Inventory Management System

Software Requirements Specification

1. **Requirement Overview**

- **Purpose:**

ABC steel manufacturing company often face overstocking, stockouts, and manual inventory tracking challenges. A web-based inventory management system offers a centralized platform to monitor stock levels, generate insights, and automate workflows**.**

- **Business Objectives:**
  - Improves accuracy in stock monitoring, preventing shortages or overstocking.
  - Streamline inventory-related workflows by integrating barcode scanning
  - Provide comprehensive analytics and reporting to enable better forecasting, resource planning, and strategic decision-making for sustainable growth.
- **Benefits:**
  - Provides instant access to stock levels, helping prevent shortages and overstocking.
  - Reduces inventory carrying costs, storage expenses, and waste through efficient stock management.
  - Ensures raw materials are available when needed, eliminating production delays.
  - Offers actionable insights through analytics and reports, enabling better planning and optimization.
  - Ensures timely delivery of finished goods, building customer trust and loyalty.
- **In scope:**
  - Development of a new web application with all the functions as specified in the SRS document
  - Integration with procurement system through REST API
  - Integration with the accounting system to track the cost of goods sold (COGS) and update financial records through REST API
  - Integration with sales system through REST API to receive export items request
- **Out of Scope:**
  - Development of a new mobile application with all the functions as specified in the SRS document

This application is developed to perform the following functions:

- **User management:**
  - Log in by user ID and password
  - Ability to perform CRUD functions on a user account
  - View list of user accounts with search/sort
- **Inventory management:**
  - Ability to perform CRUD functions on inventory
  - View list of inventories with search/sort
  - Ability to perform CRUD functions on the zone in inventory
  - View the outline of the zone in the warehouse

- **Inventory items management:**
  - Ability to perform CRUD functions on inventory items (integrate with barcode scanner)
  - View the list of inventory items with search/sort/filter
  - Ability to perform CRUD functions on categories
  - View the list of categories with search/sort
- **Inventory quality control management:**
  - Ability to perform CRUD functions on quality check items in inventory
  - View the list of check reports with search/sort/filter
- **Stock Transaction:**
  - Ability to perform CRD functions on stock transactions (integrate with barcode scanner)
  - View the list of stock transactions with search/sort/filter
- **Request management:**
  - View the list of requests with search/sort/filter
- **Employee Management:**
  - View the list of employees with search/sort/filter
  - Ability to perform CRUD functions on task management
  - View the list of tasks with search/sort/filter
- **Report:**
  - Ability to select metrics to display dashboards
  - Ability to select metrics to alert notifications
  - Ability to view dashboards by bar chart, line chart

Assumptions:

- Inventory employees must have internet access to use the inventory management system application
- Existing IT infrastructure supports the development of this application

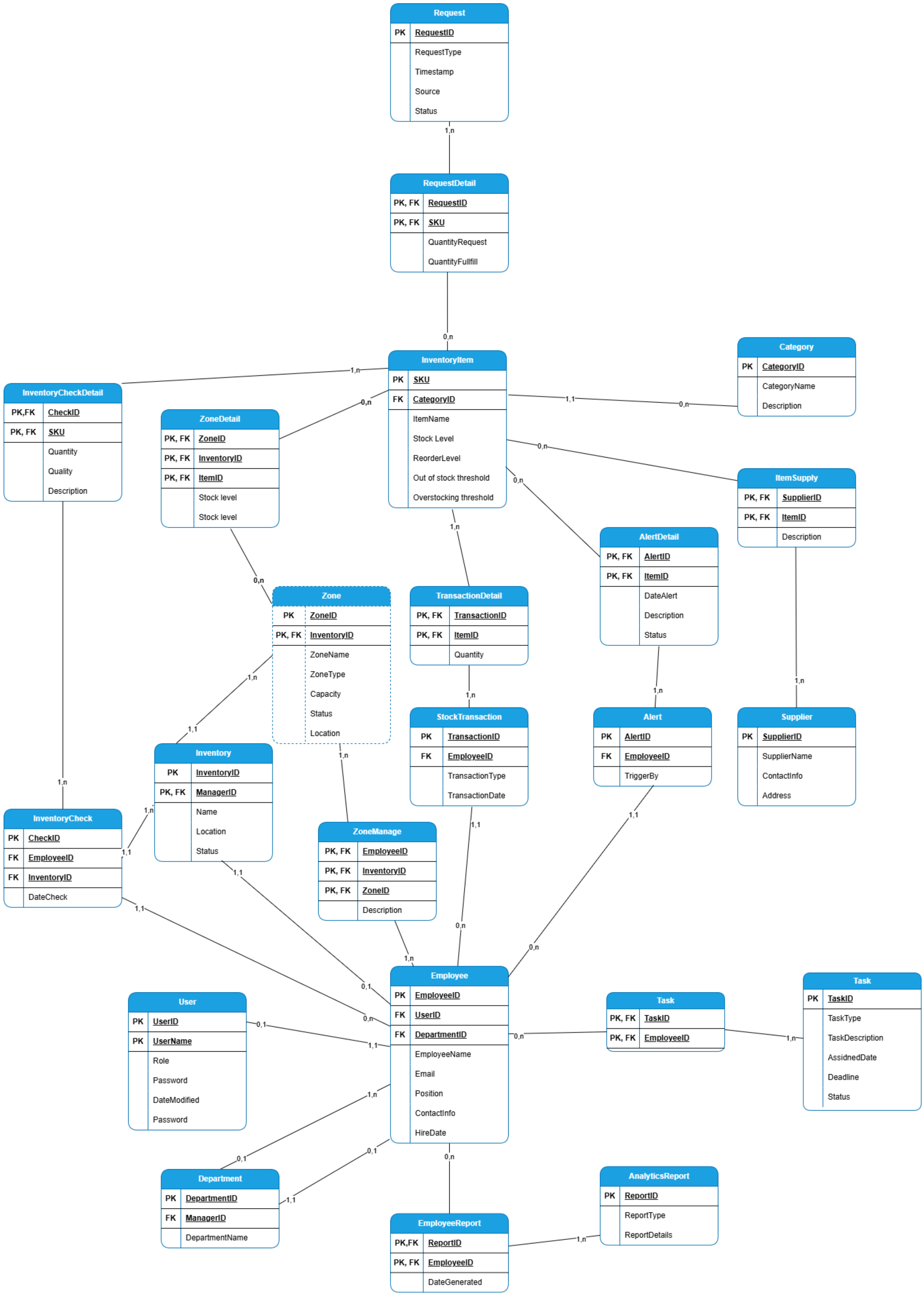
Constraint:

None

Wireframe: link to wireframe

2. **Analysis Models**

ERD: (xem)

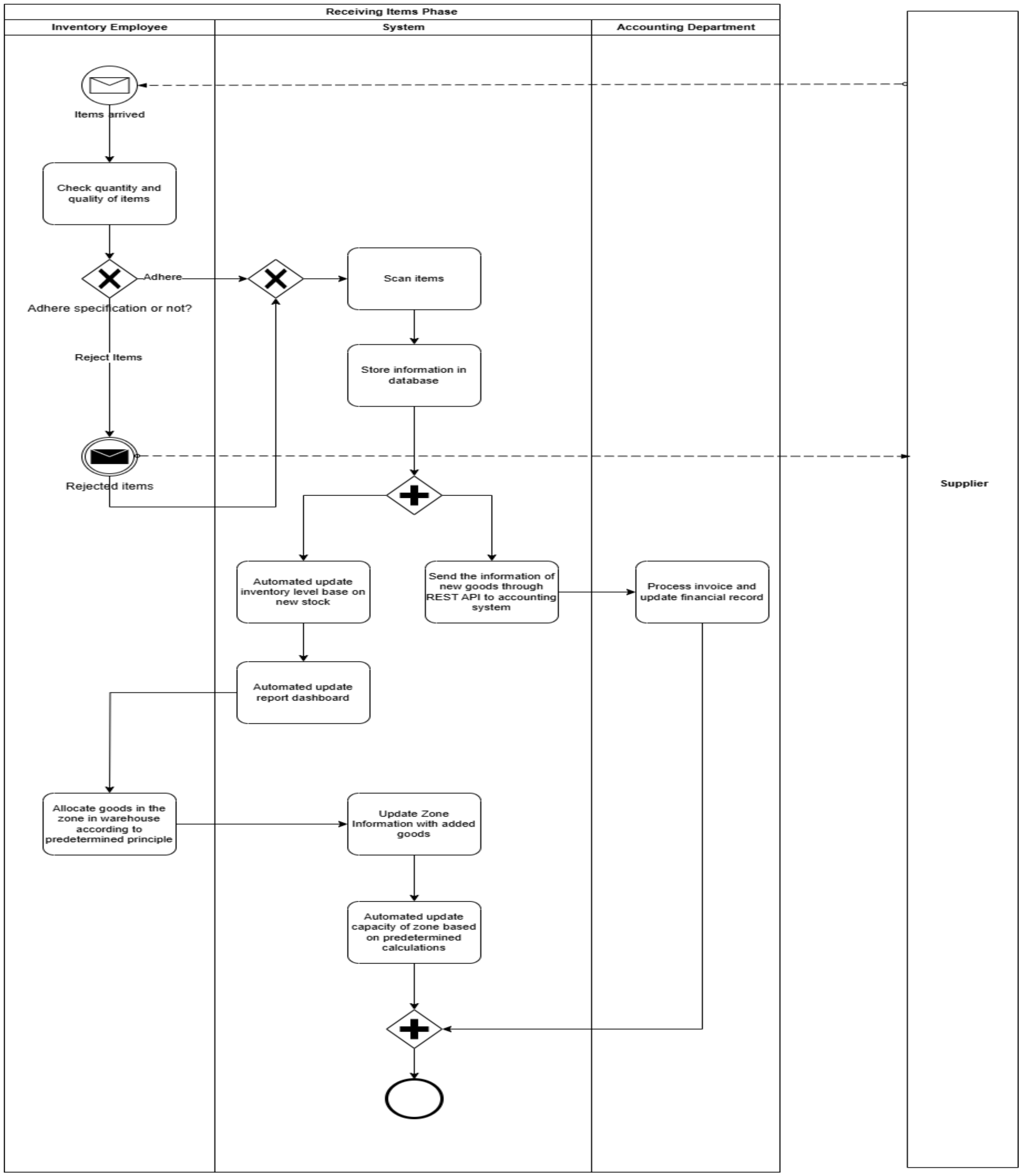


Request
PK RequestID
RequestType
Timestamp
Source
Status
RequestDetail
PK, FK RequestID
PK, FK SKU
QuantityRequest
QuantityFullfill
InventoryItem
PK SKU
FK CategoryID
ItemName
Stock Level
ReorderLevel
Out of stock threshold
Overstocking threshold
Category
PK CategoryID
CategoryName
Description
InventoryCheckDetail
PK,FK CheckID
PK, FK SKU
Quantity
Quality
Description
ZoneDetail
PK, FK ZoneID
PK, FK InventoryID
PK, FK ItemID
Stock level
Stock level
ItemSupply
PK, FK SupplierID
PK, FK ItemID
Description
AlertDetail
PK, FK AlertID
PK, FK ItemID
DateAlert
Description
Status
Zone
PK ZoneID
PK, FK InventoryID
ZoneName
ZoneType
Capacity
Status
Location
TransactionDetail
PK, FK TransactionID
PK, FK ItemID
Quantity
StockTransaction
PK TransactionID
FK EmployeeID
TransactionType
TransactionDate
Alert
PK AlertID
FK EmployeeID
TriggerBy
Supplier
PK SupplierID
SupplierName
ContactInfo
Address
Inventory
PK InventoryID
PK, FK ManagerID
Name
Location
Status
InventoryCheck
PK CheckID
FK EmployeeID
FK InventoryID
DateCheck
ZoneManage
PK, FK EmployeeID
PK, FK InventoryID
PK, FK ZoneID
Description
Employee
PK EmployeeID
FK UserID
FK DepartmentID
EmployeeName
Email
Position
ContactInfo
HireDate
User
PK UserID
PK UserName
Role
Password
DateModified
Password
Task
PK, FK TaskID
PK, FK EmployeeID
Task
PK TaskID
TaskType
TaskDescription
AssidnedDate
Deadline
Status
Department
PK DepartmentID
FK ManagerID
DepartmentName
AnalyticsReport
PK ReportID
ReportType
ReportDetails
EmployeeReport
PK,FK ReportID
PK, FK EmployeeID
DateGenerated

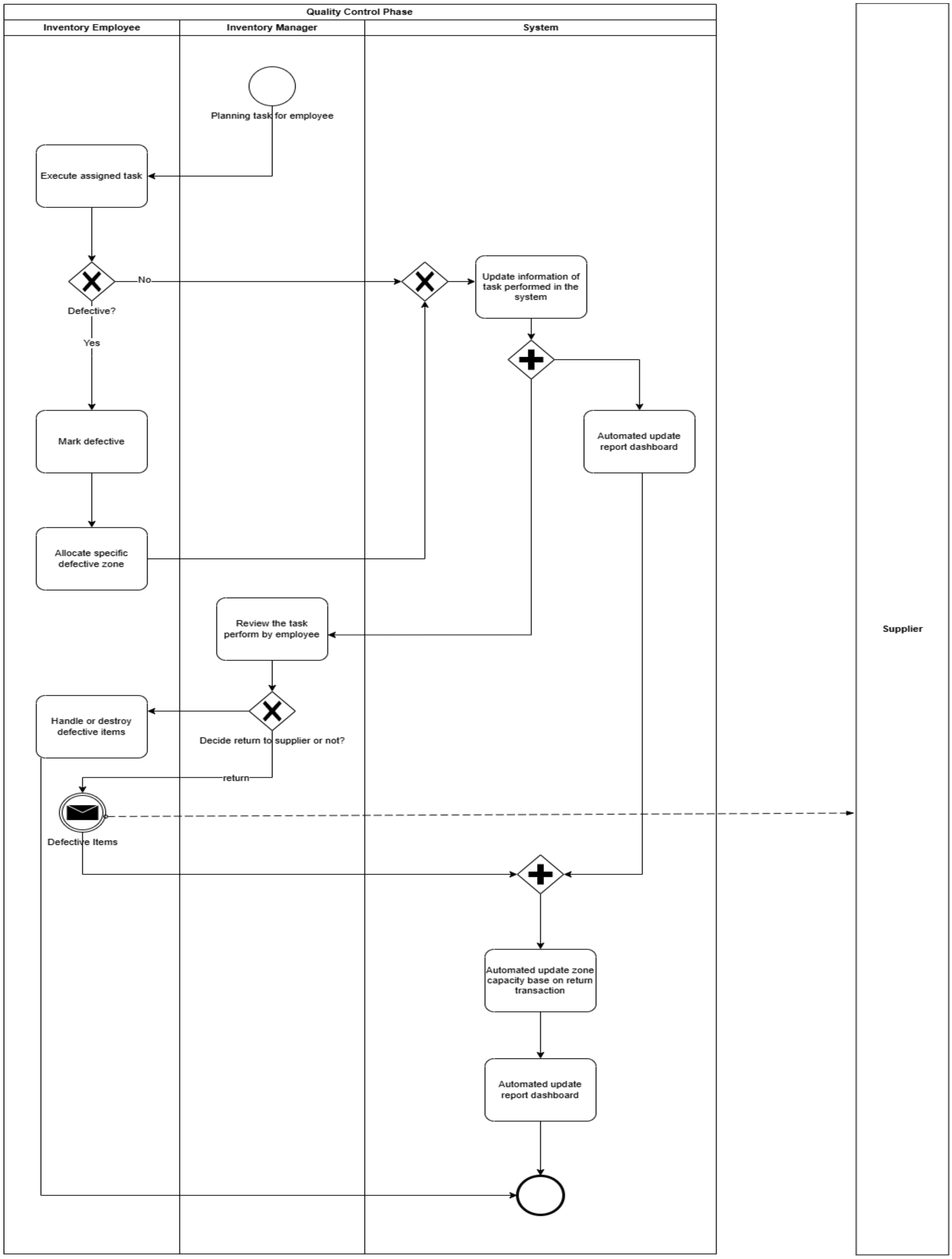
Business Process Modelling:

There are 4 phases in the business process related to this application:

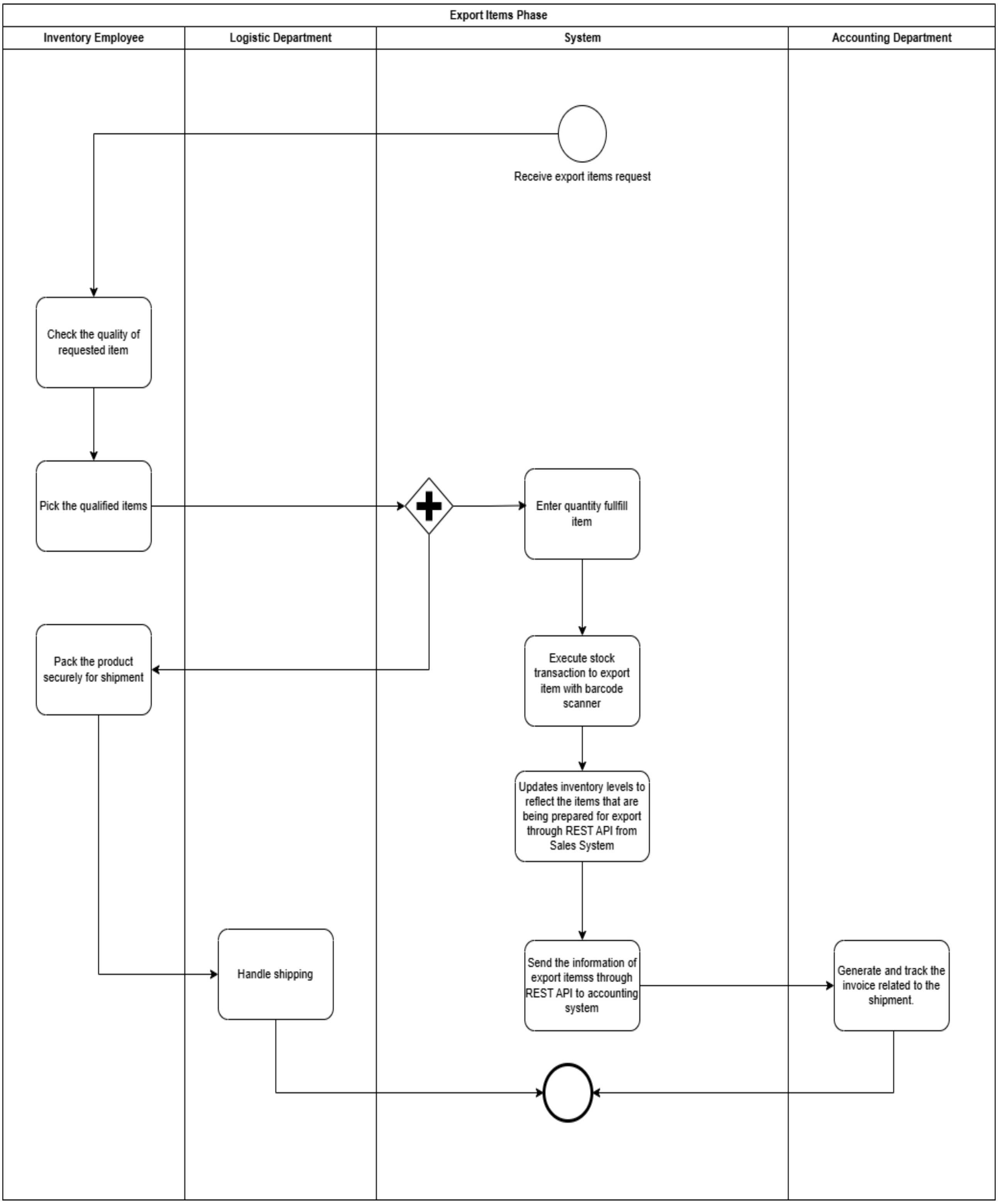
- Receiving Items Phase: (xem)



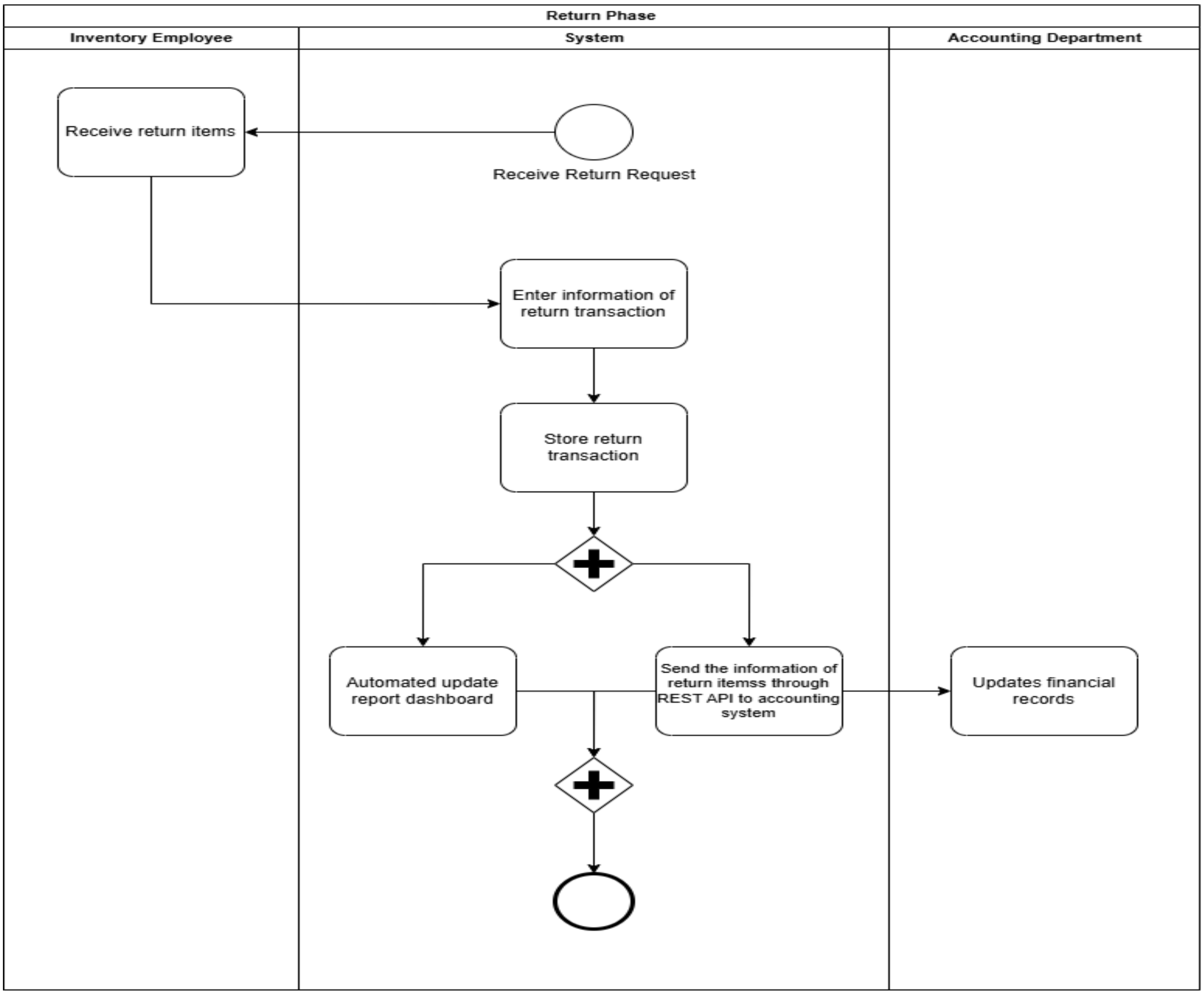
- Quality Control Phase: (xem)



- Export Items Phase: (xem)



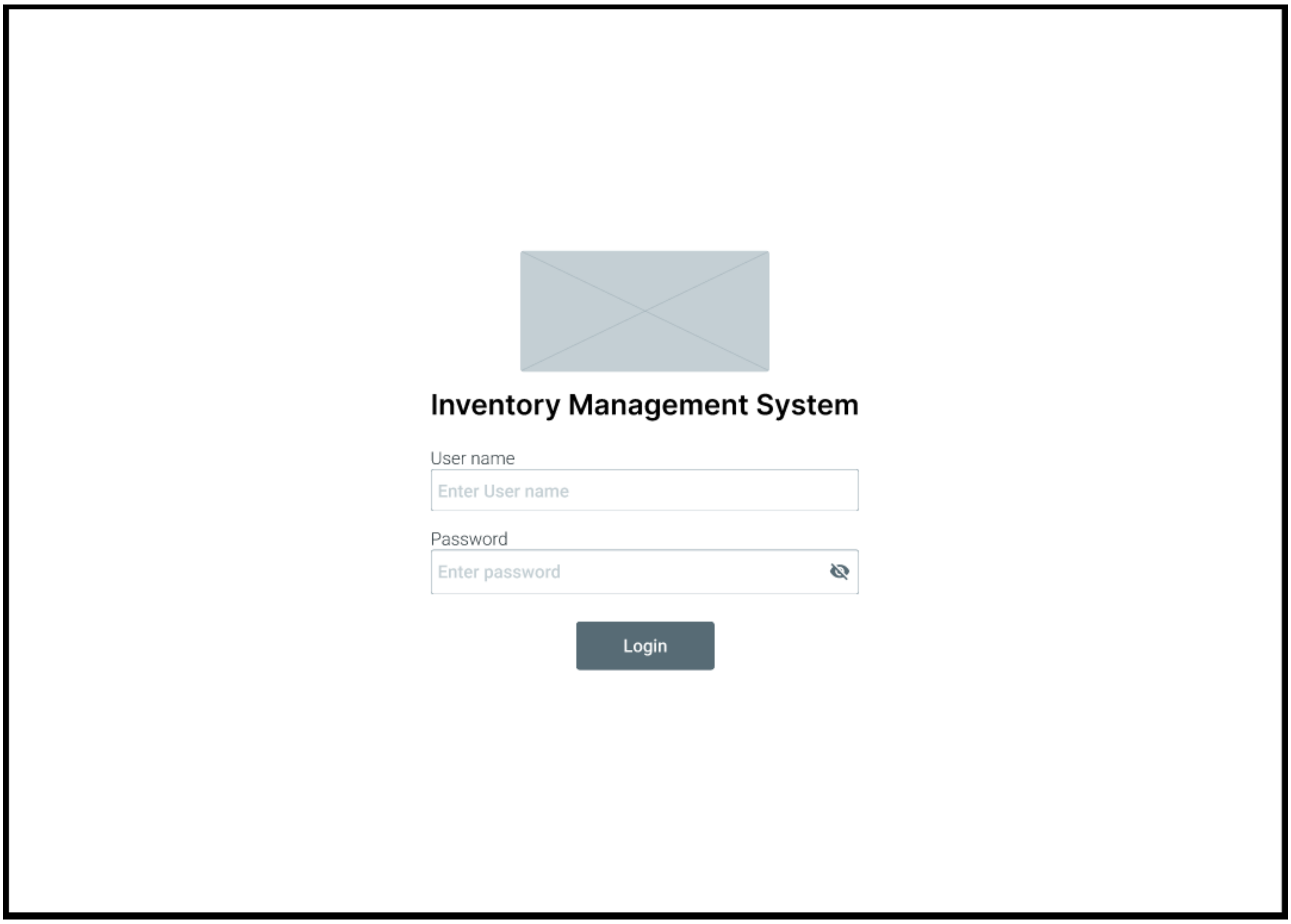
- Return Items Phase: (xem)



3. Authentication

3.1. Log In

- This section describes the authentication (Login) use case
- Value statement: *As an Inventory employee, I want to log into the system so that I can manage and handle inventory tasks.*
- The employee can log into the system by using the username and password given by the administrator
- Prerequisite: The employee should exist in the Inventory Management System as an administrator adding to the system



- Field Description:

Field	Field Type	Possible Values	Default Value	Validation
Login				
Username	Text			Required
Password	Masked Text			Required

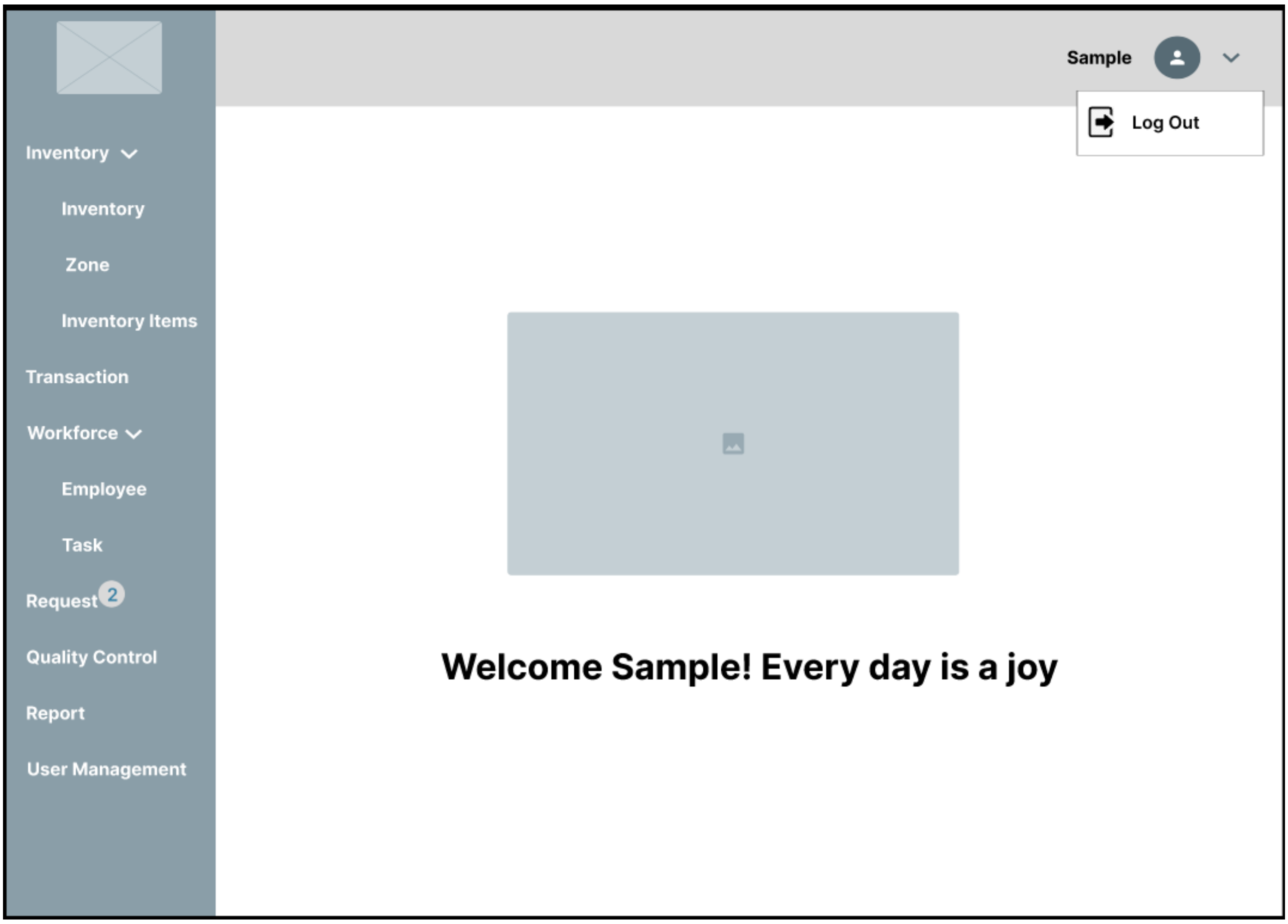
- Actions:
  - Eye password button:
    - When enabled, password text is showed
    - When unenabled, password text is hided
  - Login:
    - If the username textbox is empty, highlight the field and show the message “Username is required.” If the Password textbox is empty, it highlights the field and shows “Password is required.” If no empty required field, validate the username and password in the system
    - If no user exists with the username and password, show the error message: “Invalid Credential”
    - If the user exists with the username but the password is wrong, show the error message: “Invalid password”
    - Once all the above–mentioned validations are passed, do the following:
      - Allow the user to enter the system and show the welcome page

- Log this event in the Audit Trail with this information: (IP Address, Username, TimeStamp), Even = Login

- Acceptance Criteria:
    - When the user accesses the URL of the app, it should show the welcome page if the user is logged in already
    - When the user accesses the URL of the app, it should show the Login page if the user is not logged in already
    - When the user types the password, it should be masked with * character
    - Login should be failed in all the following scenarios and it should show the appropriate error messages as specified:
        - Provide only username and click on the login button
        - Provide only password and click on login button
        - Enter invalid username and click on login button
        - Enter valid username and invalid password and click on login button
    - A user should be able to login to the app by entering the valid credentials (username and password)
    - After successful login, it should let the user in and show the Welcome page
    - After successful login, the Login event should be stored in the Audit Trail as specified

3.2. Log Out

- This section describes the Logout use case
- Value statement: *As an Inventory employee, I want to log out of the system, so that I can change my account to other accounts*
- The employee can log out of the application by clicking the dropdown button on the top right corner of the application page. Then, the user can click on the logout button to log out of the application
- Prerequisite: The user already has logged into the system

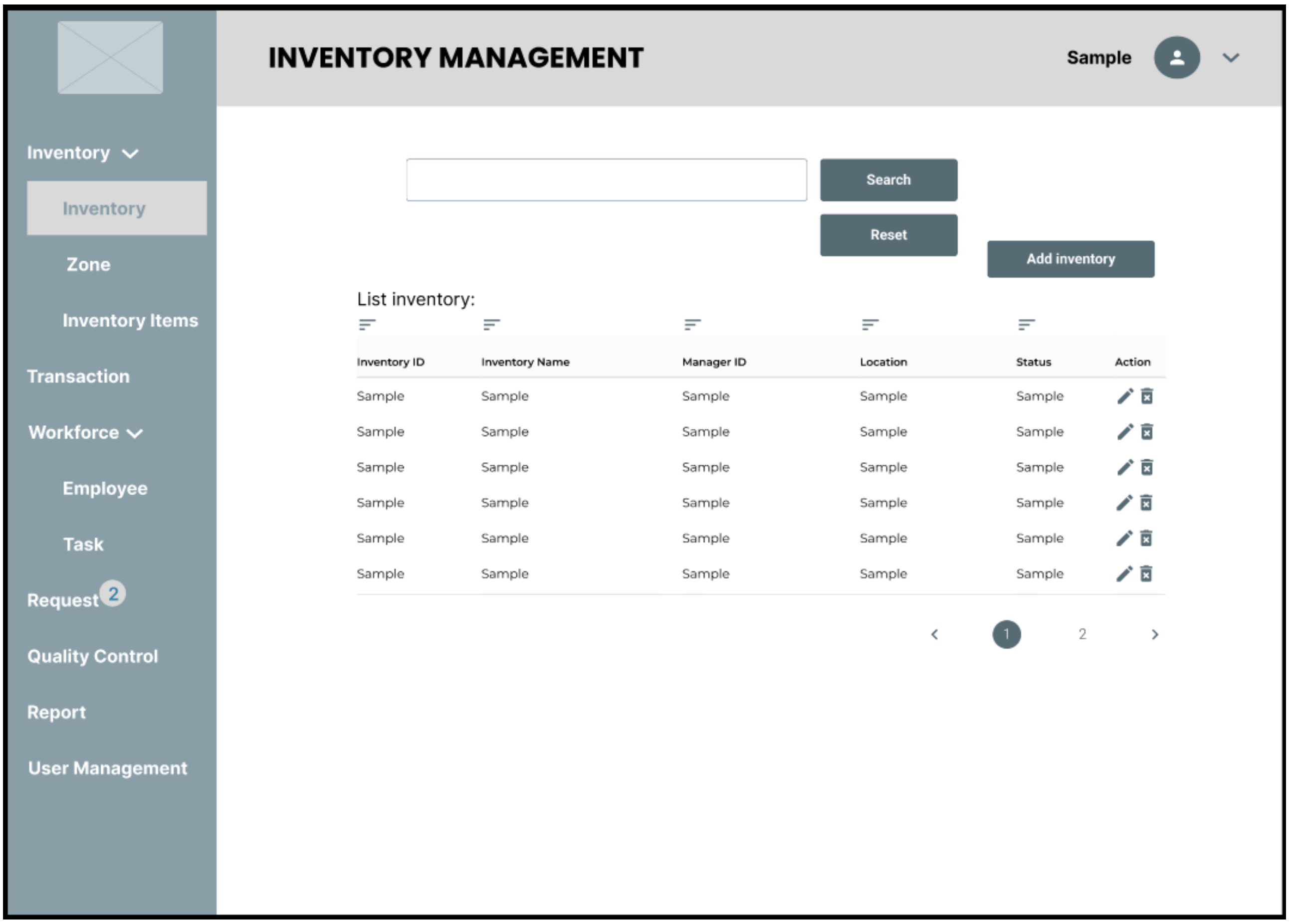


- Actions:
  - Dropdown button on the top right corner of the page: When clicking will throw the log out button for the user to click on
  - Log out: When clicking, pop up the message box that prompts the user to confirm:" Are you sure to log out?" with 2 buttons: Cancel and Accept
    - When clicking Cancel: Do nothing and close the pop-up
    - When clicking Accept: Log out user account and show the Log In page
  - Log this event in the Audit Trail with this information: IP address, Username, Timestamp, Event = Logout
- Acceptance Criteria:
  - When the user clicks on the dropdown button and clicks outside the dropdown menu box, the dropdown menu will disappear

- When the user clicks on the dropdown button and clicks the logout button, it will pop up the message box as specified for the user to confirm to log out of the system
    - If the user clicks cancel, do nothing and close the popup
    - If the user clicks accept, log out of the system and show the login page
- After successfully logging out of the application, the logout event should be stored in the Audit Trail as specified

4. Inventory Management Page

- This section describes the “Inventory” section.
- Value Statement: *As an inventory employee, I want to see the lists of inventory in the company and be able to add new inventory, update information on inventory, and delete the inventory when needed, so that I can manage inventory in the company*
- Prerequisites:
    - User log into the system
    - User clicks on the “Inventory” dropdown and click on the “Inventory” section



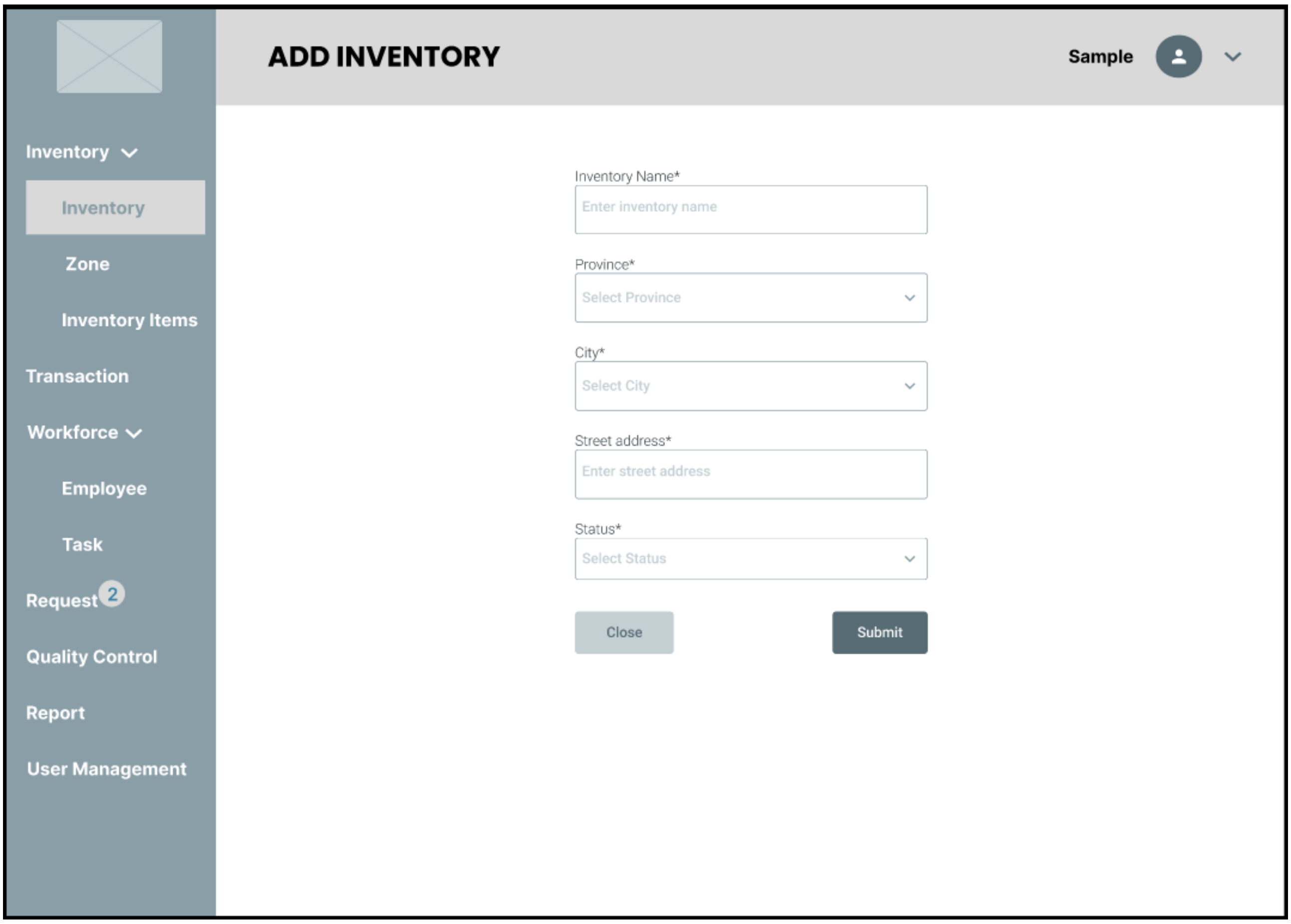
- Search Section:
    - Search by any keyword: When a search term is provided in the search box and the “Search” button is clicked, it should compare the search term with

Inventory ID, Inventory Name, Manager ID, and Location. The comparison should not be case-sensitive.
    - If matching the keyword provided, the table will show the data with appropriate results
    - If not match the keyword, the message box will popup and show the notification message: "There is no search result"
- Reset button: Reset all the search results and reload the data table
- Data table:
    - It should list the inventories as shown in the wireframe
    - By default, the inventory table should be sorted by "Status" column with this alignment: "active" → "not active"
    - All the columns should be sortable except the last column "Action"
    - It should display 20 inventories in the table at a time and show the pagination controls to view the other inventories if there are more than 20 inventories
    - Columns:
        - Inventory ID
        - Inventory Name
        - Manager ID
        - Location
        - Status
        - Action
            - Edit icon – on click, it should show the Edit inventory page
            - Delete icon – on click, it should ask for a confirmation message with Yes, no buttons:" Are you sure you want to delete this inventory?"
                - Yes – Check if the inventory is linked to other system information. If linked: Prevent deletion and show an error message: "This inventory cannot be deleted because it is linked to other records in the system." If not linked, Proceed with deletion. Also, log this event in the Audit Trail as specified
                - No – Dismiss the dialog and take no further action
- Acceptance Criteria:
    - When the Inventory Management is loaded, it should show the list of all the inventories in the table. The table should be sorted by Status column as specified
    - When the user types a keyword in the search text and does not click the search button, take no action
    - When the user types a keyword in the search text and clicks the search button, execute the search section as specified
    - When the user clicks on the column header except for the last column header, it should sort the data in ascending or descending order

- When the user clicks on add new inventory, it should direct users to Add new inventory page to create new inventory
- When the user clicks on the edit button on any row in the table, it should take the data of that row and direct the user to edit the inventory page
- When the user clicks on the delete button on any row, it should ask for information as specified. If selecting Yes, it should check data in the system as specified and log this event in Audit Trail. If selecting No, nothing happens and close the popup message.
- If there are more than 20 inventory rows of data, it should show pagination controls on the bottom of the table as shown and the user can be able to go to the next page to view other inventories and also go back to the previous page

4.1. Add new inventory

- This section describes the functionality to create new inventory
- Value statement: *As an inventory employee, I want to create new inventory in the system, so that the new inventory can have stock transactions and other records in the system to manage*
- Prerequisite:
  - User on the inventory management page
  - User click on add new inventory button on the inventory management page



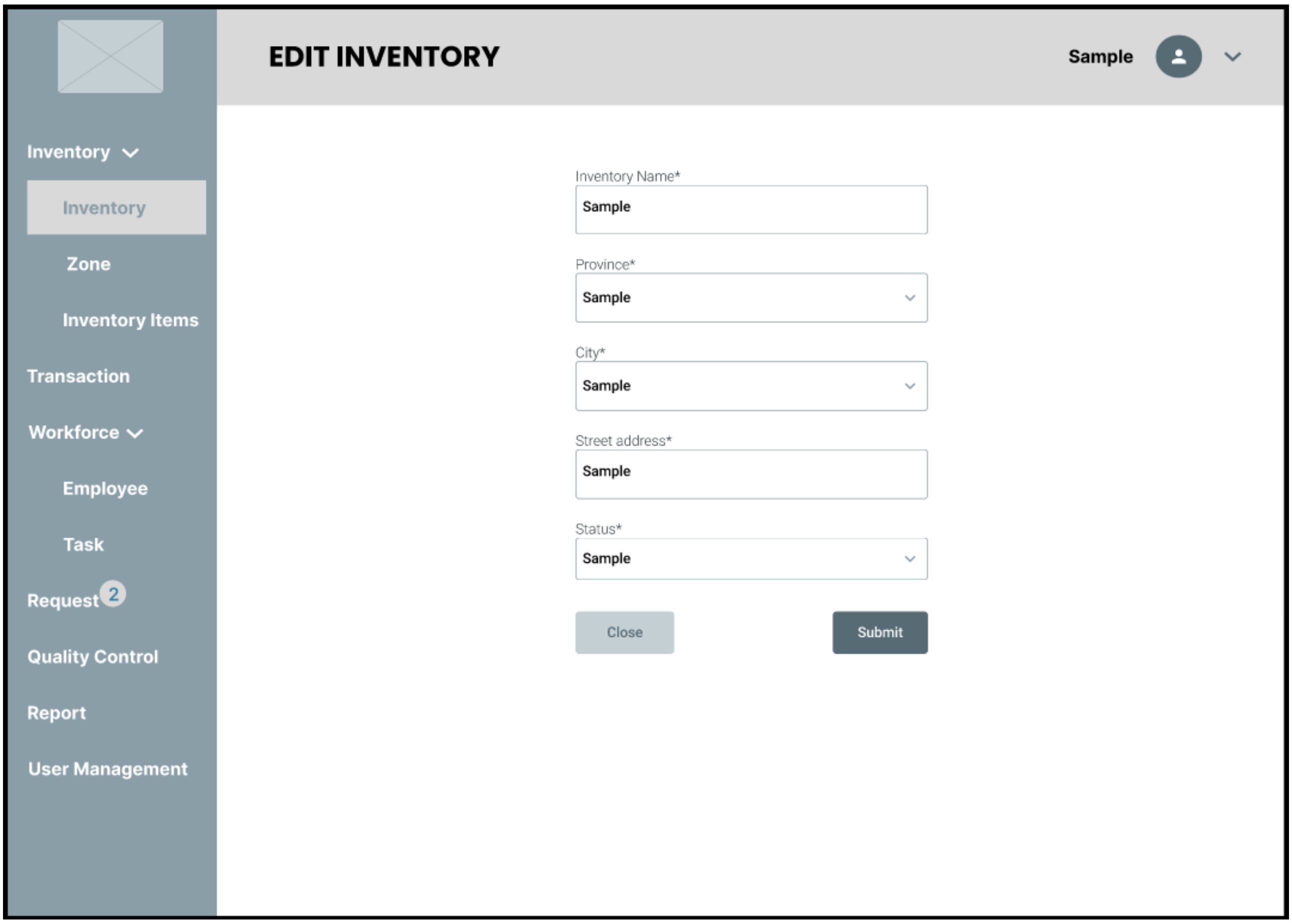
Field	Field Type	Possible Values	Default Value	Validation	Access Control
Inventory Name	Text (255)			Required	
Province	Dropdown	List of all provinces available		Required	
City	Dropdown	List of all cities available		Required	
Street Address	Text (255)			Required	
Status	Dropdown	List the following list: • Active • Inactive		Required	

- Actions:
  - Close: Do nothing and return to the “Inventory Management” page
  - Submit:
    - If any required field is empty, it should highlight the red color and show the error message below the field: “This field is required!”
    - If the inventory name existed in the system, show the error message below the field:” This inventory name already existed in the system! Please enter another name”
    - Once the above validation is passed, do the following:
      - Create a new inventory with the inventory ID is automatically created and pops up the successful message: “New inventory is added successfully!”. Then return to the “Inventory Management” page and there the newly added inventory should be listed in the table in the first row highlight this first row
      - Log the event “New inventory” in the Audit Trail
- Acceptance Criteria:
  - When the users visit this page, it should show the list of fields as specified in the wireframe with their default values
  - The users should be able to add values to those fields
  - When the user clicks on the “Close” button, do nothing and return to the “Inventory Management” page
  - When the user clicks on the “Submit” button, it should not allow to create of new inventory in the following situations and show the appropriate message as specified:
    - If any required field is empty

- When the user enters details in all the fields, it should create a new inventory when clicking on submit button and show the message as specified, then return to the "Inventory Management" page. The new inventory should be listed in the table in the first row as specified and log the event in the Audit Trail

4.2. Edit inventory

- This section describes the functionality to create new inventory
- Value Statement: As an inventory employee, I want to edit existing inventory information, so that I can change the name, location, and status of the inventory
- Prerequisites:
  - User on the inventory management page
  - User clicks on the edit inventory button on the row in the table on the inventory management page



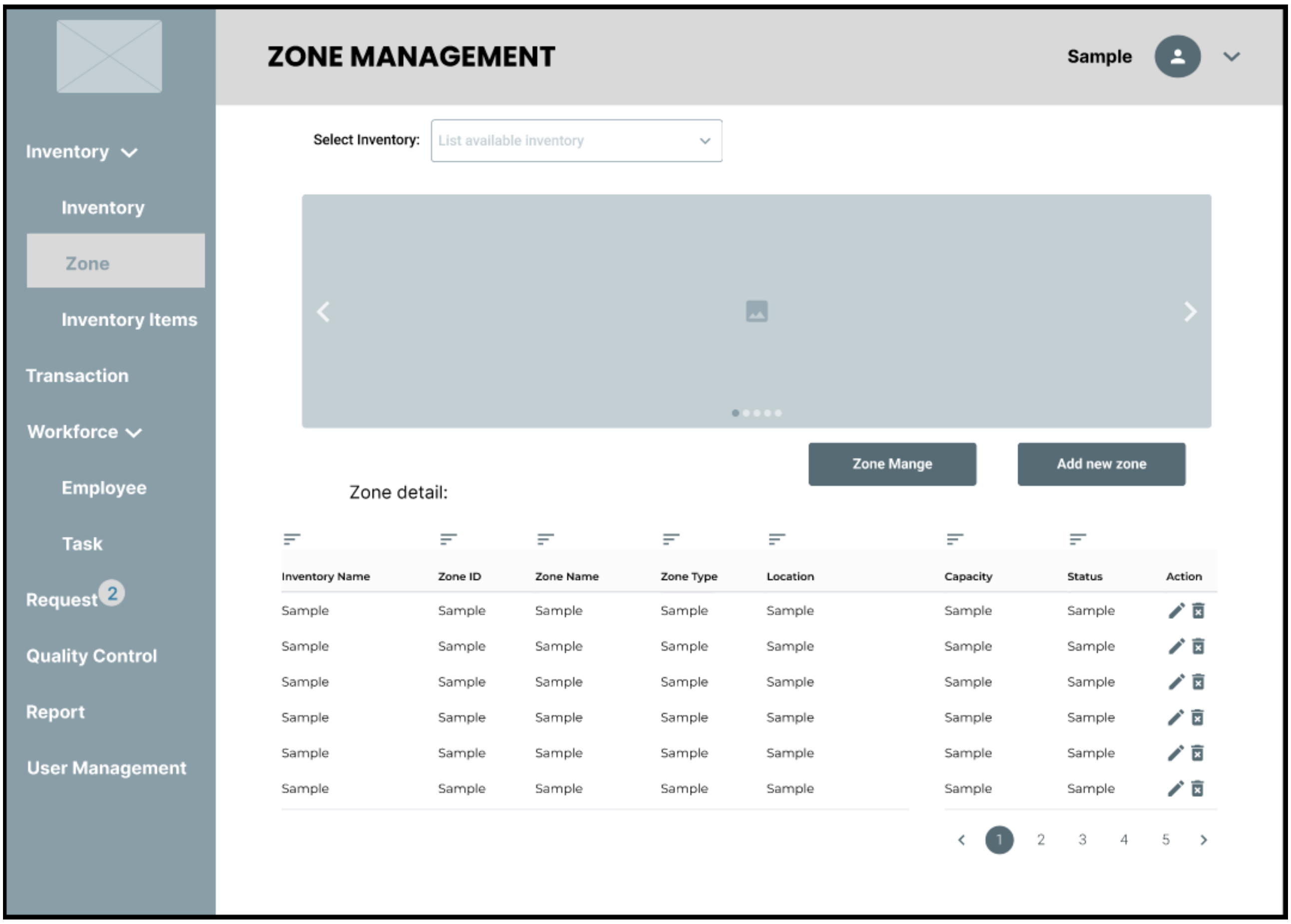
Field	Field Type	Possible Values	Default Value	Validation	Access Control
Inventory Name	Text (255)		Current inventory name	Required	
Province	Dropdown	List of all provinces	Current province	Required	

		available			
City	Dropdown	List of all cities available	Current city	Required	
Street Address	Text (255)		Current street address	Required	
Status	Dropdown	List the following list: • Active • Inactive	Current Status	Required	

- Actions:
  - Close: Do nothing and return to the "Inventory Management" page
  - Submit:
    - If any required field is empty, it should highlight the red color and show the error message below the field: "This field is required!"
    - If the inventory name existed in the system, show the error message below the field:" This inventory name already existed in the system! Please enter another name"
    - Once the above validation is passed, do the following:
      - Save changes and pop up the successful message: "Information is changed successfully!". Then return to the "Inventory Management" page and there the newly edited inventory should be listed in the table in the first row highlight this first row
      - Log the event "Edit inventory" in the Audit Trail
- Acceptance Criteria:
  - When the users visit this page, it should show the list of fields as specified in the wireframe with their default values
  - The users should be able to change values to those fields
  - When the user clicks on the "Close" button, do nothing and return to the "Inventory Management" page
  - When the user clicks on the "Submit" button, it should not allow to edit inventory in the following situations and show appropriate message as specified:
    - If any required field is empty
  - When the user enters details in all the fields, it should edit information of inventory when clicking on submit button and show the message as specified, then return to the "Inventory Management" page. The changed inventory should be listed in the table in the first row as specified and log the event should be in the Audit Trail

5. **Zone Management Page**

- This section describes the “Zone” section
- <u>Value Statement</u>: *As an inventory employee, I want to see the lists of zones in the company and be able to add a new zone, update information on the zone, and delete the zone when needed, so that I can manage zone in the inventory in the company*
- Prerequisite:
    - User log into the system
    - User clicks on the “Inventory” dropdown and clicks on the “Zone” section



- Filter Section:

Field	Field Type	Possible Values	Default Value	Remark
Inventory	Dropdown	List of all available inventory names exists in the system		

- Zone map section: The user can view the outline of some zones with pagination to go to other zones
- Zone manage button: The system should direct the user to the Zone Manager Page
- Data table:

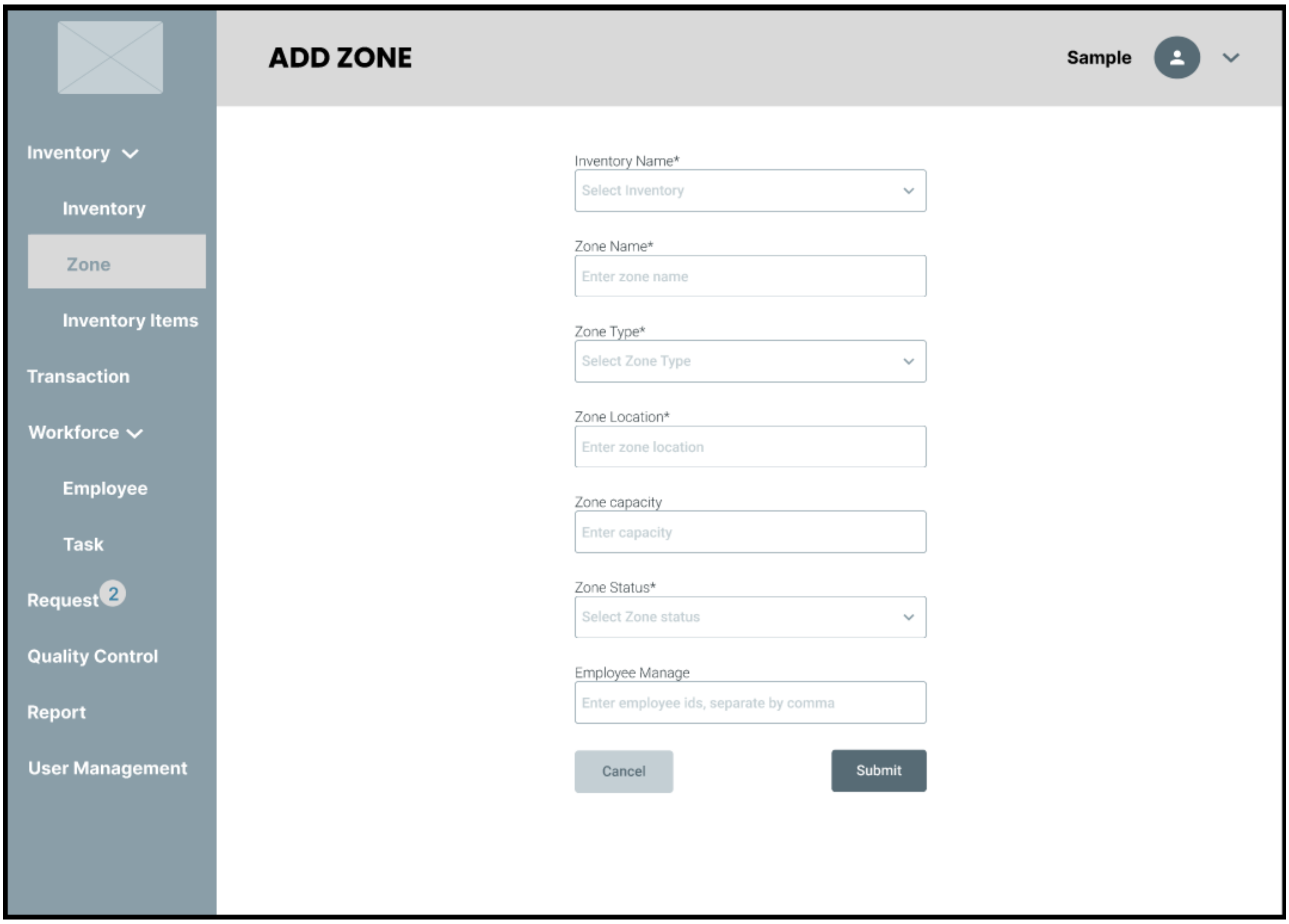
- It should list the zone as shown in the wireframe
- By default, the zone table should be sorted by “Status” column with this alignment: available → not available
- All the columns should be sortable except the last column “Action”
- It should display 10 zones in the table at a time and show the pagination controls to view the other zones if there are more than 10 zones
- Columns:
  - Inventory Name
  - Zone ID
  - Zone Name
  - Zone Type
  - Location
  - Capacity
  - Status
  - Action
    - Edit icon – on click, it should show the Edit Zone page
    - Delete icon – on click, it should ask for a confirmation message with Yes, no buttons:” Are you sure you want to delete this zone?”
      - Yes – Check if the zone is linked to other system information. If linked: Prevent deletion and show an error message: “This zone cannot be deleted because it is linked to other records in the system.” If not linked, Proceed with deletion. Also, log this event in the Audit Trail as specified
      - No – Dismiss the dialog and take no further action

- Acceptance Criteria:
  - When the Zone Management is loaded, it should show the list of all the zones in the table. The table should be sorted by Status column as specified
  - When the Zone Management is first loaded, the zone map will display nothing. When the user selects inventory, this map will display the zone availability in the selected inventory
  - When the user goes to another section and goes back to the Zone Management page, it will store the inventory selected already by the user and display the data based on the selected inventory
  - User can zoom in and zoom out of the zone map and go to other zones by clicking the arrow icon on the right in the map and go to previous zones by clicking the arrow icon on the left in the map
  - When the user clicks on the column header except for the last column header, it should sort the data in ascending or descending order
  - When the user clicks on add a new zone, it should direct users to the Add new zone page to create a new zone

- When the user clicks on the edit button on any row in the table, it should take the data of that row and direct the user to edit the zone page
- When the user clicks on the delete button on any row, it should ask for information as specified. If selecting Yes, it should check data in the system as specified and log this event in Audit Trail. If selecting No, nothing happens and close the popup message.
- If there are more than 10 zone rows of data, it should show pagination controls on the bottom of the table as shown and the user can be able to go to the next page to view other zones and also go back to the previous page

5.1. Add new zone

- This section describes the functionality to create a new zone
- Value statement: *As an inventory employee, I want to create a new zone in the system, so that the new zone can have stock transactions and other records in the system to manage*
- Prerequisite:
  - User on the Zone management page
  - User clicks on add new zone button on the Zone Management page



Field	Field Type	Possible Values	Default Value	Validation	Access Control

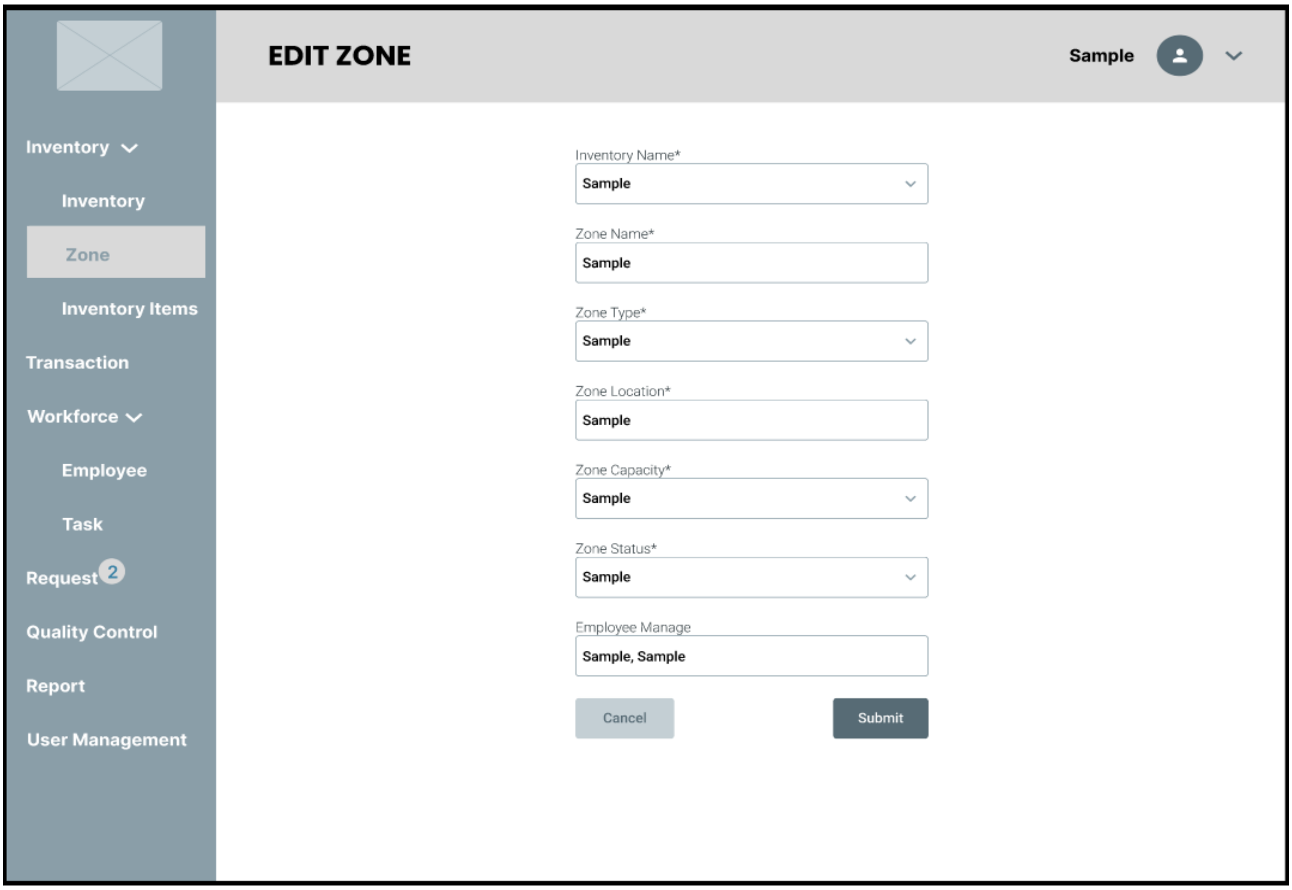
Inventory Name	Dropdown	List of all inventory names that existed in the system		Required	
Zone Name	Text (255)			Required	
Zone Type	Dropdown	List the following lists: • Raw material • Work-in-progress (WIP) • Finished goods • Defective • Loading/Unloading Zone • Quality Control • Maintenance • Dispatch • Hazardous • Spare		Required	
Zone Location	Text (255)			Required	
Zone Capacity	Numeric			Required	
Zone Status	Dropdown	List the following list: • Active • Inactive		Required	
Employee Manage	Text (255)				

- Actions:
  - Cancel: Do nothing and return to the "Zone Management" page
  - Submit:
    - If any required field is empty, it should highlight the red color and show the error message below the field: "This field is required!"
    - If there are more than 2 words separated by spaces in the employee manage textbox, pop up the notification message box: "Employee IDs need to be separated by commas, please type again!"
    - Check if the employee ID manage exists in the system, if not exist, pop up the error message: "The <list employee IDs> does not exist in the system, please enter again!".
    - If the zone name existed in the system, show the error message below the field:" This zone name already existed in the system! Please enter another name"
    - Once the above validation is passed, do the following:
      - Create a new zone with the Zone ID is automatically created and pops up the successful message: "New zone is added

successfully!". Then return to the "Zone Management" page and there the newly added Zone should be listed in the table in the first row highlight this first row
    - Log the event "New Zone" in the Audit Trail
- Acceptance Criteria:
  - When the users visit this page, it should show the list of fields as specified in the wireframe with their default values
  - The users should be able to add values to those fields
  - When the user clicks on the "Cancel" button, do nothing and return to the "Zone Management" page
  - When the user clicks on the "Submit" button, it should not allow to create of a new zone in the following situations and show the appropriate message as specified:
    - If any required field is empty
    - If there are more than 2 words separated by spaces in the employee manage textbox, pop up the notification message box as specified
    - If no employee ID exists in the system
    - If the zone name already existed in the system
  - When the user enters details in all the fields, it should create a new zone when clicking on submit button and show the message as specified, then return to the "Zone Management" page. The new zone should be listed in the table in the first row as specified and log the event should be in the Audit Trail

5.2. Edit zone

- This section describes the functionality to Edit a zone
- <u>Value statement:</u> *As an inventory employee, I want to edit information about the zone in the system, so that the zone can be managed consistently*
- Prerequisite:
  - User on the Zone management page
  - User clicks on the edit zone button on the row in the table on the zone management page



Field	Field Type	Possible Values	Default Value	Validation	Access Control
Inventory Name	Dropdown	List of all inventory names that existed in the system	Current Inventory Name	Required	
Zone Name	Text (255)		Current Zone Name	Required	
Zone Type	Dropdown	List the following lists: • Raw material • Work-in-progress (WIP) • Finished goods • Defective • Loading/Unloading Zone • Quality Control • Maintenance • Dispatch • Hazardous	Current Zone Type	Required	

		• Spare			
Zone Location	Text (255)		Current Zone location	Required	
Zone Capacity	Numeric		Current zone capacity	Required	
Zone Status	Dropdown	List the following list: • Active • Inactive	Current zone status	Required	
Employee Manage	Text (255)		Current list of employee IDs		

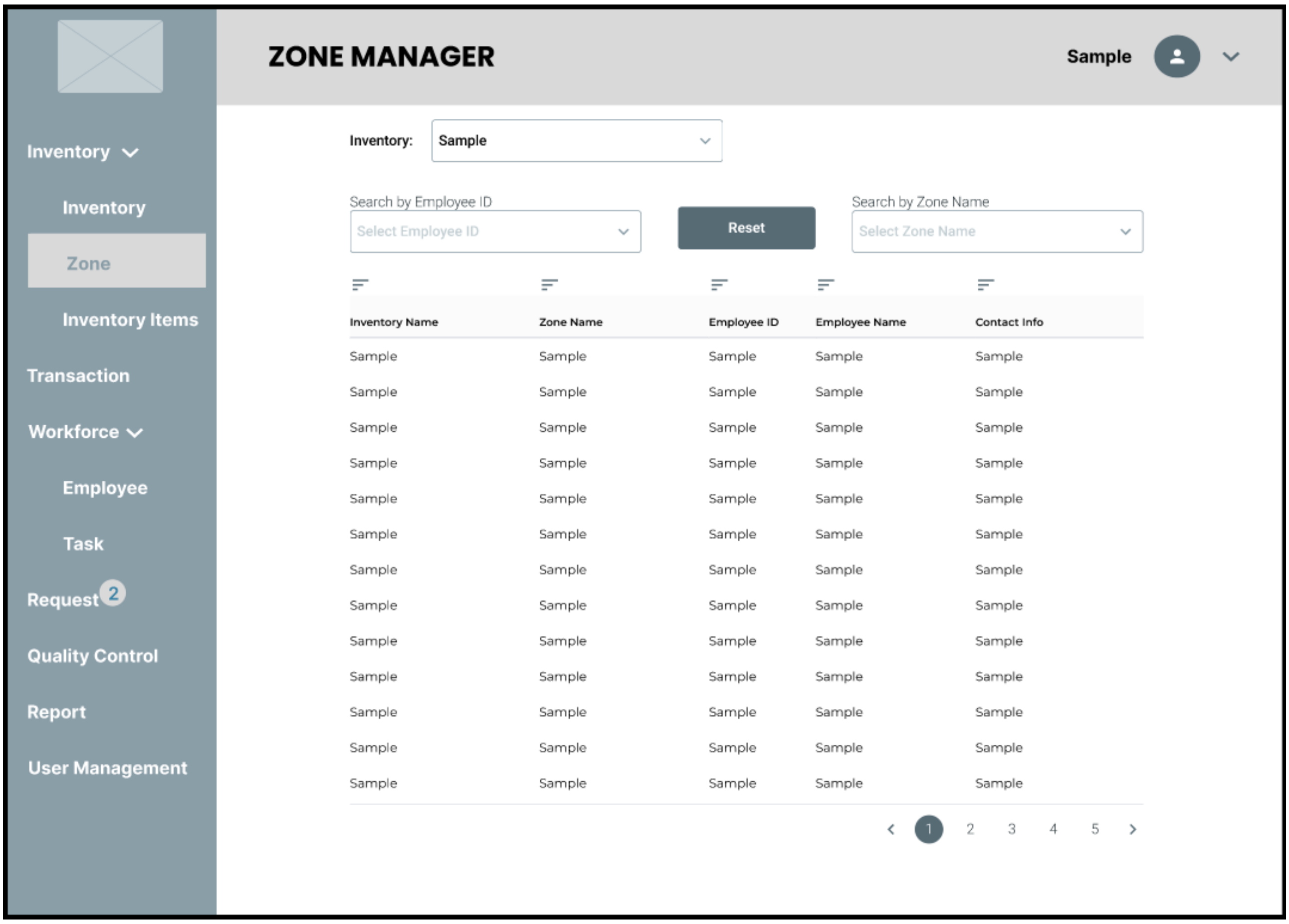
- Actions:
  - Cancel: Do nothing and return to the "Zone Management" page
  - Submit:
    - If any required field is empty, it should highlight the red color and show the error message below the field: "This field is required!"
    - If there are more than 2 words separated by spaces in the employee manage textbox, pop up the notification message box: "Employee ID need to be separated by commas, please type again!"
    - Check if the employee ID manage exists in the system, if not exist, pop up the error message: "The <employee ID> does not exist in the system, please enter again!".
    - If the zone name existed in the system, show the error message below the field:" This zone name already existed in the system! Please enter another name"
    - Once the above validation is passed, do the following:
      - Save changes information of the zone and pop up the successful message: "Edit zone successfully!". Then return to the "Zone Management" page and there the newly edited Zone should be listed in the table in the first row highlight this first row
      - Log the event "Edit Zone" in the Audit Trail
- Acceptance Criteria:
  - When the users visit this page, it should show the list of fields as specified in the wireframe with their default values
  - The users should be able to add values to those fields
  - When the user clicks on the "Cancel" button, do nothing and return to the "Zone Management" page
  - When the user clicks on the "Submit" button, it should not allow to edit the zone in the following situations and show the appropriate message as specified:

- If any required field is empty
- If there are more than 2 words separated by spaces in the employee manage textbox, pop up the notification message box as specified
- If no employee ID exists in the system

o When the user enters details in all the fields, it should edit information of the zone when clicking on submit button and show the message as specified, then return to the "Zone Management" page. The newly edited zone should be listed in the table in the first row as specified and log the event should be in the Audit Trail

5.3. Zone Manager

- This section describes the functionality to view the zone manager
- Value statement: *As an inventory manager, I want to view the list of managers of each zone in the system, so that I can manage the manager of the zone and assign work for my employee based on this list*
- Prerequisite:
  - o User on the Zone Management page
  - o User clicks on the Zone Manage button on the Zone Management page



- Filter section:

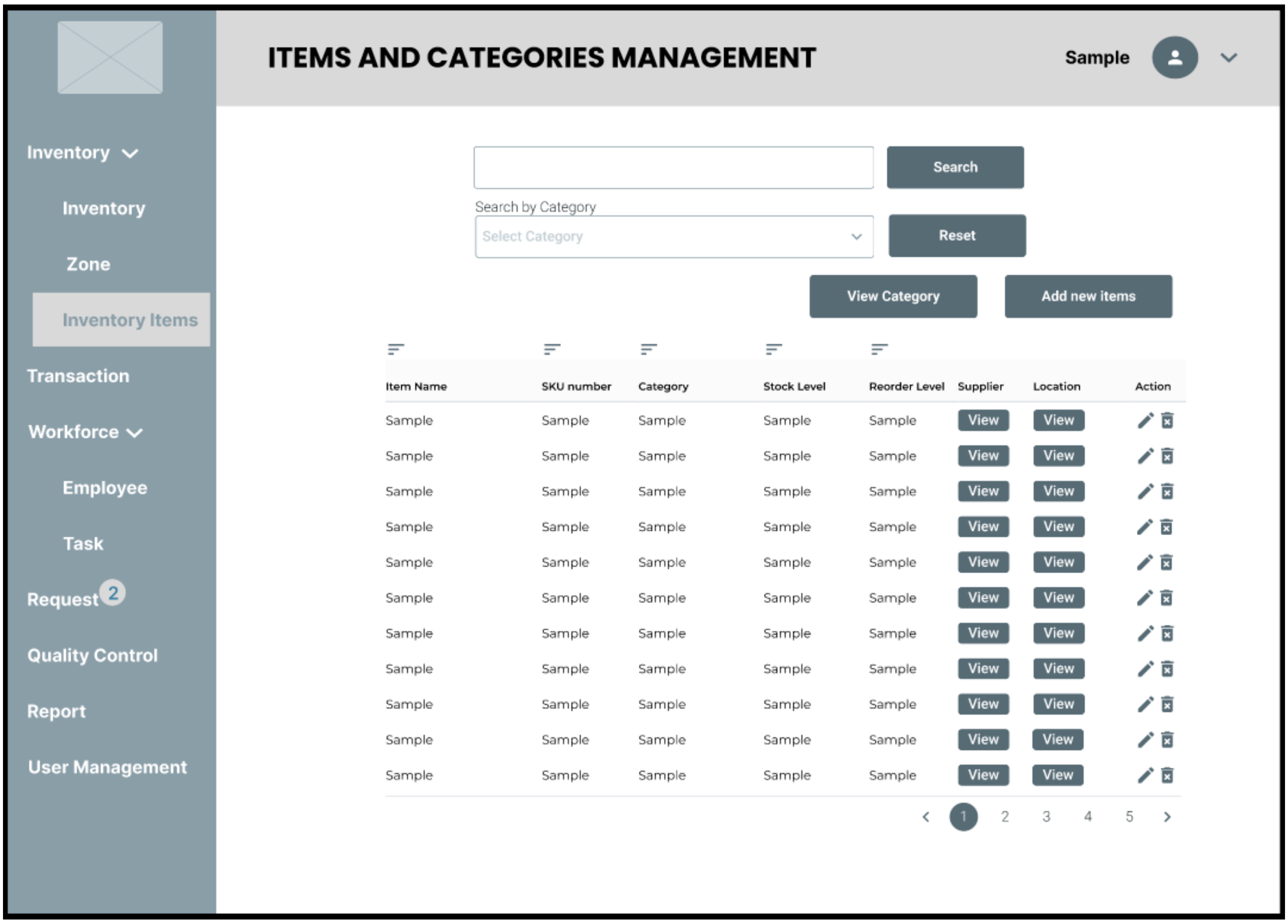
Field	Field Type	Possible Values	Default Value	Remarks
Inventory	Dropdown	List of all inventory names that existed in the system	Current inventory name or none	The default value is the current inventory name if the user already selected the inventory filter in the Zone Management page. If no selected inventory name in the Zone Management page, the default value is none
Employee ID	Dropdown	List of all employee IDs that existed in the system		
Zone Name	Dropdown	List of all Zone Name that existed in the system		

- Reset button: On click, reset all the filters to their default value and reload the data table according to the default filter
- Data table:
    - It should list the zone manager as shown in the wireframe
    - By default, the zone table should be sorted by "Inventory name" column in alphabetical
    - All the columns should be sortable
    - It should display 20 rows in the table at a time and show the pagination controls to view the other records if there are more than 20 rows in the table
    - Columns:
        - Inventory Name
        - Zone Name
        - Employee ID
        - Employee Name
        - Contact Info
- Acceptance Criteria:
    - When the Zone Manager is loaded, it should show the list of all the records in the table as specified. The table should be sorted by Inventory Name column as specified
    - When the Zone Manager is loaded, the default value of the filters is specified as above

- When the user executes any filter, it should filter the data table based on the filter
- When the user clicks on the column header, it should sort the data in ascending or descending order
- If there are more than 20 rows of data, it should show pagination controls on the bottom of the table as shown and the user can be able to go to the next page to view other records and also go back to the previous page

6. Items and Categories Management

- This section describes the "Inventory Items" section
- Value Statement: *As an inventory employee, I want to see the lists of inventory items and categories in the firm and be able to add new items or categories with barcode scanning to increase productivity and streamline the process of stock transactions, update information on the items or categories, and delete the items or categories when needed so that I can manage items in the inventory in the company*
- Prerequisite:
  - User log into the system
  - User clicks on the "Inventory" dropdown and clicks on the "Inventory Items" section



- Filter Section:

Field	Field Type	Possible Values	Default Value	Remark
Category	Dropdown	List of all available category names exists in the system		

- Search Section:
    - Search by any keyword: When a search term is provided in the search box and the "Search" button is clicked, it should compare the search term with the Item name, SKU number, Category, Stock level, and Reorder Level. The comparison should not be case-sensitive.
    - If matching the keyword provided, the table will show the data with appropriate results
    - If not match the keyword, the message box will popup and show the notification message: "There is no search result"
- Reset button: Reset all the search results and filter and reload the data table
- View Category button: Show Categories page
- Data table:
    - It should list the records as shown in the wireframe
    - By default, the table should be sorted by "Item Name" column in alphabetical order
    - All the columns should be sortable except the three last columns Supplier, Location, Action column
    - It should display 20 records in the table at a time and show the pagination controls to view the other records if there are more than 20 records
    - Columns:
        - Item Name
        - SKU number
        - Category
        - Stock Level
        - Reorder Level
        - Supplier: take the data in the rows selected and pop up the View Suppliers page
        - Location: take the data in the rows selected and pop-up View Locations page
        - Action
            - Edit icon – on click, it should show the Edit Items page
            - Delete icon – on click, it should ask for a confirmation message with Yes, no buttons:" Are you sure you want to delete this item?"

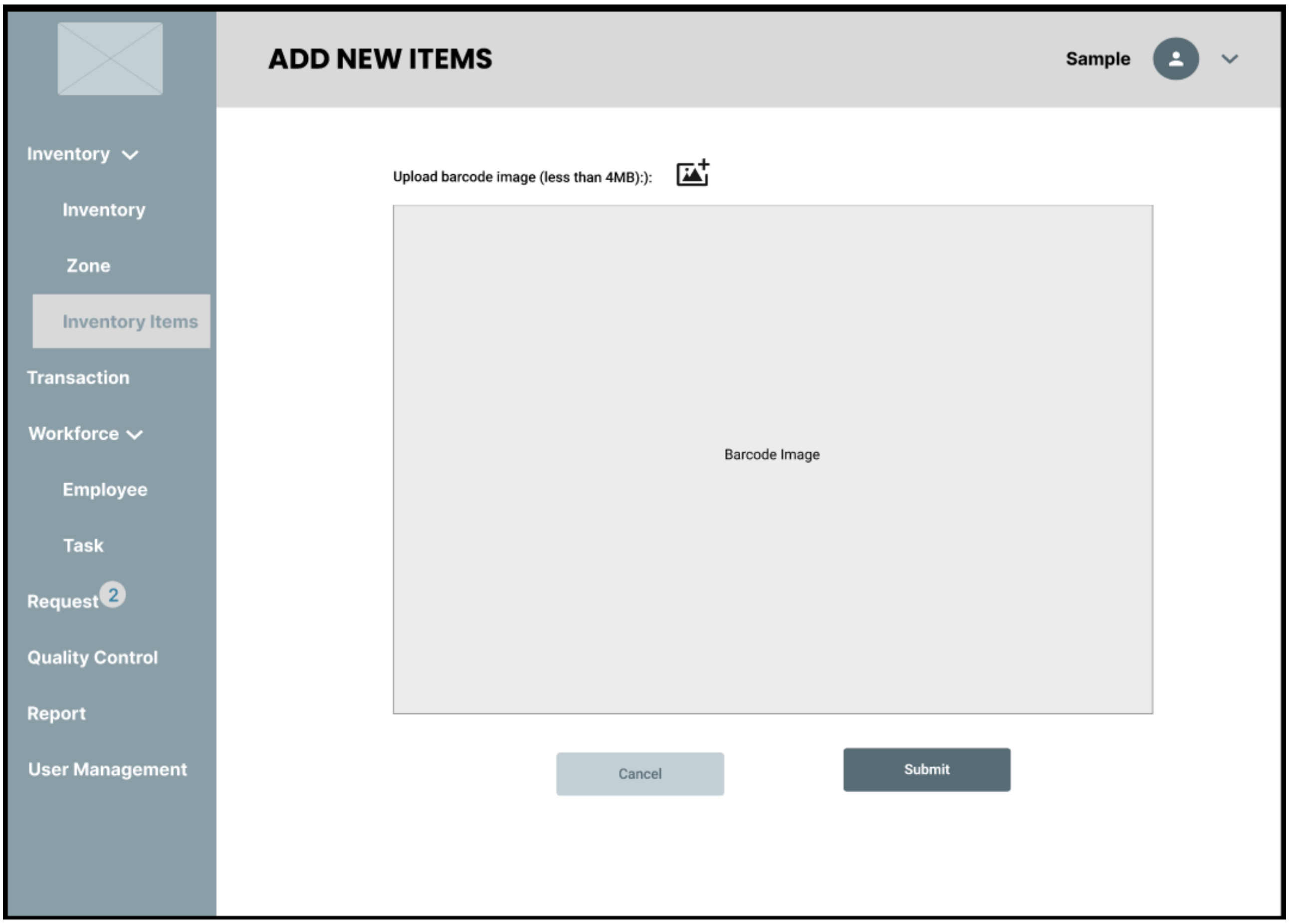
        - Yes – Check if the item is linked to other system information. If linked: Prevent deletion and show an error message: "This item cannot be deleted because it is linked to other records in the system." If not linked, Proceed with deletion. Also, log this event in the Audit Trail as specified
        - No – Dismiss the dialog and take no further action
- Acceptance Criteria:
    - When the Items and Categories Management is loaded, it should show the list of all the records in the table. The table should be sorted by Item name column as specified
    - When the user clicks on the column header except for the three last column header, it should sort the data in ascending or descending order
    - When the user clicks on add a new zone, it should direct users to the Add new zone page to create a new zone
    - When the user clicks on the edit button on any row in the table, it should take the data of that row and direct the user to edit the zone page
    - When the user clicks on the View button on the Suppliers column on any row in the table, it should take the data of that row and direct the user to the View Suppliers page
    - When the user clicks on the View button on the Locations column on any row in the table, it should take the data of that row and direct the user to the View Locations page
    - When the user clicks on the delete button on any row, it should ask for information as specified. If selecting Yes, it should check data in the system as specified and log this event in Audit Trail. If selecting No, nothing happens and close the popup message.
    - If there are more than 20 records, it should show pagination controls on the bottom of the table as shown and the user can be able to go to the next page to view other records and also go back to the previous page
    - If the user clicks on the View category button, it should direct the user to the Categories Management page
    - When the user types a keyword in the search text and does not click the search button, take no action
    - When the user types a keyword in the search text and clicks the search button, execute the search section as specified
    - When the user executes the filter, load the table again based on the filter as specified

6.1. Add new items

- This section describes the functionality to create new items
- Value statement: *As an inventory employee, I want to create a new item in the system with a barcode and SKU, so that the new items can have stock transactions and other*

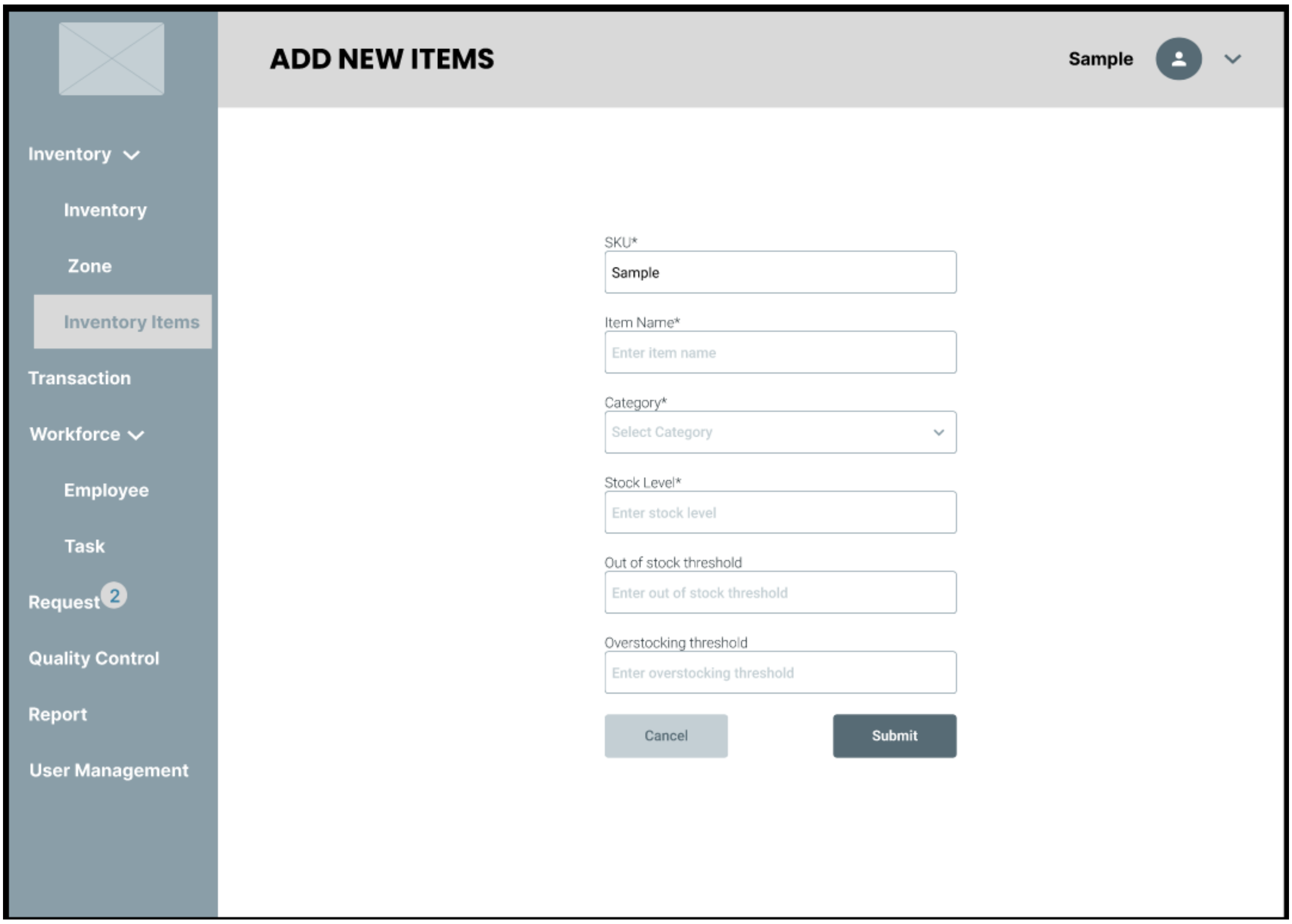
records in the system to manage and it can reduce the times it takes me to enter item information manually; moreover, the stock transaction become quicker and easier

- Prerequisite:
  - User on the Items and Categories management page
  - User clicks on add new items button on the Items and Categories Management page
  - Barcode scanner hardware available for use and connected with the system



- Actions:
  - Upload Image button:
    - On click, a pop-up window should appear. Users can browse their device storage and select an existing image file of the barcode.
    - Image format: JPEG, PNG. Just show them JPEG and PNG file
    - Maximum size: 4MB. If the user selects a file that is larger than 4MB and submits, show the error: "File too large. Please select the file less than 4MB". Then back to the pop-up
    - After the popup window appears to select the file in the user device, the user selects the cancel button, back to this page
    - If the system can not recognize the SKU in the file, show the error message: "SKU number of this barcode image can not recognize. Please try another file!"

- Once the above validation is passed, update the barcode image frame as specified in the wireframe
  - Cancel: Do nothing and return to the “Items and Categories Management” page
  - Submit: If the user doesn’t upload an image and press the Submit button, shows an error: “Please upload barcode image to add new items!”. If the user already loaded the image in the frame as specified in the wireframe, direct the user to the next Add new Items page



Field	Field Type	Possible Values	Default Value	Validation	Access Control
SKU	Text (100)		Take the SKU recognized on the last page of Add New items	Required	
Item Name	Text (255)			Required	
Category	Dropdown	List all the category names that exist in the system		Required	
Stock Level	Numeric			Required	

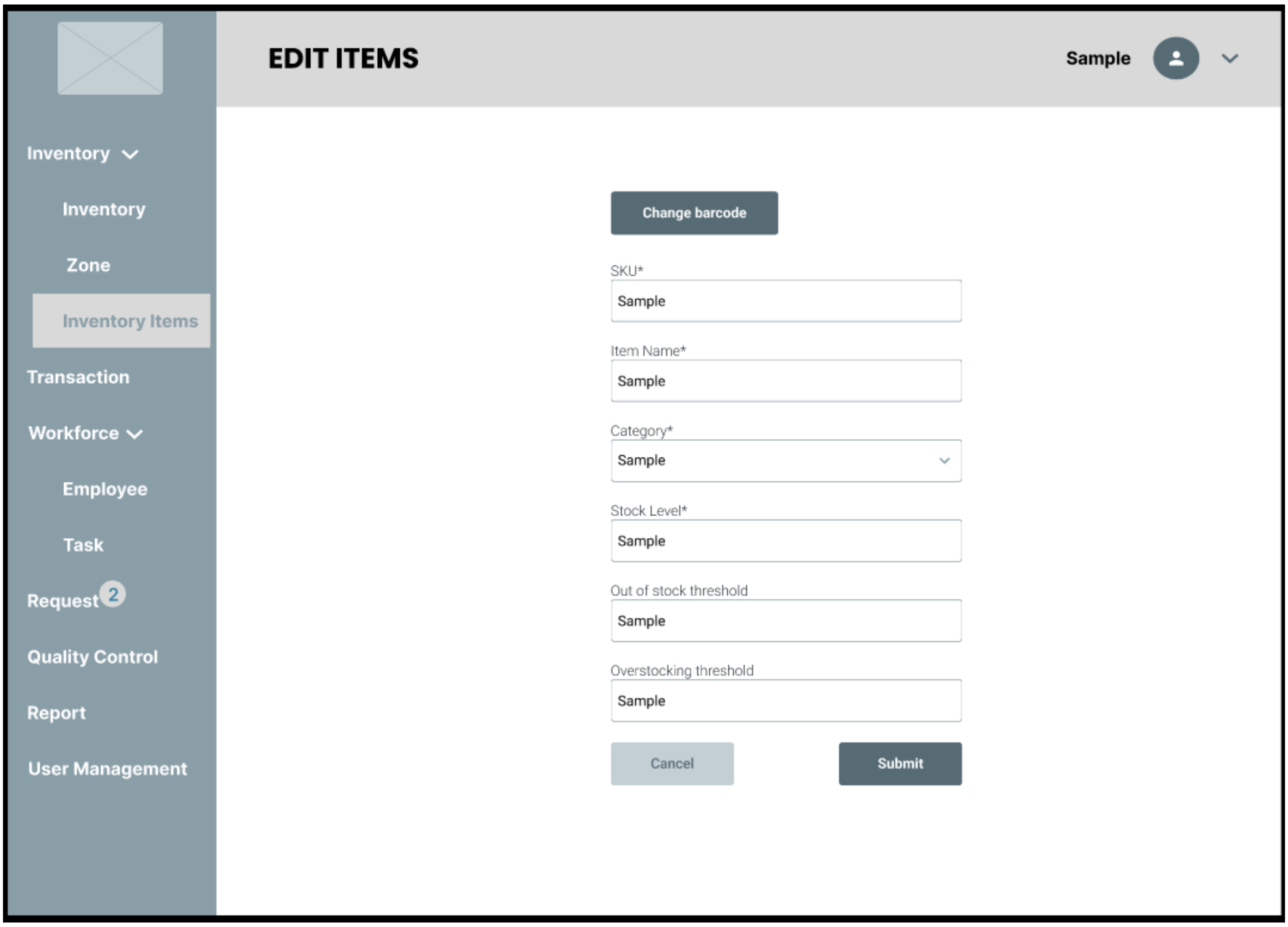
Out of stock threshold	Numeric				
Overstocking threshold	Numeric				

- Actions:
    - Cancel: Do nothing and return to the previous add new item page with the image was added before
    - Submit:
        - If any required field is empty, it should highlight the red color and show the error message below the field: "This field is required!"
        - If the item name existed in the system, show the error message below the field:" This item name already existed in the system! Please enter another name"
        - Once the above validation is passed, do the following:
            - Create the new items and pop up the successful message: "New item is added successfully!". Then return to the "Item and Categories Management" page and there the newly added Items should be listed in the table in the first row highlight this first row
            - Log the event "New Items" in the Audit Trail
- Acceptance Criteria:
    - When the users visit this second page, it should show the list of fields as specified in the wireframe with their default values
    - If the user loads the invalid file on the first page, show the error as specified
    - The users should be able to add values to those fields on the second page
    - After the popup window appears to select the file in the user device, the user selects the cancel button, back to this page
    - When the user clicks on the "Cancel" button on the first page, do nothing and return to the "Items and Categories Management" page
    - When the user clicks on the "Cancel" button on the second page, do nothing and return to the first page with the file was added before
    - If the user doesn't upload an image and press the Submit button on the first page, shows an error as specified. If the user already loaded the image in the frame as specified in the wireframe, direct the user to the next Add new Items page
    - When the user clicks on the "Submit" button on the second page, it should not allow the create of new items in the following situations and show the appropriate message as specified:
        - If any required field is empty
        - If the item name already existed in the system
    - When the user enters details in all the fields, it should create a new zone when clicking on the submit button and show the message as specified, then

return to the "Items and Categories Management" page. The new items should be listed in the table in the first row as specified and log the event should be in the Audit Trail

6.2. Edit items

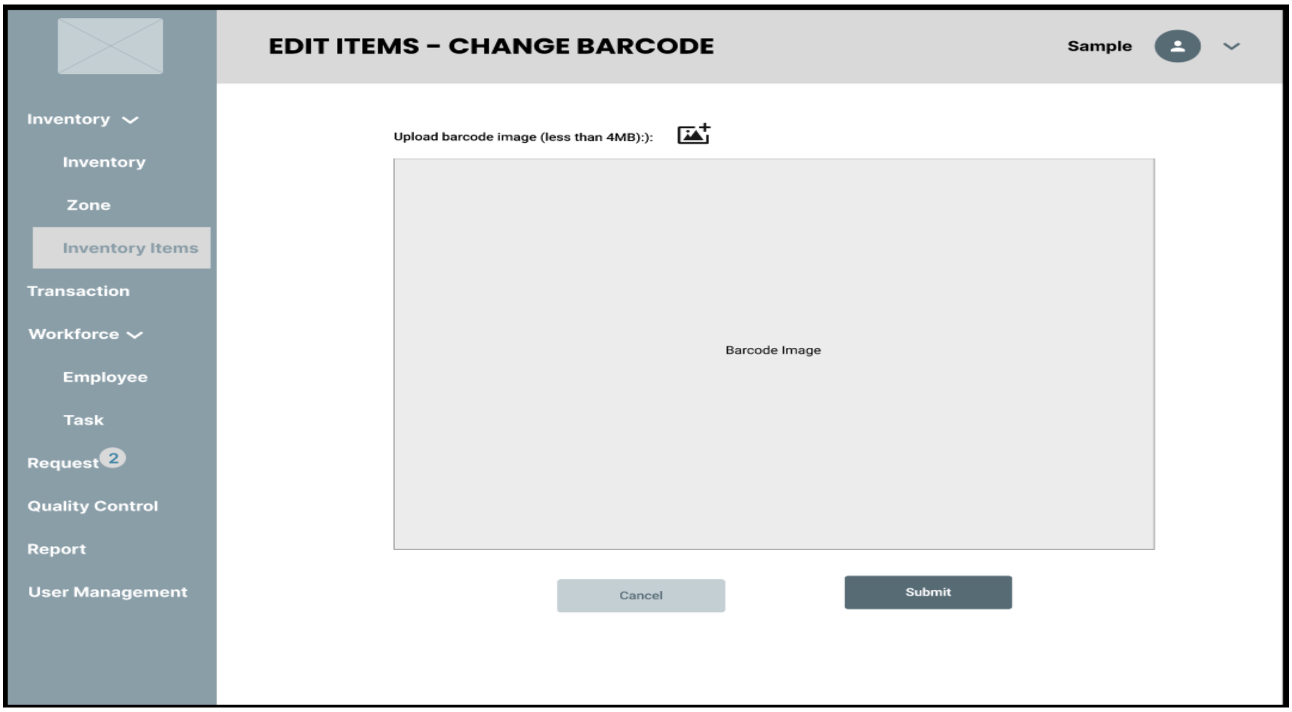
- This section describes the functionality to edit the information on items
- Value statement: *As an inventory employee, I want to edit information on items in the system with a barcode and automatically recognize SKU, so that I can reduce my time on this task and spend more time on more manual tasks such as quality control*
- Prerequisite:
    - User on the Items and Categories management page
    - User clicks on the edit items button on any rows in the table of Items and Categories Management page
    - Barcode scanner hardware available for use and connected with the system



Field	Field Type	Possible Values	Default Value	Validation	Access Control
SKU	Text (100)		Current SKU on the selected rows	Required	
Item Name	Text (255)		Current item name on the	Required	

			selected rows		
Category	Dropdown	List all the category names that exist in the system	Current category on the selected rows	Required	
Stock Level	Numeric		Current stock level on the selected rows	Required	
Out of stock threshold	Numeric				
Overstocking threshold	Numeric				

- Actions:
  - Cancel: Do nothing and return to the Items and Categories Page
  - Submit:
    - If any required field is empty, it should highlight the red color and show the error message below the field: "This field is required!"
    - If the item name existed in the system, show the error message below the field:" This item name already existed in the system! Please enter another name"
    - Once the above validation is passed, do the following:
      - Save changes the information of the item and pop up the successful message: "Item is updated successfully!". Then return to the "Item and Categories Management" page and there the newly edited Items should be listed in the table in the first row highlight this first row
      - Log the event "Edited Items" in the Audit Trail
  - Change barcode button: direct user to the next Edit Items – Change barcode page

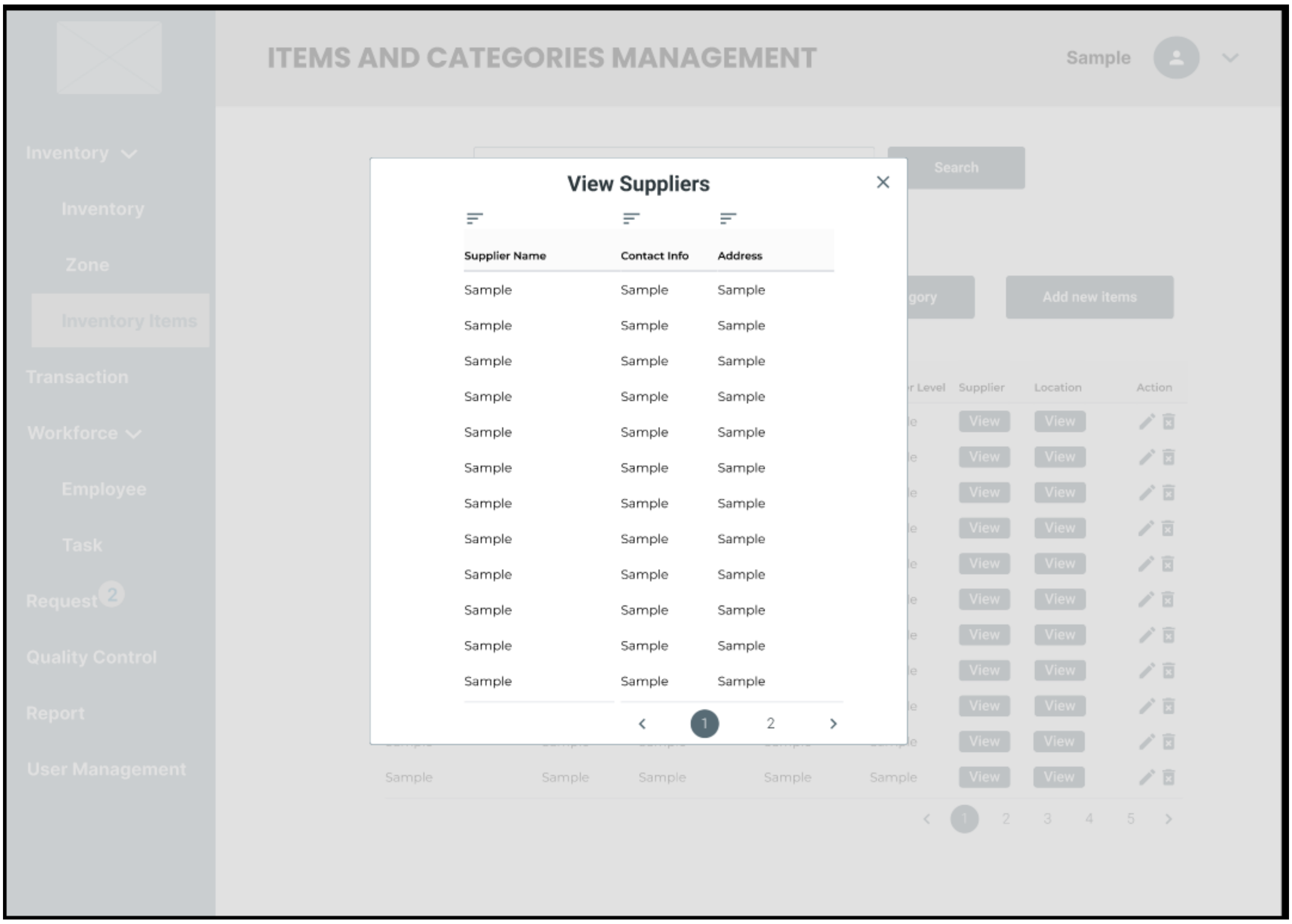


- Actions:
  - Upload Image button:
    - On click, a pop-up window should appear. Users can browse their device storage and select an existing image file of the barcode.
    - Image format: JPEG, PNG. Just show them JPEG and PNG file
    - Maximum size: 4MB. If the user selects a file that is larger than 4MB and submits, show the error: "File too large. Please select the file less than 4MB". Then back to the pop-up
    - After the popup window appears to select the file in the user device, the user selects the cancel button, back to this page
    - If the system can not recognize the SKU in the file, show the error message: "SKU number of this barcode image can not recognize. Please try another file!"
    - Once the above validation is passed, update the barcode image frame as specified in the wireframe
  - Cancel: Do nothing and return to the "Items and Categories Management" page
  - Barcode image frame: Take the current barcode image of the record selected
  - Submit: If the barcode image frame doesn't have a data image and the user presses the Submit button, shows an error: "Please upload barcode image!". If the user already loaded the image in the frame as specified in the wireframe, direct the user to the previous Edit Items page
- Acceptance Criteria:
  - When the users visit the first page, it should show the list of fields as specified in the wireframe with their default values

    - If the user loads the invalid file on the second page, show the error as specified
    - The users should be able to add values to those fields on the first page
    - After the popup window appears to select the file in the user device, the user selects the cancel button, back to this page
    - When the user clicks on the “Cancel” button on the first page, do nothing and return to the “Items and Categories Management” page
    - When the user clicks on the “Cancel” button on the second page, do nothing and return to the first page
  - If the barcode image frame doesn’t have a data image and the user presses the Submit button, shows an error as specified. If the user already loaded the image in the frame as specified in the wireframe, direct the user to the previous Edit Items page
    - When the user clicks on the “Submit” button on the first page, it should not allow the create of new items in the following situations and show the appropriate message as specified:
      - If any required field is empty
      - If the item name already existed in the system
    - When the user enters details in all the fields, it should edit information of the item when clicking on the submit button and show the message as specified, then return to the “Items and Categories Management” page. The new edited items should be listed in the table in the first row as specified and log the event should be in the Audit Trail

6.3. View Suppliers

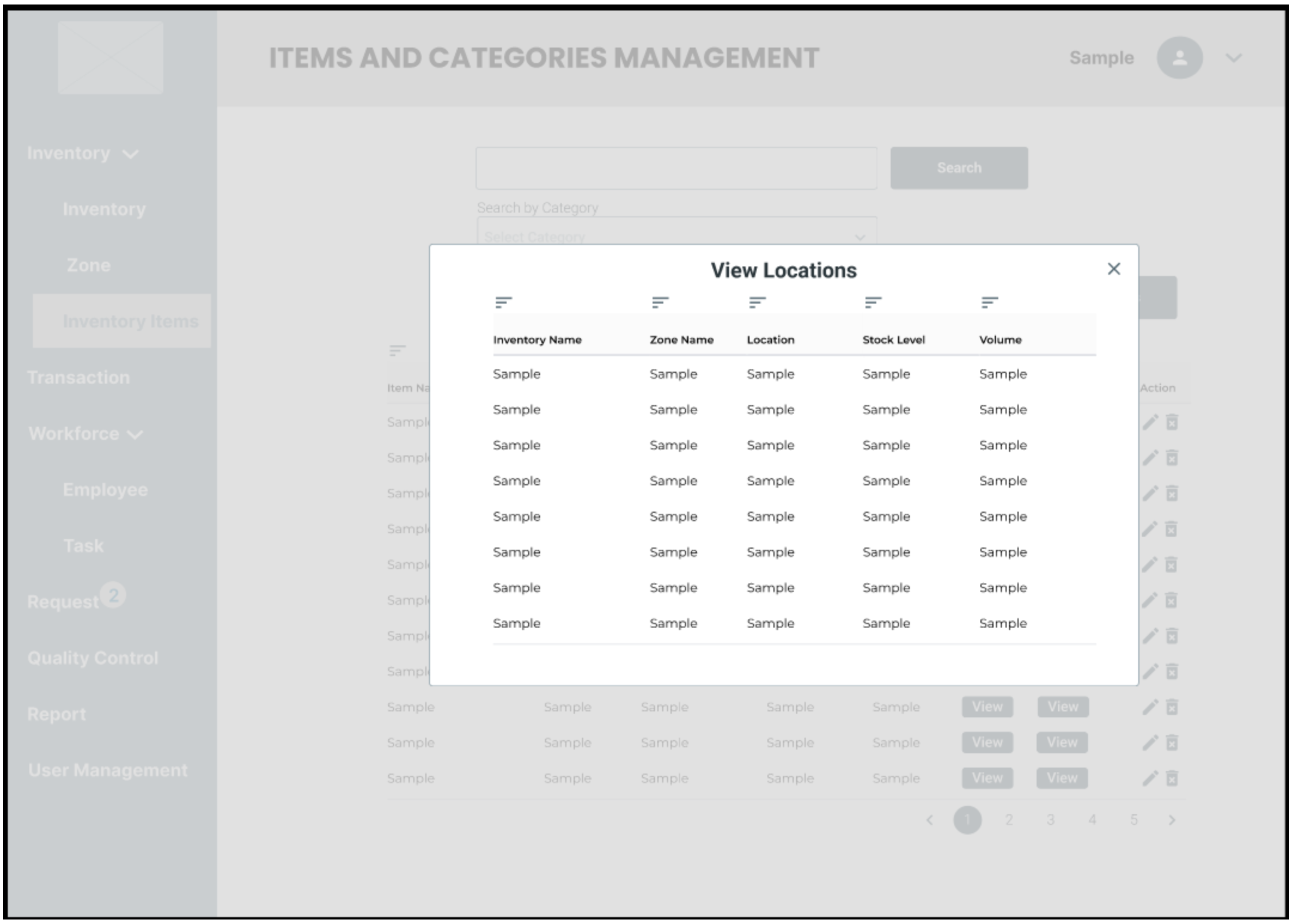
- This section describes the functionality to view the suppliers of each item
- <u>Value statement:</u> *As an inventory manager, I want to view the list of suppliers of each item in the system, so that I can search who are suppliers of the items*
- Prerequisite:
  - User on the Items and Categories Management page
  - User clicks on the View button on the Supplier column on any rows in the table on the Items and Categories Management page
  - The server hosting the inventory management system must have access to the procurement system's API endpoint.



- Data table:
  - It should list the records as shown in the wireframe
  - By default, the table should be sorted by "Supplier Name" column in alphabetical order
  - All the columns should be sortable
  - It should display 20 records in the table at a time and show the pagination controls to view the other records if there are more than 20 records
  - Columns:
    - Supplier Name
    - Contact Info
    - Address
- Acceptance Criteria:
  - When the View Supplier window pops up, it should take the record from the Items and Categories page and show the list of all the records in the table. The table should be sorted by Supplier Name column as specified
  - When the user clicks on the column header, it should sort the data in ascending or descending order
  - If there are more than 20 records, it should show pagination controls on the bottom of the table as shown and the user can be able to go to the next page to view other records and also go back to the previous page

6.4. View locations

- This section describes the functionality to view the locations of each item
- Value statement: *As an inventory manager, I want to view the list of Locations where the items are in the system so that I can manage and assign tasks for my employees, and also manage the items in the inventory.*
- Prerequisite:
  - User on the Items and Categories Management page
  - User clicks on the View button on the Location column on any rows in the table on the Items and Categories Management page
  - The server hosting the inventory management system must have access to the procurement system's API endpoint.

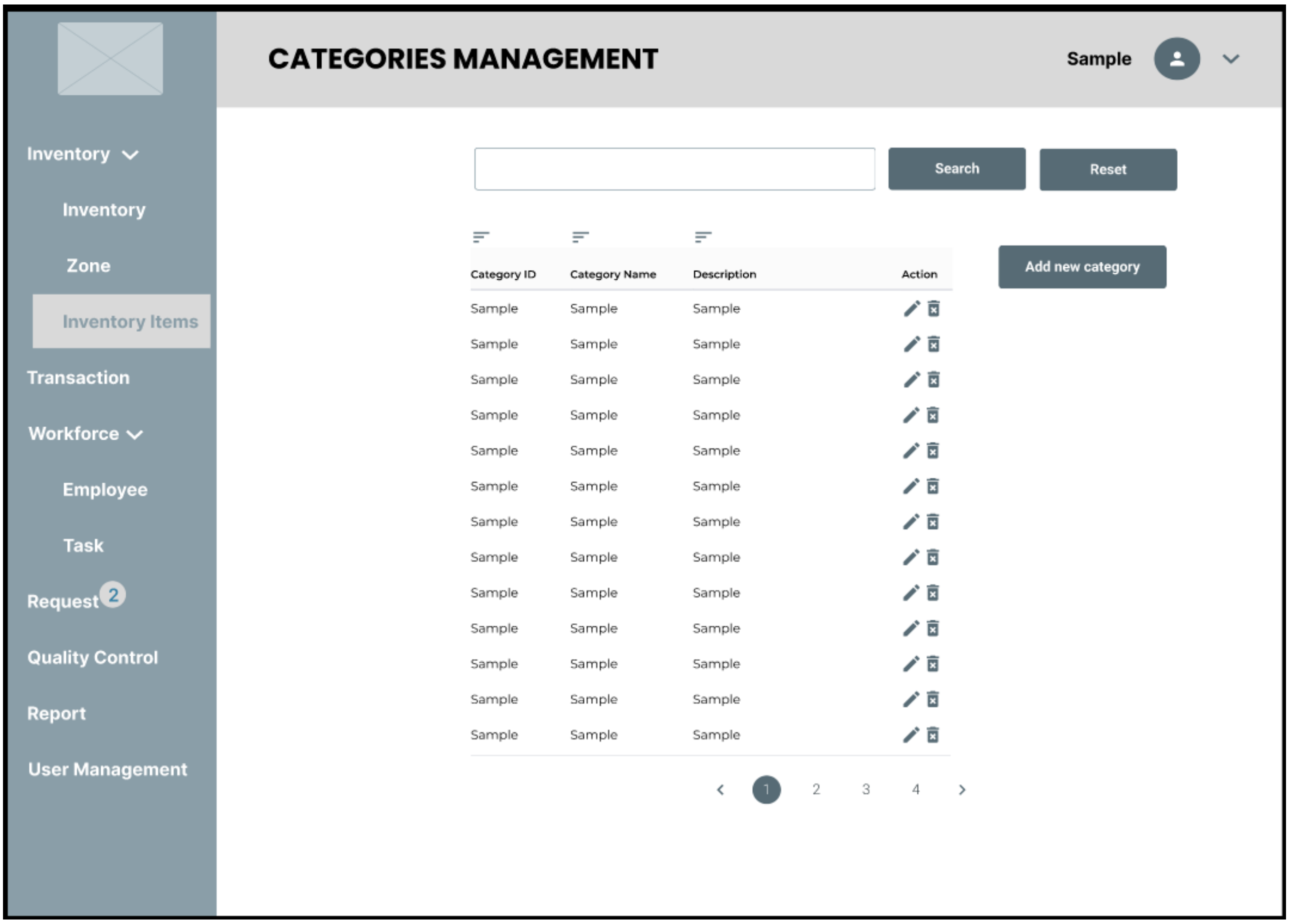


- Data table:
  - It should list the records as shown in the wireframe
  - By default, the table should be sorted by “Inventory Name” column in alphabetical order
  - All the columns should be sortable
  - It should display 20 records in the table at a time and show the pagination controls to view the other records if there are more than 20 records
  - Columns:
    - Inventory Name
    - Zone Name
    - Location

        - Stock level
        - Column
- Acceptance Criteria:
    - When the View Location window pops up, it should take the record from the Items and Categories page and show the list of all the records in the table. The table should be sorted by Inventory Name column as specified
    - When the user clicks on the column header, it should sort the data in ascending or descending order
    - If there are more than 20 records, it should show pagination controls on the bottom of the table as shown and the user can be able to go to the next page to view other records and also go back to the previous page

6.5. Categories Management

- This section describes the functionality of managing categories in the inventory
- Value Statement: *As an inventory employee, I want to see the lists of inventory categories and be able to add new categories, update information categories, and delete the categories when needed so that I can manage categories in the inventory in the company*
- Prerequisite:
    - User on the Items and Categories Management page
    - User clicks on the View Category button on the Items and Categories Management page

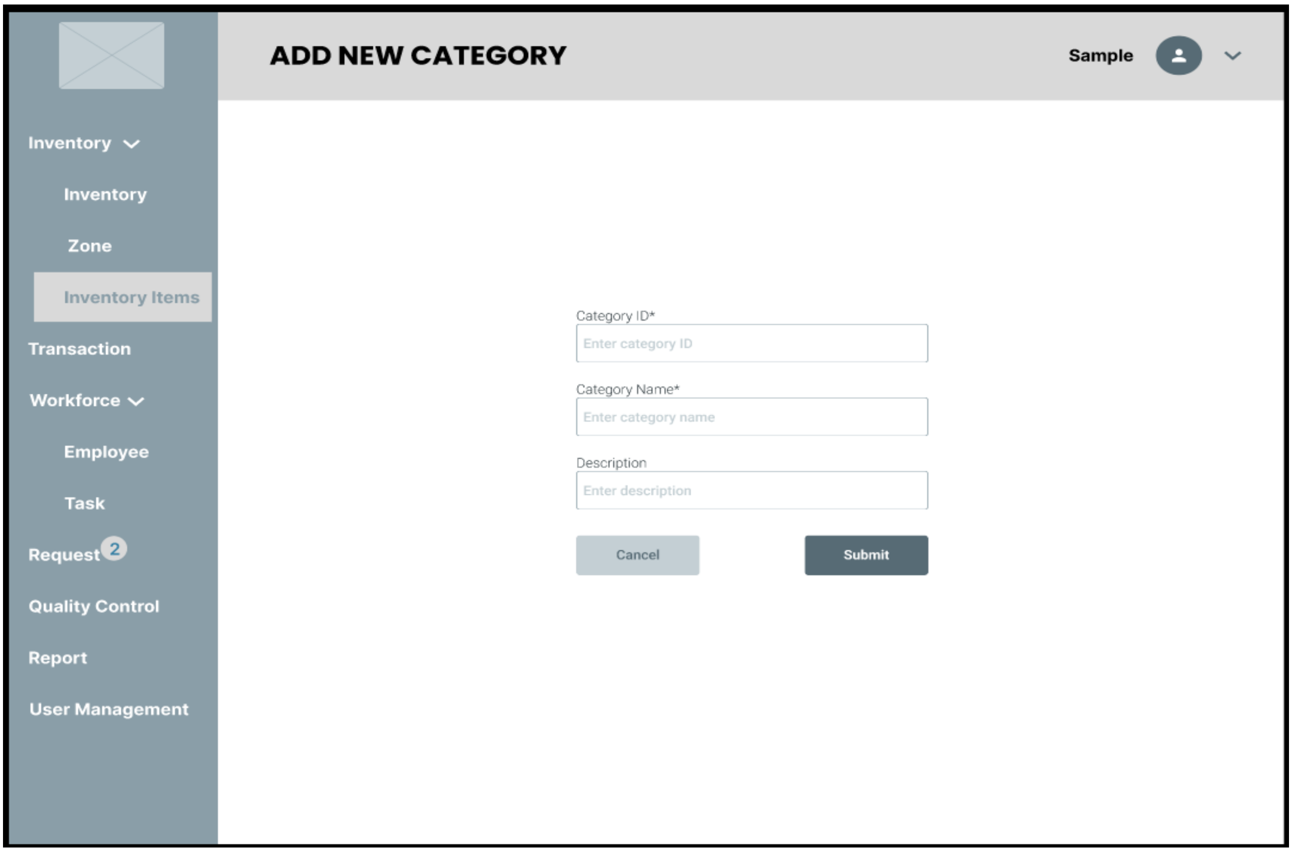


- Search Section:
  - Search by any keyword: When a search term is provided in the search box and the “Search” button is clicked, it should compare the search term with the Category ID, Category Name, and Description. The comparison should not be case-sensitive.
  - If matching the keyword provided, the table will show the data with appropriate results
  - If not match the keyword, the message box will popup and show the notification message: “There is no search result”
- Reset button: Reset all the search results and filter and reload the data table
- Data table:
  - It should list the records as shown in the wireframe
  - By default, the table should be sorted by “Category Name” column in alphabetical order
  - All the columns should be sortable except the last columns
  - It should display 20 records in the table at a time and show the pagination controls to view the other records if there are more than 20 records
  - Columns:
    - Category ID
    - Category Name
    - Description
    - Action
      - Edit icon – on click, it should show the Edit Category page
      - Delete icon – on click, it should ask for a confirmation message with Yes, no buttons:” Are you sure you want to delete this category?”
        - Yes – Check if the category is linked to other system information. If linked: Prevent deletion and show an error message: “This category cannot be deleted because it is linked to other records in the system.” If not linked, Proceed with deletion. Also, log this event in the Audit Trail as specified
        - No – Dismiss the dialog and take no further action
- Acceptance Criteria:
  - When the Categories Management is loaded, it should show the list of all the records in the table. The table should be sorted by Category name column as specified
  - When the user clicks on the column header except for the last column header, it should sort the data in ascending or descending order
  - When the user clicks on add a new category, it should direct users to the Add new category page to create a new category

- When the user clicks on the edit button on any row in the table, it should take the data of that row and direct the user to edit the category page
- When the user clicks on the delete button on any row, it should ask for information as specified. If selecting Yes, it should check data in the system as specified and log this event in Audit Trail. If selecting No, nothing happens and close the popup message.
- If there are more than 20 records, it should show pagination controls on the bottom of the table as shown and the user can be able to go to the next page to view other records and also go back to the previous page
- When the user types a keyword in the search text and does not click the search button, take no action
- When the user types a keyword in the search text and clicks the search button, execute the search section as specified
- When the user clicks on the reset button, reset all the search results and filter and reload the data table

6.5.1. Add Categories

- This section describes the functionality to create a new category
- Value statement: *As an inventory employee, I want to create a new category in the system, so that the new category can include new items and other records in the system to manage*
- Prerequisite:
  - User on the Categories management page
  - User clicks on add new category button on the Categories Management page



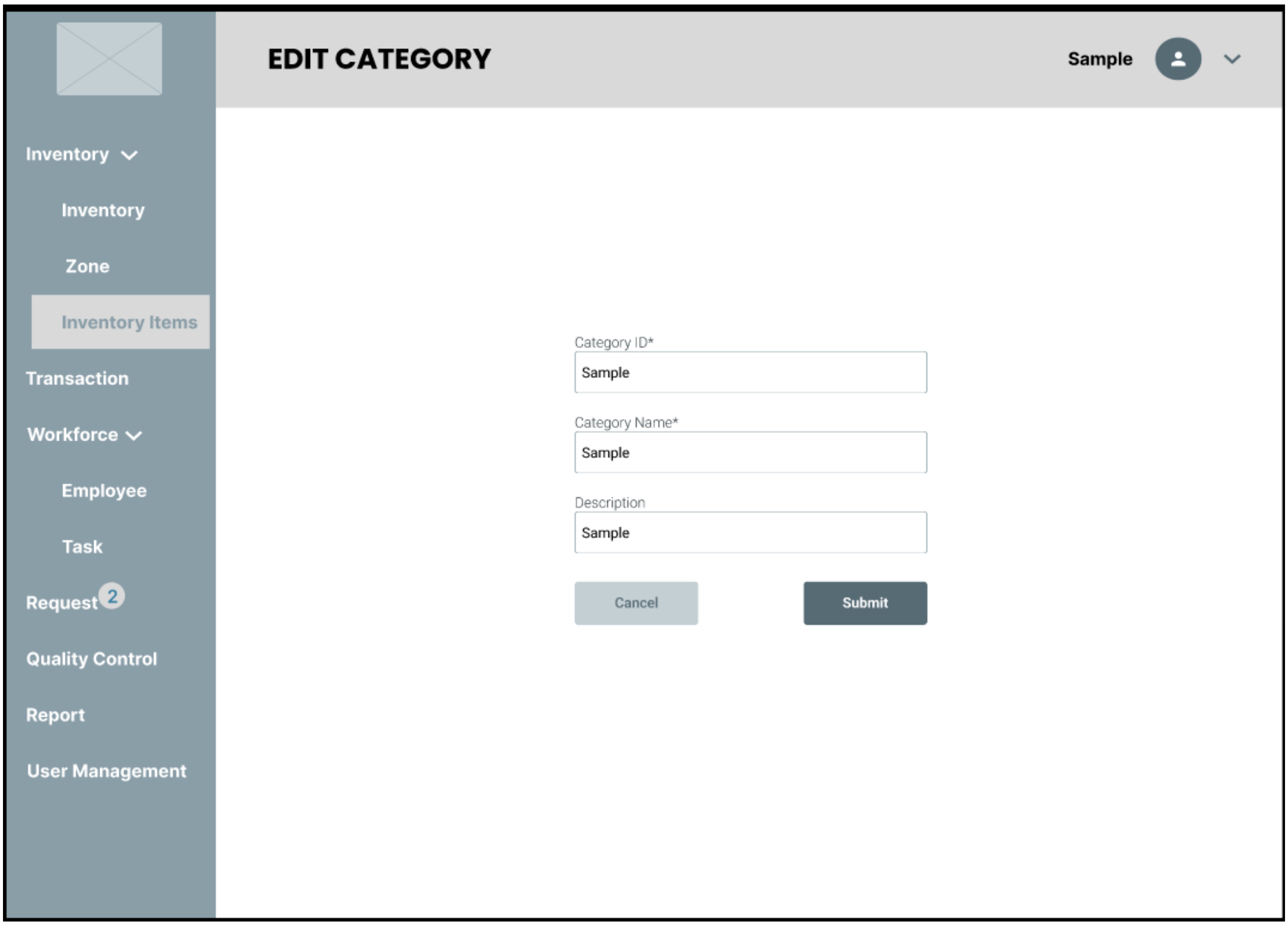
Field	Field Type	Possible Values	Default Value	Validation	Access Control
Category ID	Text (50)			Required	
Category Name	Text (255)			Required	
Description	Text (255)				

- Actions:
    - Cancel: Do nothing and return to the "Categories Management" page
    - Submit:
        - If any required field is empty, it should highlight the red color and show the error message below the field: "This field is required!"
        - If the Category ID or Category Name existed in the system, show the error message below the field:" This <Category ID or Category Name> already existed in the system! Please enter again!"
        - Once the above validation is passed, do the following:
            - Create a new category and pop up the successful message: "New category is added successfully!". Then return to the "Categories Management" page and there the newly added Category should be listed in the table in the first row highlight this first row
            - Log the event "New Category" in the Audit Trail
- Acceptance Criteria:
    - When the users visit this page, it should show the list of fields as specified in the wireframe with their default values
    - The users should be able to add values to those fields
    - When the user clicks on the "Cancel" button, do nothing and return to the "Categories Management" page
    - When the user clicks on the "Submit" button, it should not allow to create a new category in the following situations and show the appropriate message as specified:
        - If any required field is empty
        - If the category ID and category name already exist in the system
    - When the user enters details in all the fields, it should create a new category when clicking on the submit button and show the message as specified, then return to the "Categories Management" page. The new category should be listed in the table in the first row as specified and log the event should be in the Audit Trail

6.5.2. Edit Categories

- This section describes the functionality to edit information on the category

- Value statement: *As an inventory employee, I want to edit information about the categories in the system, so that the categories can be managed consistently*
- Prerequisite:
  - User on the Categories management page
  - User clicks on the edit new category button on any rows on the table of the Categories Management page



Field	Field Type	Possible Values	Default Value	Validation	Access Control
Category ID	Text (50)		The current Category ID is taken from the selected rows of the table from the Categories Management page.	Required	
Category Name	Text (255)		The current Category Name is taken from the selected rows of the table from the	Required	

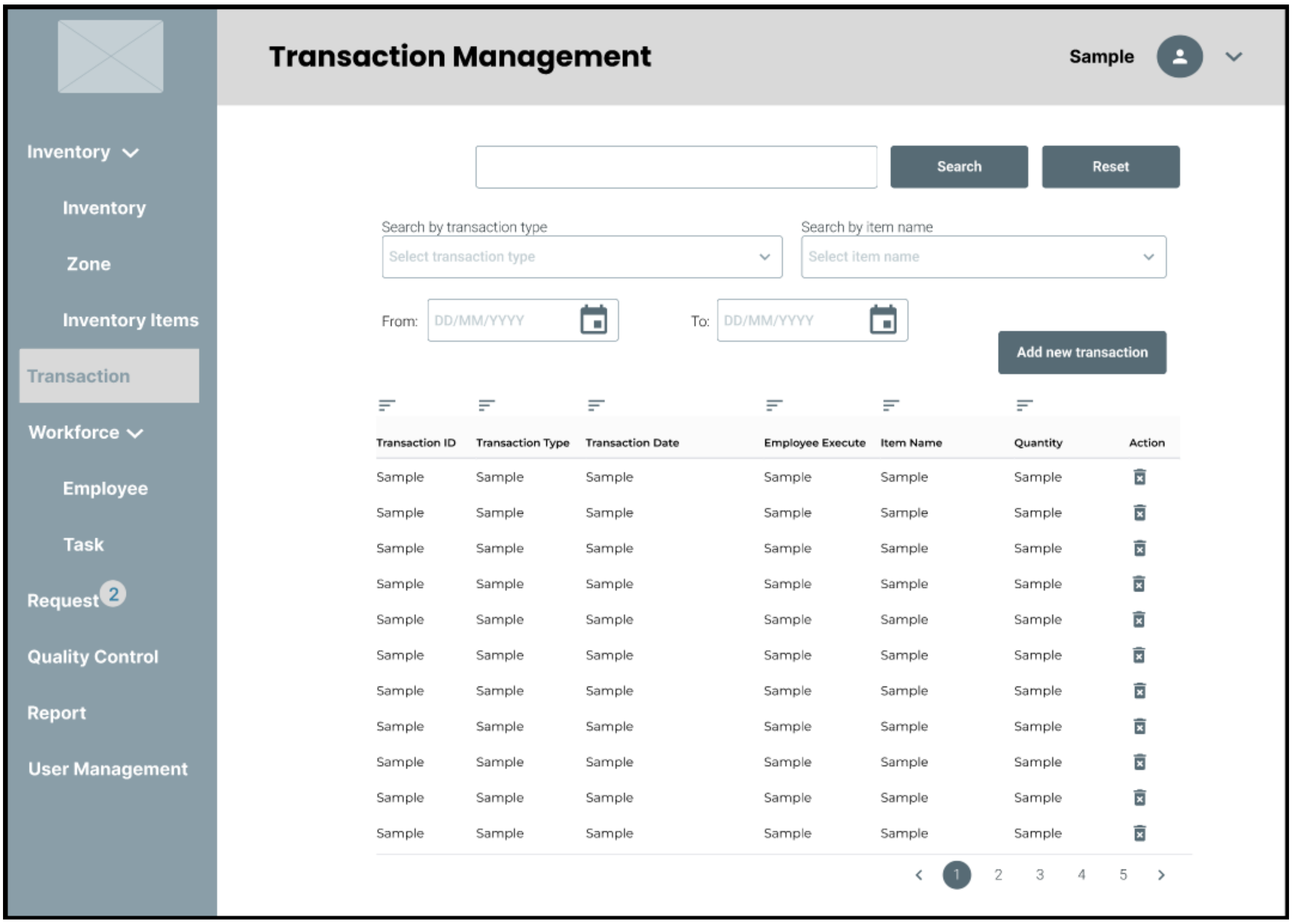
			Categories Management page.		
Description	Text (255)		The current Description is taken from the selected rows of the table from the Categories Management page.		

- Actions:
  - Cancel: Do nothing and return to the “Categories Management” page
  - Submit:
    - If any required field is empty, it should highlight the red color and show the error message below the field: “This field is required!”
    - If the Category ID or Category Name existed in the system, show the error message below the field:” This <Category ID or Category Name> already existed in the system! Please enter again!”
    - Once the above validation is passed, do the following:
      - Save changes the information of the category and pop up the successful message: “Information is updated successfully!”. Then return to the “Categories Management” page and there the newly edited Category should be listed in the table in the first row highlight this first row
      - Log the event “Edit Category” in the Audit Trail
- Acceptance Criteria:
  - When the users visit this page, it should show the list of fields as specified in the wireframe with their default values
  - The users should be able to change or add values to those fields
  - When the user clicks on the “Cancel” button, do nothing and return to the “Categories Management” page
  - When the user clicks on the “Submit” button, it should not allow to edit information of a category in the following situations and show the appropriate message as specified:
    - If any required field is empty
    - If the category ID and category name already exist in the system
  - When the user enters details in all the fields, it should save change the information of the category when clicking on the submit button and show the message as specified, then return to the “Categories Management” page. The new edited category should be listed in the table in the first row as specified and log the event should be in the Audit Trail

7. Transaction Management

- This section describes the “Transaction” section

- Value Statement: *As an inventory employee, I want to execute the import and export of inventory items so that the stock level in each zone in inventory will be able to update automatically based on the stock transaction in the system*
- Prerequisite:
  - User log into the system
  - User clicks on the Transaction section



- Filter Section:

Field	Field Type	Possible Values	Default Value	Remark
Transaction Type	Dropdown	List the following list: • Stock in • Stock out • Stock transfer • Return		
Item name	Dropdown	List all the available item names in the system		
Date modified	Date		The first day of	On clicking this filter,

from	picker		last month should be set as the default filter	it should open a calendar to choose the date (Day, Month, Year). On selecting the dates, it should filter out the records where the date from and date to falls under
Date modified To	Date picker		The current day should be set as the default filter	On clicking this filter, it should open a calendar to choose the date (Day, Month, Year). On selecting the dates, it should filter out the records where the date from and date to falls under

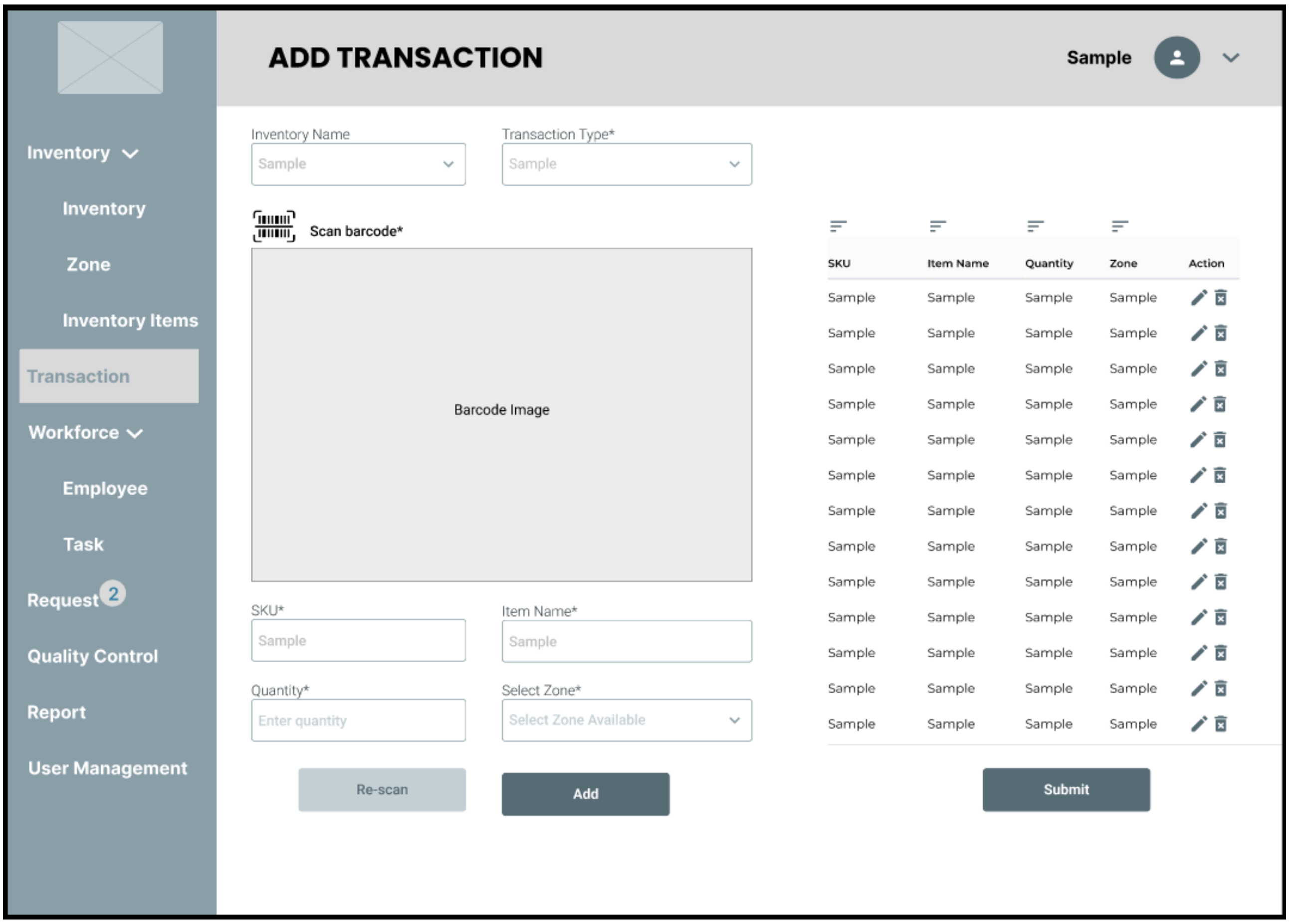
- Search Section:
  - Search by any keyword: When a search term is provided in the search box and the "Search" button is clicked, it should compare the search term with the Transaction ID, Transaction Type, Transaction Date, Employee Execute, and Item name. The comparison should not be case-sensitive.
  - If matching the keyword provided, the table will show the data with appropriate results
  - If not match the keyword, the message box will popup and show the notification message: "There is no search result"
- Reset button: Reset all the search results and filter and reload the data table
- Data table:
  - It should list the records as shown in the wireframe
  - By default, the table should be sorted by the "Transaction Date" column in descending order, with the latest date appearing at the top.
  - All the columns should be sortable except the last columns
  - It should display 20 records in the table at a time and show the pagination controls to view the other records if there are more than 20 records
  - Columns:
    - Transaction ID
    - Transaction Type
    - Transaction Date
    - Employee Execute
    - Reorder Level
    - Item name
    - Quantity

      - Action
        - Delete icon – on click, it should ask for a confirmation message with Yes, no buttons:” Are you sure you want to delete this transaction?”
          - Yes – A stock transaction is marked as "void” and shows the successful message box:” The transaction is marked as void”. Log the event as “Delete transaction” in Audit Trail
          - No – Dismiss the dialog and take no further action

- Acceptance Criteria:
  - When the Transaction Management is loaded, it should show the list of all the records in the table. The table should be sorted by Transaction Date column as specified
  - When the user clicks on the column header except for the last column header, it should sort the data in ascending or descending order
  - When the user clicks on add a new transaction, it should direct users to the Add new transaction page to create a new transaction
  - When the user clicks on the delete button on any row, it should ask for information as specified. If selecting Yes, it should execute as specified and log this event in Audit Trail. If selecting No, nothing happens and close the popup message.
  - If there are more than 20 records, it should show pagination controls on the bottom of the table as shown and the user can be able to go to the next page to view other records and also go back to the previous page
  - When the user types a keyword in the search text and does not click the search button, take no action
  - When the user types a keyword in the search text and clicks the search button, execute the search section as specified
  - When the user executes the filter, load the table again based on the filter as specified

7.1. Add new transaction

- This section describes the functionality to create a new transaction
- Value statement: *As an inventory employee, I want to create a new stock transaction in the system, so that the stock level in each zone can update automatically based on the stock transaction added*
- Prerequisite:
  - User on the Transaction management page
  - User clicks on the add new transaction button on the Transaction Management page
  - Barcode scanner hardware available for use and connected with the system



Field	Field Type	Possible Values	Default Value	Validation	Access Control
Inventory Name	Dropdown	List of all inventory names that existed in the system		Required	
Transaction Type	Dropdown	List the following list: • Stock in • Stock out • Stock transfer • Return		Required	
SKU	Text			Required	Automatically fill based on the barcode image frame.
Item Name	Text (255)			Required	Automatically fill based on the barcode image frame.
Quantity	Numeric			Required	
Zone	Dropdown	List all the zone		Required	Just show

		names available in the selected inventory			data after, the user selects the inventory name.

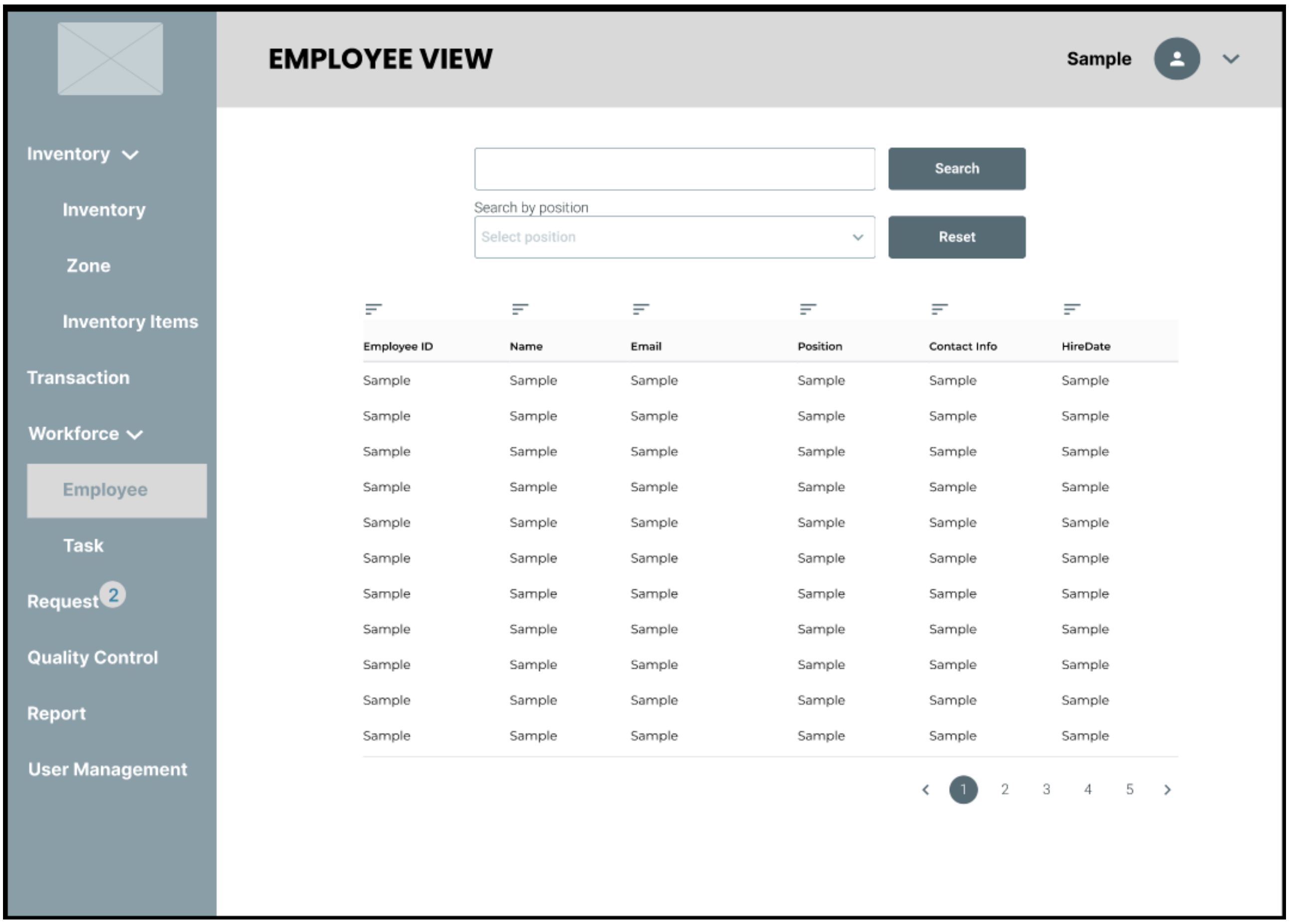
- Barcode image frame: Recognize the barcode and SKU connected with the barcode scanner
- Data table:
    - It should list the records as shown in the wireframe
    - By default, the table should be sorted by the latest add transaction on top
    - All the columns should be sortable except the last columns
    - It should display 20 records in the table at a time and show the pagination controls to view the other records if there are more than 20 records
    - Columns:
        - SKU
        - Item name
        - Quantity
        - Zone
        - Action
            - Delete icon – on click, it should ask for a confirmation message with Yes, no buttons:” Are you sure you want to delete this transaction?”
                - Yes – A stock transaction is deleted and shows the successful message box:” Delete successfully”
                - No – Dismiss the dialog and take no further action
            - Edit Icon
                - Take the data from the rows selected through this edit button
                - Fill all the fields based on the data selected
- Actions:
    - Re-scan: Reset as default to all the fields except inventory name
    - Add:
        - If any required field is empty, it should highlight the red color and show the error message below the field: “This field is required!”
        - Once the above validation is passed, do the following:
            - Save changes to the data table in the wireframe
    - Submit:
        - Create a new transaction with the Transaction ID is automatically created, The Transaction Date is taken from the current date, the employee execute is taken from the user and pops up the successful message: “New transaction is added successfully!”. Then return to the “Transaction Management” page and there the newly added

        Transaction should be listed in the table in the first row highlight this first row
        - Log the event "New Transaction" in the Audit Trail

- Acceptance Criteria:
    - When the users visit this page, it should show the list of fields as specified in the wireframe with their default values
    - The users should be able to add values to those fields except the SKU and Item name
    - When the user clicks on the "Cancel" button, do nothing and return to the "Transaction Management" page
    - When the user clicks on the "Submit" button, it should not allow to create of a new zone in the following situations and show the appropriate message as specified:
        - If any required field is empty
    - When the user enters details in all the fields and clicks submit, it should create a new transaction when clicking on the submit button and show the message as specified, then return to the "Transaction Management" page. The new transaction should be listed in the table in the first row as specified and log the event should be in the Audit Trail
    - If the user clicks the Re-scan button, refresh as default to the barcode image frame
    - If there are more than 20 records, it should show pagination controls on the bottom of the table as shown and the user can be able to go to the next page to view other records and also go back to the previous page
    - When an item is added by clicking the add button, it should show on top of the list of all the records added to the table
    - When the user clicks on the column header except for the last column header, it should sort the data in ascending or descending order
    - When the user clicks on the edit icon on any row in the table, it should take the data from this row and fill the data to all the fields including the barcode image scanned before. Users can edit those fields except SKU and Item name

8. **Employee View**

- This section describes the functionality to view the employee
- <u>Value statement:</u> *As an inventory manager, I want to view the list of the employee of my department, so that I can know the information of the employee*
- Prerequisite:
    - User log into the system
    - User clicks on the "Workforce" dropdown and clicks on the "Employee" section
    - Use the HR system's API to fetch employee data.



- Filter section:

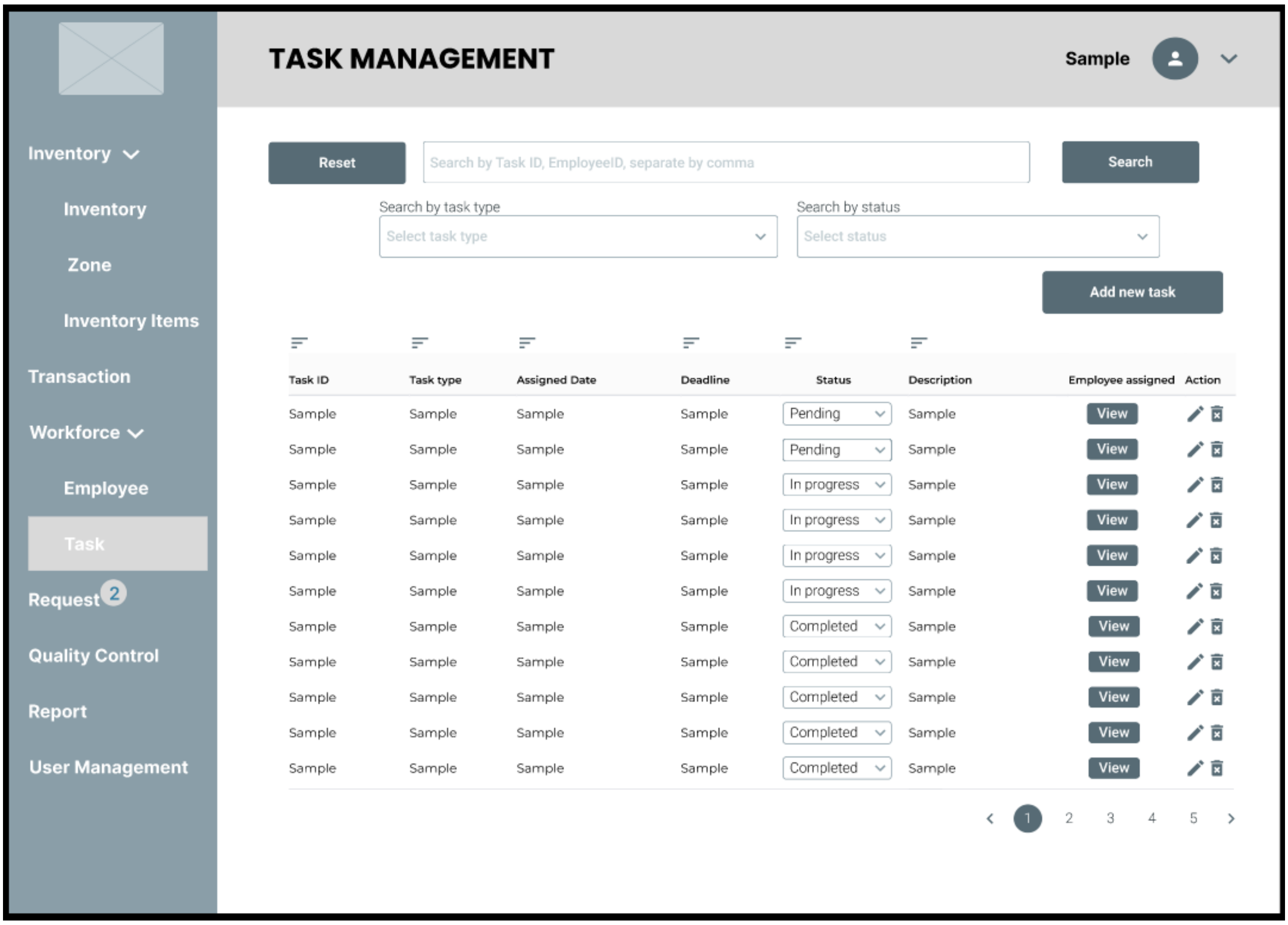
Field	Field Type	Possible Values	Default Value	Remarks
Position	Dropdown	List the following: • Employee • Manager		

- Reset button: On click, reset all the filters to their default value and reload the data table according to the default filter
- Search section:
  - Search by any keyword: When a search term is provided in the search box and the "Search" button is clicked, it should compare the search term with Employee ID, Name, and Email. The comparison should not be case-sensitive.
  - If matching the keyword provided, the table will show the data with appropriate results
  - If not match the keyword, the message box will popup and show the notification message: "There is no search result"
- Data table:
  - It should list the records as shown in the wireframe

    - By default, the table should be sorted by "Hire Date" column in descending order
    - All the columns should be sortable
    - It should display 20 rows in the table at a time and show the pagination controls to view the other records if there are more than 20 rows in the table
    - Columns:
        - Employee ID
        - Name
        - Email
        - Position
        - Contact Info
        - Date
- Acceptance Criteria:
    - When the Employee View page is loaded, it should show the list of all the records in the table as specified. The table should be sorted by Hire Date column as specified
    - When the Employee View is loaded, the default value of the filters is specified as above
    - When the user executes any filter, it should filter the data table based on the filter
    - When the user clicks on the column header, it should sort the data in ascending or descending order
    - If there are more than 20 rows of data, it should show pagination controls on the bottom of the table as shown and the user can be able to go to the next page to view other records and also go back to the previous page

9. Task Management

- This section describes the "Task" section
- Value Statement: *As an inventory manager, I want to assign daily tasks to employees in a way that ensures each inventory zone is consistently managed by the appropriate personnel, enabling streamlined operations and easier monitoring of task completion.*
- Prerequisite:
    - User log into the system
    - User clicks on the "Workforce" dropdown and clicks on the "Task" section



- Filter Section:

Field	Field Type	Possible Values	Default Value	Remark
Task Type	Dropdown	List the following list: • Stock monitoring • Stock In • Stock Out • Quality Control • Categorization • Inventory Movement • Stock Reporting • Return and Adjustment		
Status	Dropdown	List the following list: • Pending • In Progress • Completed		

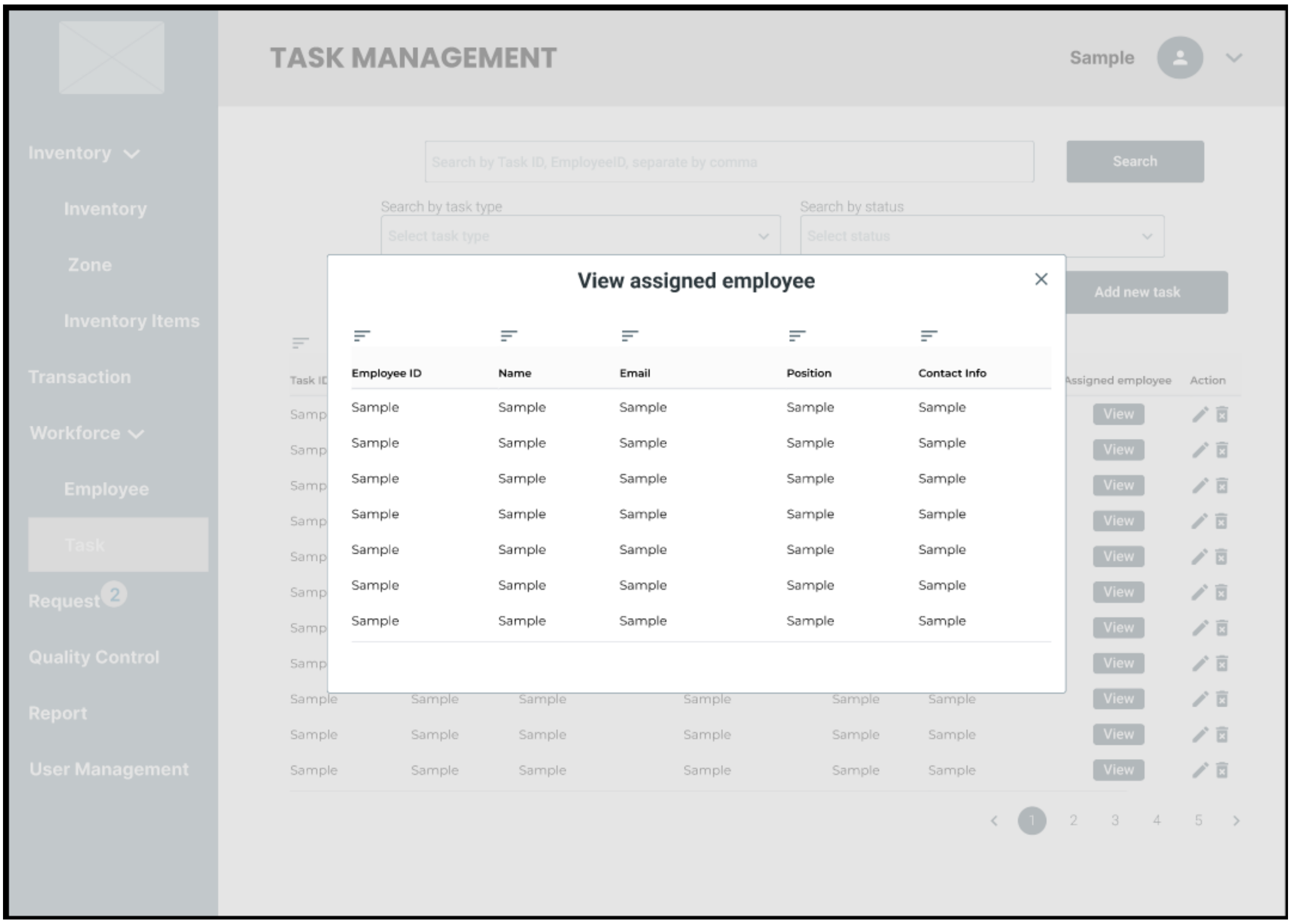
- Search Section:
  - Search by any keyword: When a search term is provided in the search box and the “Search” button is clicked, it should compare the search term with the Task ID, Task Type, Assigned Date, Deadline, and Description. The comparison should not be case-sensitive.

    - If matching the keyword provided, the table will show the data with appropriate results
    - If not match the keyword, the message box will popup and show the notification message: “There is no search result”
- Reset button: Reset all the search results and filter and reload the data table
- Add new task: just show if the user is the manager
- Data table:
    - It should list the records as shown in the wireframe
    - By default, the table should be sorted by the "Status" column with this alignment: Pending – In Progress - Completed
    - All the columns should be sortable except the last columns
    - It should display 20 records in the table at a time and show the pagination controls to view the other records if there are more than 20 records
    - Columns:
        - Task ID
        - Task Type
        - Assigned Date
        - Deadline
        - Status: The status data of records is the default value. On click, drop the list:
            - Pending
            - In Progress
            - Completed
                - When selecting the option in the list, update the information of status and show the default value on the dropdown
        - Description
        - Employee Assigned: When clicking the View button, show the pop-up view employee assigned
        - Action - Just show if the user is the manager
            - Delete icon – On click, it should ask for a confirmation message with Yes or No buttons:” Are you sure you want to delete this transaction?”
                - Yes – Delete the record and show the successful message box:” Delete successfully”. Log the event as “Delete Task” in Audit Trail
                - No – Dismiss the dialog and take no further action
            - Edit – On click, direct user to edit task page
- Acceptance Criteria:
    - When the Task Management is loaded, it should show the list of all the records in the table. The table should be sorted by Status with this alignment: Pending – In Progress – Completed in descending order

- When the user clicks on the column header except for the last two column headers, it should sort the data in ascending or descending order
- When the user clicks on add a new task, it should direct users to the Add new task page to create a new task
- When the user clicks on the delete button on any row, it should ask for information as specified. If selecting Yes, it should execute as specified and log this event in Audit Trail. If selecting No, nothing happens and close the popup message.
- When the user clicks on the edit button on any row, it should direct the user to the Edit task page
- If there are more than 20 records, it should show pagination controls on the bottom of the table as shown and the user can be able to go to the next page to view other records and also go back to the previous page
- When the user types a keyword in the search text and does not click the search button, take no action
- When the user types a keyword in the search text and clicks the search button, execute the search section as specified
- When the user executes the filter, load the table again based on the filter as specified
- When the user clicks on the dropdown on any row of the status column, show the list as specified.
- If the user selects the option in the dropdown of the status column, update the data of record of these rows based on the selection and show the default value of the dropdown as specified
- When the user clicks on the View button on the employee assigned column, show the popup View employee assigned

9.1. View employee assigned

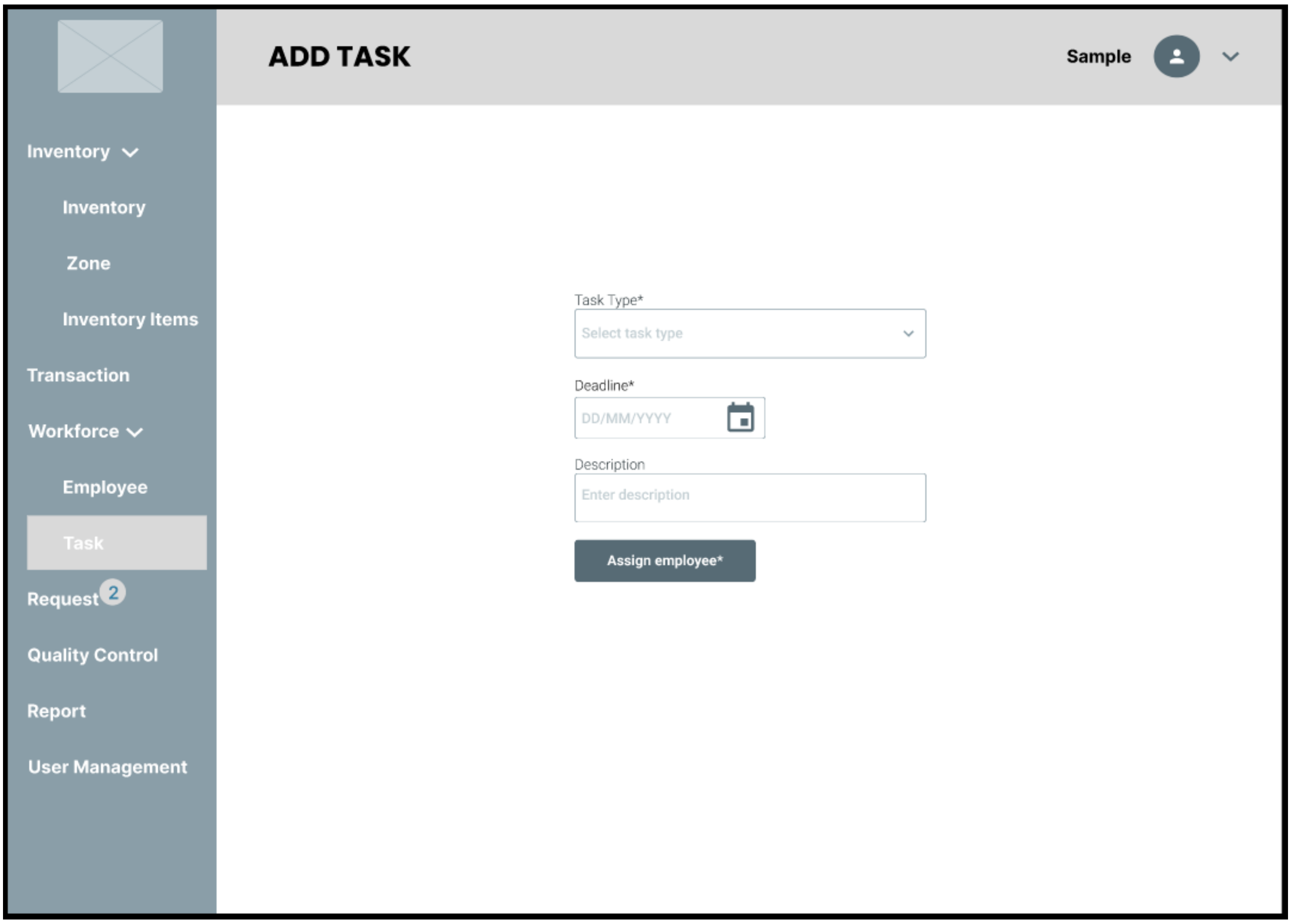
- This section describes the functionality to view the list of employees assigned attached to tasks
- Value statement: *As an inventory employee, I want to view the list of employees assigned each task in the system, so that I can know and manage who are complete and handle the appropriate task*
- Prerequisite:
    - User on the Task Management page
    - User clicks on the View button on the Employee assigned column on any rows in the table on the Task Management page



- Data table:
  - It should list the records as shown in the wireframe
  - By default, the table should be sorted by “Name” column in alphabetical order
  - All the columns should be sortable
  - It should display 20 records in the table at a time and show the pagination controls to view the other records if there are more than 20 records
  - Columns:
    - Employee ID
    - Name
    - Email
    - Position
    - Contact Info
- Acceptance Criteria:
  - When the View Employee Assigned window pops up, it should take the record from the Task Management page and show the list of all the records in the table. The table should be sorted by Name column as specified
  - When the user clicks on the column header, it should sort the data in ascending or descending order
  - If there are more than 20 records, it should show pagination controls on the bottom of the table as shown and the user can be able to go to the next page to view other records and also go back to the previous page

9.2. Add new task

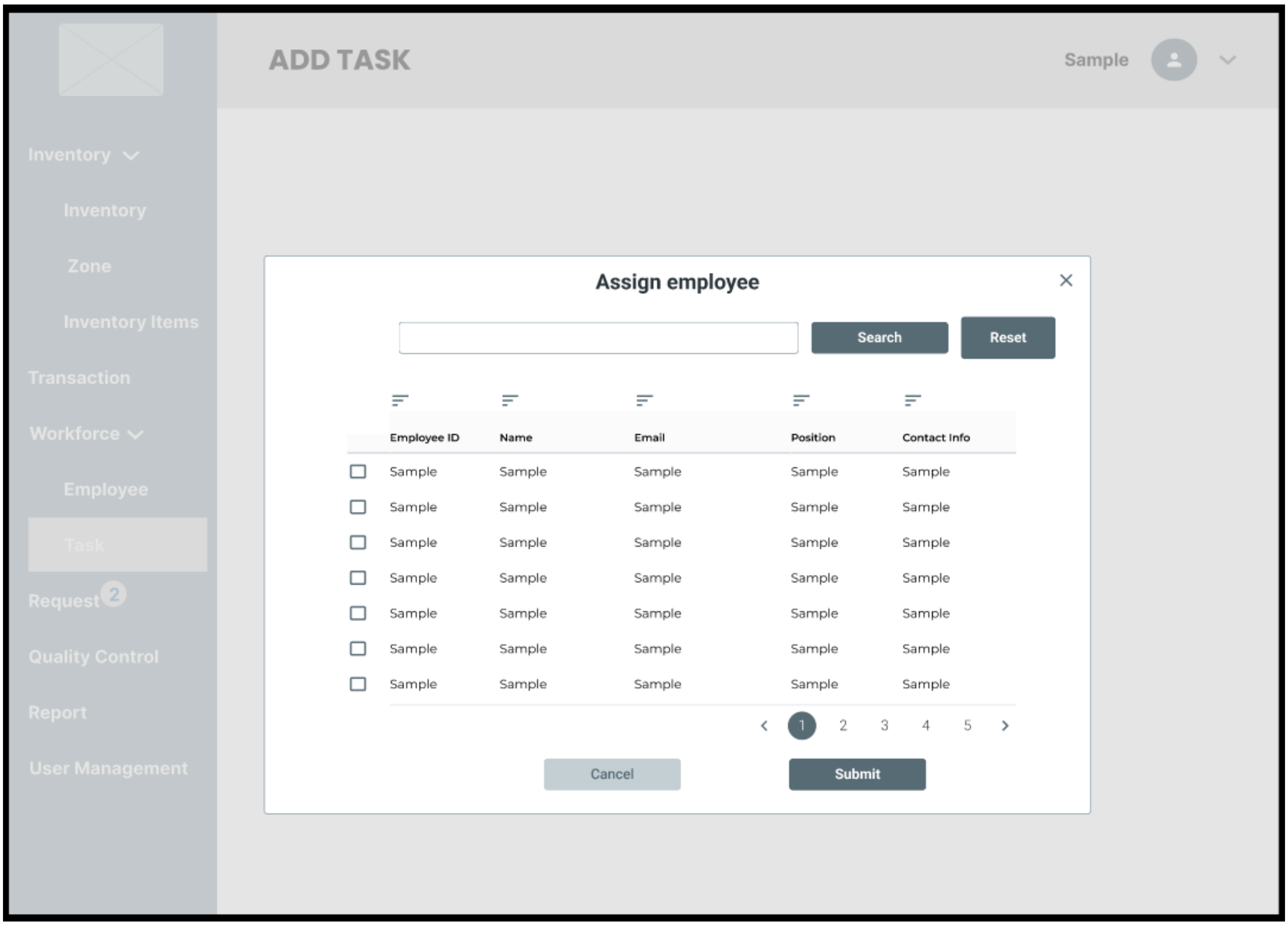
- This section describes the functionality to create a new task
- Value statement: *As an inventory manager, I want to create a new task in the system, so that the employee can complete and do the task as I assign in the system*
- Prerequisite:
  - User on the Task page
  - User clicks on add new task button on the Task Management page



Field	Field Type	Possible Values	Default Value	Validation	Access Control
Task Type	Dropdown	List the following list: • Stock monitoring • Stock In • Stock Out • Quality Control • Categorization • Inventory Movement		Required	

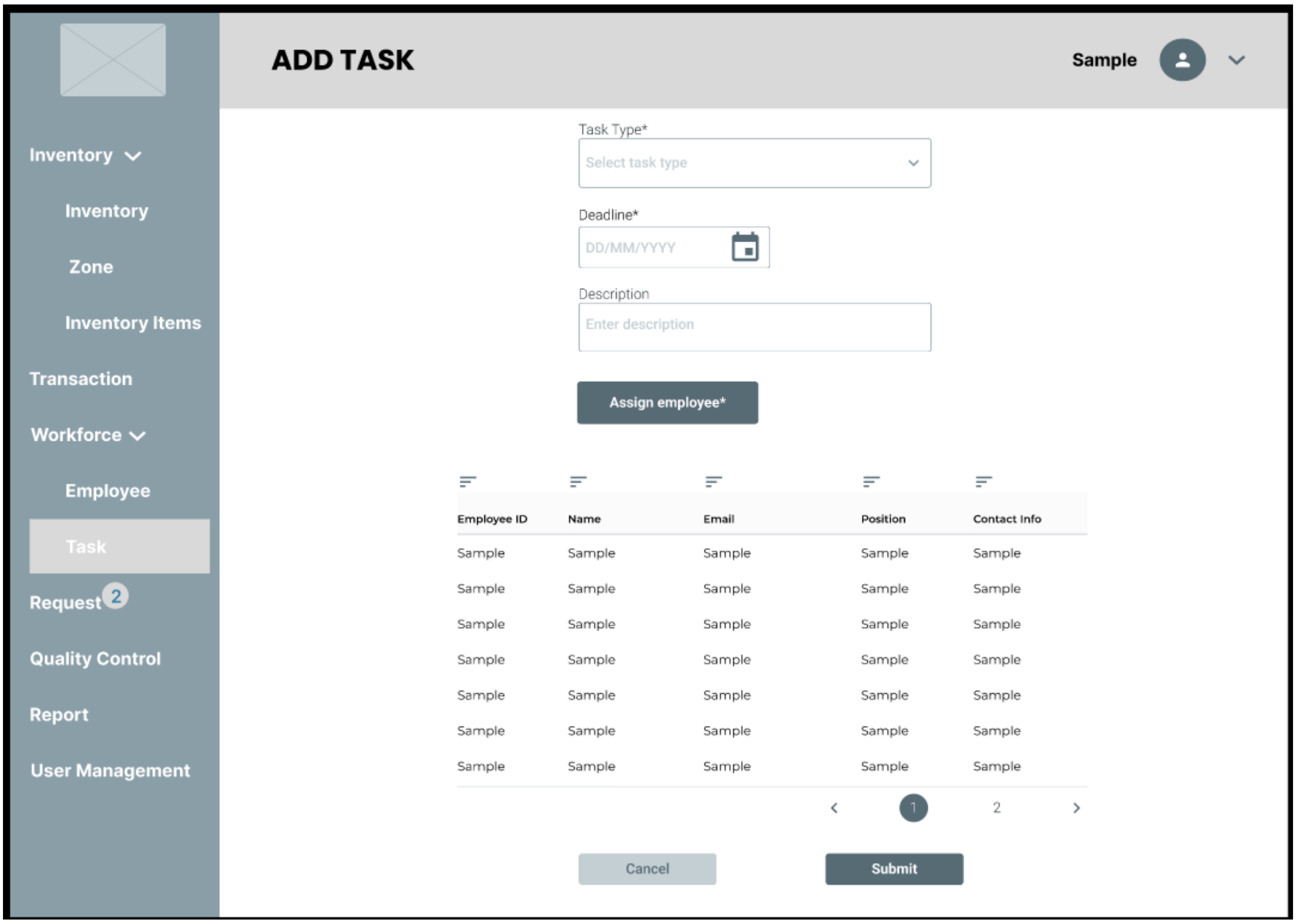
		• Stock Reporting • Return and Adjustment			
Deadline	Datetime picker			Required	On clicking this filter, it should open a calendar to choose the date (Day, Month, Year)
Description	Text (255)				

- Assign employee button: On click pop up the following window for the user to select a bulk list of employee



- Search Section:
  - Search by any keyword: When a search term is provided in the search box and the “Search” button is clicked, it should compare the search term with the Employee ID, Name, Email, Position, and Contact Info. The comparison should not be case-sensitive.
  - If matching the keyword provided, the table will show the data with appropriate results

    - If not match the keyword, the message box will popup and show the notification message: “There is no search result”
- Reset button: Reset all the search results and reload the data table
- Data Table:
    - It should list the records as shown in the wireframe
    - By default, the table should be sorted by the "Name" column in alphabetical order
    - All the columns should be sortable except the first columns
    - It should display 10 records in the table at a time and show the pagination controls to view the other records if there are more than 10 records
    - Columns:
        - Check box: - to select the employee to assign task
            - The top checkbox in the column heading is for selecting all the employees on the page
            - It should work as a toggle to select/deselect all the employees
        - Employee ID
        - Name
        - Email
        - Position
        - Contact Info
- Action:
    - Cancel: Do nothing and close the pop-up
    - Submit: If no checkbox is checked, display an information message: 'You should select at least one employee to add a task!'. If a checkbox is checked, add the selected record to the table as shown in the following wireframe and close the pop-up



Field	Field Type	Possible Values	Default Value	Validation	Access Control
Task Type	Dropdown	List the following list: • Stock monitoring • Stock In • Stock Out • Quality Control • Categorization • Inventory Movement • Stock Reporting • Return and Adjustment	Current value	Required	
Deadline	Datetime picker		Current Value	Required	On clicking this filter, it should open a calendar to choose the date (Day, Month, Year)
Description	Text		Current		

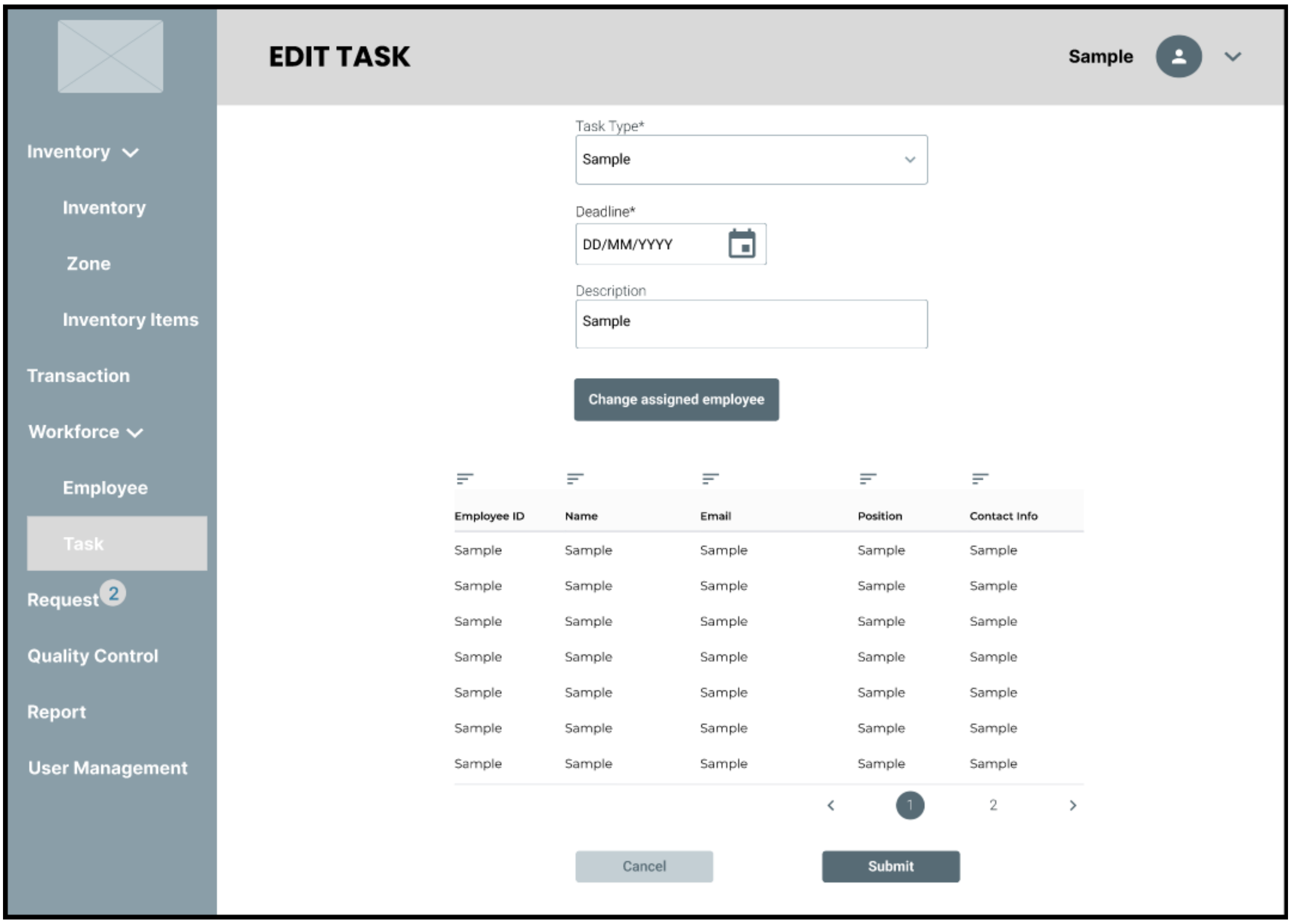
	(255)		Value		

- Assign employee button: take the record of the table and show the pop-up Assign employee as above. Check the box for the employee that matches the record from this table
- Data table:
    - It should list the records as shown in the wireframe
    - By default, the table should be sorted by the "Name" column in alphabetical order
    - All the columns should be sortable except the first columns
    - It should display 10 records in the table at a time and show the pagination controls to view the other records if there are more than 10 records
    - Columns:
        - Employee ID
        - Name
        - Email
        - Position
        - Contact Info
- Action:
    - Cancel: Do nothing and return to the "Task Management" page
    - Submit:
        - If any required field is empty, it should highlight the red color and show the error message below the field: "This field is required!"
        - Once the above validation is passed, do the following:
            - Create a new task with the Task ID is automatically created and takes the current date as the assign date field in the record and pops up the successful message: "New task is added successfully!". Then return to the "Task Management" page and there the newly added Task should be listed in the table in the first row highlight this first row
            - Log the event "New Task" in the Audit Trail
- Acceptance Criteria:
    - When the users visit the first page, it should show the list of fields as specified in the wireframe with their default values
    - The users should be able to add values to those fields
    - When the user clicks on the "Cancel" button on the third page, do nothing and return to the "Task Management" page
    - When the user clicks on the "Submit" button on the third, it should not allow to create of a new task in the following situations and show the appropriate message as specified:
        - If any required field is empty
    - When the user enters details in all the fields, it should create a new task when clicking on the submit button and show the message as specified, then return

to the “Task Management” page. The new task should be listed in the table in the first row as specified and log the event should be in the Audit Trail
  - When the user clicks on the Assign Employee button on the first page, the system should pop up the window to select the list of employees to do the task as specified
  - When the user clicks on the header of the data table in the second wireframe, it should be sorted by descending or ascending order except for the first column which is performed like selecting or deselecting all check boxes as specified
  - When the user clicks on the header of the data table in the third wireframe, it should sort the record in descending or ascending order
  - When the user types text in the search text box and clicks search in the second wireframe, it should filter out the record based on the search result
  - When the user clicks cancel in the second wireframe, it should return to the first wireframe page with the current type field
  - When the user clicks submit on the second wireframe and no check box is checked, it should show the message as specified
  - When the user clicks submit on the second wireframe and the check box is checked, it should take the record and go to the third wireframe

9.3. Edit task

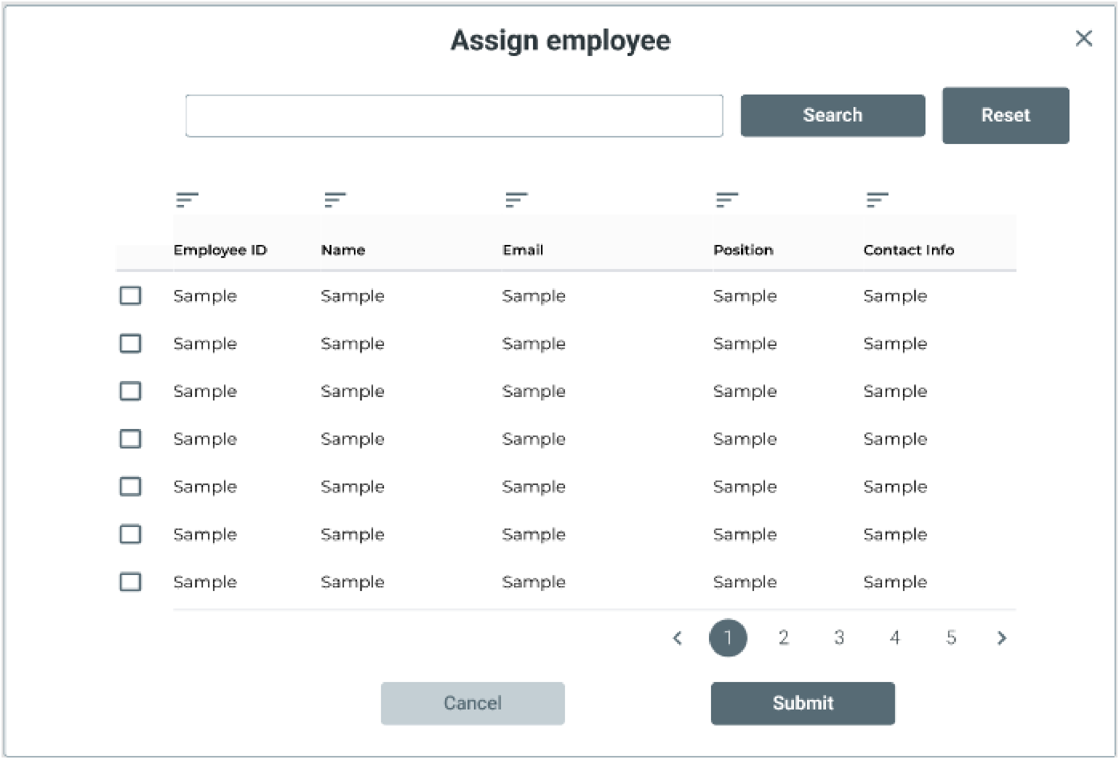
- This section describes the functionality to edit information on the task
- <u>Value statement:</u> *As an inventory manager, I want to edit information about a task when in the system, so that I can easily manage and change information when needed*
- Prerequisite:
  - User on the Task page
  - User clicks on the edit button on any rows in the table on the Task Management page



Field	Field Type	Possible Values	Default Value	Validation	Access Control
Task Type	Dropdown	List the following list: • Stock monitoring • Stock In • Stock Out • Quality Control • Categorization • Inventory Movement • Stock Reporting • Return and Adjustment	Current value	Required	
Deadline	Datetime picker		Current Value	Required	On clicking this filter, it should open a calendar to choose the date (Day, Month, Year)
Description	Text		Current		

	(255)		Value		

- Data table:
    - It should list the records as shown in the wireframe
    - By default, the table should be sorted by the "Name" column in alphabetical order
    - All the columns should be sortable except the first columns
    - It should display 10 records in the table at a time and show the pagination controls to view the other records if there are more than 10 records
    - Columns:
        - Employee ID
        - Name
        - Email
        - Position
        - Contact Info
- Action:
    - Cancel: Do nothing and return to the “Task Management” page
    - Submit:
        - If any required field is empty, it should highlight the red color and show the error message below the field: “This field is required!”
        - Once the above validation is passed, do the following:
            - Save changes the record and takes the current date as the assign date field in the record and pops up the successful message: “Update successfully!”. Then return to the “Task Management” page and there the newly edited Task should be listed in the table in the first row highlight this first row
            - Log the event “Edit Task” in the Audit Trail
- Assign employee button: take the record of the table and show the pop-up Assign employee as belove. Check the box for the employee that matches the record from this table



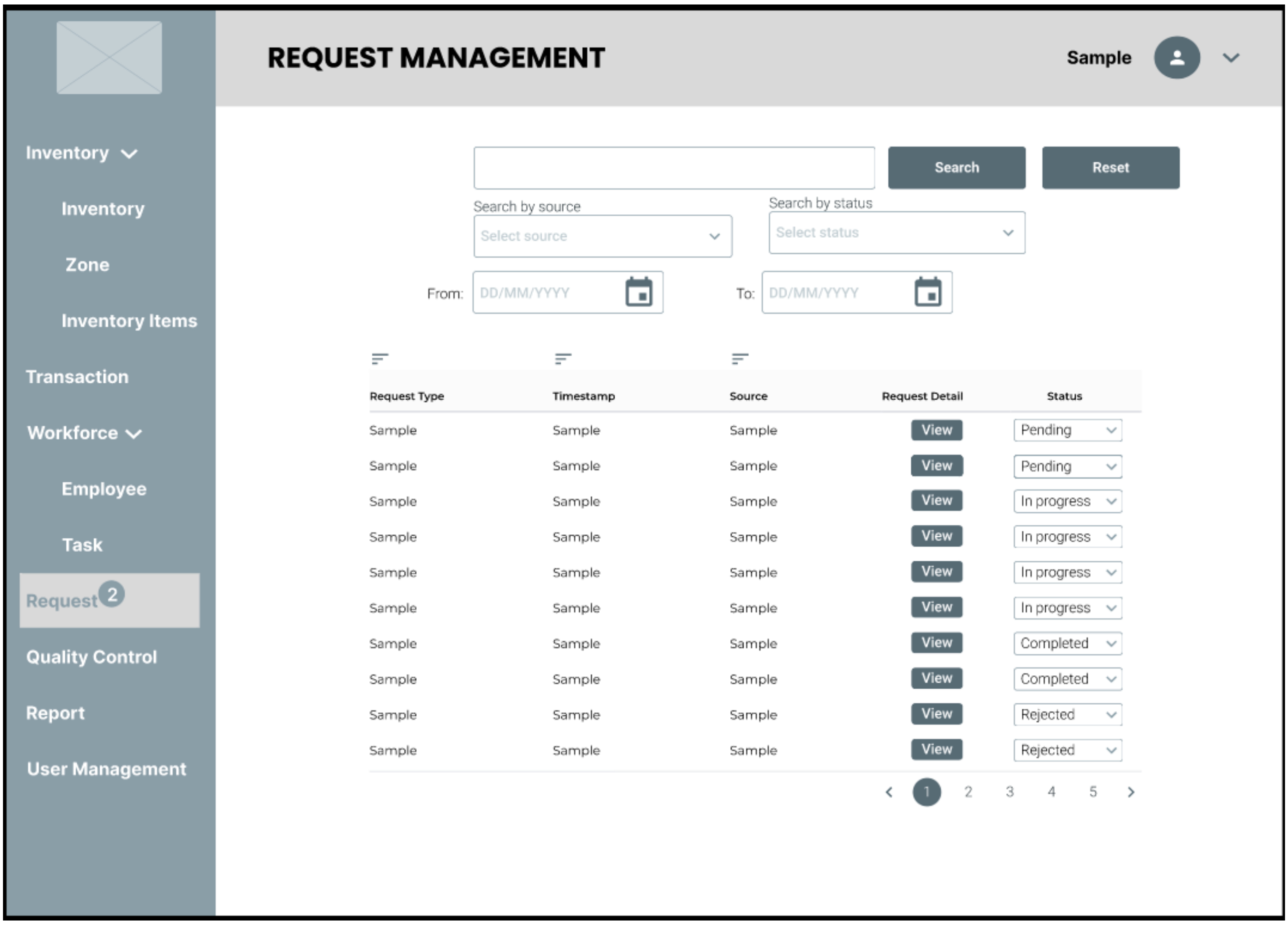
- Search Section:
  - Search by any keyword: When a search term is provided in the search box and the "Search" button is clicked, it should compare the search term with the Employee ID, Name, Email, Position, and Contact Info. The comparison should not be case-sensitive.
  - If matching the keyword provided, the table will show the data with appropriate results
  - If not match the keyword, the message box will popup and show the notification message: "There is no search result"
- Reset button: Reset all the search results and reload the data table
- Data Table:
  - It should list the records as shown in the wireframe
  - By default, the table should be sorted by the "Name" column in alphabetical order
  - All the columns should be sortable except the first columns
  - It should display 10 records in the table at a time and show the pagination controls to view the other records if there are more than 10 records
  - Columns:
    - Check box: - to select the employee to assign task
      - The top checkbox in the column heading is for selecting all the employees on the page
      - It should work as a toggle to select/deselect all the employees
    - Employee ID
    - Name
    - Email

        - Position
        - Contact Info
- Action:
    - Cancel: Do nothing and close the pop-up
    - Submit: If no checkbox is checked, display an information message: 'You should select at least one employee to add a task!'. If a checkbox is checked, add the selected record to the table in the first edit task page
- Acceptance Criteria:
    - When the users visit the first page, it should show the list of fields as specified in the wireframe with their default values
    - The users should be able to add values to those fields
    - When the user clicks on the "Cancel" button on the first page, do nothing and return to the "Task Management" page
    - When the user clicks on the "Submit" button on the first page, it should not allow to edit the task in the following situations and show the appropriate message as specified:
        - If any required field is empty
    - When the user enters details in all the fields, it should update a task when clicking on the submit button and show the message as specified, then return to the "Task Management" page. The new edited task should be listed in the table in the first row as specified and log the event should be in the Audit Trail
    - When the user clicks on the Assign Employee button on the first page, the system should pop up the window to select the list of employees to do the task as specified
    - When the user clicks on the header of the data table in the second wireframe, it should be sorted by descending or ascending order except for the first column which is performed like selecting or deselecting all check boxes as specified
    - When the user clicks on the header of the data table in the first wireframe, it should sort the record in descending or ascending order
    - When the user types text in the search text box and clicks search in the second wireframe, it should filter out the record based on the search result
    - When the user clicks cancel in the second wireframe, it should return to the first wireframe page with the current type field
    - When the user clicks submit on the second wireframe and no check box is checked, it should show the message as specified
    - When the user clicks submit on the second wireframe and the check box is checked, it should take the record and go to the third wireframe

10. Request Management

- This section describes the functionality to view the request from the sales department or Procurement department

- <u>Value statement:</u> *As an inventory employee, I want to view the list of requests to perform stock-out transactions or stock-in transactions from the procurement department in real-time, so that my team can handle the job easily and plan the transaction to execute and complete the request*
- Prerequisite:
    - User log into the system
    - User clicks on the clicks on the "Request" section
    - Use the Procurement system's API to fetch employee data.
    - Use the Sales system's API to fetch employee data.



- Filter section:

Field	Field Type	Possible Values	Default Value	Remarks
Source	Dropdown	List the following: • Sales • Procurement		
Status	Dropdown	List the following: • Pending • In progress • Completed		

		• Rejected		
Date modified from	Date picker		The first day of last month should be set as the default filter	When clicking this filter, it should open a calendar to choose the date (Day, Month, Year). On selecting the dates, it should filter out the records where the date from and date to falls under
Date modified To	Date picker		The current day should be set as the default filter	When clicking this filter, it should open a calendar to choose the date (Day, Month, Year). On selecting the dates, it should filter out the records where the date from and date to falls under

- Reset button: On click, reset all the filters to their default value and reload the data table according to the default filter
- Section menu: Show the bubble that includes the number of pending requests in the data table
- Search section:
    - Search by any keyword: When a search term is provided in the search box and the “Search” button is clicked, it should compare the search term with Request Type, Timestamp, and Source. The comparison should not be case-sensitive.
    - If matching the keyword provided, the table will show the data with appropriate results
    - If not match the keyword, the message box will popup and show the notification message: “There is no search result”
- Data table: Fetch data every last day from the Sales, Procurement, and Accounting system
    - It should list the records as shown in the wireframe
    - By default, the table should be sorted by “Timestamp” column in descending order
    - All the columns should be sortable except the two last column
    - It should display 20 rows in the table at a time and show the pagination controls to view the other records if there are more than 20 rows in the table
    - Columns:
        - Request Type
        - Timestamp
        - Source

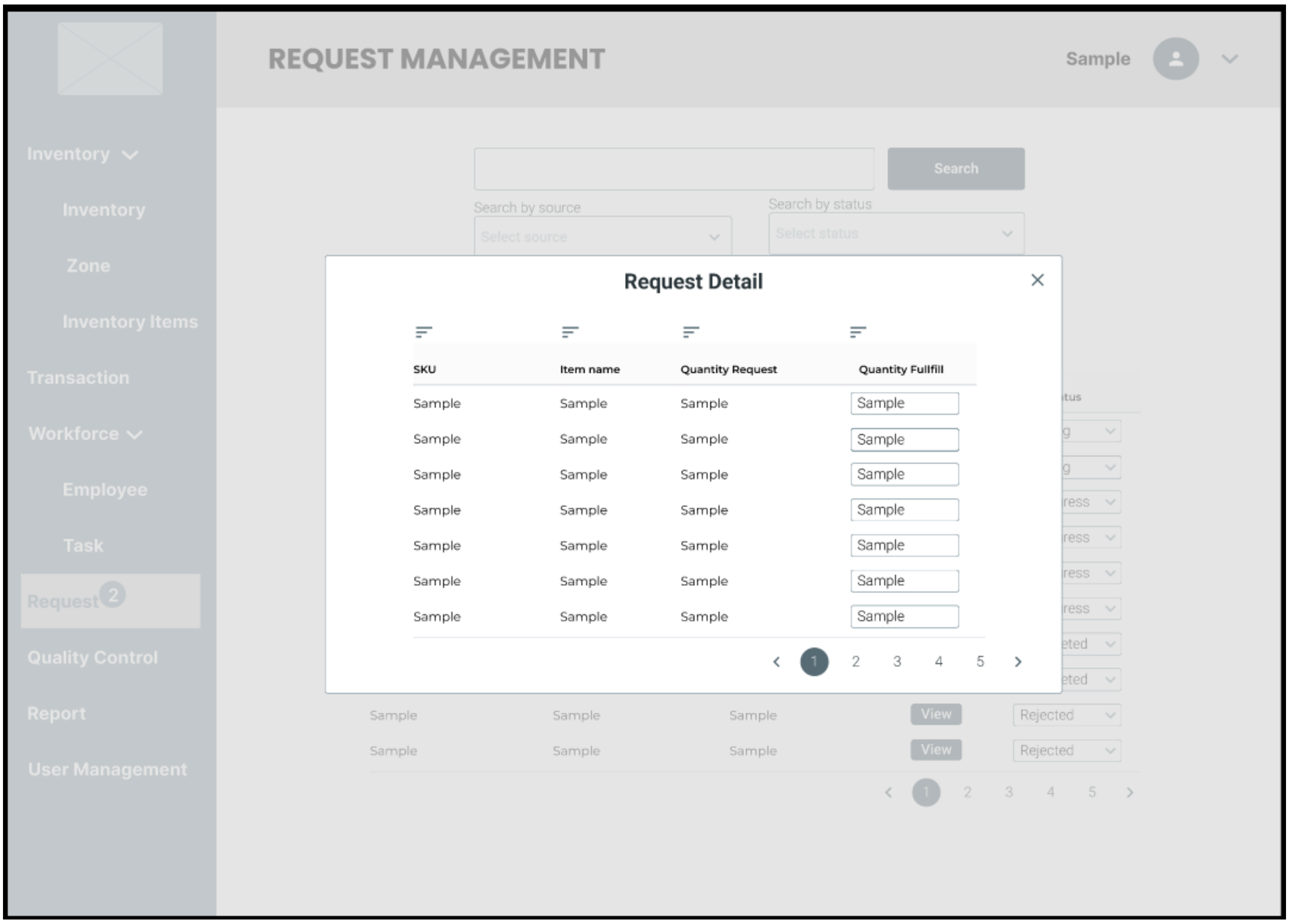
        - Request Detail: On clicking the view button, take the records of that row and popup the window that shows the request detail
        - Status:
            - The value shown in the dropdown is the status of that rows of records
            - On clicking the dropdown, show the list of the following:
                - Pending
                - In progress
                - Completed
                - Rejected
            - If select one of the selections of the above list, check if the selection is completed, check Quantity fulfilled in the request detail is filled:
                - If Yes, update the status of these rows and show the value selected in the dropdown. Log the event "Change status request" in the Audit Trail
                - If No, show the information message: "The quantity fulfilled of the request detail is not fulfilled!"

- Acceptance Criteria:
    - When the Request Management page is loaded, it should show the list of all the records in the table as specified. The table should be sorted by Timestamp column as specified
    - When the Request Management is loaded, the default value of the filters is specified as above
    - When the user executes any filter, it should filter the data table based on the filter
    - When the user clicks on the column header, it should sort the data in ascending or descending order
    - If there are more than 20 rows of data, it should show pagination controls on the bottom of the table as shown and the user can be able to go to the next page to view other records and also go back to the previous page
    - When the user clicks search without typing text in the search text, show the message as specified
    - When the user clicks search with type text in search text, load the data table based on the search term as specified
    - When the user clicks search with no found text in the search text, show the message as specified
    - When the user types text in search text without clicking the search button, nothing happens
    - When the user clicks the View button on any rows of the Request detail column, it should popup the Request Detail window

- When the user clicks on the dropdown of the Status column, it should show the list as specified.
- If the user selects one of the selections in the list, it should check if the selection is completed, check Quantity fulfilled in the request detail is filled as specified
- When the Request Management is loaded, the default value of the dropdown in the Status column is the value of the status of that record
- The data of the table should be fetched every last day from the Sales, Procurement, and Accounting system
-

10.1. Request Detail

- This section describes the functionality to view the list of request detail
- Value statement: *As an inventory employee, I want to view the list of request details of each request, so that I can perform the task as the detail demanding*
- Prerequisite:
  - User on the Request Management page
  - User clicks on the View button on the Request detail column on any rows in the table on the Request Management page

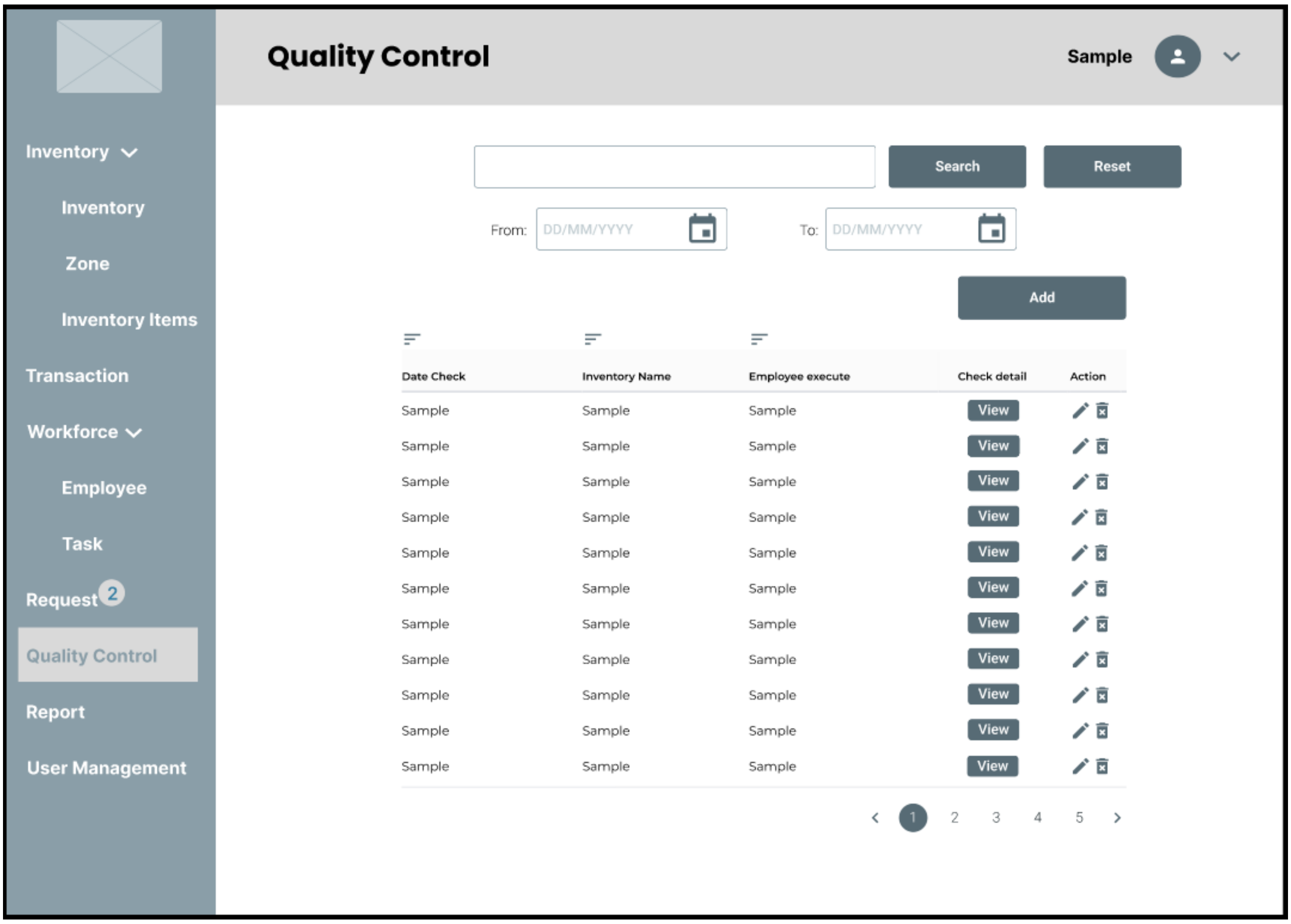


- Data table:
  - It should list the records as shown in the wireframe

- By default, the table should be sorted by "Item Name" column in alphabetical order
    - All the columns should be sortable
    - It should display 20 records in the table at a time and show the pagination controls to view the other records if there are more than 20 records
    - Columns:
        - SKU
        - Item Name
        - Quantity Request
        - Quantity Fulfill: textbox type column
            - The default value is the current value
            - Textbox value type: Numeric only
            - If type the value in the textbox, save change the value as the quantity fulfill attribute of the records
- Acceptance Criteria:
    - When the Request Detail window pops up, it should take the record from the Request Management page and show the list of all the records in the table. The table should be sorted by Item name column as specified
    - When the user clicks on the column header, it should sort the data in ascending or descending order
    - If there are more than 20 records, it should show pagination controls on the bottom of the table as shown and the user can be able to go to the next page to view other records and also go back to the previous page
    - When the Request Detail window pops up, the default value of the textbox type column Quantity fulfill is the current value
    - When the user types the value in the textbox, save change the value as the quantity fulfill attribute of the records

11. Quality Control

- This section describes the "Quality Control" section
- <u>Value Statement</u>: *As an inventory employee, I want to perform a task that involves inspecting items to detect defects, so I can either return them to suppliers or handle the defective items accordingly, ensuring the maintenance of quality inventory in the system*
- Prerequisite:
    - User log into the system
    - User clicks on the Quality Control section



- Filter Section:

Field	Field Type	Possible Values	Default Value	Remark
Date modified from	Date picker		The first day of last month should be set as the default filter	When clicking this filter, it should open a calendar to choose the date (Day, Month, Year). On selecting the dates, it should filter out the records where the date check falls under
Date modified To	Date picker		The current day should be set as the default filter	When clicking this filter, it should open a calendar to choose the date (Day, Month, Year). On selecting the dates, it should filter out the records where the date check falls under

- Search Section:

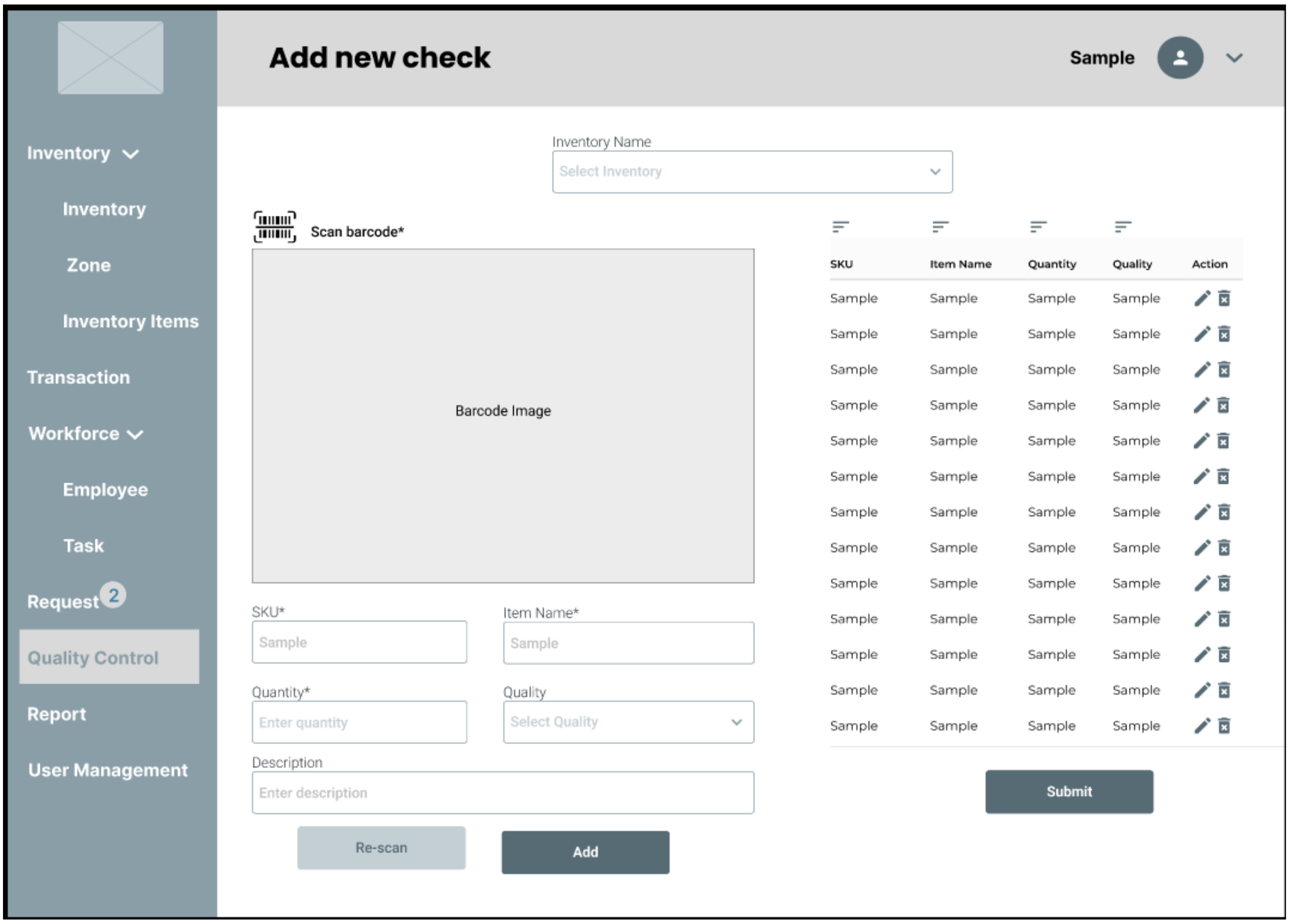
    - Search by any keyword: When a search term is provided in the search box and the “Search” button is clicked, it should compare the search term with the Inventory Name, Employee Execute. The comparison should not be case-sensitive.
    - If matching the keyword provided, the table will show the data with appropriate results
    - If not match the keyword, the message box will popup and show the notification message: “There is no search result”
- Reset button: Reset all the search results and filter and reload the data table
- Data table:
    - It should list the records as shown in the wireframe
    - By default, the table should be sorted by the "Date check" column in descending order, with the latest date appearing at the top.
    - All the columns should be sortable except the last two columns
    - It should display 20 records in the table at a time and show the pagination controls to view the other records if there are more than 20 records
    - Columns:
        - Date check
        - Inventory Name
        - Employee Execute
        - Check detail: When clicking the view button, it should take the data of the row and popup the window to show the check detail
        - Action
            - Edit icon – on click, it should take the data of the row and show the Edit check control page
            - Delete icon – on click, it should ask for a confirmation message with Yes, no buttons:” Are you sure you want to delete this transaction?”
                - Yes – A check control is deleted and shows the successful message box:” The transaction is marked as void”. Log the event as “Delete check control” in Audit Trail
                - No – Dismiss the dialog and take no further action
- Acceptance Criteria:
    - When the Quality Control is loaded, it should show the list of all the records in the table. The table should be sorted by Date check column as specified
    - When the user clicks on the column header except for the last two column headers, it should sort the data in ascending or descending order
    - When the user clicks on the add button, it should direct users to the Add control check page to create a new check
    - When the user clicks on the delete button on any row, it should ask for information as specified. If selecting Yes, it should execute as specified and

log this event in Audit Trail. If selecting No, nothing happens and close the popup message.

  - When the user clicks on the edit button on any row, it should take the information of that row and pop up the edit check control window
  - If there are more than 20 records, it should show pagination controls on the bottom of the table as shown and the user can be able to go to the next page to view other records and also go back to the previous page
  - When the user types a keyword in the search text and does not click the search button, take no action
  - When the user types a keyword in the search text and clicks the search button, execute the search section as specified
  - When the user executes the filter, load the table again based on the filter as specified
  - When the user clicks on the reset button, it should reload the table as the default value

11.1. Add check control

- This section describes the functionality to create a new check
- Value statement: *As an inventory employee, I want to create a new check in the system, so that I can report the daily check of my task that my managers assign and keep track of the status of each item*
- Prerequisite:
  - User on the Quality Control page
  - User clicks on add new button on the Quality Control page
  - Barcode scanner hardware available for use and connected with the system



Field	Field Type	Possible Values	Default Value	Validation	Access Control
Inventory Name	Dropdown	List of all inventory names that existed in the system		Required	
SKU	Text (255)			Required	Filled based on the barcode scanner
Item Name	Text (255)			Required	Filled based on the SKU
Quantity	Numeric			Required	
Quality	Numeric			Required	
Description	Text (255)				
Barcode image frame	Image			Required	Capture the barcode scanned from the barcode scanner.

- Data table:
  - It should list the records as shown in the wireframe
  - By default, the table should be sorted by the late add item on top
  - All the columns should be sortable except the last columns

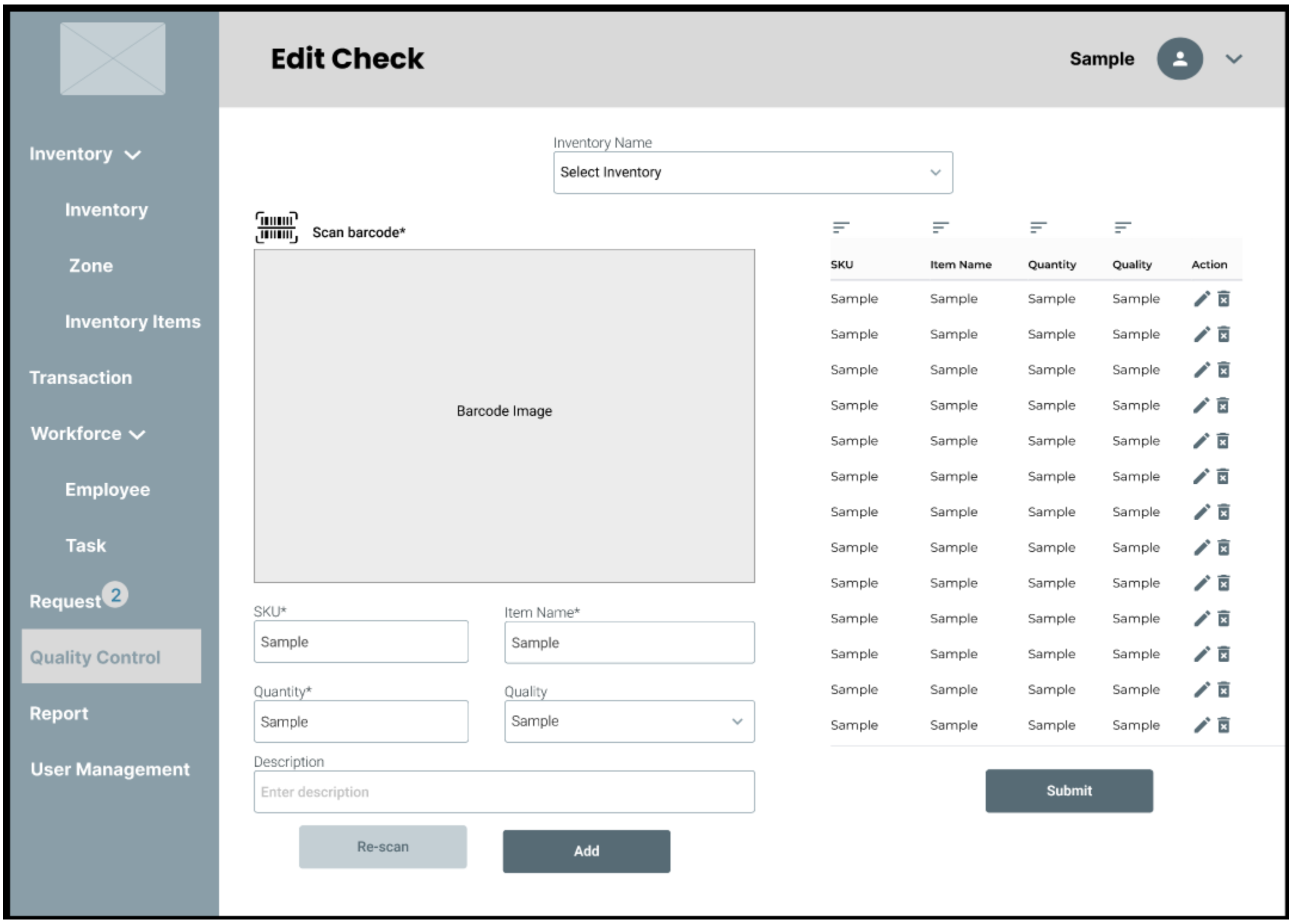
    - It should display 20 records in the table at a time and show the pagination controls to view the other records if there are more than 20 records
    - Columns:
        - SKU
        - Item name
        - Quantity
        - Quality
        - Action
            - Delete icon – on click, it should ask for a confirmation message with Yes, no buttons:” Are you sure you want to delete this check?”
                - Yes – A check control is deleted and shows the successful message box:” Delete successfully”
                - No – Dismiss the dialog and take no further action
            - Edit Icon
                - Take the data from the rows selected through this edit button
                - Fill all the fields based on the data selected
- Actions:
    - Re-scan: Reset as default to all the fields except inventory name
    - Add:
        - If any required field is empty, it should highlight the red color and show the error message below the field: “This field is required!”
        - Once the above validation is passed, do the following:
            - Save changes to the data table in the wireframe
    - Submit:
        - Create a new check with the Check ID is automatically created, The Date check is taken from the current date, the employee execute is taken from the user and pops up the successful message: “New check is added successfully!”. Then return to the “Quality Control” page and there the newly added Check should be listed in the table in the first row highlight this first row
        - Log the event “New Check control” in the Audit Trail
- Acceptance Criteria:
    - When the users visit this page, it should show the list of fields as specified in the wireframe with their default values
    - The users should be able to add values to those fields except the SKU and Item name
    - When the user clicks on the “Submit” button, it should not allow to create of a new check in the following situations and show the appropriate message as specified:
        - If any required field is empty

- When the user enters details in all the fields and clicks submit, it should create a new check when clicking on the submit button and show the message as specified, then return to the "Quality Control" page. The new check should be listed in the table in the first row as specified and log the event should be in the Audit Trail
- If the user clicks the Re-scan button, refresh as default to all the fields except the inventory name

- If there are more than 20 records, it should show pagination controls on the bottom of the table as shown and the user can be able to go to the next page to view other records and also go back to the previous page
- When an item is added by clicking the add button, it should show on top of the list of all the records added to the table
- When the user clicks on the column header except for the last column header, it should sort the data in ascending or descending order
- When the user clicks on the edit icon on any row in the table, it should take the data from this row and fill the data to all the fields including the barcode image scanned before. Users can edit those fields except SKU and Item name

11.2. Edit Check control

- This section describes the functionality to edit information on the check control
- Value statement: *As an inventory employee, I want to edit a check in the system, so that I can easily change the information when needed or when I have the mistake of adding the check*
- Prerequisite:
  - User on the Quality Control page
  - User clicks on the edit button on any rows in the table in the Actions column on the Quality Control page
  - Barcode scanner hardware available for use and connected with the system



Field	Field Type	Possible Values	Default Value	Validation	Access Control
Inventory Name	Dropdown	List of all inventory names that existed in the system	Current value	Required	
SKU	Text (255)		Current Value	Required	Filled based on the barcode scanner
Item Name	Text (255)		Current Value	Required	Filled based on the SKU
Quantity	Numeric		Current value	Required	
Quality	Numeric		Current value	Required	
Description	Text (255)		Current value		
Barcode image frame	Image		Current value	Required	Capture the barcode scanned from the the barcode scanner.

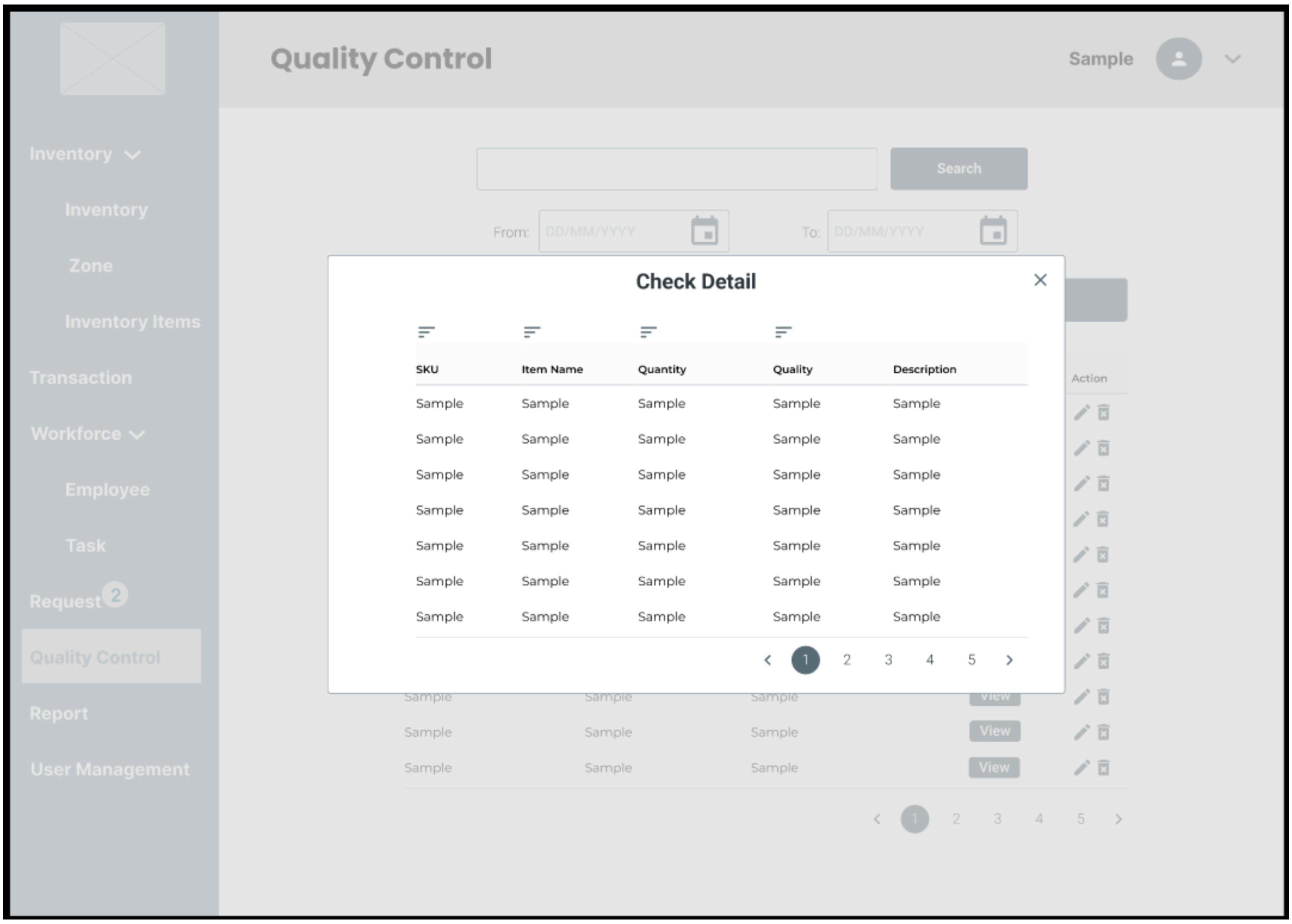
- Data table:
  - It should list the records as shown in the wireframe
  - By default, the table should be sorted by the latest item added on top

- All the columns should be sortable except the last columns
    - It should display 20 records in the table at a time and show the pagination controls to view the other records if there are more than 20 records
    - Columns:
        - SKU: Current records
        - Item name: Current records
        - Quantity: Current records
        - Quality: Current records
        - Action
            - Delete icon – on click, it should ask for a confirmation message with Yes, no buttons:” Are you sure you want to delete this transaction?”
                - Yes – A Check is deleted and shows the successful message box:” Delete successfully”
                - No – Dismiss the dialog and take no further action
            - Edit Icon
                - Take the data from the rows selected through this edit button
                - Fill all the fields based on the data selected
- Actions:
    - Re-scan: Reset as default to all the fields except inventory name
    - Add:
        - If any required field is empty, it should highlight the red color and show the error message below the field: “This field is required!”
        - Once the above validation is passed, do the following:
            - Save changes to the data table in the wireframe
    - Submit:
        - Save changes a check with the updated records. Pops up the successful message: “ Updated successfully!”. Then return to the “Quality Control” page and there the newly edited Check should be listed in the table in the first row highlight this first row
        - Log the event “Edit Check control” in the Audit Trail
- Acceptance Criteria:
    - When the users visit this page, it should show the list of fields as specified in the wireframe with their default values
    - The users should be able to add values to those fields except the SKU and Item name
    - When the user clicks on the “Submit” button, it should not allow to create of a new check in the following situations and show the appropriate message as specified:
        - If any required field is empty

    - When the user enters details in all the fields and clicks submit, it should save changes in the records and show the message as specified, then return to the "Quality Control" page. The new check should be listed in the table in the first row as specified and log the event should be in the Audit Trail
    - If the user clicks the Re-scan button, refresh as default to all the fields except the inventory name
  - If there are more than 20 records, it should show pagination controls on the bottom of the table as shown and the user can be able to go to the next page to view other records and also go back to the previous page
  - When an item is added by clicking the add button, it should show on top of the list of all the records added to the table
  - When the user clicks on the column header except for the last column header, it should sort the data in ascending or descending order
  - When the user clicks on the edit icon on any row in the table, it should take the data from this row and fill the data to all the fields including the barcode image scanned before. Users can edit those fields except SKU and Item name

11.3. View Check detail

- This section describes the functionality to view the check detail
- <u>Value statement:</u> *As an inventory employee, I want to view the list of check details each employee performs, so that I can manage the responsibility of that person on that check*
- Prerequisite:
  - User on the Quality Control page
  - User clicks on the View button on any rows in the table in the Check Detail column on the Quality Control page

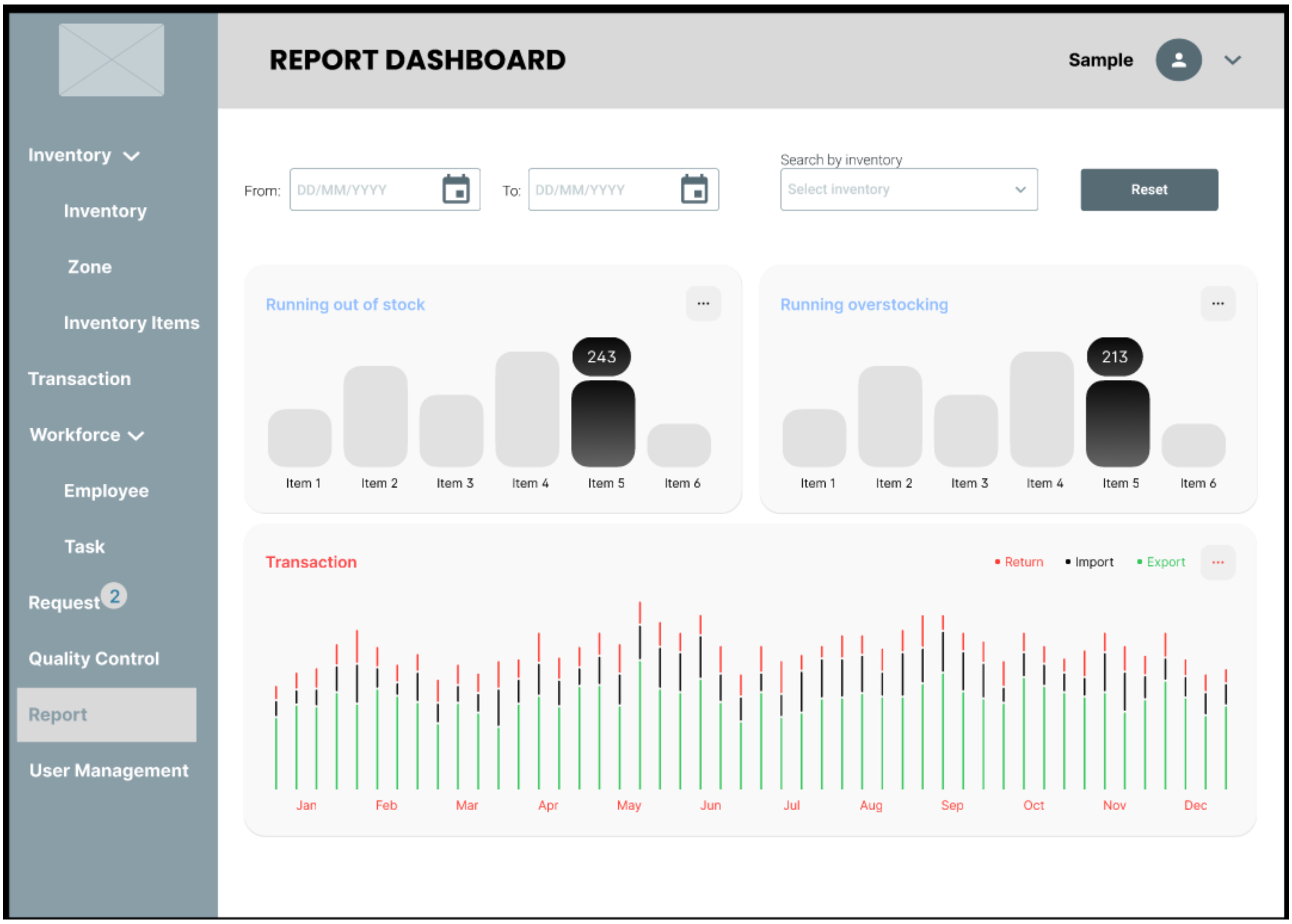


- Data table:
    - It should list the records as shown in the wireframe
    - By default, the table should be sorted by "Item Name" column in alphabetical order
    - All the columns should be sortable except the last column
    - It should display 20 records in the table at a time and show the pagination controls to view the other records if there are more than 20 records
    - Columns:
        - SKU
        - Item name
        - Quantity
        - Quality
        - Description
- Acceptance Criteria:
    - When the Check detail window pops up, it should take the record from the Quality Control page and show the list of all the records in the table. The table should be sorted by Item column as specified
    - When the user clicks on the column header, it should sort the data in ascending or descending order

- If there are more than 20 records, it should show pagination controls on the bottom of the table as shown and the user can be able to go to the next page to view other records and also go back to the previous page

12. Report Dashboard

- This section describes the functionality to view the report dashboard
- Value statement: *As an inventory employee, I want to view the report dashboard that depicts the trend or the number of stock levels in all the inventory at a high level, so that I can easily keep track of the status of each zone in the inventory*
- Prerequisite:
    - User log into the system
    - User clicks on the Report section



- Filter section:

Field	Field Type	Possible Values	Default Value	Remarks
Inventory	Dropdown	List of all inventory names that existed in the system	All inventories	
Date modified	Date picker		The first day of last	When clicking this filter, it should open a

from			month should be set as the default filter	calendar to choose the date (Day, Month, Year). On selecting the dates, it should filter out the records where the date falls under
Date modified To	Date picker		The current day should be set as the default filter	When clicking this filter, it should open a calendar to choose the date (Day, Month, Year). On selecting the dates, it should filter out the records where the date falls under

- Reset button: On click, reset all the filters to their default value and reload the data table according to the default filter
- Dashboard Section: Perform cross filter over all the chart

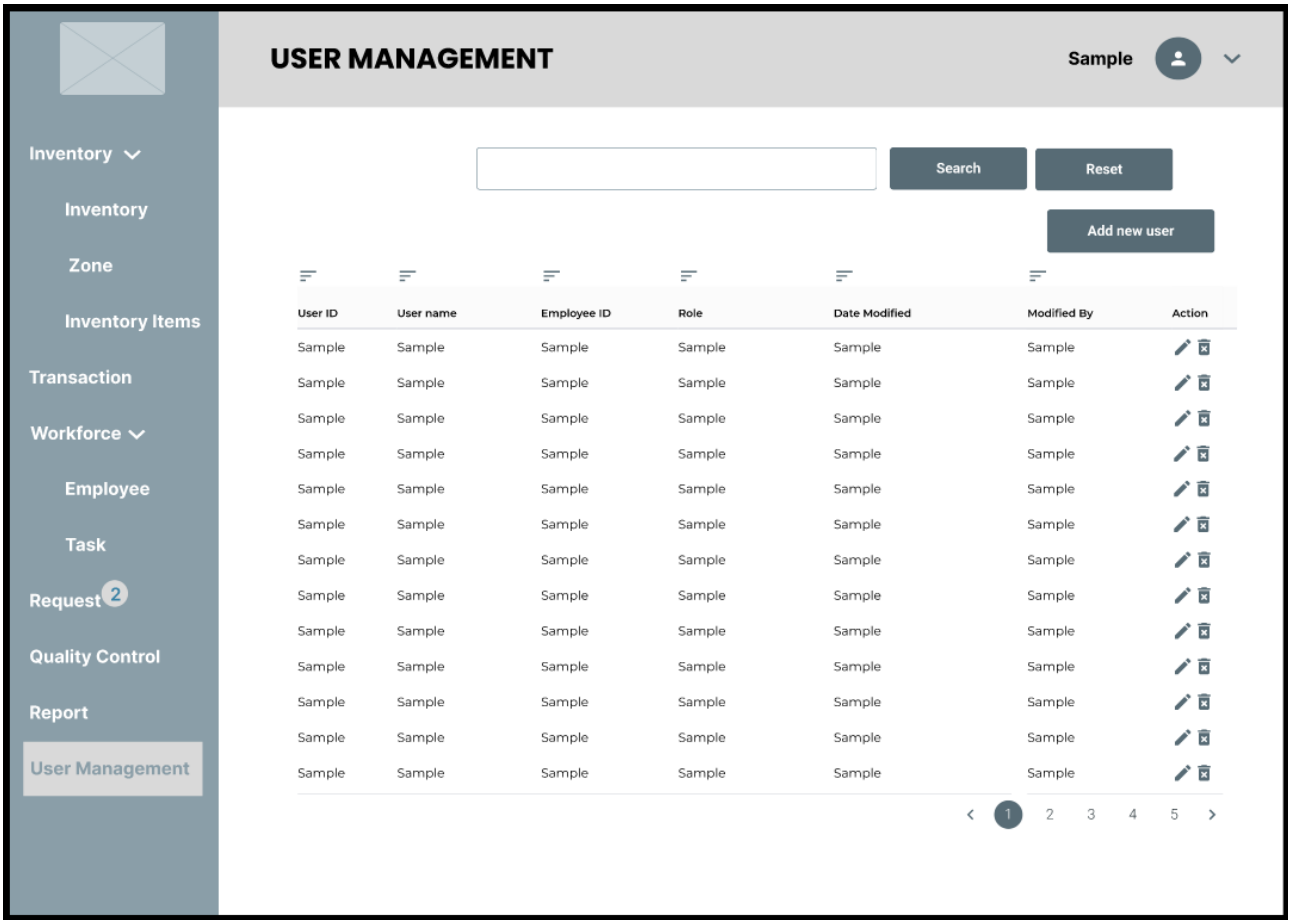
Chart	Type	Vertical Axis	Horizontal Axis	Legend
Running out of stock	Bar chart	Stock Level	List of top 6 items that are nearing the threshold of running out of stock. If the item doesn't have the threshold, dismiss the item from the list.	
Running overstocking	Bar chart	Stock level	List of top 6 items that are nearing the threshold of running overstocking. If the item doesn't have the threshold, dismiss the item from the list.	
Transaction	Line chart	Number of transaction	Month in Year from the selected date range	• Return • Import • Export

- Acceptance Criteria:

- When the Report Dashboard page is loaded, it should show the dashboard as specified
    - When the Report Dashboard page is loaded, the default value of the filters is specified above
    - When the user executes any filter, it should filter the dashboard based on the filter
    - When the user clicks on the chart, it should perform the cross-filter over the dashboard
    - When the user clicks on the reset button, it should reset all the filters as the default value as specified

13. User Management

- This section describes the functionality of managing users in the inventory system
- Value Statement: *As an admin, I want to see the lists of users and be able to add new users, update information users, and delete the users when needed so that I can manage users in the inventory in the system*
- Prerequisite:
    - User log into the system
    - User clicks on the User Management section
    - User role is Admin. If the user role is not admin, don’t show this section



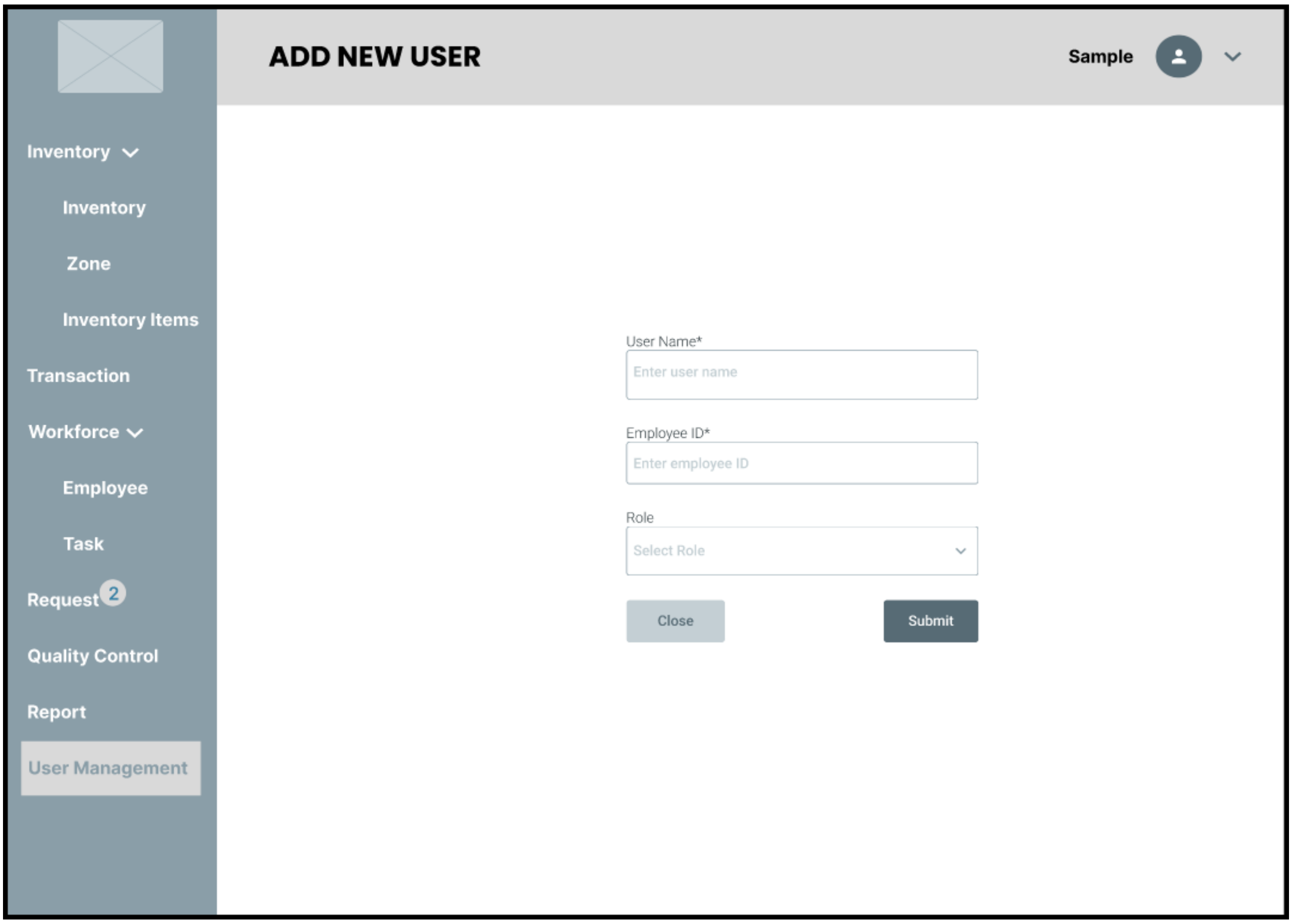
- Search Section:

    - Search by any keyword: When a search term is provided in the search box and the "Search" button is clicked, it should compare the search term with the User ID, User name, Employee ID, Role, Date modified, Modified By. The comparison should not be case-sensitive.
    - If matching the keyword provided, the table will show the data with appropriate results
    - If not match the keyword, the message box will popup and show the notification message: "There is no search result"
- Reset button: Reset all the search results and filter and reload the data table
- Data table:
    - It should list the records as shown in the wireframe
    - By default, the table should be sorted by the "Date modified" column in descending order
    - All the columns should be sortable except the last columns
    - It should display 20 records in the table at a time and show the pagination controls to view the other records if there are more than 20 records
    - Columns:
        - User ID
        - User name
        - Employee ID
        - Role
        - Date modified
        - Modified By
        - Action
            - Edit icon – on click, it should take the record of that row and show the Edit User page
            - Delete icon – on click, it should ask for a confirmation message with Yes, no buttons:" Are you sure you want to delete this user?"
                - Yes – Proceed with deletion and show the successful message: "Delete successfully". Also, log this event in the Audit Trail as specified
                - No – Dismiss the dialog and take no further action
- Acceptance Criteria:
    - When the User Management is loaded, it should show the list of all the records in the table. The table should be sorted by Date modified column as specified
    - When the user clicks on the column header except for the last column header, it should sort the data in ascending or descending order
    - When the user clicks on add a new user, it should direct users to the Add new user page to create a new user

- When the user clicks on the edit button on any row in the table, it should take the data of that row and direct the user to edit the user page
- When the user clicks on the delete button on any row, it should ask for information as specified. If selecting Yes, it should proceed with the delete show the message as specified, and log this event in Audit Trail. If selecting No, nothing happens and close the popup message.
- If there are more than 20 records, it should show pagination controls on the bottom of the table as shown and the user can be able to go to the next page to view other records and also go back to the previous page
- When the user types a keyword in the search text and does not click the search button, take no action
- When the user types a keyword in the search text and clicks the search button, execute the search section as specified
- When the user clicks on the reset button, reset all the search results and reload the data table

13.1. Add new user

- This section describes the functionality to create a new user
- Value statement: *As an admin, I want to create a new user in the system, so that I can assign the user to the employee to access the system*
- Prerequisite:
  - User on the User management page
  - User clicks on add new user button on the User Management page



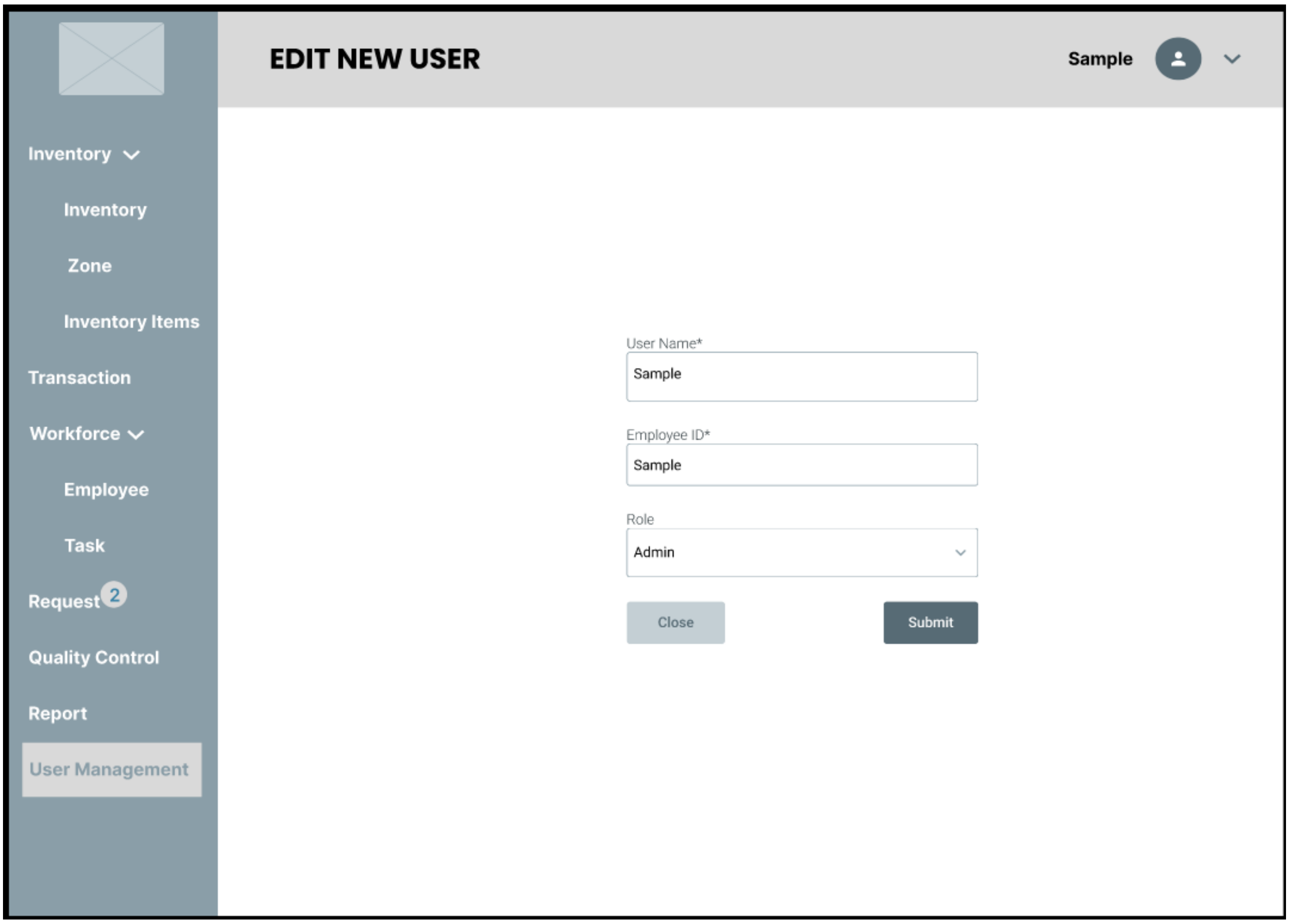
Field	Field Type	Possible Values	Default Value	Validation	Access Control
User Name	Text (50)			Required	
Employee ID	Text (50)			Required	
Role	Dropdown	List the following values: • Employee • Manager • Administrator		Required	

- Actions:
  - Cancel: Do nothing and return to the “User Management” page
  - Submit:
    - If any required field is empty, it should highlight the red color and show the error message below the field: “This field is required!”
    - If the User name existed in the system, show the error message below the field:” This User name already existed in the system! Please enter again!”

        - If the EmployeeID does not exist in the system, show the error message below the field:" This EmployeeID does not exist in the system! Please enter again!"
        - Once the above validation is passed, do the following:
            - Create a new User and automatically fill in the Date modified as the current date and the Modified By as the employee's name attached to the account and pop up the successful message: "New User is added successfully!". Then return to the "User Management" page and there the newly added user should be listed in the table in the first row highlight this first row
            - Log the event "New User" in the Audit Trail
- Acceptance Criteria:
    - When the users visit this page, it should show the list of fields as specified in the wireframe with their default values
    - The users should be able to add values to those fields
    - When the user clicks on the "Cancel" button, do nothing and return to the "User Management" page
    - When the user clicks on the "Submit" button, it should not allow to create a new user in the following situations and show the appropriate message as specified:
        - If any required field is empty
        - If the user name already exists in the system
        - If the employee ID does not exist in the system
    - When the user enters details in all the fields, it should create a new user and automatically fill the fields as specified when clicking on the submit button and show the message as specified, then return to the "User Management" page. The new category should be listed in the table in the first row as specified and log the event should be in the Audit Trail

13.2. Edit user

- This section describes the functionality to edit information of the user
- <u>Value statement:</u> *As an admin, I want to edit information of the user in the system, so that I can change the role or the information of that user when needed*
- Prerequisite:
    - User on the User management page
    - User clicks on the edit button on any rows of the Action column in the table on the User Management page



Field	Field Type	Possible Values	Default Value	Validation	Access Control
User Name	Text (50)		Current Value	Required	
Employee ID	Text (50)		Current Value	Required	
Role	Dropdown	List the following values: • Employee • Manager • Administrator	Current Value	Required	

- Actions:
  - Cancel: Do nothing and return to the "User Management" page
  - Submit:
    - If any required field is empty, it should highlight the red color and show the error message below the field: "This field is required!"
    - If the User name existed in the system, show the error message below the field:" This User name already existed in the system! Please enter again!"

        - If the EmployeeID didn't exist in the system, show the error message below the field:” This EmployeeID does not exist in the system! Please enter again!”
        - Once the above validation is passed, do the following:
            - Save changes and automatically fill in the Date modified as the current date and the Modified By as the employee’s name attached to the account and pop up the successful message: “Update information successfully!”. Then return to the “User Management” page and there the newly edited user should be listed in the table in the first row highlight this first row
            - Log the event “Edit User” in the Audit Trail
- Acceptance Criteria:
    - When the users visit this page, it should show the list of fields as specified in the wireframe with their default values
    - The users should be able to add or change values to those fields
    - When the user clicks on the “Cancel” button, do nothing and return to the “User Management” page
    - When the user clicks on the “Submit” button, it should not allow to edit information of the user in the following situations and show the appropriate message as specified:
        - If any required field is empty
        - If the user name already exists in the system
        - If the employee ID does not exist in the system
    - When the user enters details in all the fields, it should save changes to the fields of the user and automatically fill the fields as specified when clicking on the submit button and show the message as specified, then return to the “User Management” page. The new category should be listed in the table in the first row as specified and log the event should be in the Audit Trail

14. Non – Functional Requirements

14.1. Performance Requirements

- The app must load within 3 seconds
- Any online operation must be completed within 3 seconds maximum
    - If any online operation takes longer than 3 seconds, do the following:
        - Implement that operation in an offline manner and show the following message to the user:
            - Message: “This operation may take longer than you expected.”

14.2. Security Requirements

- All personally identifiable information must be protected according to the Local Data Protection law
    - Identify the user's location from the employee’s registered location and protect the personal data according to the location’s Data Protection Law.

- If there is no official data protection law available for a location, it should follow GDPR by default
  - Following is the personally identifiable information in this project: Employee's Name, Contact Info
  - Physical IT infrastructure must be secured by the necessary prevention measures to protect its resources from abuse and hacking.
  - The data storage must be secure and encrypted by AES encryption. Data should be backed up to an alternative location at regular intervals.
  - All the data transmission between the systems must be encrypted and secured through HTTPS protocol and necessary authentication and authorization mechanisms.

14.3. Software Quality Requirements

- **Usability -** The app must be accessible and easy to navigate for users aged 20 - 40.
- **Reliability** - The app must have 99.9% uptime.
- **Consistency:**
  - All the dates in the app must follow the "Day, Month, Year" format e.g. 17, 01, 2024.
  - Consider the EST timezone for timestamps and other operations involving the time.

14.4. Audit Trail Requirements

All the following events must be logged in the Audit Trail along with their associated information.

Event	Associated Information
Login	IP Address, User ID, Username, Timestamp
Logout	IP address, User ID, Username, Timestamp
Delete Inventory	IP Address, User ID, UserName, Inventory ID Deleted, Timestamp
Add Inventory	IP Address, User ID, UserName, Inventory ID Added, Timestamp
Edit Inventory	IP Address, User ID, UserName, Inventory ID Edited, Timestamp
Delete Zone	IP Address, User ID, UserName, Zone ID Deleted, Timestamp
Add Zone	IP Address, User ID, UserName, Zone ID Added, Timestamp
Edit Zone	IP Address, User ID, UserName, Zone ID Edited, Timestamp
Delete Item	IP Address, User ID, UserName, Item ID Deleted, Timestamp
Add Item	IP Address, User ID, UserName, Item ID Added, Timestamp
Edit Item	IP Address, User ID, UserName, Item ID Edited, Timestamp
Delete Category	IP Address, User ID, UserName, Category ID Deleted, Timestamp
Add Category	IP Address, User ID, UserName, Category ID Added, Timestamp
Edit Category	IP Address, User ID, UserName, Category ID Edited, Timestamp
Delete Transaction	IP Address, User ID, UserName, Transaction ID Deleted, Timestamp
Add Transaction	IP Address, User ID, UserName, Transaction ID Added, Timestamp
Delete Task	IP Address, User ID, UserName, Task ID Deleted, Timestamp
Add Task	IP Address, User ID, UserName, Task ID Added, Timestamp
Edit Task	IP Address, User ID, UserName, Task ID Edited, Timestamp
Delete Check	IP Address, User ID, UserName, Check ID Deleted, Timestamp

Add Check	IP Address, User ID, UserName, Check ID Added, Timestamp
Edit Check	IP Address, User ID, UserName, Check ID Edited, Timestamp
Delete User	IP Address, User ID, UserName, User ID Deleted, Timestamp
Add User	IP Address, User ID, UserName, User ID Added, Timestamp
Edit User	IP Address, User ID, UserName, User ID Edited, Timestamp

15. External Interface Requirements

15.1. Software Interfaces

- The app should be connected to the Sales, Procurement, and Accounting System to send the following information:
    - Connection Type: Rest API
    - Data exchange format: JSON
    - Data exchange direction: Outgoing
    - Data:
        - Inventory entity
        - Item entity
        - Category entity
        - Transaction entity
    - Events:
        - Delete Inventory
        - Add Inventory
        - Edit Inventory
        - Delete Item
        - Add Item
        - Edit Item
        - Delete Category
        - Add Category
        - Edit Category
        - Delete Transaction
        - Add Transaction
        - Edit Transaction
    - It should follow the authentication method and invoke the REST APIs as specified in the API documentation of the Sales, Procurement, and Accounting System.
- The app should be connected to the Sales, Procurement, and Accounting System to receive the following information:
    - Connection Type: Rest API
    - Data exchange format: JSON
    - Data exchange direction: Incoming
    - Data:
        - Request Entity
        - Supplier Entity

        - Customer Entity
    - Events:
        - Customer orders
        - Export requests
        - Supplier details
        - CRUD on Supplier
        - Purchase orders
        - Cost of goods sold (COGS) data
    - Develop the necessary REST API endpoints and Authentication mechanism and collaborate with the Sales, Procurement, and Accounting systems to receive this information. Those systems will invoke these APIs when any change is made to an Inventory Management System there. Also, the IMS should update and fetch the data from the endpoints of the Sales, Procurement, and Accounting systems.

15.2. Hardware Interfaces

15.2.1. Supported hardware

- Device Type: Barcode Scanner.
- Connection Type:
    - USB (Universal Serial Bus).
    - Wireless (Bluetooth/Wi-Fi) for portable scanners.
- **Compatibility:** Must support standard barcode formats, including:
    - 1D Barcodes: EAN-13, UPC-A, Code 128, Code 39.
    - 2D Barcodes: QR Code, Data Matrix.

15.2.2. Communication Protocol

The barcode scanner must communicate with the inventory management system via:

- USB Interface: Using the standard keyboard emulation (HID interface) or custom driver provided by the scanner manufacturer.
- Wireless Interface: Using Bluetooth or Wi-Fi for real-time communication.

15.2.3. Operating Environment

- Operating System Compatibility: Windows, macOS, or Linux.
- Software Integration:
    - Direct input as text (keyboard emulation).
    - API or SDK provided by the barcode scanner for advanced integration.

15.2.4. Performance Requirement

- Scan Speed: Minimum 100 scans per second.
- Scan Range: 2 cm to 50 cm (depending on barcode size and resolution).
- Accuracy: Must read barcodes with at least 99% accuracy in normal conditions.

15.2.5.Power Requirement

- USB Scanner: Powered through the USB port.

- Wireless Scanner: Rechargeable battery or replaceable battery with a minimum runtime of 8 hours.

15.2.6. Barcode Format

- 1D Barcodes: EAN-13, UPC-A, Code 128, Code 39.
- 2D Barcodes: Support for matrix and QR codes used for complex item information.