

Material Tracking Application

The Material Tracking project (MT) will contain the following modules:

- Request Module
- Purchasing Module
- Receiving Module
- Shipping

Each module needs to have:

- Completely separate UI, Business, and Data Layers.
- Data Access should be through Stored Procedures or Entity Framework

Request Module

The Request module is to be used by the user to maintain a list of preferred vendors, products to purchase, and assemblies. They will also create a request for orders when supplies will be needed.

Requirements:

- Enter and maintain a list of Vendors
- Enter and maintain a list of Products
- Ability to associate a product to a ranked list of preferred vendors
- The ability to associate a grouping of products into a larger Assembly.

Example:

King Post Roof Truss

10' 2" x 6" planks, quantity (3)

5" x 5" Gusset, quantity (3)

10" x 10" Gusset, quantity (1)

- All products and assemblies can be ordered in multiple quantities.

Example:

(4) 4' x 8', 3/4" Plywood

(1) box 2" galvanized nails

(9) King Post Truss

- Once the Order is completed, the order should be placed into a status of "Request Pending"

Purchasing Module

The purchasing module will be used by the purchasing stewards to arrange a PO and place the order.

- Ability to see all requests, regardless of status, and then filter on those that are "Request Pending". If they are "Request Pending" they can select it for processing.

Processing the request:

- Only individual products will be listed, and all identical products will be combined in quantity.
Example: Order of 1 King Post Truss and 5 additional 10' 2" x 6" planks would list:
3 – 5"x5" Gusset, 1 – 10" x 10"x Gusset, 8 10' 2"x6" planks

- Each line item will then be selected, and the list of preferred vendors appears. The user can then: Select a Vendor and enter the price per unit.
- When all Items have a vendor and price, they can set the status to “Awaiting PO”

Awaiting PO:

Selecting a request that is in “Awaiting PO” status will allow the user to:

- See a distinct list of vendors for the selected Request.
- Apply a PO number for each Vendor (PO numbers come from another system, so there is nothing to confirm, just accept the number).
- Once all PO numbers are entered, the user will save the request and the status will go into “Pending Delivery”.
- Saving a PO will also generate an Order ID number that encompasses all orders. The status of the Order and each PO in the order will be “Open”

Closing PO and Orders:

- The user will be able to look at all open Orders and see the number of Open, Pending Close, and Closed POs.
- The user will be able to mark the Pending Close items to Closed.
- Once all POs are Closed, then the Order entry will be marked as a status of Closed

Receiving Module:

Configurations:

- The user should be able to enter and maintain a list of Loading Zones, Unloading Zone, and Storage areas.

Item Receiving:

When an item is received, the receiver’s job is to:

- Get the paperwork from the driver, which includes the Order Number
- Pull up the requested items on the request by the Order Number
- The items received are marked as a “Received”, and assigned to a temporary unloading area.

Storing the Item

The items are then to be moved from the temporary unloading area into the appropriate storage area.

- Each item can be allocated to various storage locations, they do not all need to go to one area. Exception: Assembly items should all go to one area
- Once they are relocated to their storage area, then they are to be marked as “In Inventory”

Back-End Logic:

- When all items of a PO are received, the individual PO should be marked in a status of “Pending Close”.
- When all POs of an order are received, then the Order should be marked as a status of “Pending Close”

Shipping Module

Configuration:

- Enter and maintain a list of Destination Locations
- Enter and maintain a list of shipping companies

Shipping:

- The user should be able to select a Shipping Company and a Destination for a shipment and a Shipment Number should be generated.
- The user should be able to select items or Assemblies for shipment.
- As the items are moved, they should be assigned a "Loading Zone" value, and the location of that item should be set to the Loading Zone.
- The status should be marked as "Pending Shipment"
- When the items are picked up for Shipment, then the status will change to "Shipped".