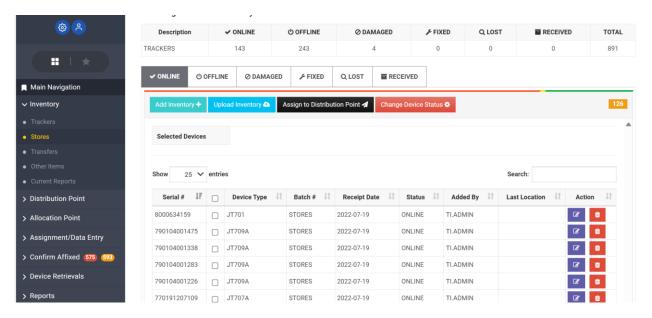
## Change status of device/tracker

To change the status of devices/tracker the device(s)/tracker(s) must be selected from the list before it can be assigned, else the Change Device status must throw an Error("Error, No device/tracker selected") Note, the **UPDATE** label can be changed to **SAVE** 



#### **Stores**

Stores have the same functions as the Devices/Trackers

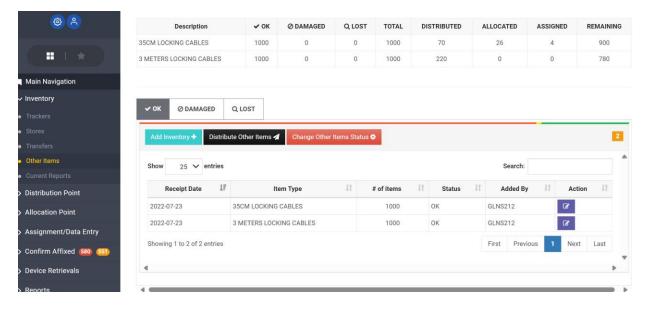


#### **Transfers**

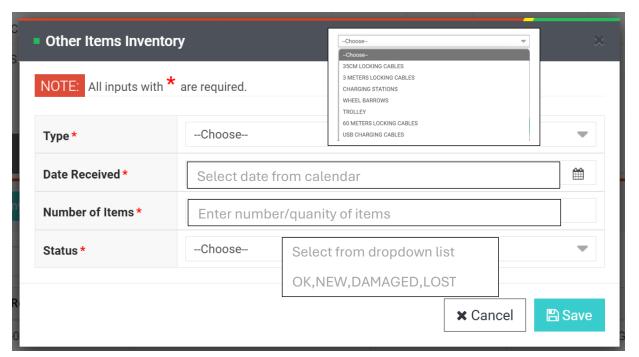
When devices/trackers are transferred from one Distribution Point to another or from a one Allocation point to another allocation point, the transfers needs to be verified by the

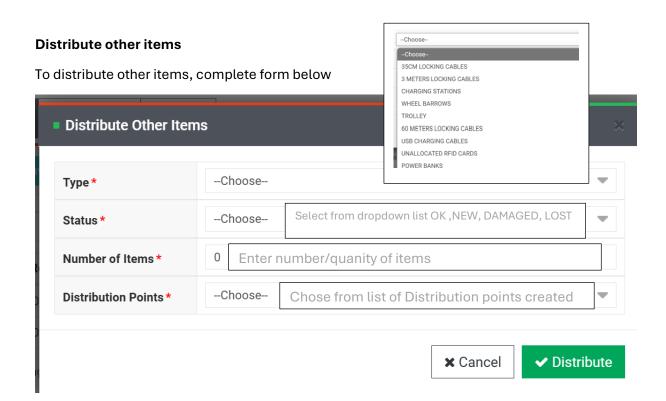
## IV. Other items

The other items works just as the Devices/trackers or the Stores when items(Lock ropes) can be added, distributed and change of items status



# Adding other items form

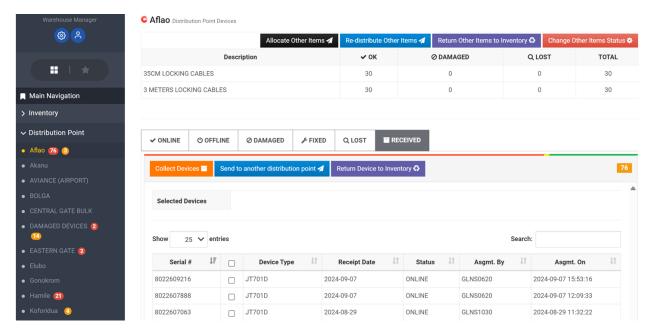




#### **Distribution Points**

The Warehouse Manager would create **Distribution Points** which would be the place to hold devices being worked on by the Devices/Trackers Managers to check and confirm the status of the devices before transferring them to the various Allocation Points. This is where the devices can now be assigned for affixing.

When the Distribution Point(**Aflao** as an example) is created, the interface should have the buttons and actions as shown below:



The above is interface has Collect Devices(Relabel as 'Accept Devices), Send to another Distribution Point and Return to Inventory(would send the devices back to the Devices/Trackers pool)which is the main source for distribution.

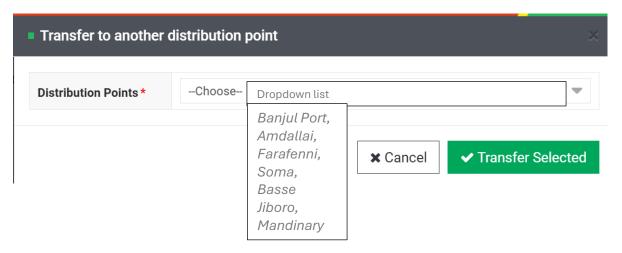
Collect Devices E label as "Accept Devices")

The system should be design in a way that when devices are received from any Distribution Point or Allocation Point, the user would have to accept the devices(in the **RECEIVED pool**)before they become available in the pool of devices(either ONLINE,OFFLINE,DAMAGED,FIXED,LOST) at the Distribution Point.

The 76 in red shows devices have been transferred to the RECEIVED pool for the user to know and Collect Devices(label as "**Accept Devices**") by selecting them either in bulk or one-by-one by ticking the checkbox of the device(s). The 3 showing in amber color means the devices have been collected(Accepted into the usable pool).



A user should be able to transfer or send devices/trackers to another Distribution Point(for example from Banjul to Farafenni) Note that these transferred devices would be waiting approval at **Transfers sub-menu** under the **Inventory menu** 



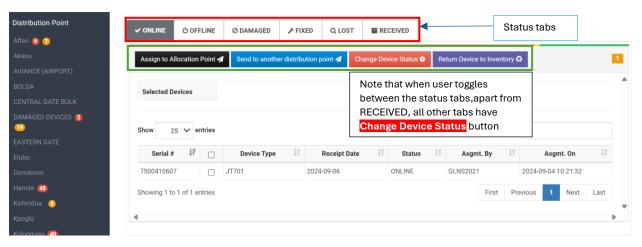
The dropdown list would be fetched from the **Distribution Points** that would be created under Distribution Points in the Admin menu.

# Return Device to Inventory 🗘

This Return Device to Inventory should send the device to the main Devices/trackers pool under Inventory.

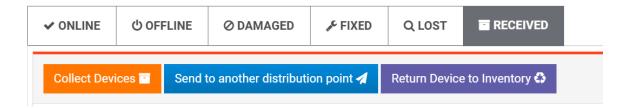
The device(s)/tracker(s) must first be selected before the Return Device to Inventory action is executed, else throw an 'Error No Device selected"

Note that each of the statuses (ONLINE,OFFLINE,DAMAGED,FIXED,LOST,RECEIVED) as shown would all have devices in their pool of devices if the status is selected as any of the above.



This enables a user to change the status of a device/tracker/other items once devices have been accepted from the RECEIVED tab to any other tab. The reason is that, when the device have not been accepted, user must not be able to change status.

This can be confirmed as shown below, when the RECEIVED tab was selected, the Change Device status button was not found.

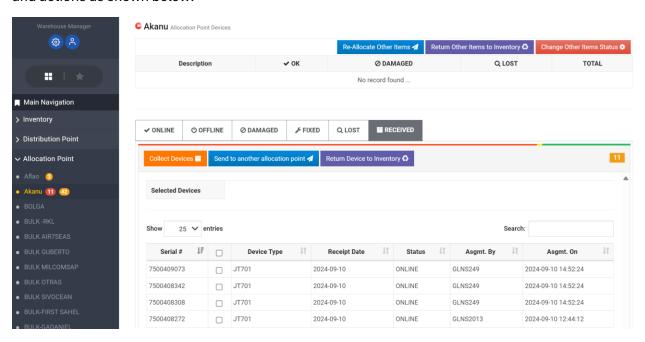


#### MODULE 3

#### **Allocation Points**

The Warehouse Manager would create **Allocation Points** which would be the pool to hold devices being worked on by the Devices/Trackers Supervisors to check and confirm the physical and system status of the devices received from Distribution Points before allocating them to Data Entry/Assignment officers to set trips. This is where the devices can now be assigned for affixing.

When the Allocation Point (**Akanu** as an example) is created, the interface should have the buttons and actions as shown below:



The above is interface has Collect Devices(Relabel as 'Accept Devices), Send to another Allocation Point and Return to Inventory(would send the devices back to the Devices/Trackers pool) which is the main source for distribution.

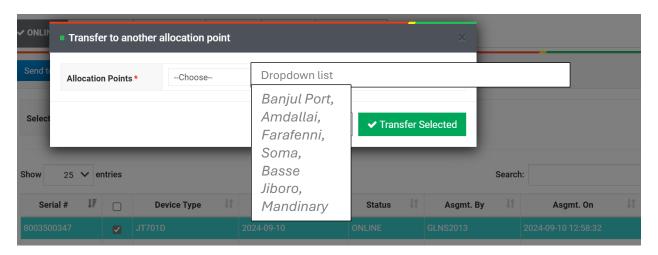
Collect Devices [ label as ("Accept Devices")

The system should be design in a way that when devices are received from any Distribution Point or Allocation Point, the user would have to accept the devices(in the **RECEIVED pool**)before they become available in the pool of devices(either ONLINE, OFFLINE, DAMAGED, FIXED, LOST) at the

Allocation Point. Akanu 11 42 The 11 in red shows devices have been transferred to the RECEIVED pool for the user to know and Collect Devices(label as "Accept Devices") by selecting them either in bulk or one-by-one by ticking the checkbox of the device(s). The 42 showing in amber color means the devices have been collected (Accepted into the usable pool-mostly ONLINE).

# Send to another allocation point ✓ Relabel as "Send Devices to another Allocation Point"

A user should be able to transfer or send devices/trackers to another Allocation Point(for example from Banjul to Farafenni) Note that these transferred devices would NOT be waiting approval at **Transfers sub-menu** under the **Inventory menu**, but would be go straight into the Allocation point pool of devices to be **RECEIVED**.



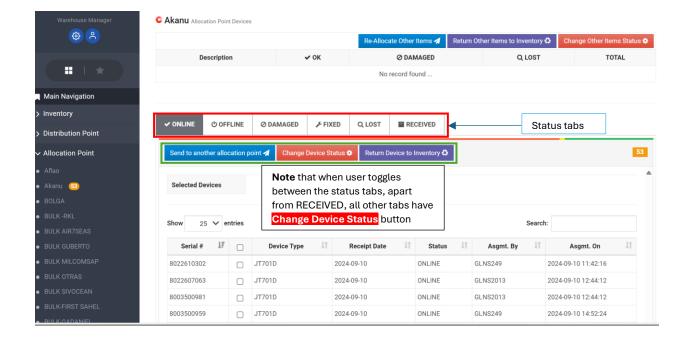
The dropdown list would be fetched from the **Distribution Points** that would be created under Distribution Points in the Admin menu.

# Return Device to Inventory 🗘

This "Return Device to Inventory" should send the device to the main Devices/trackers pool under Inventory.

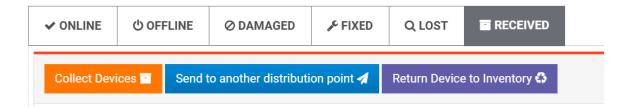
The device(s)/tracker(s) must first be selected before the Return Device to Inventory action is executed, else throw an 'Error No Device selected"

Note that each of the statuses (ONLINE, OFFLINE, DAMAGED, FIXED, LOST, RECEIVED) as shown would all have devices in their pool of devices if the status is selected as any of the above.



This enables a user to change the status of a device/tracker/other items once devices have been accepted from the RECEIVED tab to any other tab. The reason is that, when the device have not been accepted, user must not be able to change status.

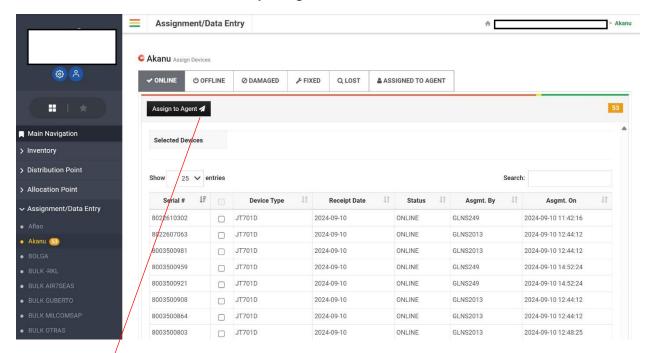
This can be confirmed as shown below, when the RECEIVED tab was selected, the Change Device status button was not found.



## Data entry/Assignment (now label as "Data Entry/Dispatch)

The data entry/Dispatch would allow users to dispatch a device on a truck or vehicle then the Affixing officer would now pick the device(s) for affixing/locking on the vehicle assigned that device.

Below is the interface for the Data Entry/Assignment:



Note that only device(s) with only ONLINE status in the ONLINE pool of devices can be assigned or dispatched.

Assign to Agent ✓ relabel as "Dispatch Device"

### **Dispatch Device process**

User ticks or picks device(s) from the list of devices in the ONLINE pool and click on Assign to Agent.

A user can assign more than one device at the same time because one truck may be carrying two or more containers/overland vehicles but not exceeding 5 devices.

The vehicle number should have 5 fields with only the first field being mandatory, but **Add vehicle number** button to be able to add more.Also SAD field to have Add button to add more fields.

However, the system can have an idiot proof on this form by making it in such a way that if user selects one device, only one vehicle field would be made available, and if user selects multiple devices not exceeding 5, the vehicle number field should match the number of devices selected.

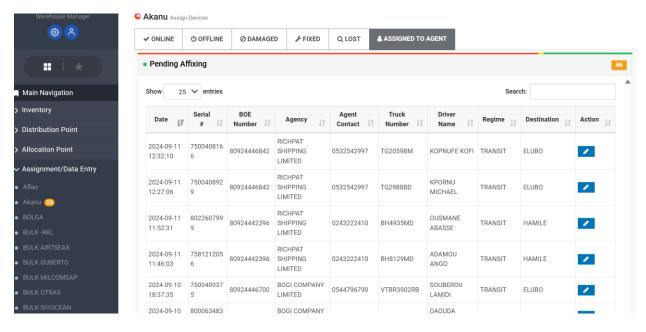
Note that SAD fields should behave just like the vehicle number field. The mandatory fields for SAD and Vehicle number should match the number of devices selected to dispatch.

The Dispatch Devices form should have the following fields:

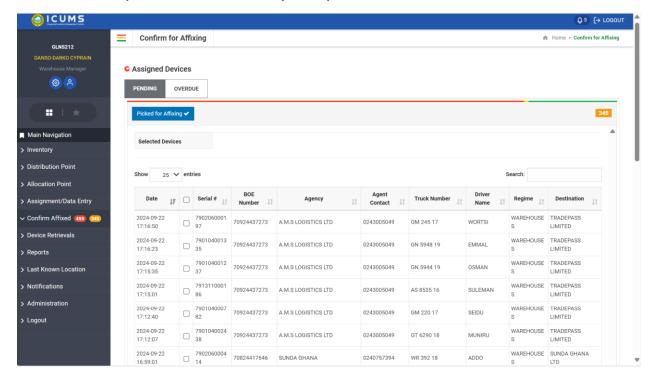
Date(auto generate),
Device Serial(Selected)
BOE (label as "SAD" mandatory),
Vehicle number (mandatory),
Regime(dropdown)
Destination(dropdown)
Action (Edit button per roll).

## The ASSIGNED/DISPATCHED DEVICES tab

This shows devices that have been assigned/dispatched by the Data Entry clerk. The user (Data Entry Clerk) should have the right to make changes to the entry where need be with the edit button under Action column.



# Confirm Affixed (relabel as "Confirm Dispatch")



The Affixing officer would click after selecting the device serial, a pop-up should display asking the user (Affixing officer) to "Are You sure to Confirm Affix" by choosing "Yes" or "No" Note that an Affixing Officer can select up to five (5) devices and confirm for affixing.

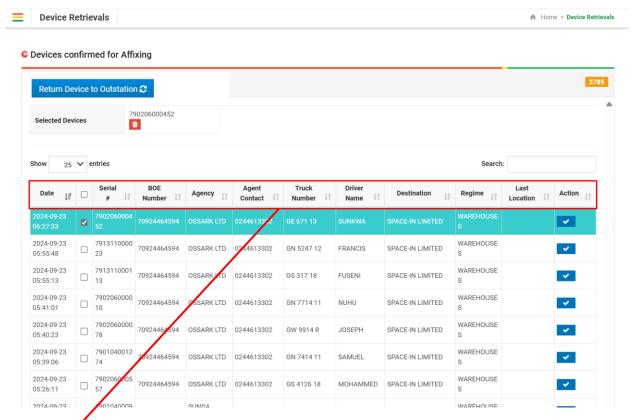
If a user clicks Picked for Affixing without a selected device, the system should throw an error message 'Error No Device selected'.

When the device(s) are confirmed for Affixing, the device(s) should now move to the Retrieve Device list where the retrieval Officer can also perform the functions.

#### **Device retrievals**

The Device Retrieval officer would only select a device(s) and return them to Outstation (that is the location of the user). The Outstation is the same as the Distribution Point defaulted to the user.

Note that a Retrieval Officer MUST only see the devices coming to his location and not other locations.



Note that Last Known Location should be relabeled as "Monitoring remarks"

The fields should be: Date, Device serial, SAD(BOE) Truck number, Destination, Regime, Monitoring Remark

## **MODULE 7**

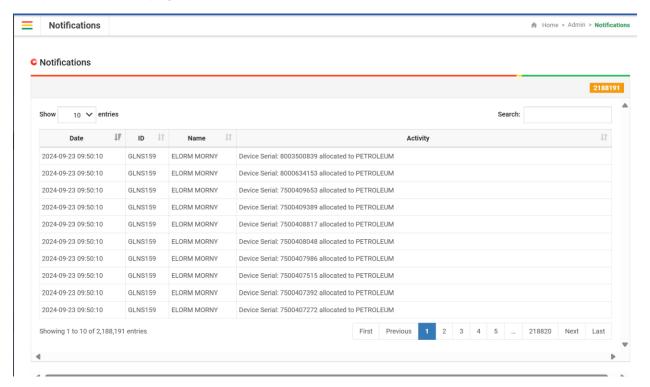
# Last Known Location(Now label as "MONITORING")

The Monitoring Module should allow a Monitoring officer to add notes to the device retrieval page which would also be the same as the Monitoring Page. At this level, Monitoring Officers would be allowed to see and add notes to all locations (Sites most the destinations) for a particular device (s)

#### **Notification**

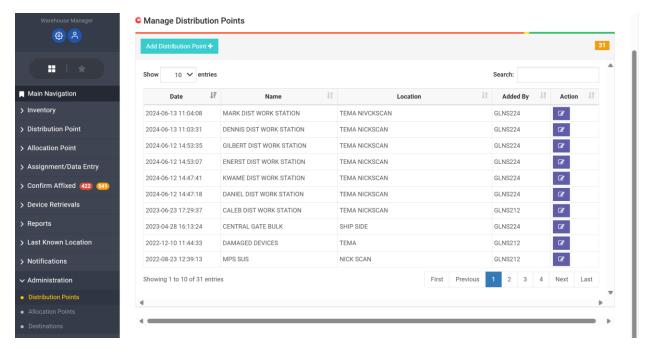
The notification is just like Log of activities on the inventory system displaying all actions taken by a user. It should have search parameters that can use the User ID, and Device serial which would give log of activities per the search.

# **Sample Notification page**



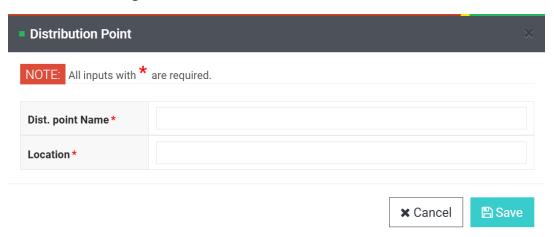
# Administration (Now label as "CONFIGURATION")

The Administration (now CONFIGURATION) is where the "Distribution Points", "Allocations Points", "Destinations" and "Regimes" are created or added to the system.



When the Add Distribution Point( Add Distribution Point + ) is clicked, the below forms opens for user to complete and save.

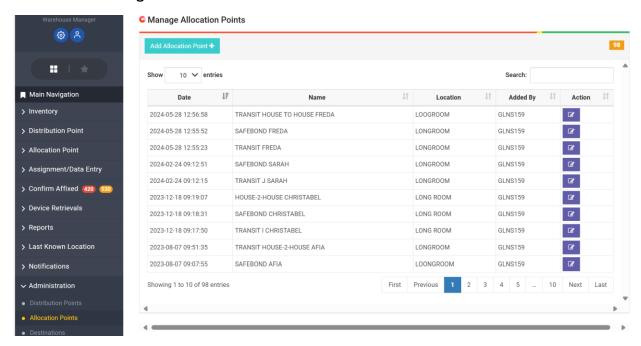
## **Interface for adding Distribution Point**



When the form is completed and Saved, the Distribution Point would be created.

Distribution points created should be assignable to users in the user role management

# **Interface for adding Allocation Point**



Add Allocation Point + When Add Allocation Point button is clicked, the below form opens for the user to complete and save, then the Allocation Point is added. Allocation Points created should be assignable to users



# Regime

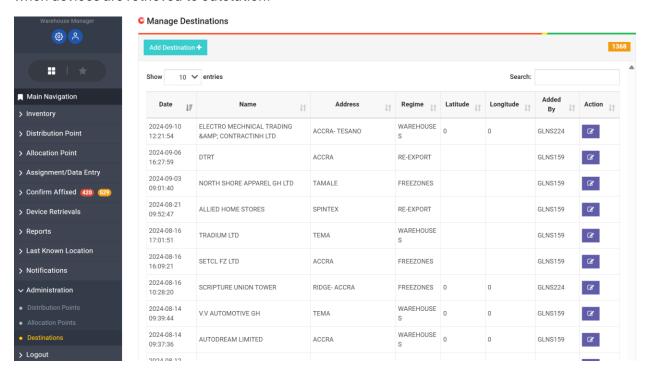
Regimes must be created to be used to create the Destinations



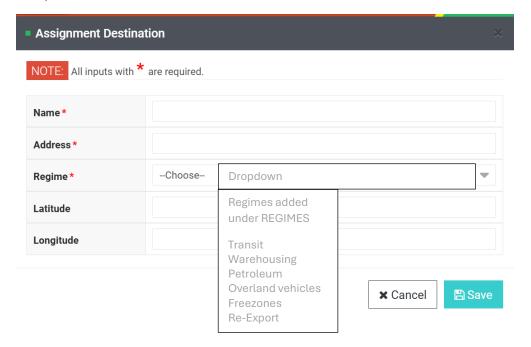
When the regime is entered and saved, it would be added to Regimes list.

#### **Destination**

Destinations created must be assignable to users so at to default their location to make it easy for Retrieval Officers to be able to send to Outstation (Distribution Point Pool of that Destination) when devices are retrieved to outstation.



Add Destination + When the Add Destination button is clicked, the below form opens for user to complete and save, then the destination would be added.



#### **USERS OF THE INVENTORY SYSTEM**

1. **WAREHOUSE MANAGER** should be able to create Distribution Points, Allocation Points, Destinations, Customs Regimes, Approve transfers, Allocate other items (Which is the sole responsibility of the warehouse Manager).

## 2. DISTRIBUTION OFFICER (DEVICE MANAGEMENT)

The Distribution officers are same as the Device Managers who would be physically checking the status of the devices and distribute to Allocation Points.

## 3. ALLOCATION OFFICERS (SUPERVISORS)

Allocation officers would only allocate devices for the Data Entry Clerks to Assign device(s) on trips.

#### 4. DATA ENTRY/ASSIGNMENT

Data Entry/Assignment Officers would set devices for trips by, completing a form where a device is selected, vehicle number entered, regime chosen and the destination chosen.

The reporting for assigned devices should have these field Date Assigned, SAD, Device serial, Regime, Destination

#### 5. AFFIXING OFFICERS

Affixing offices would now pick the devices for affixing after the device is physically affixed and locked on the vehicle

The reporting for affixed devices should have Date Assigned, Date affixed, SAD, Device serial, regime, destination.

## 6. RETRIEVAL OFFICERS

Retrieval officers would pick devices and return Outstation of the user. A user(Retrieval Officer) should have the branch or site defaulted to his or her branch.

Retrieval report should have Date Retrieved, SAD, Device Serial, Departure location, Destination, Regime, Retrieved by

#### 7. MONITORING OFFICERS

Monitoring officers will have the ability to add notes to the selected device(s) and save it. This notes would be reviewed by other monitoring officers who take over from the other officers

The user should be able to close the issue added to a device by another user but must be approved by the Monitoring Supervisor.

The report should have issues that have been added and pending, that have been added and closed.