



## Data Structure and Algorithm

### Progress Report No. 4

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# Sari-sari Store Inventory System

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# I. Objectives

In this progress report, we are aiming to apply these following objectives:

- To develop an efficient inventory management system that helps store owners easily monitor product stocks, prices, and quantities in real time.
- To implement a user-friendly graphical interface (UI) that simplifies navigation and improves the overall user experience for managing store operations.
- To integrate an automated low-stock alert feature that notifies users when products are running out, ensuring timely restocking.
- To enhance transaction accuracy and speed through a reliable receipt generation and point-of-sale (POS) module.
- To apply programming and database management concepts learned in th



## II. Methods

-We crafted our Sari-sari Store Inventory System by methodically working through the stages of brainstorming ideas, sketching layouts, building the software, and running checks to ensure it all worked flawlessly—focusing on practical perks like watching over stock, logging every sale, and firing off quick warnings for dwindling supplies, all wrapped in a clean, straightforward dashboard that anyone could pick up and use without breaking a sweat.

In building our Sari-sari Store Inventory System, we leveraged programming languages like Python paired with MySQL for handling the database to keep track of product details, prices, and stock quantities, while drawing on data structures and algorithms to streamline how data is processed and pulled up; we wrapped it all up with rigorous testing to confirm smooth performance, spot on accuracy, and reliable low-stock notifications, ultimately honing our technical chops and problem solving prowess through this hands-on, practical project.

## III. Results

A screenshot of a web application titled "Joan's Store - Modern Cashier System". The page features a shopping cart icon and the text "Joan's Store" and "Modern Cashier System". Below this, a "Welcome Back" message is displayed. There are two input fields for "Username:" and "Password:". At the bottom, there are two buttons: a blue "Login" button and a green "Create New Account" button.

Joan's Store - Modern Cashier System

**Joan's Store**  
Modern Cashier System

**Welcome Back**

Username:

Password:

[Login](#)

[Create New Account](#)

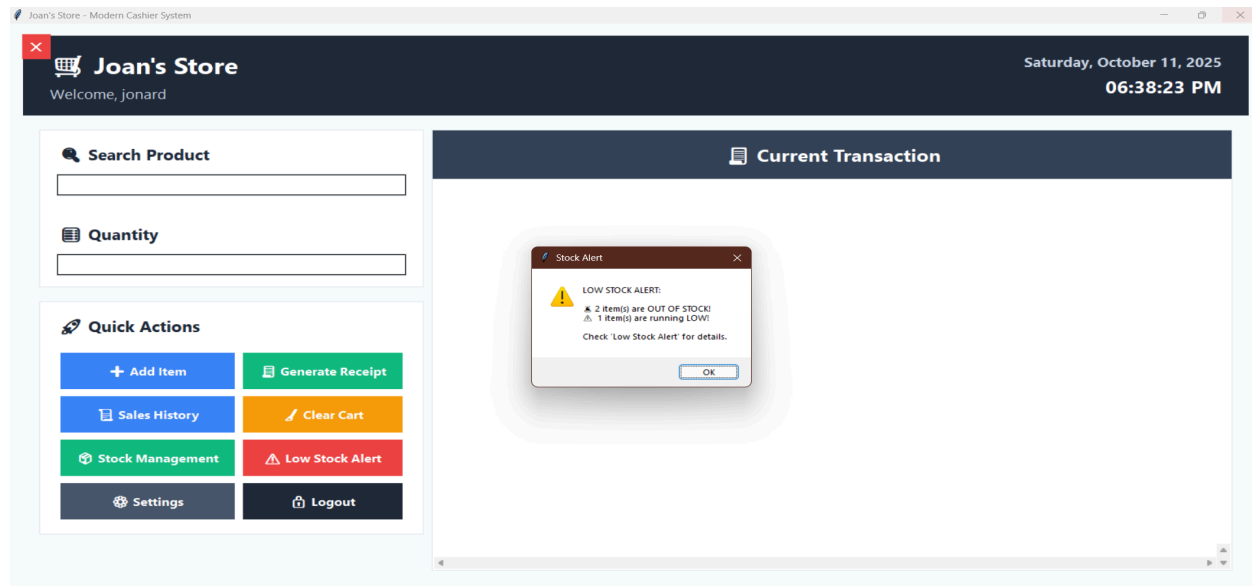


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*Figure 1: User Interface with new functions*

In this image, it contains the new UI for our system.



*Figure 2: User Interface of Receipt*

In this image, it displays different functions and a new function which alerts the user if there is a resource depletion

Current Transaction			
ITEM	QTY	PRICE	TOTAL
Bear Brand	4P	50.00P	200.00
TOTAL:		P	200.00
Items: 1   Total Qty: 4			

*Figure 3: User Interface of Receipt*

In this image, it displays the new model of the receipt.



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Product Name	Stock Qty	Price	Category	Status
555 Tuna	35	P35	Canned Goods	GOOD
Bear Brand	48	P50	Dairy	GOOD
Birch Tree	50	P50	Dairy	GOOD
Buldak	10	P50	Food	MEDIUM
C2	45	P15	Beverages	GOOD
Cheppie	10	P15	Snacks	MEDIUM
Eggs	3	P8	Food	LOW
Energen	30	P25	Food	GOOD
Gardenia	63	P60	Bakery	GOOD
Greatest White	65	P60	Personal Care	GOOD
Kopiko Blanca	25	P20	Beverages	GOOD
Milo	20	P25	Beverages	GOOD

Stock Level Legend: OUT LOW MEDIUM GOOD

Refresh Add Stock Edit Price Close

*Figure 4: Stock Management*

In this image, it displays the stock management which displays the products, quantities, prices, etc.



## IV. Conclusion

As computer engineering students, diving into the Sari-sari Store Inventory System project let us roll up our sleeves and apply classroom lessons in database management and programming to a real-world scenario, sharpening our skills in system design, UI creation, and tech-driven retail efficiency while boosting our teamwork, problem solving, and analytical abilities to tackle everyday challenges like stock tracking and sales logging ultimately cementing our path as innovative engineers ready to craft practical, game-changing solutions.



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