

Mattress Warehouse Inventory Management System:
User Guide

I. Introduction

The Mattress Warehouse Inventory Management System (MWIMS) creates a virtual Warehouse environment system that can be customized with a number of Aisles and Rows to store items created by the user. The software uses the following structure to store items. A Warehouse has a list of Aisles. An Aisle has a list of Rows, which can also be considered “floors” or “levels”. And Rows store a list of Items. A functioning warehouse has at least one Aisle and one Row to store items in.

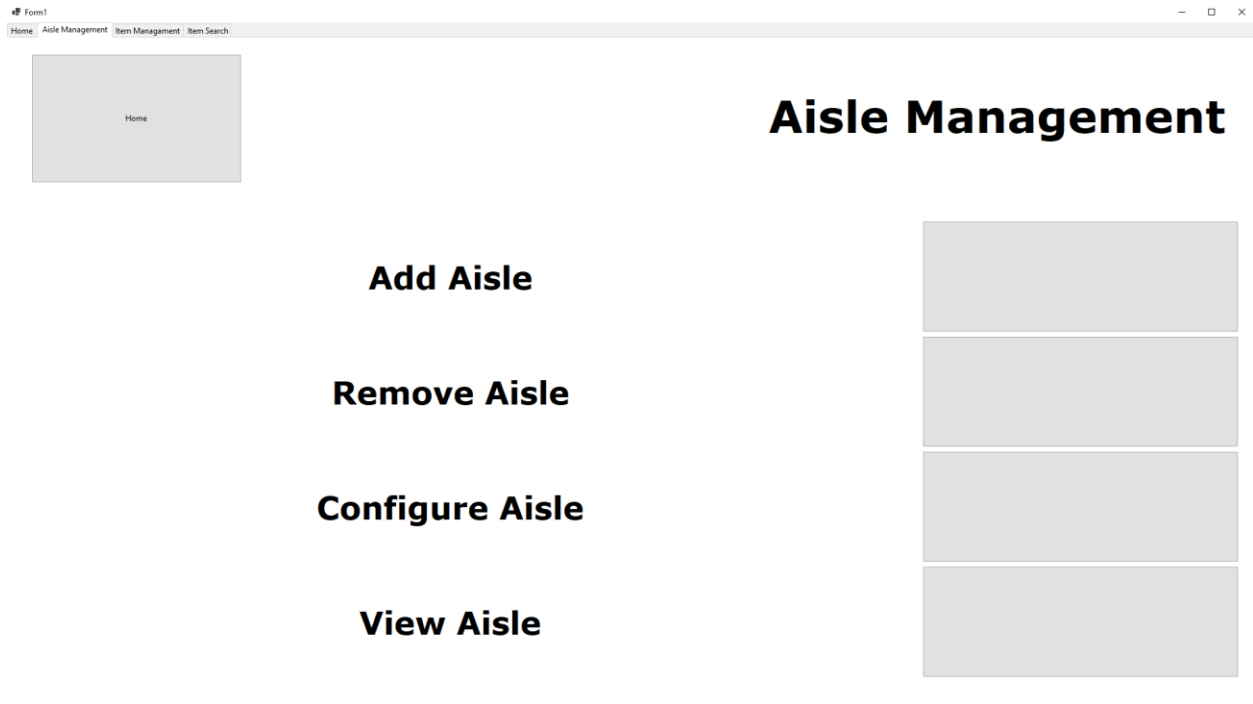
This guide will first explain every component of the software, and afterwards provide a first time use scenario on what to do when using the application for the first time.

II. Home Form

The MWIMS Home Form presents the user with the following three buttons: Aisle Management button, Item Management button, and Item Search button. Each button leads to a respective page from the Home Form and presents the user with additional choices. Each form tab also has a “Home” button on the top left of the page, which will take the user back to the home tab when pressed.

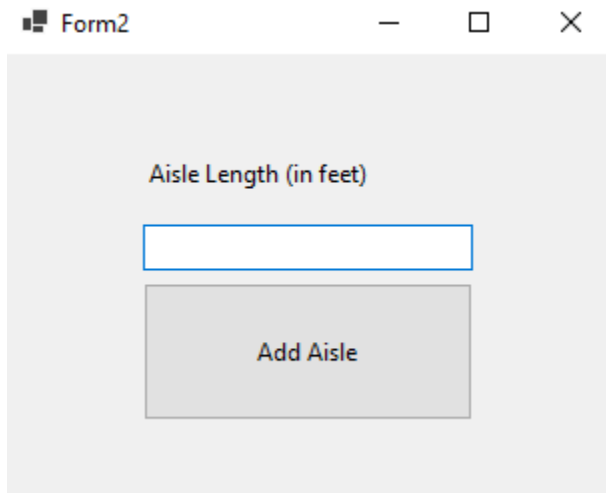


III. Aisle Management Tab



The screenshot shows a web browser window titled "Form1" with a navigation bar containing "Home", "Aisle Management", "Item Management", and "Item Search". A "Home" button is visible in the top left. The main heading is "Aisle Management". Below it are four buttons: "Add Aisle", "Remove Aisle", "Configure Aisle", and "View Aisle". To the right of these buttons is a vertical stack of four gray rectangular placeholders.

III.1 Add Aisle Form Button – Pressing this button will present the Add Aisle Form, a pop-up window with one input text box, and a button.

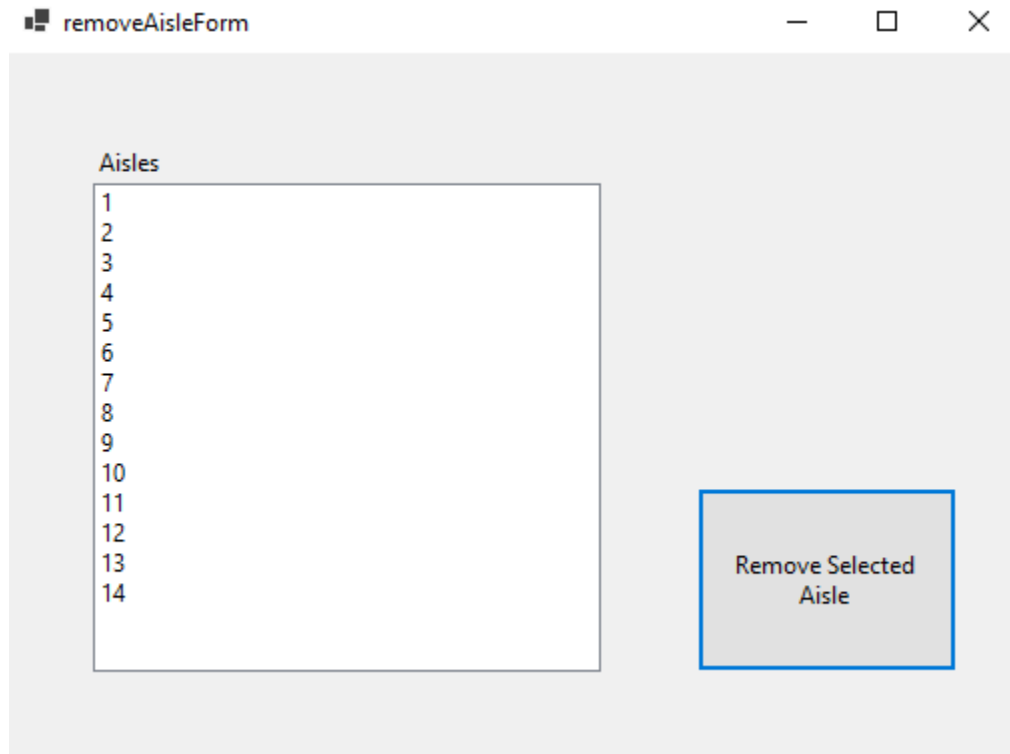


The screenshot shows a pop-up window titled "Form2" with a close button. Inside the window, the text "Aisle Length (in feet)" is displayed above a text input field. Below the input field is a button labeled "Add Aisle".

To add an Aisle, insert a numeric whole number for the aisle length in feet, and then press the “Add Aisle” button. Upon the button press, and aisle with the specified length will be created.

III.2 Remove Aisle Form Button – Pressing this button will present the Remove Aisle Form.

This form is a pop-up window with a list and a button.



The screenshot shows a pop-up window titled "removeAisleForm". The window contains a list of aisles numbered 1 to 14. To the right of the list is a button labeled "Remove Selected Aisle".

To remove an Aisle, select an aisle from the list on the left and press the “Remove Selected Aisle” button. The selected Aisle will be removed and deleted.

III.3 Configure Aisle Form Button – Pressing this button will present the configure form pop-up window. This window consists of a list of aisles, and input textbox, two buttons, and a list of rows.

configureAisleForm

Aisles

1
2
3
4
5
6
7
8
9
10
11
12
13

Row Height (in inches)

120

1
2
3
4

Add Row

Remove Row

The configure aisle form window allows a user to add or remove Rows from an Aisle. To add a Row, select an Aisle from the Aisles list and enter a numeric input in the Row Height textbox. Pressing the “Add Row” button will create a row with the specified height in inches in the selected Aisle. To remove a Row, select an Aisle, and then select the Row you’d like to remove. Pressing the “Remove Row” button will remove the selected Row from the selected Aisle.

III.4 View Aisle Form Button – Pressing this button present the View Aisle form pop-up window. This window consists of a list of Aisles and a list of Items.

viewAisleForm

Aisle List

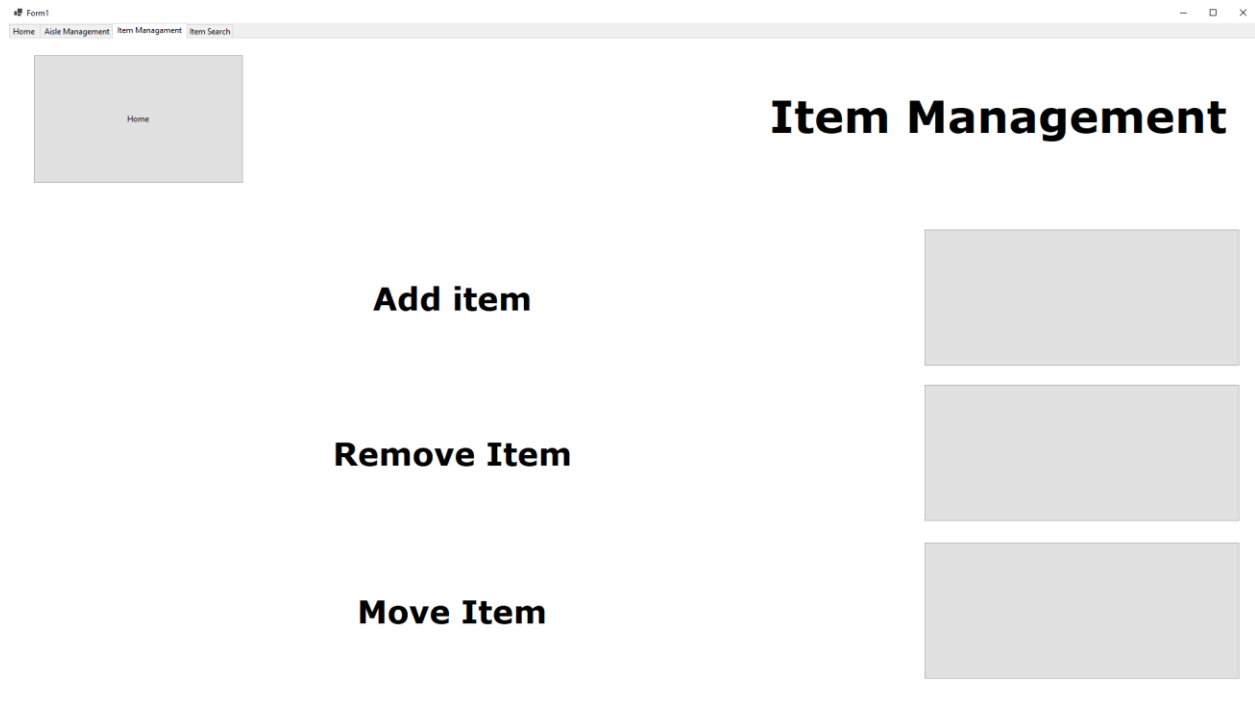
1
2
3
4
5
6
7
8
9
10
11

Items in Aisle

ID	Name	Manufacturer	Aisle	Row
7845	Head Up 50 Queen	MFM	2	4
7845	Head Up 50 Queen	MFM	2	4
7845	Head Up 50 Queen	MFM	2	4
7845	Head Up 50 Queen	MFM	2	4

Selecting an Aisle from the list on the left will display all items in that Aisle.

IV. Item Management Tab



IV.1 Add Item Form Button – Pressing this button presents the Add Item Form pop-window.

The screenshot shows a window titled 'addItemForm' with two main sections: 'Add from Existing Item' and 'Add New Item'.

Add from Existing Item: This section contains a table with the following data:

ID	Name	Manufacturer	Aisle	Row
4758	Sleepy's Hush Pillow Top King	Sealy	1	2
4758	Sleepy's Hush Pillow Top King	Sealy	1	2
4758	Sleepy's Hush Pillow Top King	Sealy	1	2
4758	Sleepy's Hush Pillow Top King	Sealy	1	2
4758	Sleepy's Hush Pillow Top King	Sealy	1	2
4758	Sleepy's Hush Pillow Top King	Sealy	1	2
4758	Sleepy's Hush Pillow Top King	Sealy	1	2
4758	Sleepy's Hush Pillow Top King	Sealy	1	2
7845	Head Up 50 Queen	MFM	2	4
7845	Head Up 50 Queen	MFM	2	4
7845	Head Up 50 Queen	MFM	2	4
7845	Head Up 50 Queen	MFM	2	4

Below the table, there are input fields for 'Location' (Aisle and Row) and 'Quantity', and an 'Add Item' button.

Add New Item: This section contains several input fields and a list box:

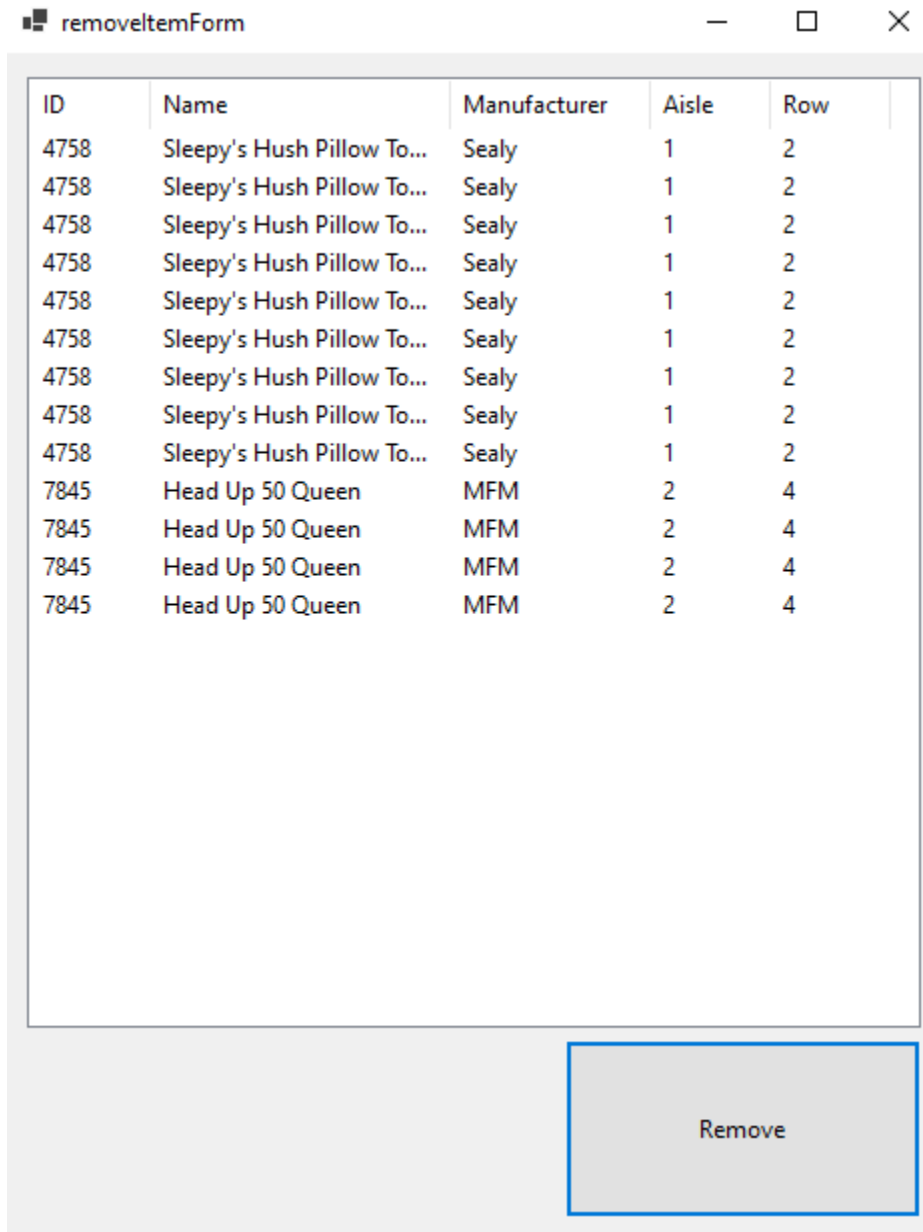
- Item Type:** Radio buttons for 'Mattress', 'Foundation', 'Base', and 'Accessory'.
- ID:** Text input field.
- Name:** Text input field.
- Manufacturer:** Text input field.
- Size:** List box with options: 'Twin', 'TwinXL', 'Full', 'Queen', 'King'.
- Width (in inches):** Text input field.
- Location:** Input fields for 'Aisle' and 'Row'.
- Quantity:** Spin box with a value of 0.
- Add Item:** Button.

Below the 'Add New Item' section, there are input fields for 'Location' (Aisle and Row) and 'Quantity', and an 'Add Item' button.

There are two options to add an item. The first option is to select an item from the list on the left, input the number of an Aisle and number of a Row, select a quantity amount, and press the “Add Item” button. This will create one or more items exactly as the item that was selected, saving the user time from manually entering all item attributes to add more quantities of an item that already exists.

On the right side of the form window, a new item can be created. This side of the window is split into two segments, one for Mattress and Foundation type Items, and the other for Base and Accessory type Items. To create an item of either type, select one of the radio buttons under “Item Type”, then fill out the input text boxes with the relevant information, including to select a “Size” or Pallet Size” from the lists. Similar to creating an item from the existing items list, input an Aisle and Row number, select a quantity number, and click the respective “Add Item” button to add one or more items.

IV.2 Remove Item Form Button – Pressing this button will present the Remove Item form pop-up window. This form consists of a list of items, and a button.



The screenshot shows a window titled "removeItemForm" with standard window controls (minimize, maximize, close). Inside the window is a table with the following data:

ID	Name	Manufacturer	Aisle	Row
4758	Sleepy's Hush Pillow To...	Sealy	1	2
4758	Sleepy's Hush Pillow To...	Sealy	1	2
4758	Sleepy's Hush Pillow To...	Sealy	1	2
4758	Sleepy's Hush Pillow To...	Sealy	1	2
4758	Sleepy's Hush Pillow To...	Sealy	1	2
4758	Sleepy's Hush Pillow To...	Sealy	1	2
4758	Sleepy's Hush Pillow To...	Sealy	1	2
4758	Sleepy's Hush Pillow To...	Sealy	1	2
4758	Sleepy's Hush Pillow To...	Sealy	1	2
7845	Head Up 50 Queen	MFM	2	4
7845	Head Up 50 Queen	MFM	2	4
7845	Head Up 50 Queen	MFM	2	4
7845	Head Up 50 Queen	MFM	2	4

Below the table is a large, light gray button with a blue border labeled "Remove".

To remove an item, select an item from the list above and then click the "Remove" button.

IV.3 Move Item Form Button – Pressing this button will present the Move Item form pop-up window. This window consists of a list of items, two input text boxes, and one button.

The screenshot shows a window titled "moveItemForm". On the left is a table with the following columns: ID, Name, Manufacturer, Aisle, and Row. The table is currently empty. On the right side of the window, there is a section titled "New Location". This section contains two input fields labeled "Aisle" and "Row". Below these input fields is a large grey button with the text "Move". The button is highlighted with a blue border.

To move an item, first select the item from the list of items on the left. On the right, insert a new Aisle and Row number and then press the “Move” button.

V. Item Search Tab

The screenshot shows a web application interface with a tabbed navigation bar at the top. The tabs are labeled "Home", "Aisle Management", "Item Management", and "Item Search". The "Item Search" tab is currently selected. The main content area of the "Item Search" tab is titled "Item Search" in large, bold, black text. Below the title, there is a "Search Bar" with a text input field. To the left of the "Search Bar" is a "Filters" section with a large, empty rectangular box. To the right of the "Search Bar" and "Filters" is an "Item List" section with a large, empty rectangular box.

VI. First Time User Guide

The first time the application is used, you should create at least one Aisle and one Row for that Aisle before creating any Items. First, press the Aisle Configuration button and then click Add Aisle. Create an Aisle and then close the window. Proceed to press the Aisle Configuration button and create one Row for your Aisle. Now you are free to create and place items on the first Row of the first Aisle.

VII. Software Limitations

Due to time constraints and limited expertise during development, the MWIMS has a few features lacking or limited.

1. Data loading – Currently, all data such as created Aisles, Rows, and Items are serialized and saved under the directory `MWIMS_Capstone\bin\Debug\net5.0-windows\warehouse.xml`. While data is able to be saved, it is unable to be loaded and reused in the program's current state.
2. Error handling – If the program user does something unexpectedly, the program currently does not have any safety measures or error handling measurements in place to prevent the abrupt crash of the program. For example, if a numeric whole number is expected to be inputted but a word is instead used, the program will not handle this error correctly and crash.
3. Currently, an item may with a height greater than a row height be added, and the combined width of items may be greater than the length of the aisle they are in. This is not an intended behavior of the program.
4. The Item Search feature in the Item Search Form Tab has not been implemented.