

GROCERY MANAGEMENT

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COURSE PROJECT DA214/DA215

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INTRODUCTION

Welcome to the presentation on the Grocery Management System. Today, I will discuss how our system can revolutionize grocery management by addressing common inefficiencies and enhancing customer service.





PROBLEM STATEMENT

- Grocery stores face challenges such as inefficient inventory management, customer dissatisfaction due to stock-outs, and the complexity of managing diverse product ranges. These issues lead to lost sales and diminished customer loyalty.



MARKET ANALYSIS

- Current market solutions often fall short in providing comprehensive, customizable, and scalable grocery management. Our research indicates a demand for more integrated and intelligent systems.



SYSTEM OBJECTIVES

- Our objectives are clear: Reduce operational costs, maximize efficiency, and enhance the shopping experience through a user-friendly interface and reliable data insights.



PROPOSED SOLUTION

- Our Grocery Management System is a robust platform designed to streamline operations, optimize inventory, and improve customer engagement through advanced analytics and real-time data processing.

CUSTOMER

FEATURE: ALL PRODUCT VIEW

Product ID	Category	Item Name	of Each Item	----- of Items	Cart
1		Air Freshner	110	282	<button>ADD</button>
2		Sugar	55	645	<button>ADD</button>
3		Spice	15	222	<button>ADD</button>
4		Garam Masala	35	292	<button>ADD</button>
					

FEATURE: MY CART

Home | My Cart

Product ID	No of items	Cost of item	Total cost	Add/Remove items
1	3	110	330	<input type="button" value="+"/> <input type="button" value="-"/>
2	2	55	110	<input type="button" value="+"/> <input type="button" value="-"/>
3	3	15	45	<input type="button" value="+"/> <input type="button" value="-"/>
TOTAL COST OF ALL ITEMS:				485
CHECK OUT				

FEATURE: SEARCH BAR WITH FOUR FILTERS

SEARCH

Product ID

Category

Item Name

Cost

Search For Products

Item Name

Search For Products Based on Item Name

Price Start

Price End

Search For Products Based on Item Price Range

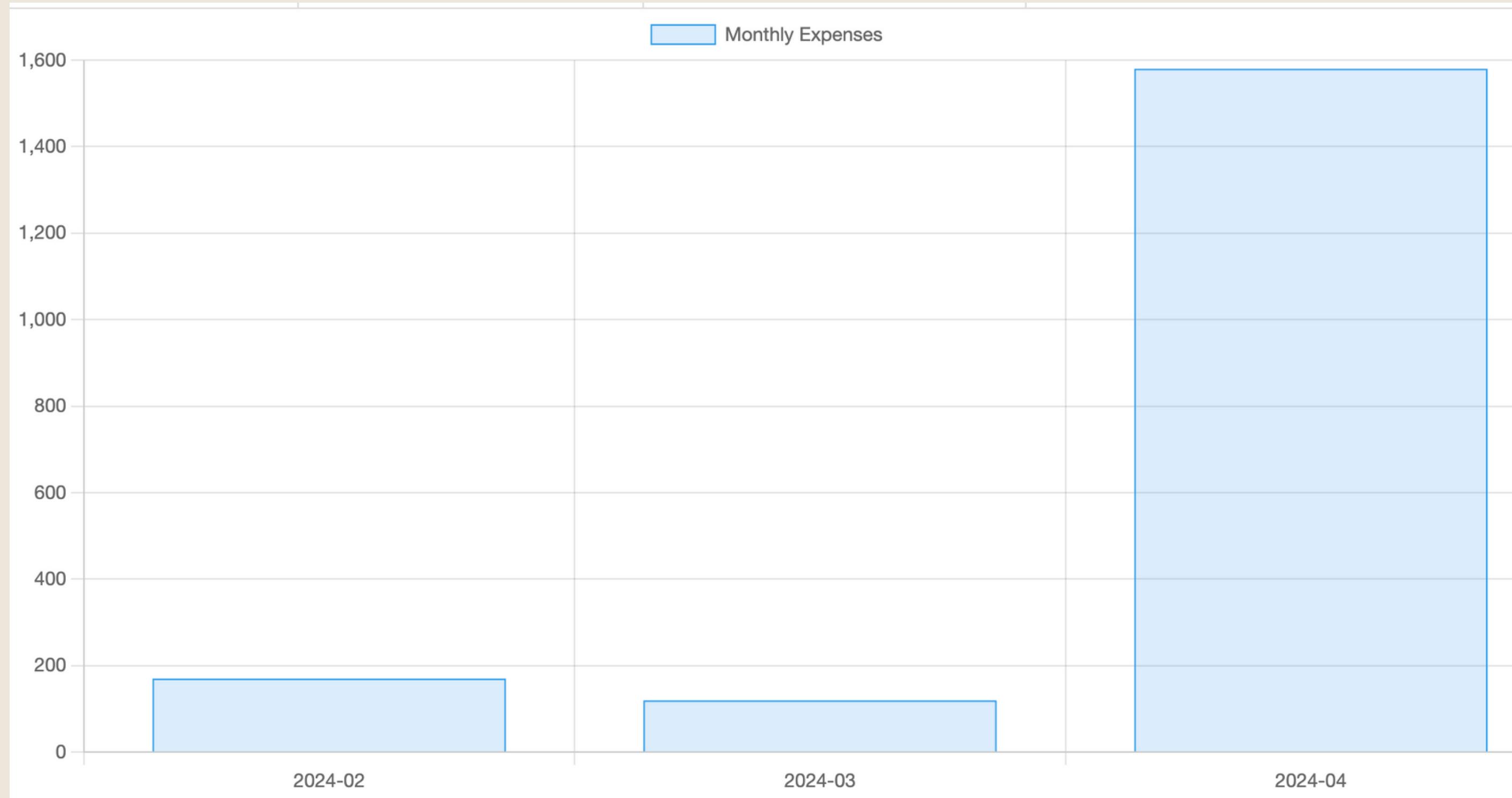
Sort Products Based on Item Price

FEATURE: MY PURCHASE HISTORY

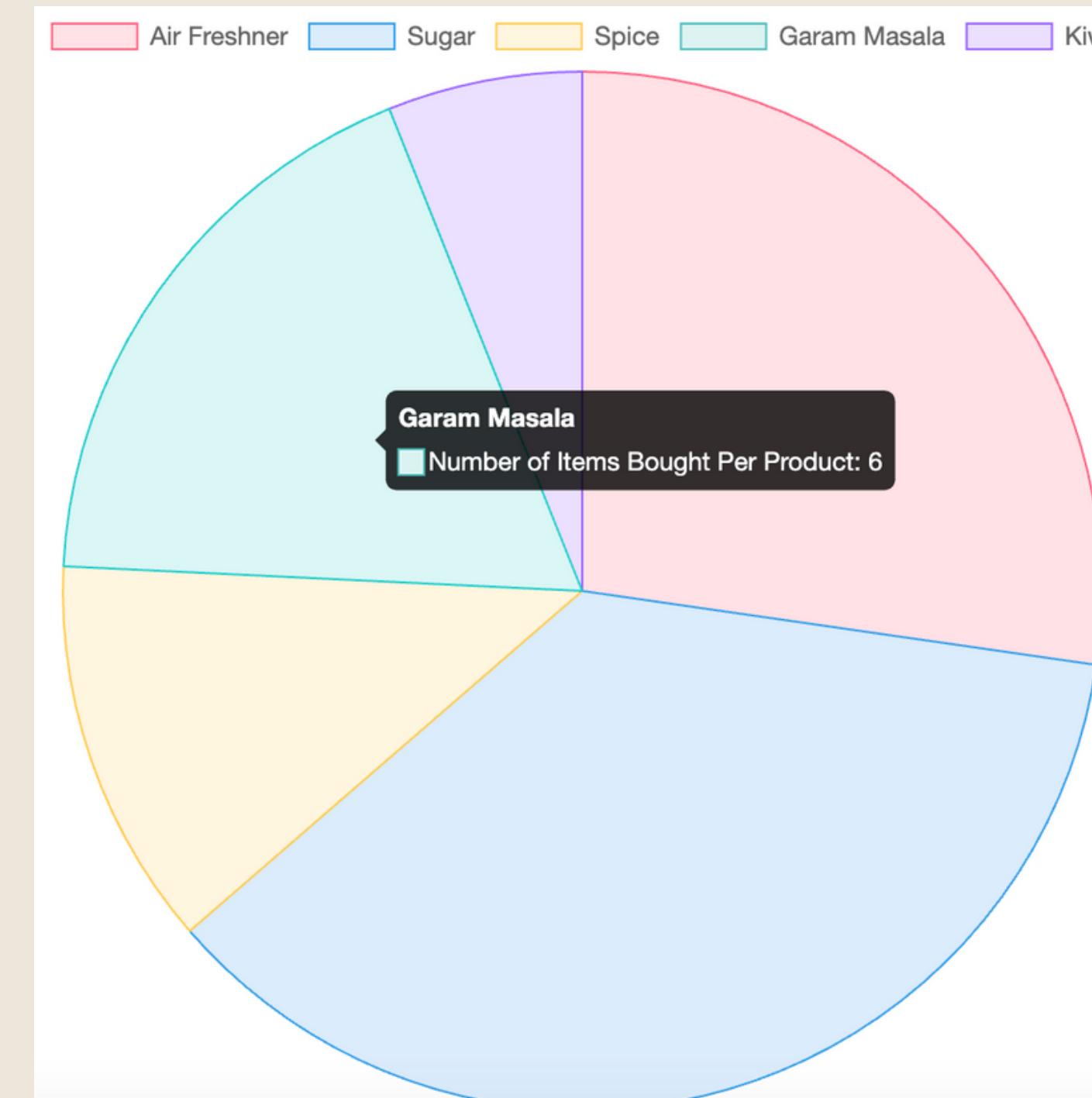
All transactions

Product ID	No of items	cost of items	Date of purchase
2	3	165	2024-04-16 17:38:38
1	2	220	2024-04-16 17:38:38
3	3	45	2024-04-16 14:14:12
2	3	165	2024-04-16 14:14:12
1	2	220	2024-04-16 14:14:12

FEATURE: MONTHLY EXPENSES

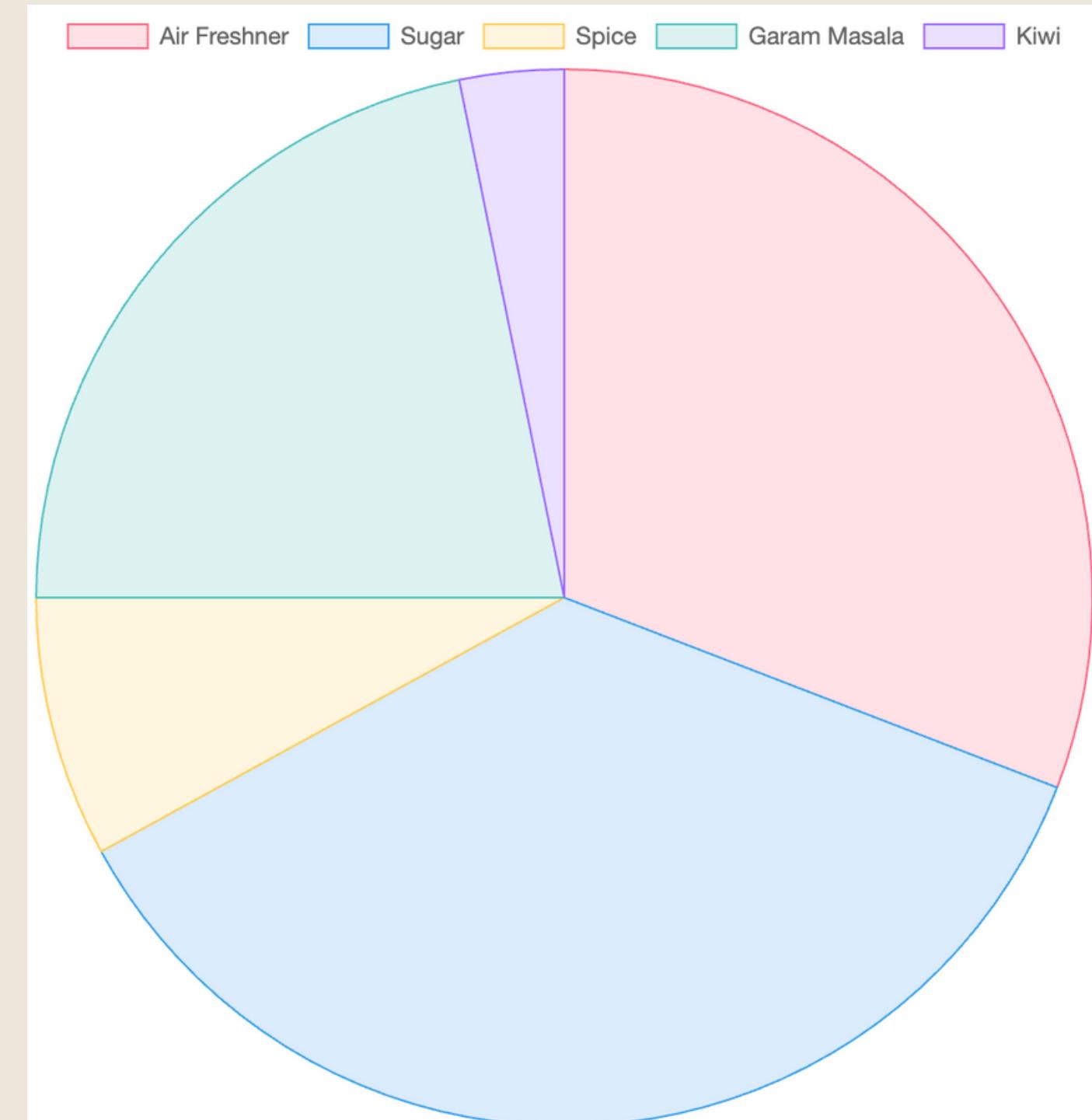


FEATURE: PRODUCT WISE VISUALISATION



FEATURE: PRODUCTS VISUALISATION

-> Various types of interactive visualisations are provided in order to give a clear picture of what is actually happening.



EMPLOYEE

FEATURE: PRODUCT RECORD AND UPDATE



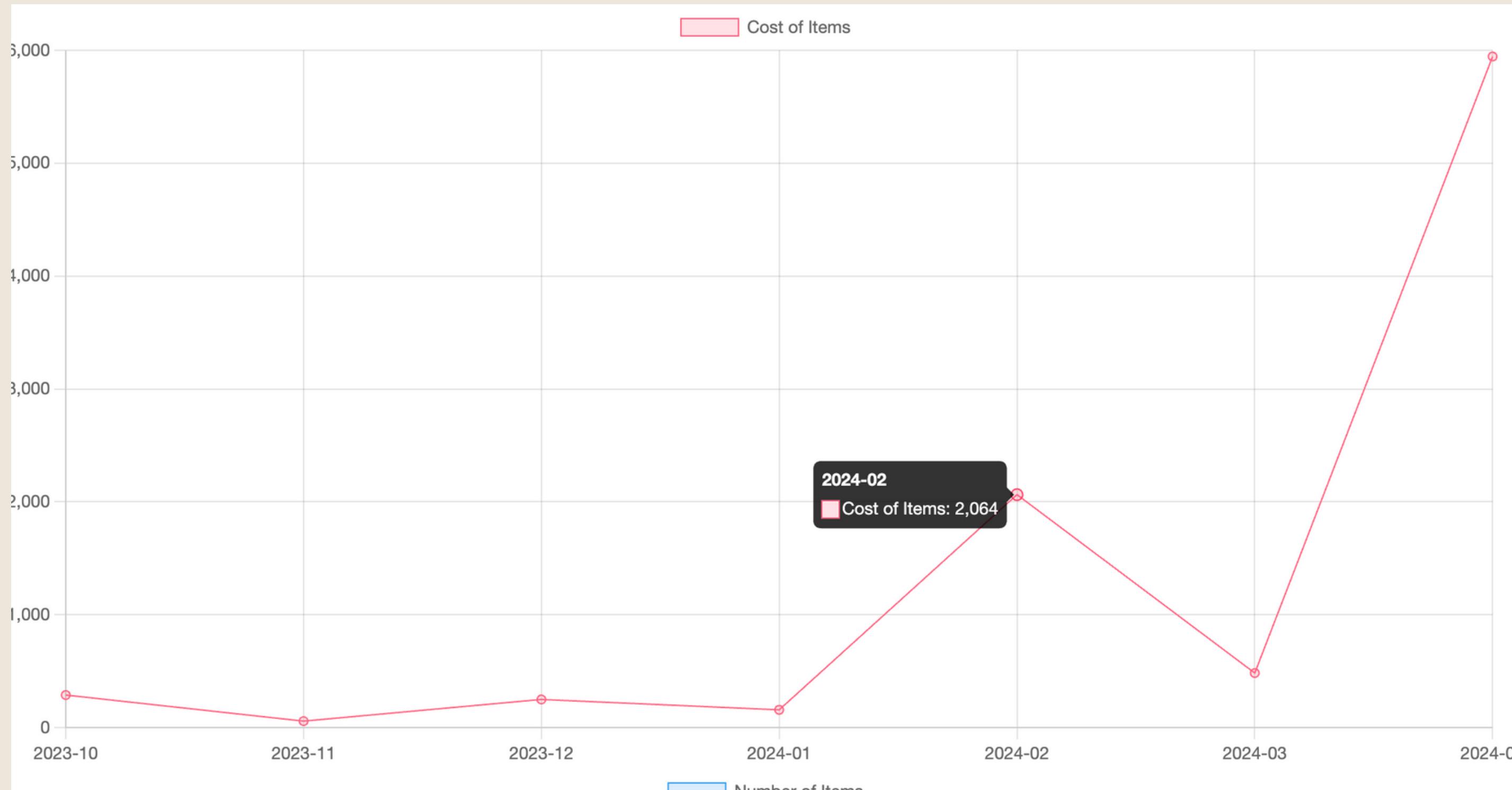
Product ID	Category	Item Name	Cost of each item	No. of items	Update table		
					Current Value	New Value	Update
1	Households	Air Freshner	110	282	110	282	Update
2	Kitchen	Sugar	55	645	55	645	Update
3	Kitchen	Spice	15	222	15	222	Update
4	Kitchen	Garam Masala	35	292	35	292	Update
5	Fruits	Kiwi	40	382	40	382	Update

FEATURE: TRANSACTION LOG

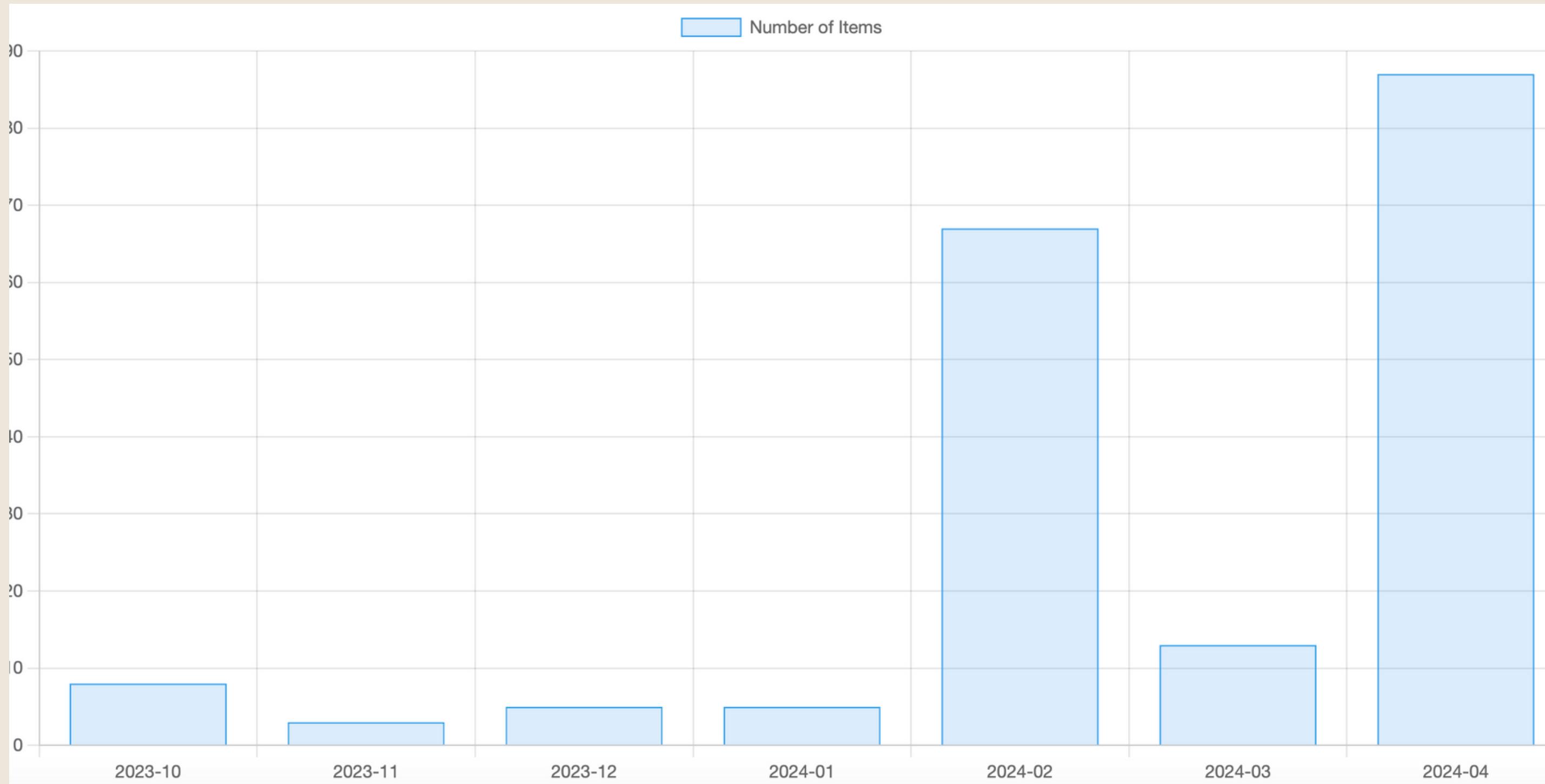
All transactions

	Product ID	No of items	cost of items	Date of purchase
	2	3	165	2024-04-16 17:38:38
	1	2	220	2024-04-16 17:38:38
	3	3	45	2024-04-16 14:14:12
	2	3	165	2024-04-16 14:14:12
	1	2	220	2024-04-16 14:14:12

FEATURE: ALL TRANSACTIONS VISUALISATION

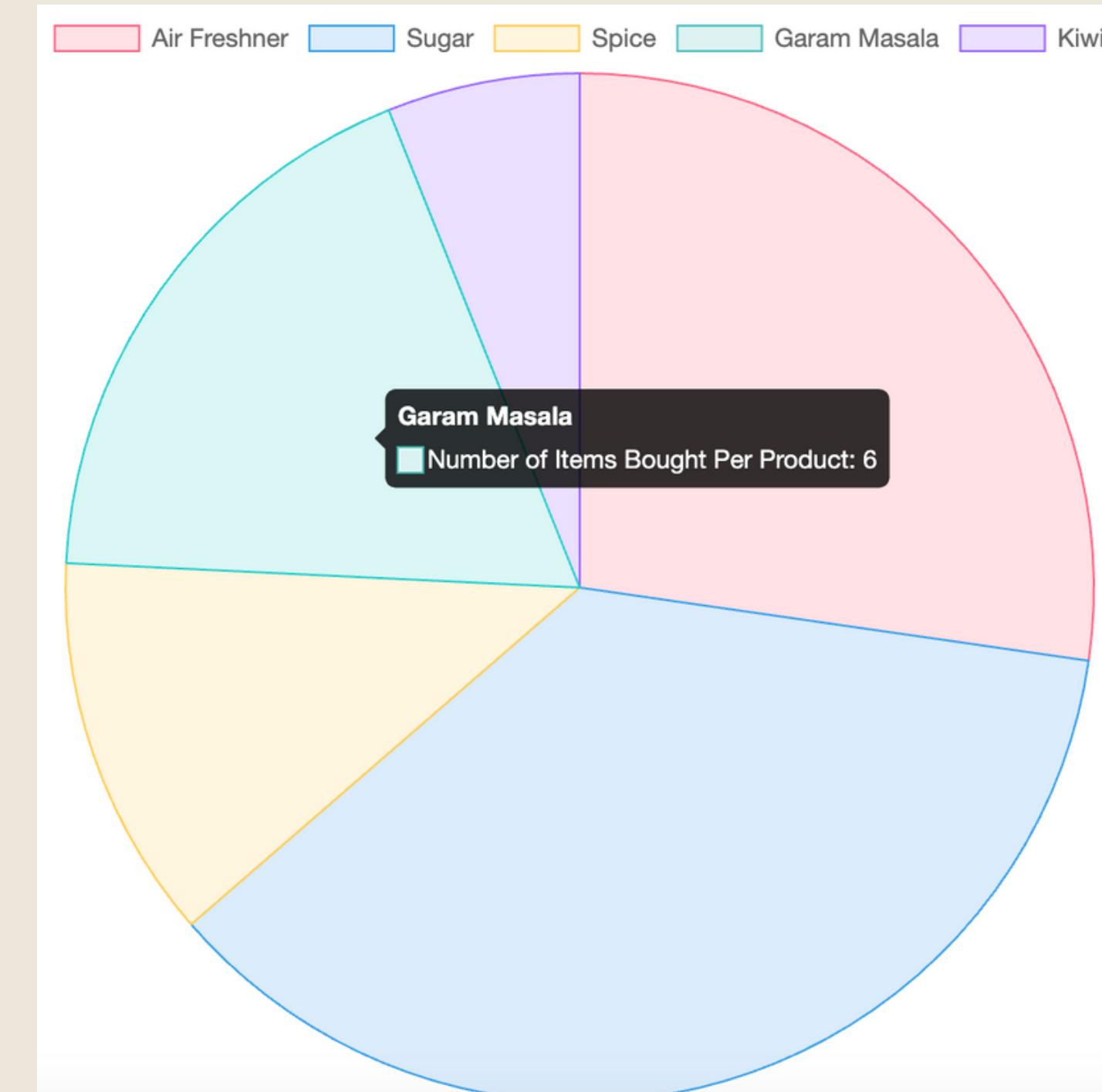


FEATURE: ALL TRANSACTIONS VISUALISATION



FEATURE: PRODUCTS VISUALISATION

-> Various types of interactive visualisations are provided in order to give a clear picture of what is actually happening.



ADMIN

FEATURE: CUSTOMER RECORD

Customer List

Username	Password	Phone number	Date of join
sneh	sneh	1234567890	2024-02-28 09:39:37
	<input type="text" value="sneh"/>	<input type="text" value="1234567890"/>	<input type="button" value="Update"/>
prakhar	prakhar	9876543211	2024-02-28 03:24:12
	<input type="text" value="prakhar"/>	<input type="text" value="9876543211"/>	<input type="button" value="Update"/>
su	su	8877889988	2024-04-16 12:41:39
	<input type="text" value="su"/>	<input type="text" value="8877889988"/>	<input type="button" value="Update"/>

FEATURE: EMPLOYEE RECORD

Employee List				
Username	Password	Phone number	Date of join	
sankalp	sankalp	8765432190		2024-02-28 11:11:00
	<input type="text" value="sankalp"/>	<input type="text" value="8765432190"/>	<button>Update</button>	
ishan	ishan	9090807060		2024-03-01 02:05:54
	<input type="text" value="ishan"/>	<input type="text" value="9090807060"/>	<button>Update</button>	
<input type="text" value="Username"/>	<input type="text" value="Password"/>	<input type="text" value="Phone Number"/>	<button>Add Employee</button>	

FEATURE: PRODUCT LOG

PRODUCTS

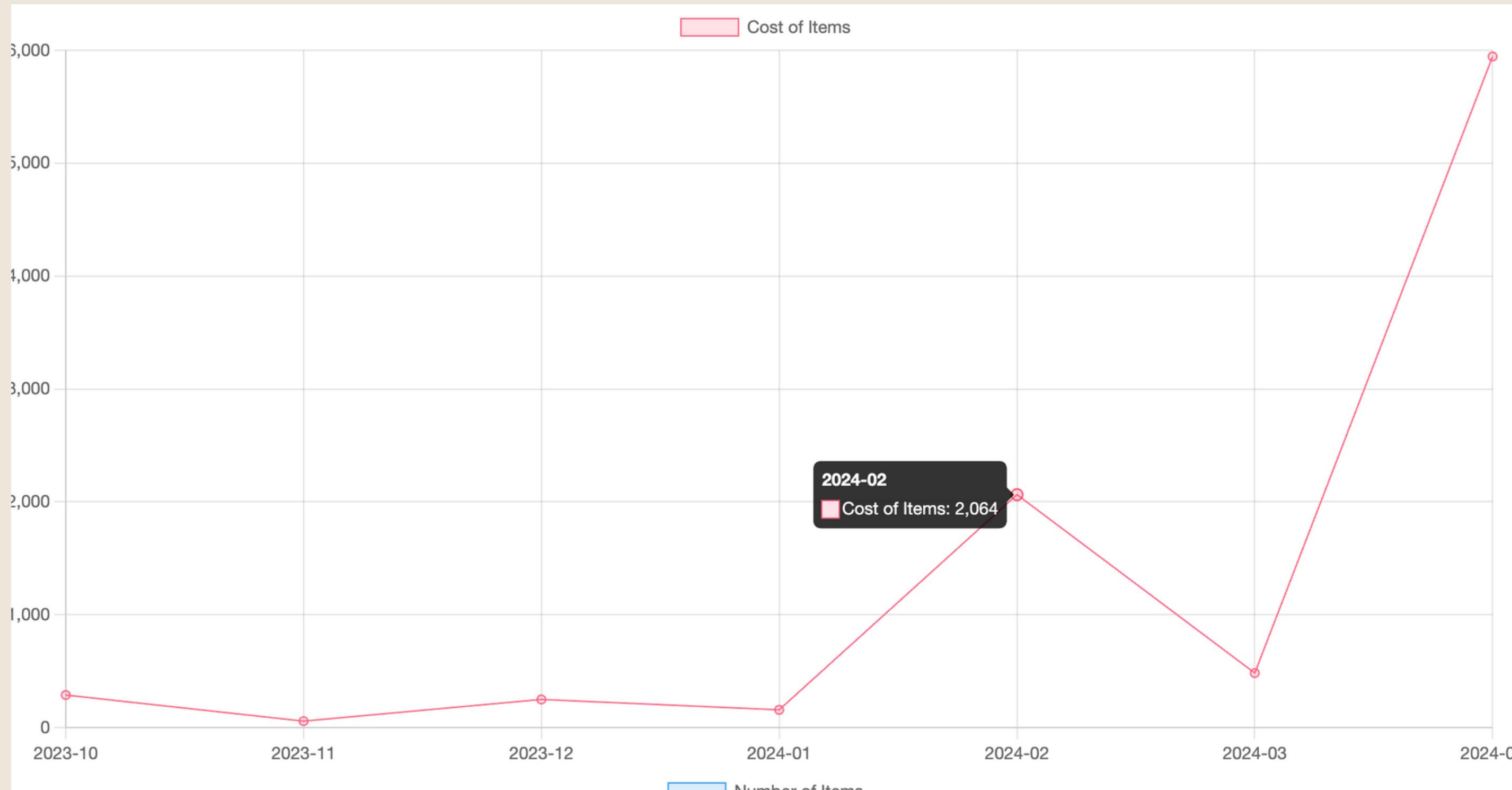
product ID	category	Item_name	cost of each item	no_of_items
	Households	Air Freshner	110	282
	Households	Air Freshner	110	282
	Kitchen	Sugar	55	645
	Kitchen	Sugar	55	645
	Kitchen	Spice	15	222
	Kitchen	Spice	15	222
	Kitchen	Garam Masala	35	292
	Kitchen	Garam Masala	35	292

FEATURE: TRANSACTION LOG

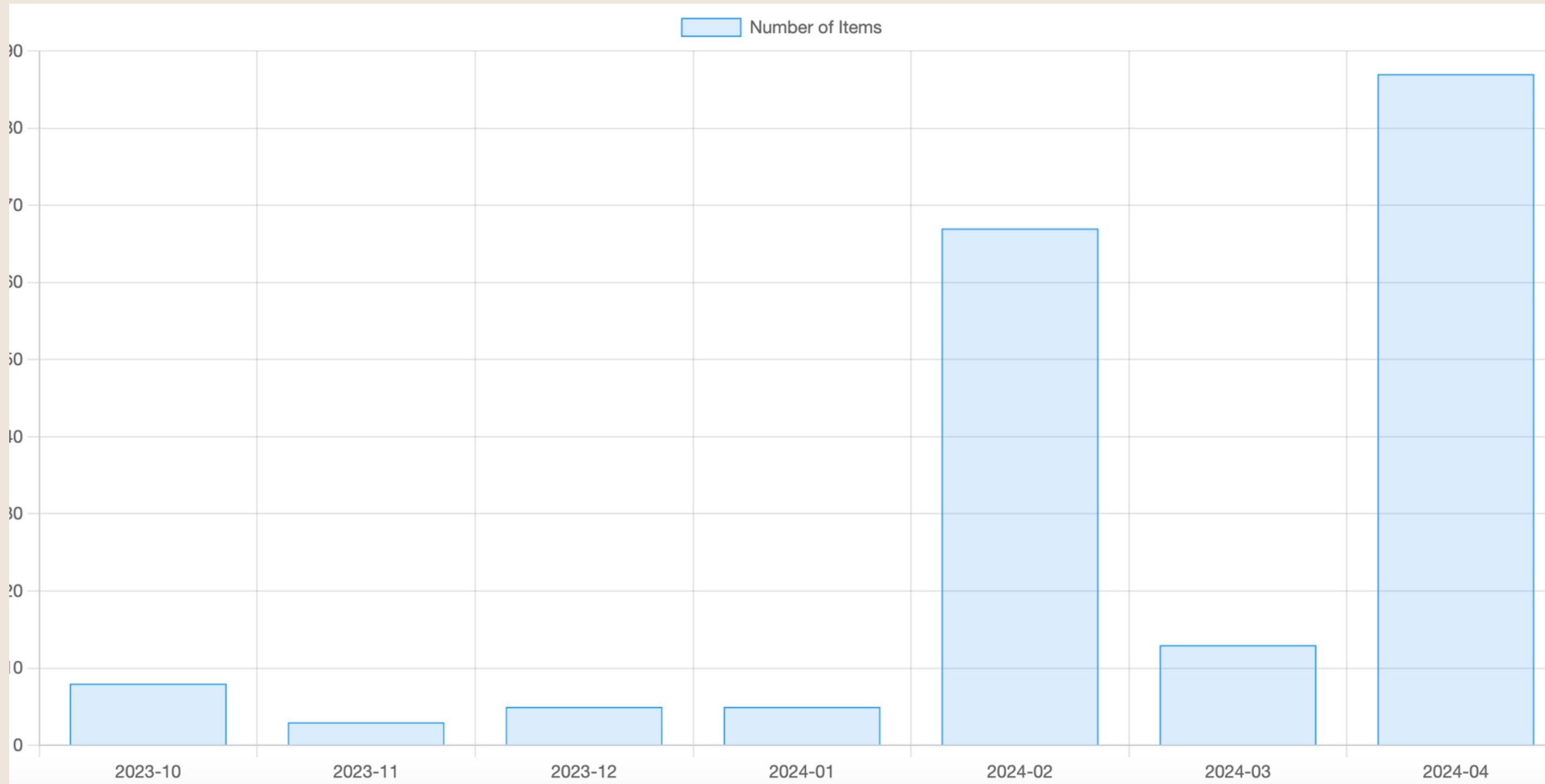
All transactions

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FEATURE: ALL TRANSACTIONS VISUALISATION

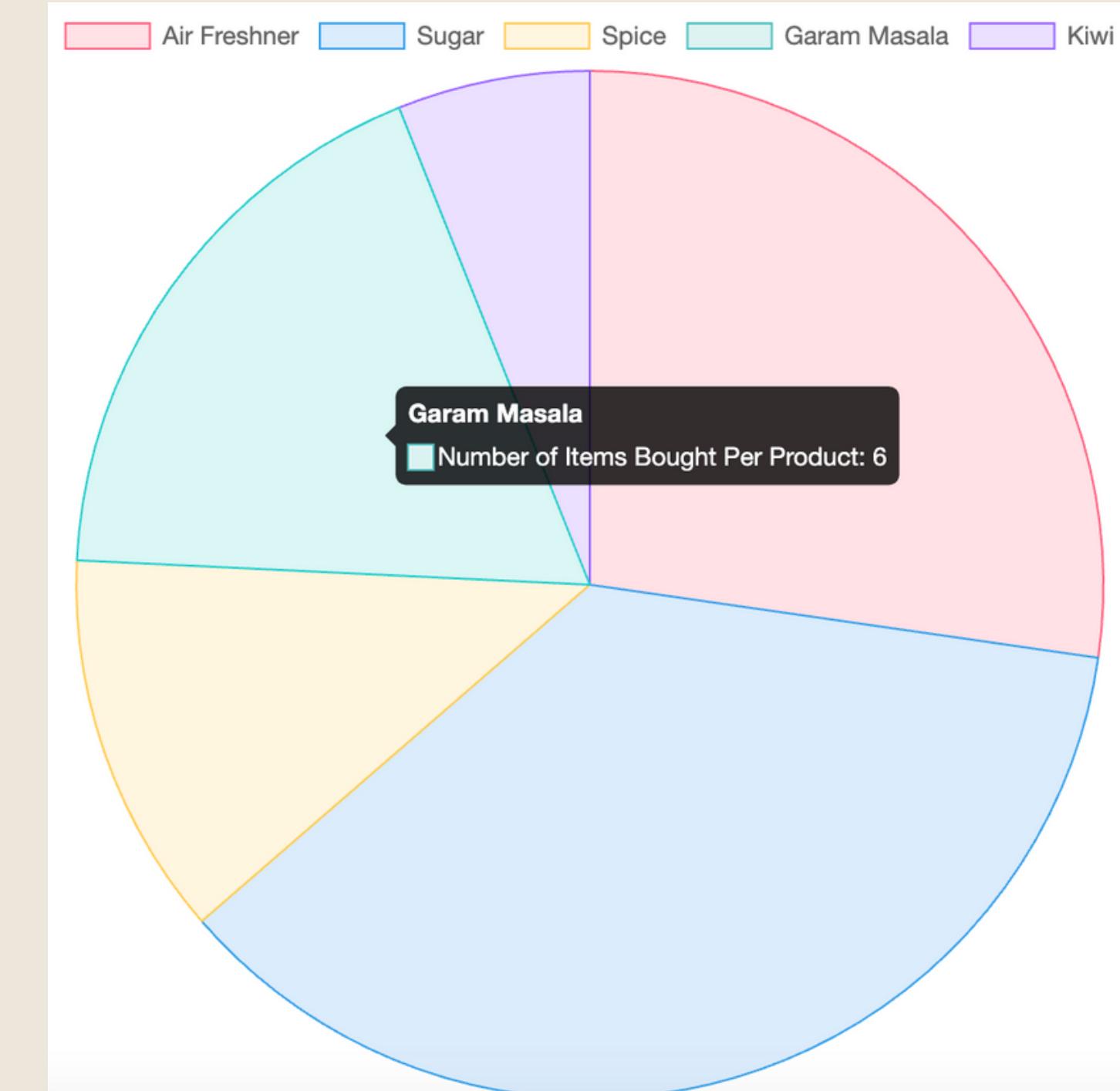


FEATURE: ALL TRANSACTIONS VISUALISATION



FEATURE: PRODUCTS VISUALISATION

-> Various types of interactive visualisations are provided in order to give a clear picture of what is actually happening.



FEATURE: 4 TYPE SEARCH BAR

SEARCH

Product ID

Category

Item Name

Cost

Search For Products

Item Name

FEATURE: 4 TYPE SEARCH BAR

Search For Products

Item Name

Search For Products Based on Item Name

Price Start

Price End

Search For Products Based on Item Price Range

Sort Products Based on Item Price

Security Measures

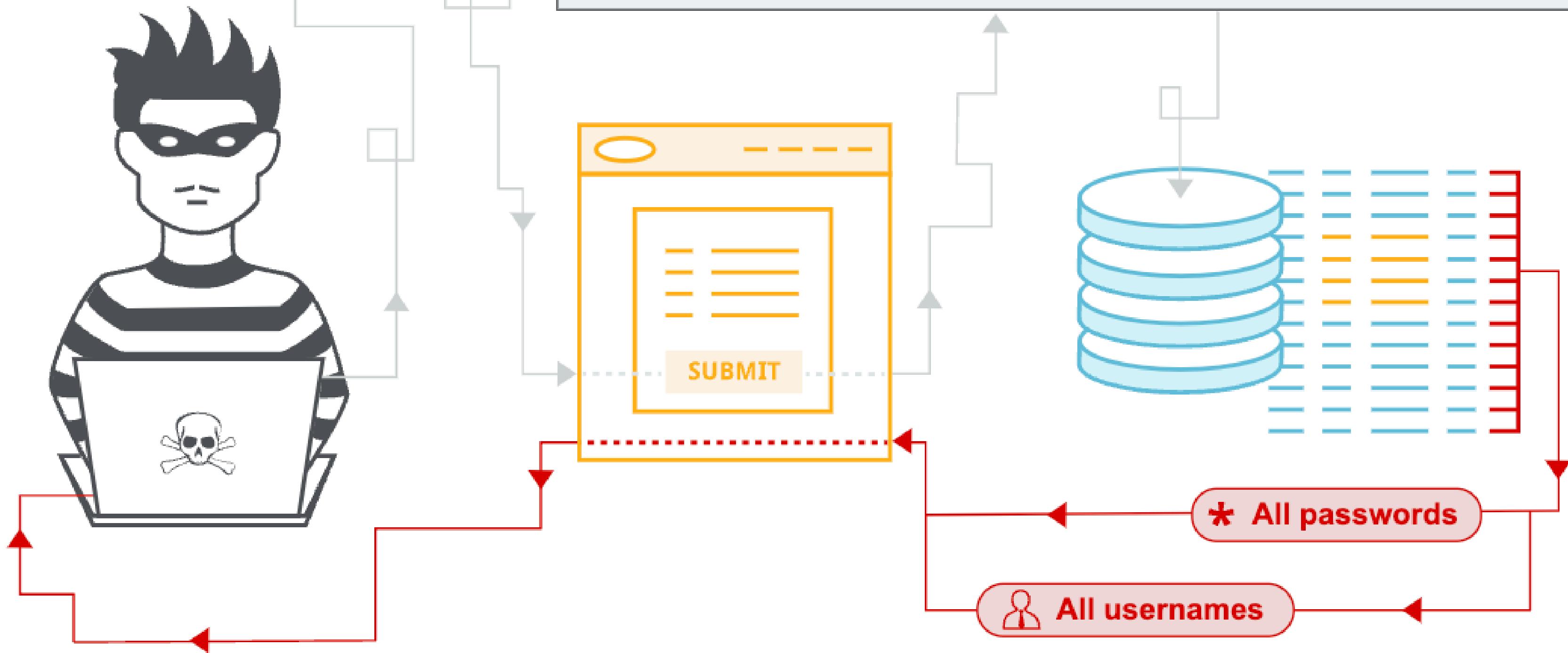
SQL INJECTIONS

SQL injection (SQLi) is a web security vulnerability that allows an attacker to interfere with the queries that an application makes to its database. This can allow an attacker to view data that they are not normally able to retrieve.



```
' UNION SELECT username, password FROM users--
```

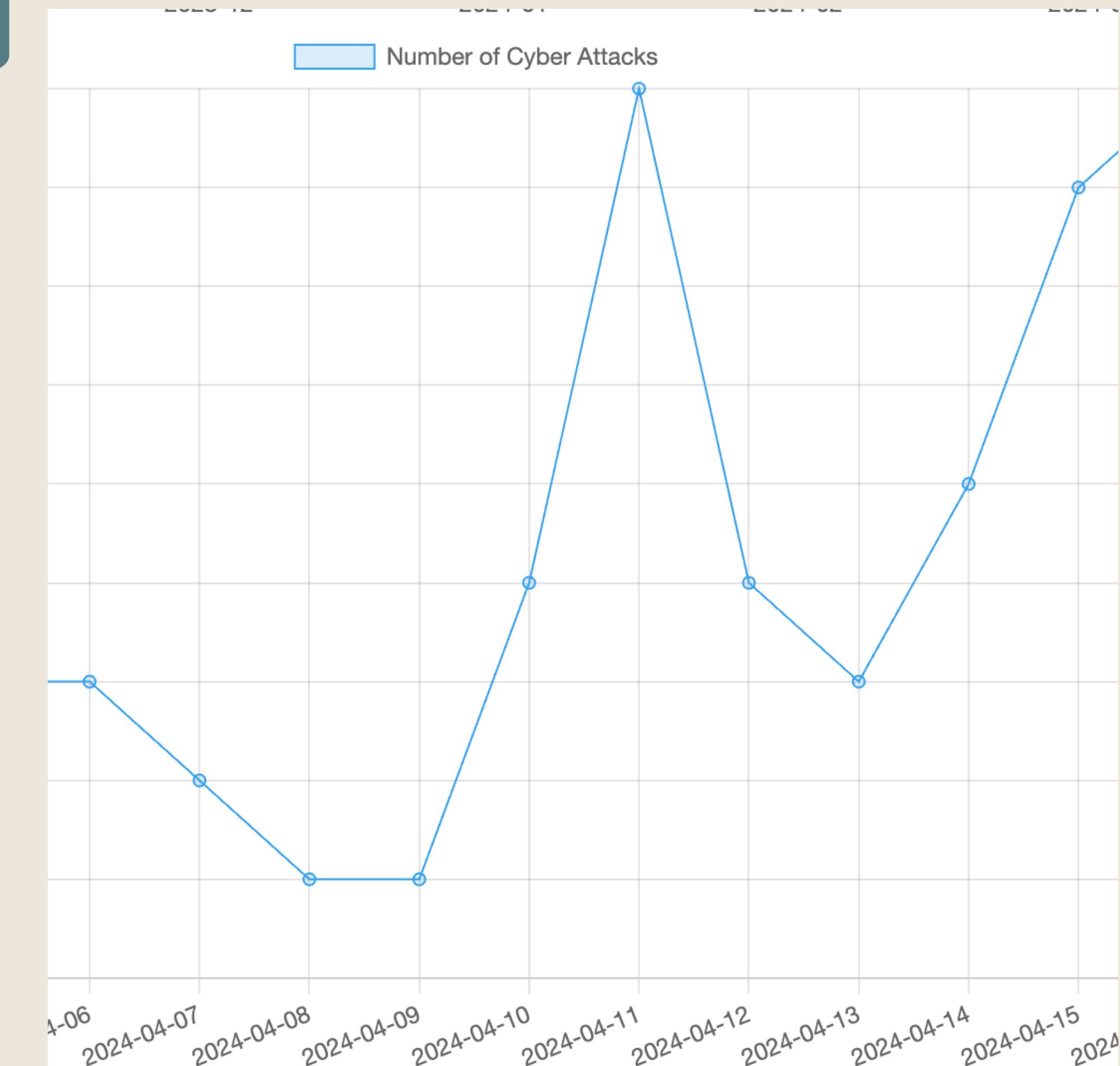
```
SELECT name, description FROM products WHERE category  
= 'Gifts' UNION SELECT username, password FROM users--
```



FEATURE: ANTI - SQLI

Solution: Created an ‘injections’ table which keeps on updating whenever any suspicious data is entered as a form input.

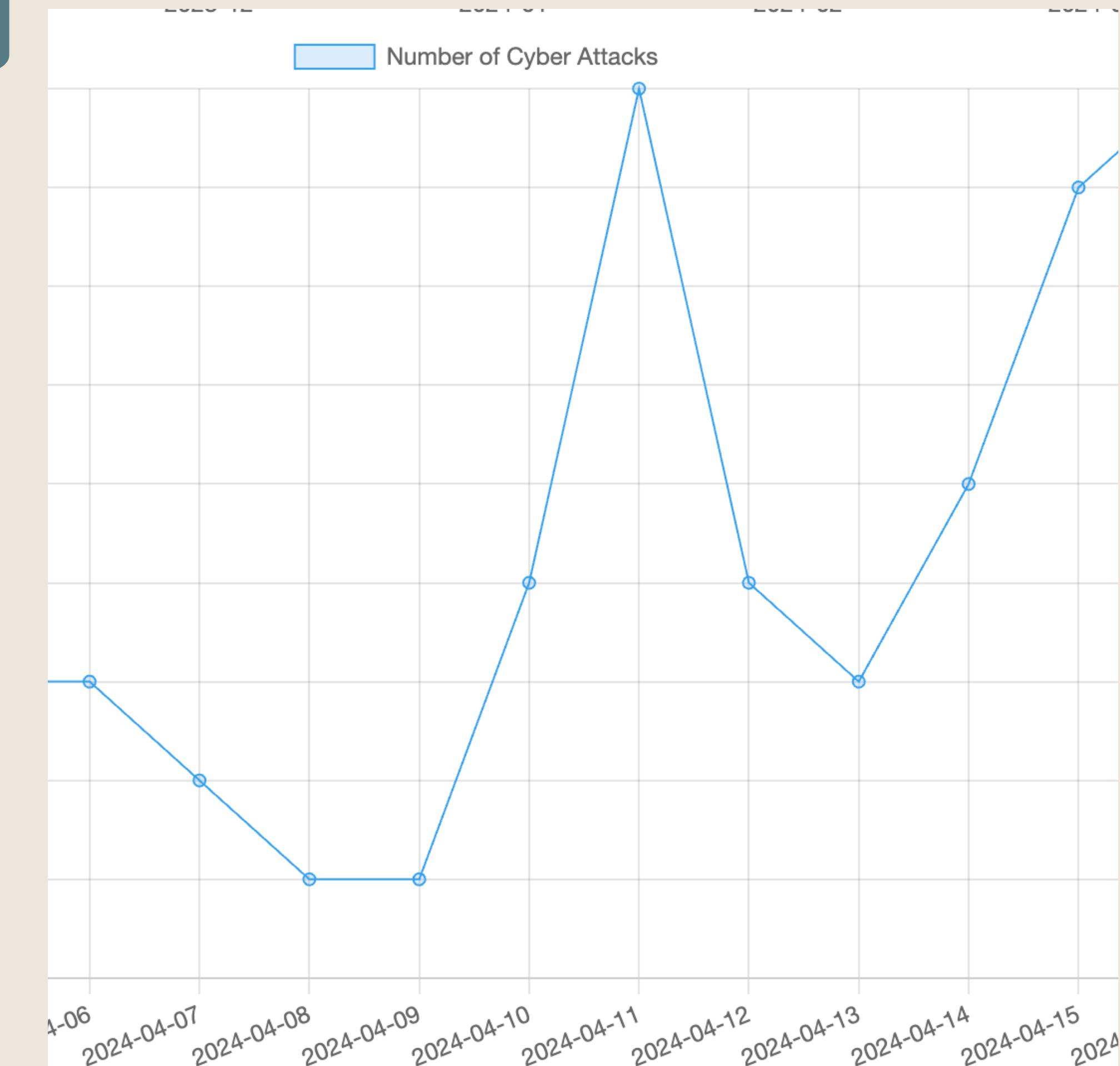
Eg. $1=1$, where $1==1$



FEATURE: ANTI - SQLI

Solution: A Trigger is implemented which monitors the threshold and gives the user an alert accordingly.

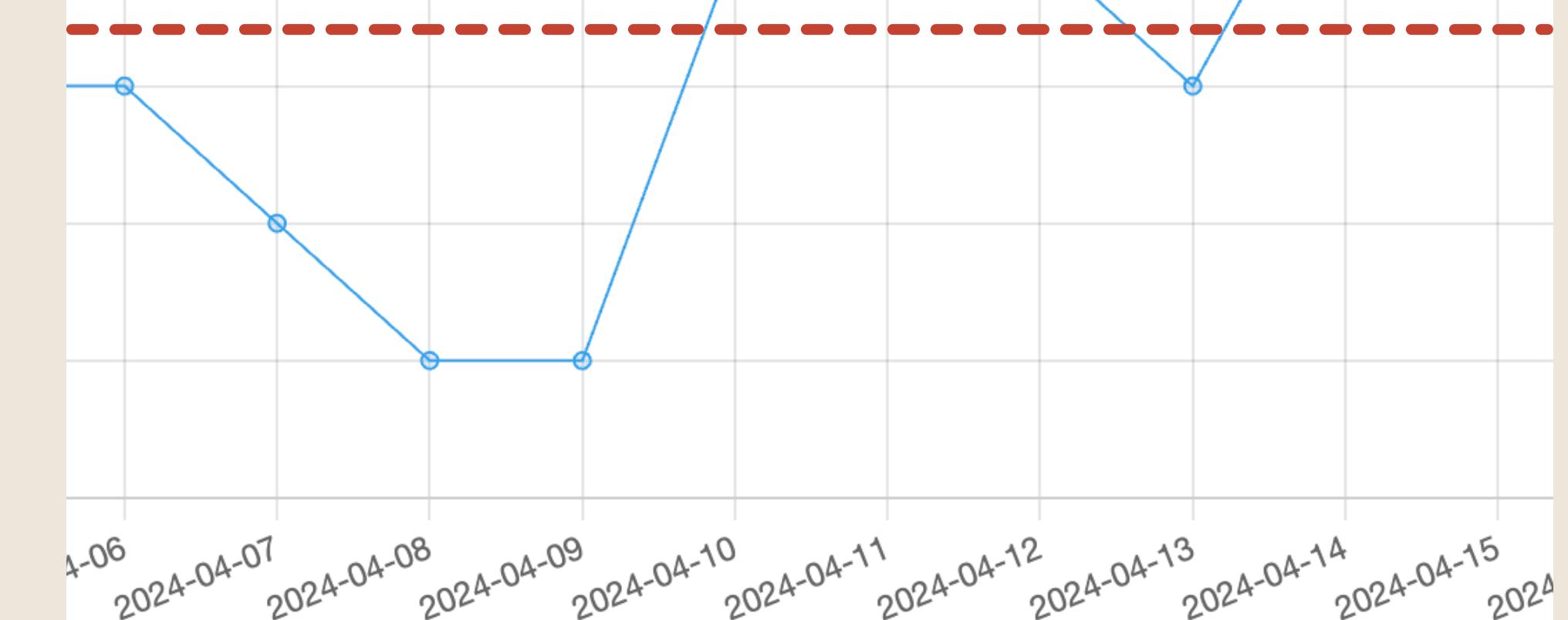
Moreover, a simple dynamic plot is also generated to keep a check.



FEATURE: ANTI - SQLI TRIGGER

In addition a trigger is implemented at backend which inserts a value in TriggerLog table if a certain threshold is crossed.

```
4      -- Calculate the sum of ids for today's date
5      SELECT SUM(id) INTO sum_ids
6      FROM injections
7      WHERE DATE(date) = CURDATE();
8
9      -- Debugging output (not real in MySQL, for
10     conceptual purposes)
11     -- SELECT 'Current Sum:' AS debug_msg, sum_ids AS
12     debug_val;
13
14     -- Check if the sum exceeds 2
15     IF sum_ids > 2 THEN
          INSERT INTO TriggerLog (message)
          VALUES (CONCAT('SQL Injections alert. Total:
```



FEATURE: ANTI - SQLI TRIGGER IN ACTION

SQL Injection detected

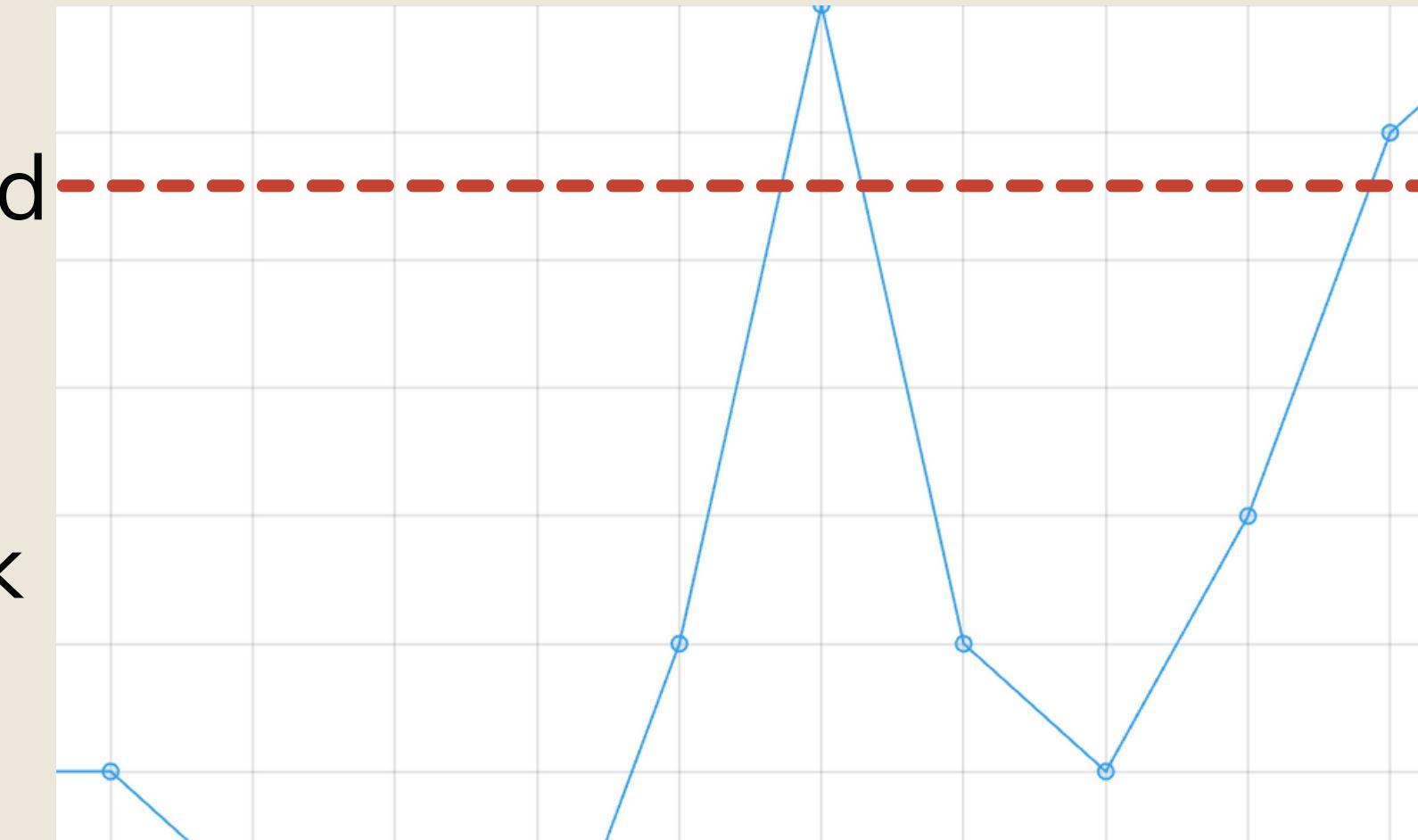
IF threshold is reached:

Trigger is generated and

Admin is notified

ELSE:

Just increase the attack
count



SQL Injections alert. Total: 7

FEATURE: QUERY IN HUMAN LANGUAGE

Query over the Database in Natural Language

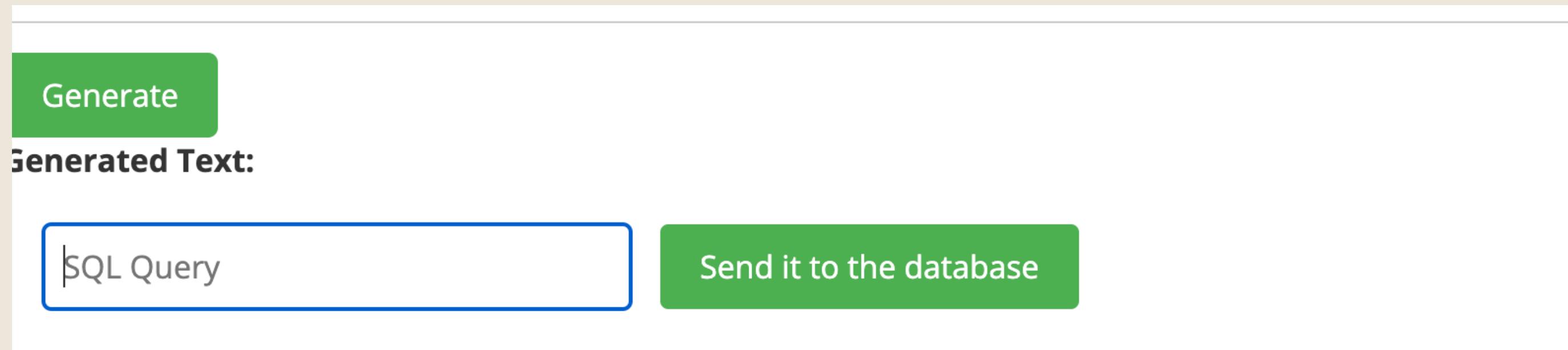
show all purchase product wise between 1 and 15 april 2024

Generate

Generated Text:

```
```sql
SELECT
ppid,
SUM(no_of_items) AS total_items,
SUM(cost_of_items) AS total_cost
FROM purchase
```

# FEATURE: SQL GUI INTERFACE



**Write your SQL statement in the browser itself and get the result accordingly**

# FEATURE: SQL GUI INTERFACE

Generate

**Generated Text:**

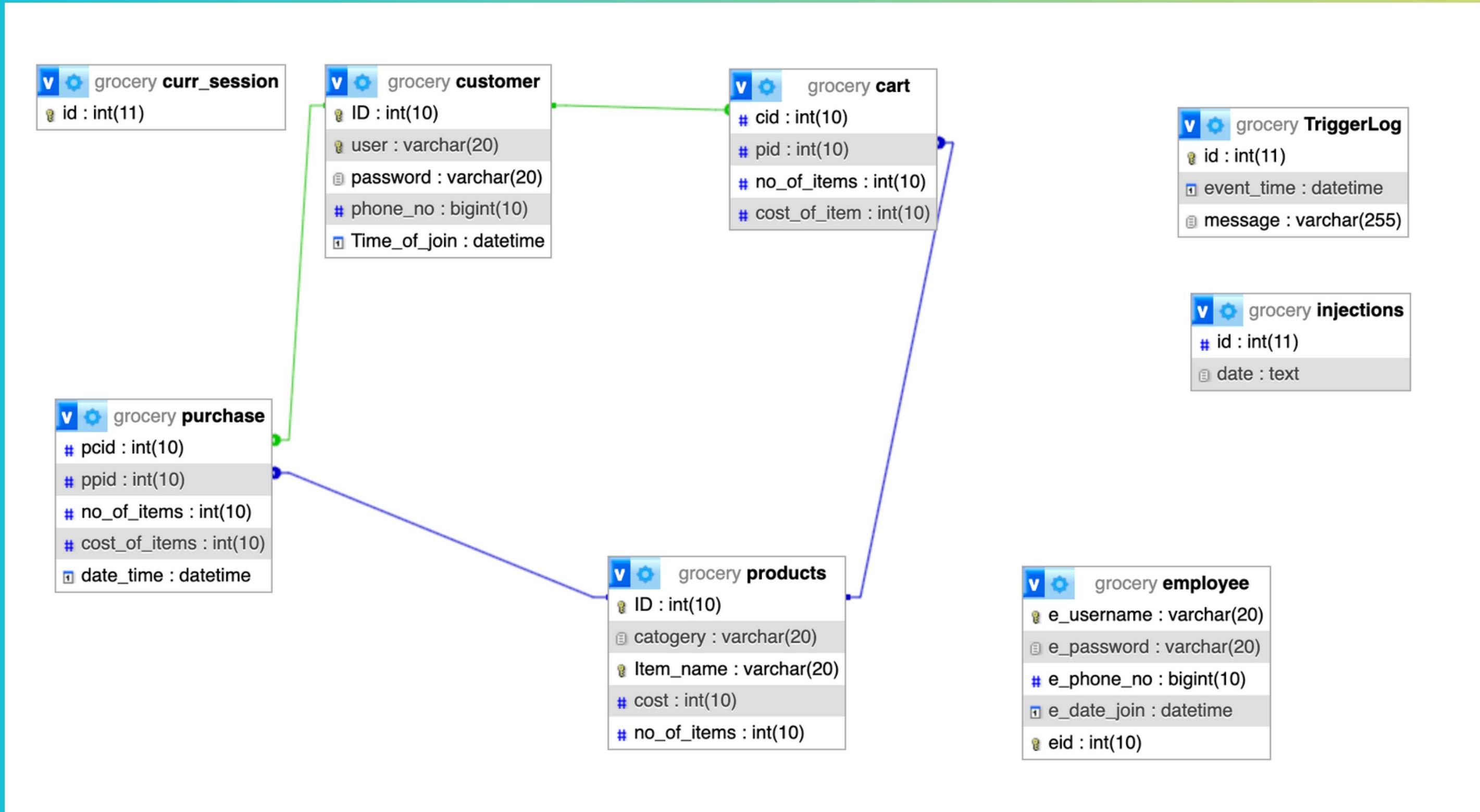
SQL Query

Send it to the database

**Here is the query result from database**

1	58	5640
2	68	1734
3	15	225
4	41	1409
5	6	240

# ER DIAGRAM



# DESIGN DOCUMENTS

Logout

**GROCERY  
STORE**

- All products
- My Cart
- Transation History
- Search for Products Based on Specifications
- Search for Products Based on Item Name
- Search for Products Based on Item Price Range
- Sort Products based on price

MAKE YOUR  
FOOD  
WITH SPICY.

SHOP NOW

• • •

# DESIGN DOCUMENTS

Logout

**GROCERY  
STORE**

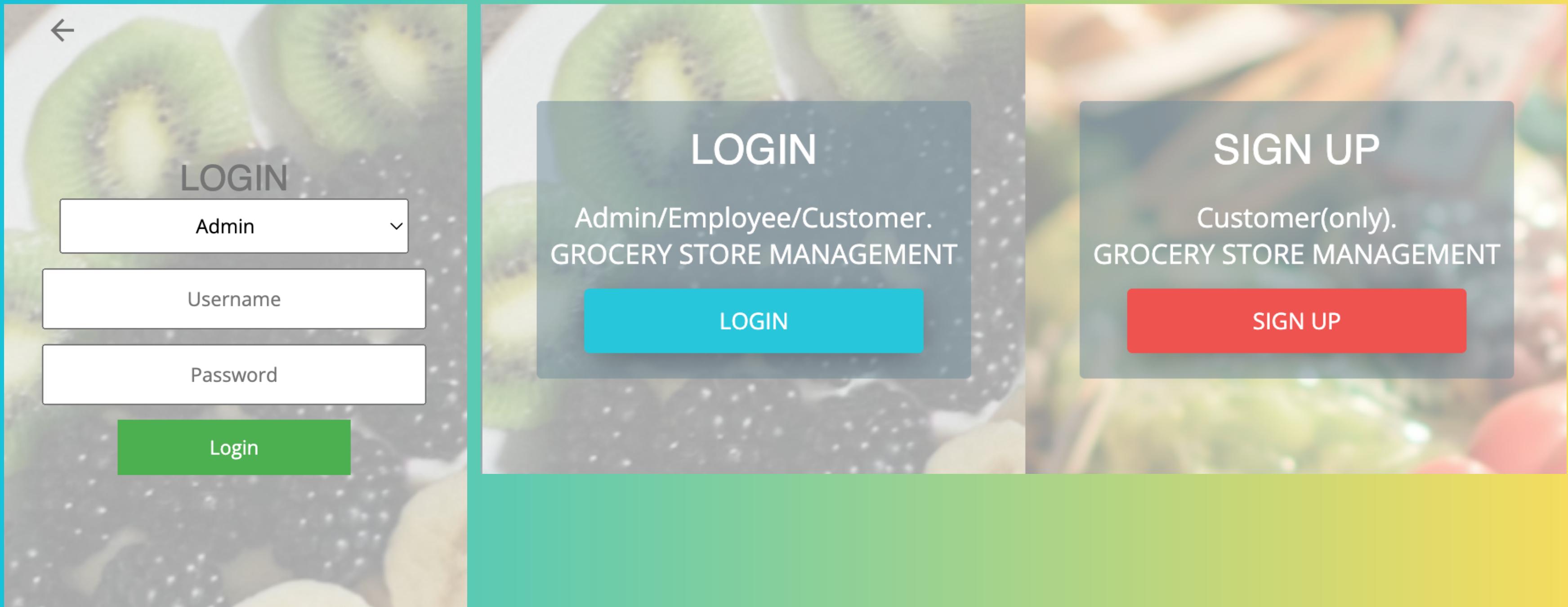
- Products Database
- Customer
- Employee
- All Transactions
- Search for Products Based on Specifications
- Search for Products Based on Item Name
- Search for Products Based on Item Price Range
- Sort Products based on price

MAKE YOUR  
**FOOD**  
WITH SPICY.

**SHOP NOW**

• • •

# DESIGN DOCUMENTS



# DESIGN DOCUMENTS



GROCERY  
STORE

Link for the design file is

<https://www.figma.com/file/xZCFru2T6qeJkoKfZZxcGW/Grocery-management?type=whiteboard&node-id=0-1&t=yAaSrLmzhllq72Rx-0>

# LIVE DEMO



# THANK YOU

