

Warehouse Manager

Implementation Report

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Implementing a large information system inevitably comes with significant challenges. Starting with the back end, I found it to be more difficult than I initially anticipated. One reason was that I greatly overestimated my ability to implement the front end, which resulted in developing several complex back-end functions that ultimately went unused.

Additionally, I chose to include two many-to-many relationships in my database: one between classes and items (classItem), and another for inventory, linking items to multiple locations. This design was intended to allow an item to exist in multiple locations while restricting it to only one class per location. However, this requirement made writing queries considerably more complicated.

A prime example of this complexity is the query that takes a `location_id` and returns all items (along with their attributes) and the associated inventory data for that location.

```
data.getAllItemsInLocation = (location_id, class_id, nameLike) => {  
  if (class_id && nameLike && nameLike.trim() !== "") {  
    return new Promise((resolve, reject) => {  
      const query = `  
        SELECT  
          Item.*,  
          ItemClass.*,  
          Class.*,  
          Inventory.item_quantity  
        FROM Inventory  
        JOIN Item ON Item.item_id = Inventory.item_id  
        JOIN ItemClass ON ItemClass.item_id = Item.item_id  
        JOIN Class ON Class.class_id = ItemClass.class_id  
        WHERE Inventory.location_id = ? AND Class.class_id = ?  
        AND Item.item_name LIKE ?  
      `
```

On the front end, the implementation was significantly impacted by the limited time allocated to the back end. As a result, not all planned features could be completed. One particular challenge that stood out was loading images efficiently. This issue was eventually resolved by exposing a static upload folder via Express, which allowed for easier access to the images. Additionally, supporting multiple file extensions for saved files helped address related problems..

githubRepo: <https://github.com/aljagaming/Warehouse-Manager>

youtubeVideo: <https://youtu.be/xWFngkgZGCU>