

Modern Computing

# PESONET SHOP/INTERNETCAFE MANAGEMENT SYSTEM

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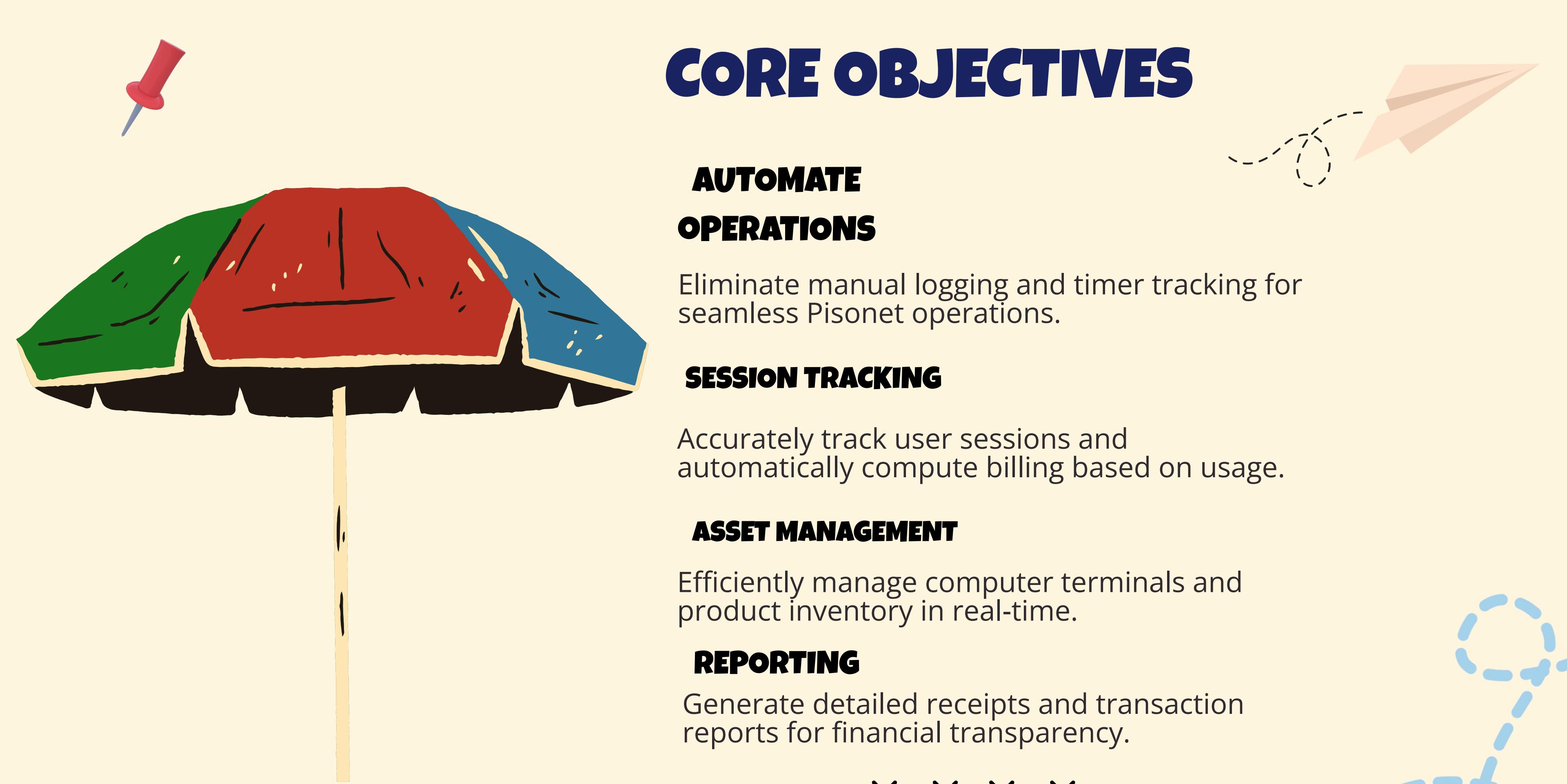
# SYSTEM INTRODUCTION

The Modern Pisonet Management System is a comprehensive software solution designed to streamline the operations of internet cafes and computer shops.

It moves beyond manual tracking to offer a robust digital platform for managing PCs, user sessions, product inventory, and income generation

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# CORE OBJECTIVES

## AUTOMATE OPERATIONS

Eliminate manual logging and timer tracking for seamless Pisonet operations.

## SESSION TRACKING

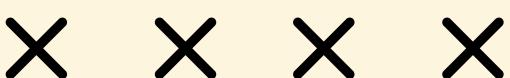
Accurately track user sessions and automatically compute billing based on usage.

## ASSET MANAGEMENT

Efficiently manage computer terminals and product inventory in real-time.

## REPORTING

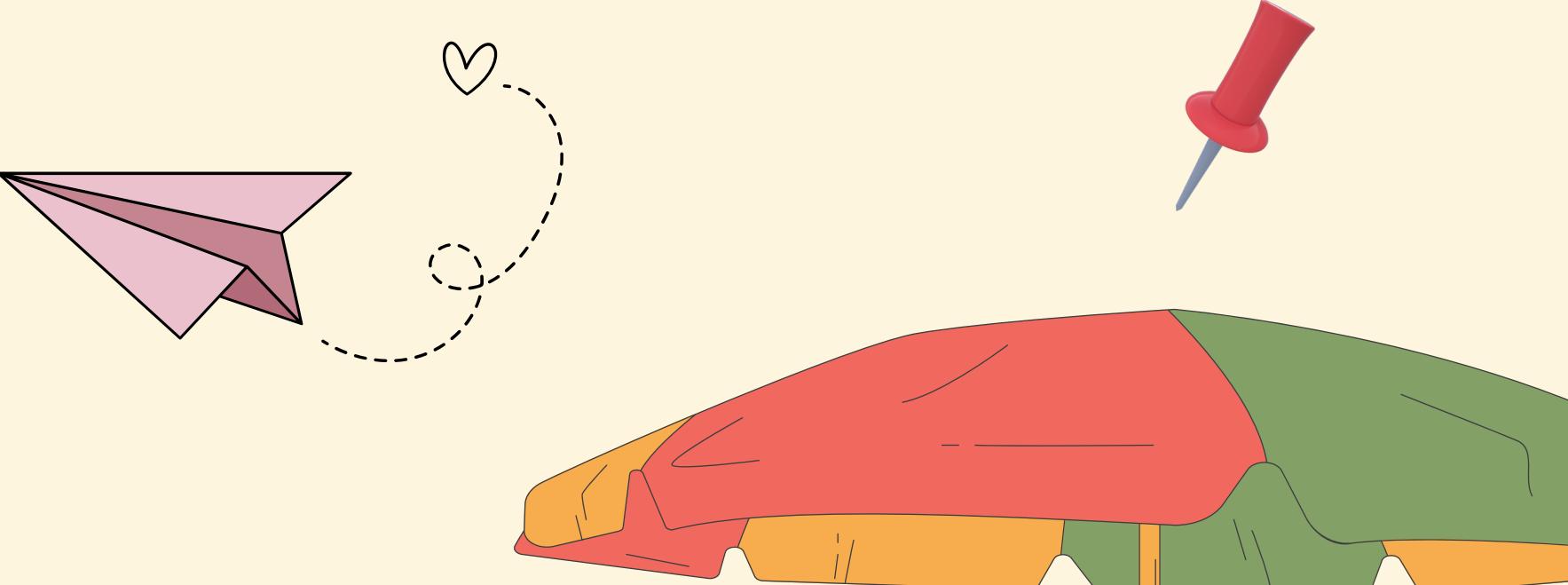
Generate detailed receipts and transaction reports for financial transparency.



# TECHNOLOGIES USED

## Language:

C# (.NET Console Application)



## Paradigm:

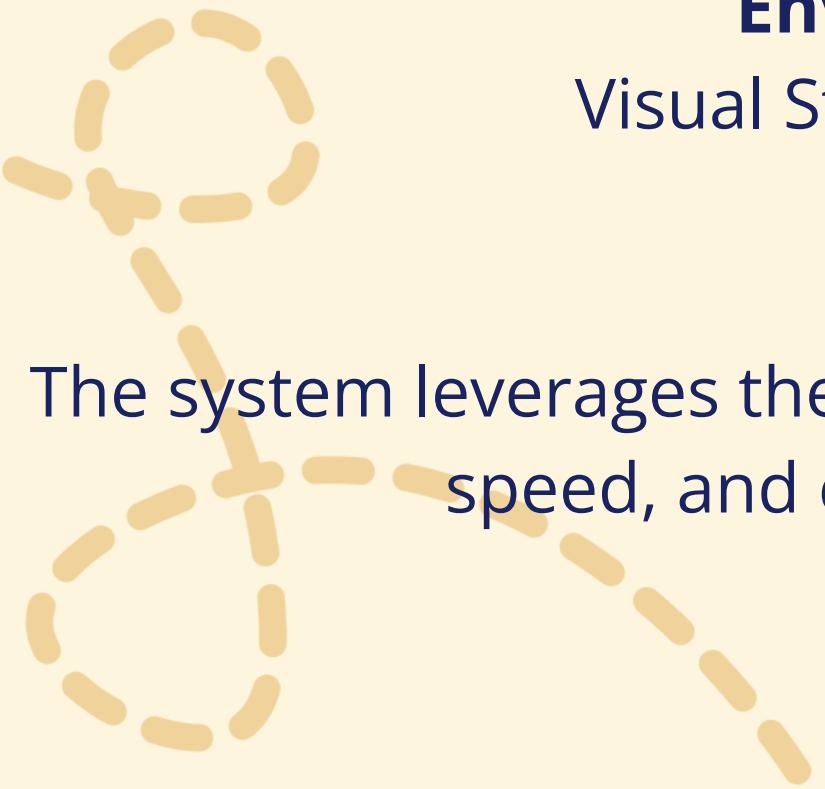
Object-Oriented Programming (OOP) for modularity.

## Data Storage:

JSON for lightweight, local data persistence.

## Environment:

Visual Studio / .NET SDK.



The system leverages the power of .NET to ensure stability, speed, and ease of development.





# SYSTEM STRUCTURE



## CORE CLASSES

**User:** Manages admin/staff credentials.

**Computer:** Represents PC status/id.

**Product:** Handles inventory items.

**Session:** Tracks time and billing.

**Transaction:** Records financial data.

**ShopData:** where all lists are stored.

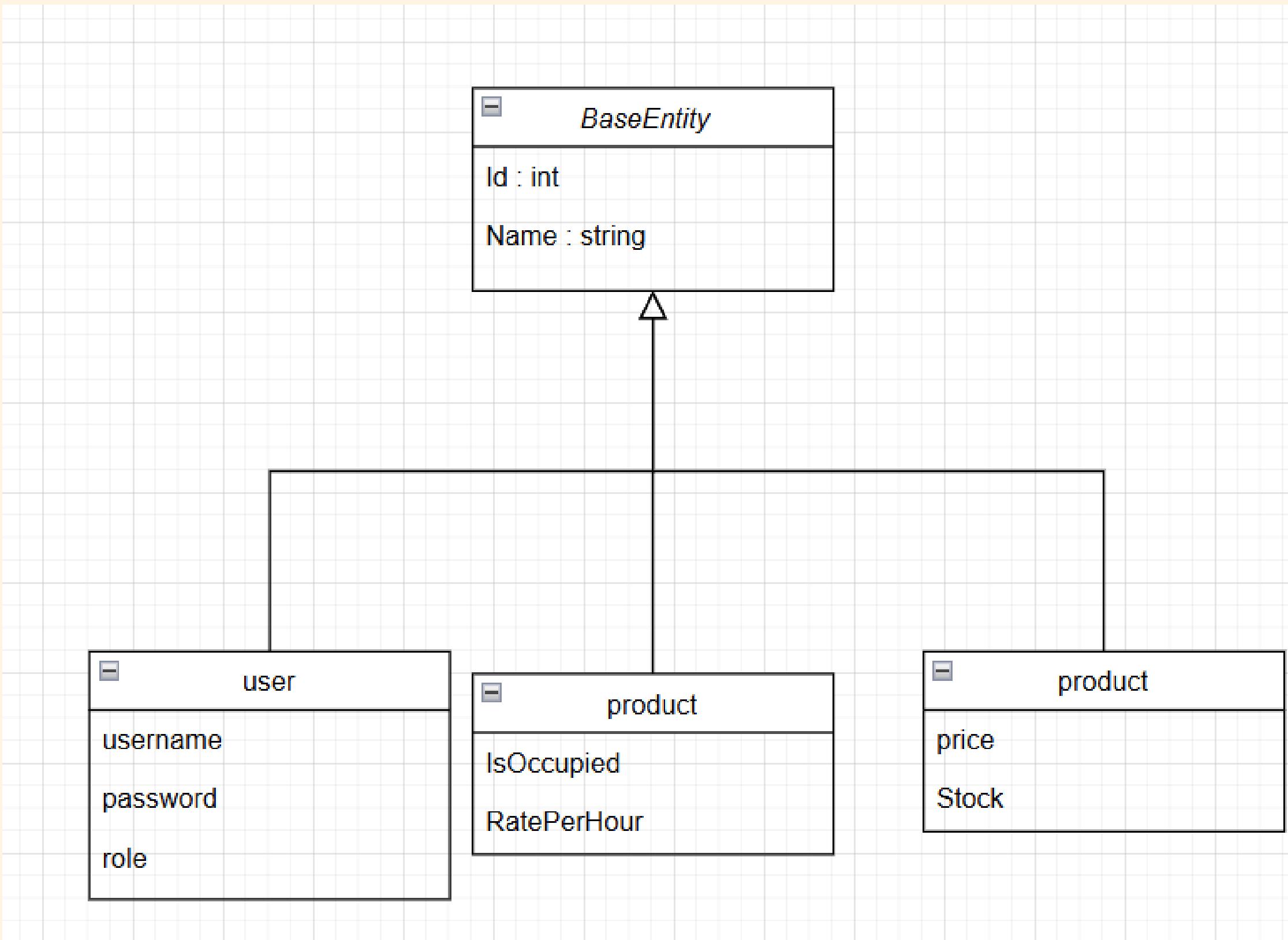
**Persistence class:** for JSON loading and saving

## DATA PERSISTENCE

Instead of a heavy database engine, the system utilizes a lightweight **ShopData** class.

All operational data is serialized and deserialized using JSON files, ensuring that shop records are saved locally and persist across application restarts.

# CLASS DIAGRAM AND INHERITANCE



# KEY FEATURES

**Secure Access:** Admin and Staff login authentication.

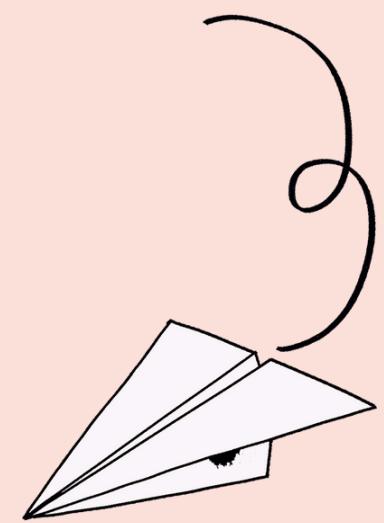
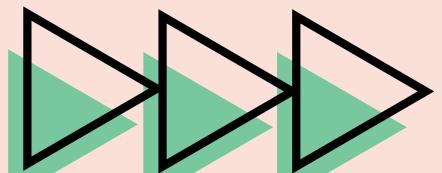
**PC Management:** Add, Edit, and Remove computer terminals dynamically.

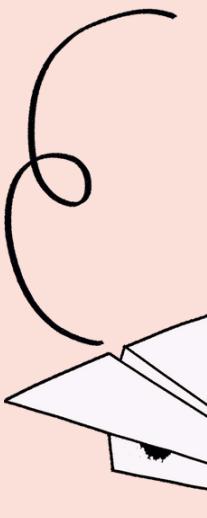
**Session Control:** Instant Start/Stop functionality for PC sessions.

**Retail Integration:** Integrated product selling point-ofsale.

**Auto-Billing:** Algorithm-based cost calculation.

**Analytics:** Comprehensive transaction reporting.





# SESSION HANDLING

## START SESSION

The work flow begins when a customer selects a PC.

The staff assigns the customer to the specific unit.

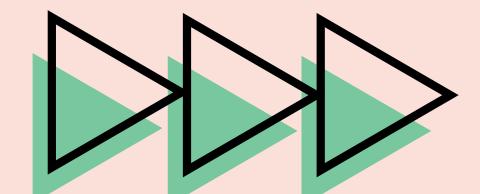
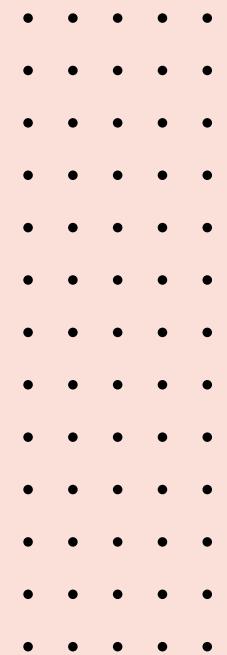
**System Action: PC is marked as "Occupied".**

## STOP SESSION

Upon checkout, the staff stops the session.

The system calculates the total duration and billing amount.

**System Action: PC is marked as "Free".**



# PRODUCT SELLING

## ANCILLARY REVENUE

The system isn't just for PC rentals; it manages the shop's retail side (snacks, beverages, etc.).

## AUTOMATED LOGIC

**Display:** Shows real-time available stock.

**Deduction:** Automatically reduces inventory count upon sale.

**Calculation:** Computes total sales price instantly.

**Recording:** Saves the sale to the transaction history.



# CHALLENGES & SOLUTIONS

## THE CHALLENGES

Ensuring data isn't lost during power cycles, tracking active sessions accurately, and preventing application crashes from invalid user inputs.

## THE SOLUTIONS

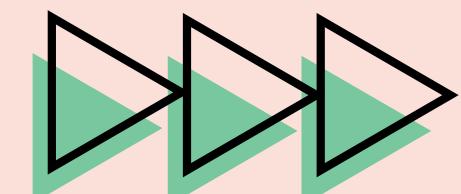
Implemented robust **JSON** storage, used **GUIDs** for unique session tracking, and utilized **TryParse** methods for strong input validation.

## RECOVERY

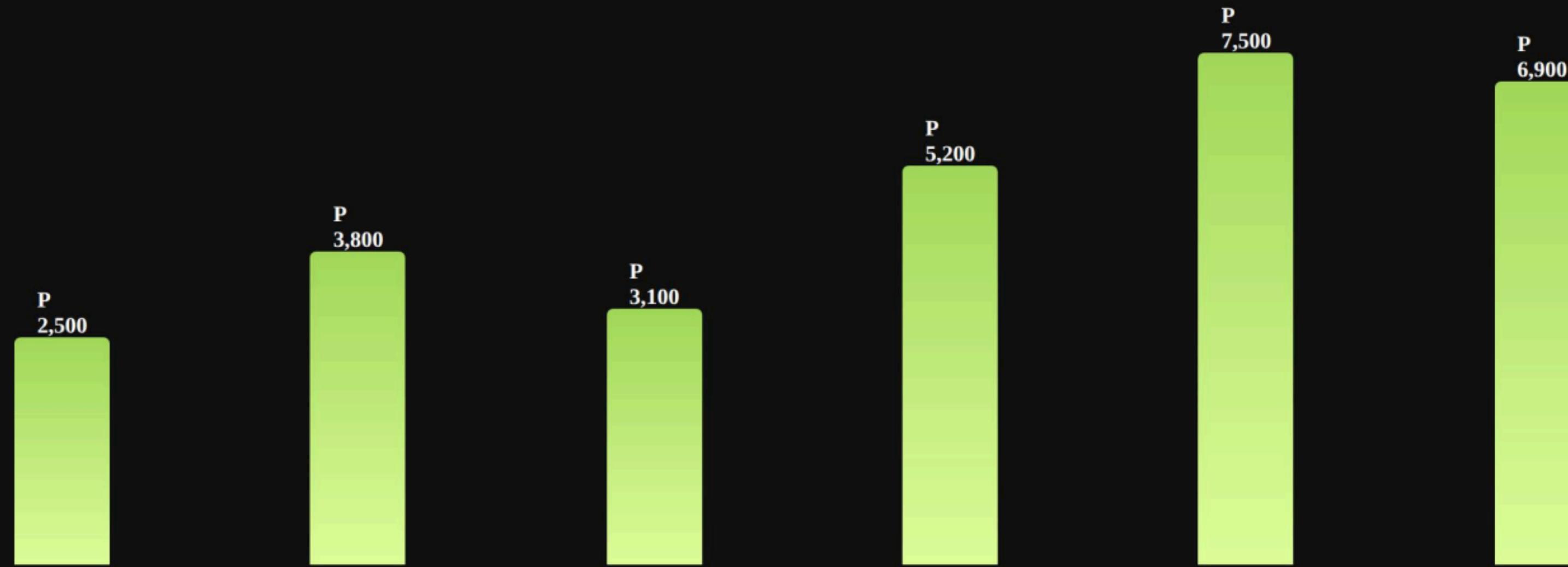
The system features auto-creation of JSON files if they are missing or corrupted, ensuring the shop can always open for business.

## LOGIC SAFETY

Validation rules prevent staff from removing occupied PCs or starting sessions on machines that are already in use.

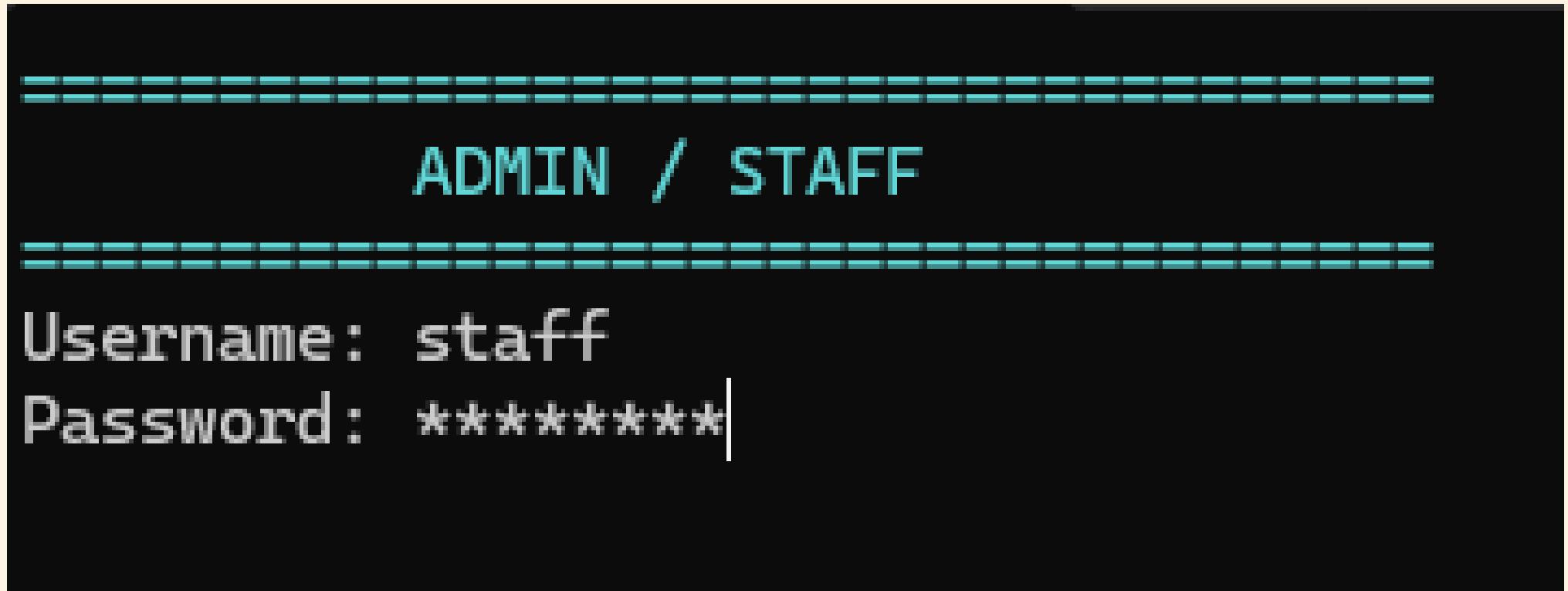


# REPORTS & INCOME

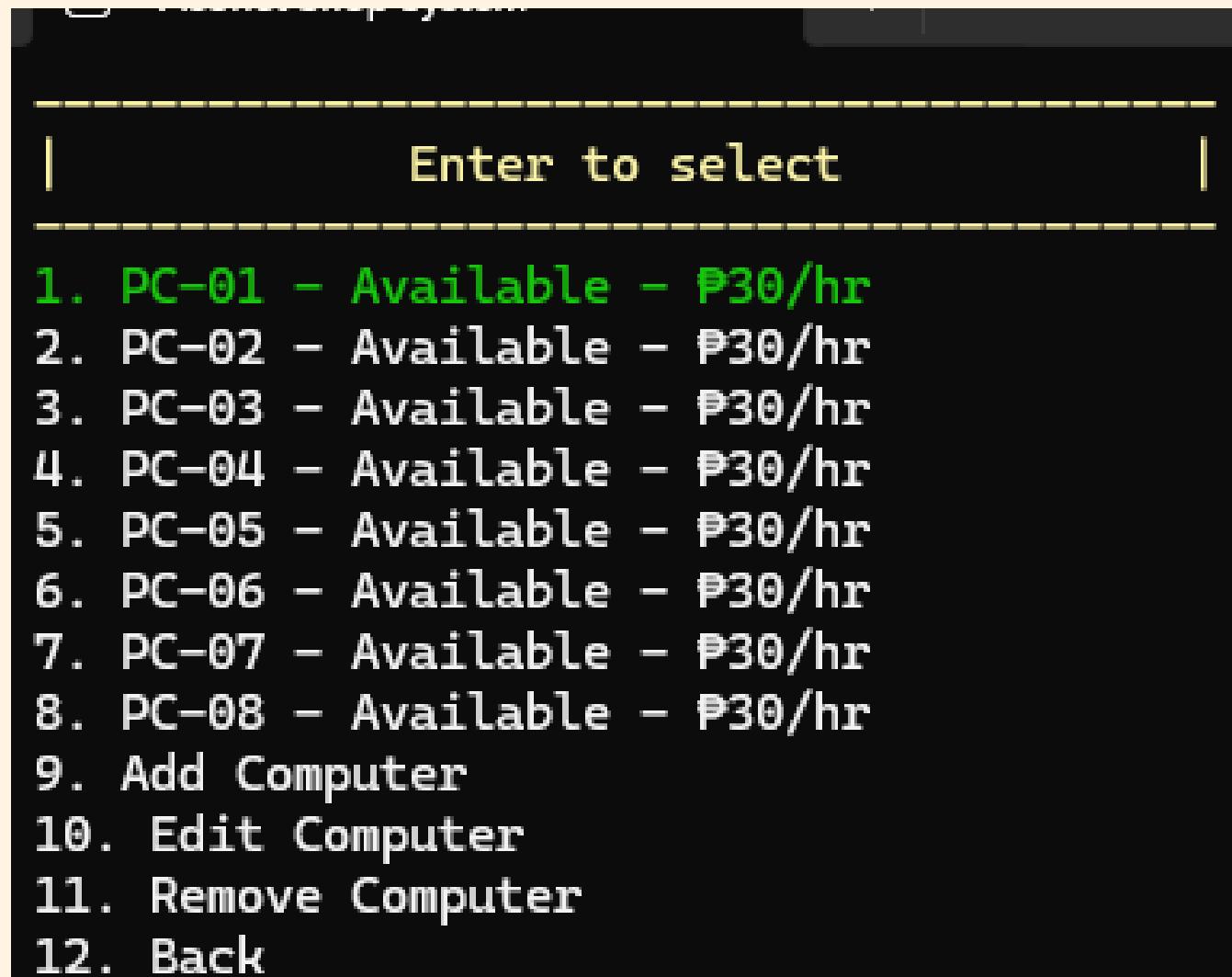


The system generates full transaction histories including timestamps, specific amounts, and details, automatically computing total income.

# STEP 1: LOGIN



# STEP 2: MANAGE COMPUTERS



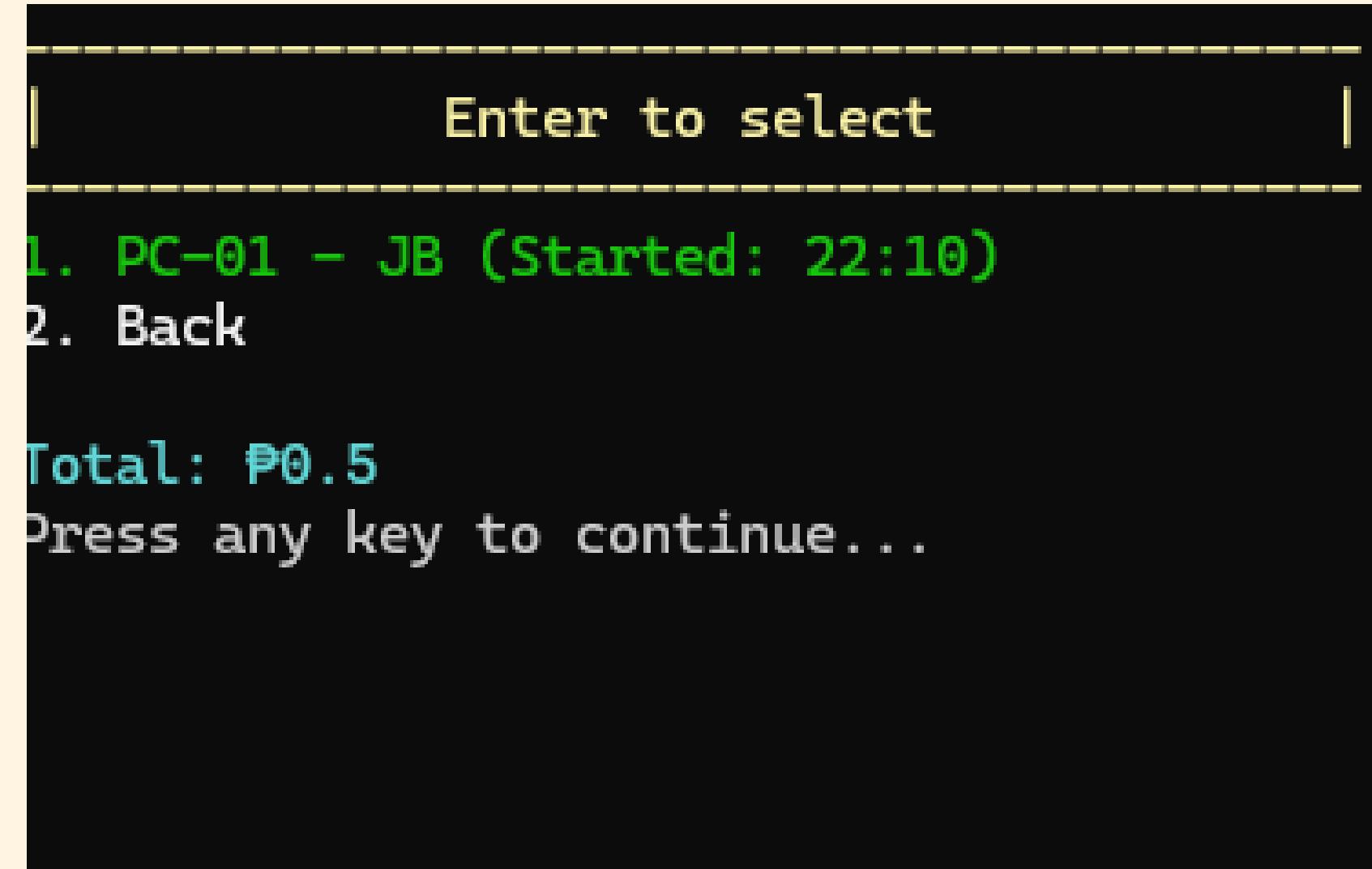
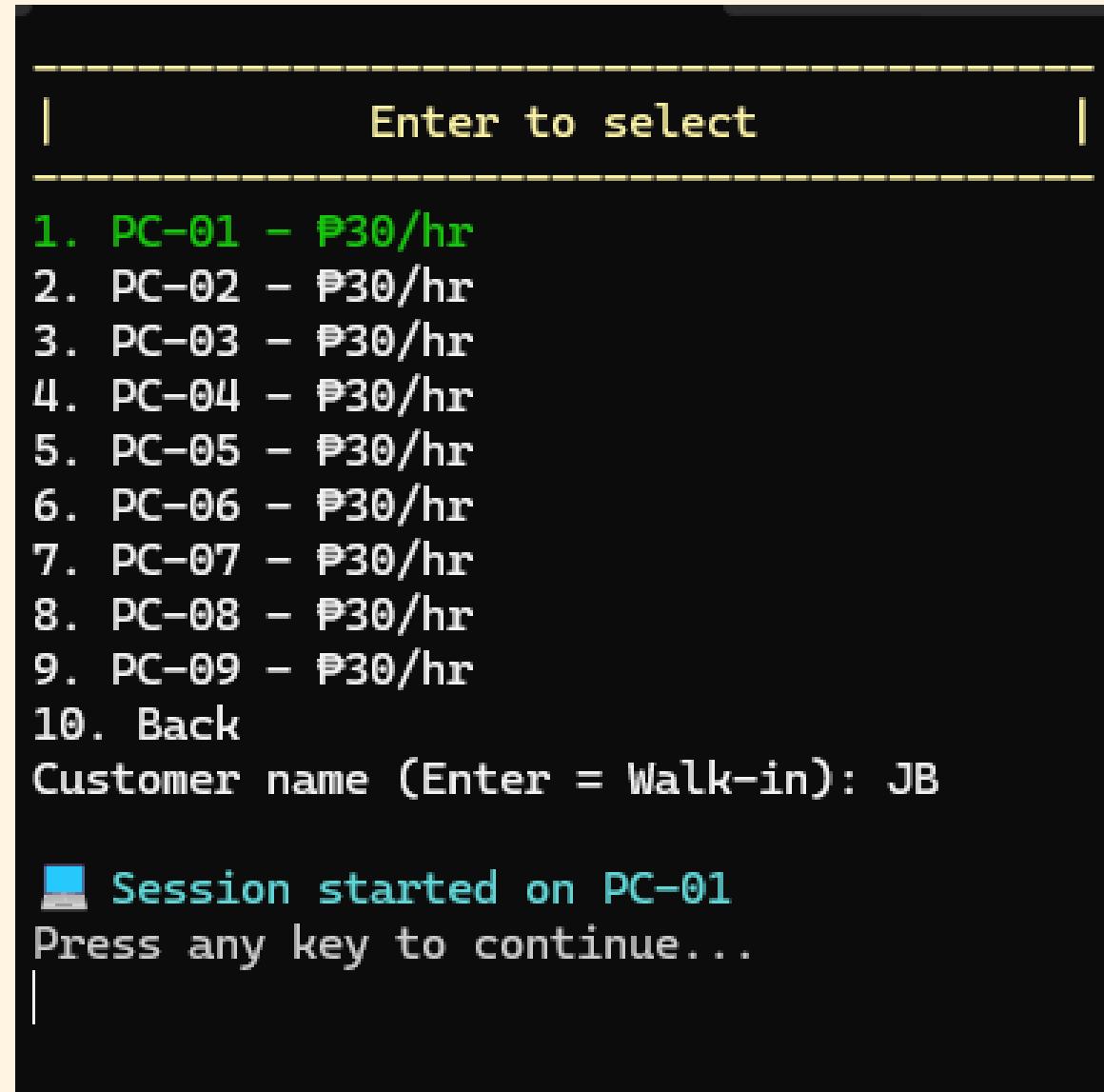
# STEP 3: ADD,EDIT,REMOVE COMPUTERS

```
|-----|  
| Enter to select |  
|-----|  
1. PC-01 - Available - ₱30/hr  
2. PC-02 - Available - ₱30/hr  
3. PC-03 - Available - ₱30/hr  
4. PC-04 - Available - ₱30/hr  
5. PC-05 - Available - ₱30/hr  
6. PC-06 - Available - ₱30/hr  
7. PC-07 - Available - ₱30/hr  
8. PC-08 - Available - ₱30/hr  
9. Add Computer  
10. Edit Computer  
11. Remove Computer  
12. Back  
Computer Name: PC-09  
Rate per hour: 30  
  
✓ Computer added!  
Press any key to continue...  
|
```

```
|-----|  
| Enter to select |  
|-----|  
1. PC-01  
2. PC-02  
3. PC-03  
4. PC-04  
5. PC-05  
6. PC-06  
7. PC-07  
8. PC-08  
9. PC-09  
10. PC-10  
New name (PC-09): PC-10  
New rate (30): 50  
  
✓ Computer updated!  
Press any key to continue...  
|
```

```
Pisonet Shop System   
+ |   
|-----|  
| Enter to select |  
|-----|  
1. PC-01  
2. PC-02  
3. PC-03  
4. PC-04  
5. PC-05  
6. PC-06  
7. PC-07  
8. PC-08  
9. PC-09  
10. PC-10  
  
☒ Computer removed!  
Press any key to continue...  
|
```

# STEP 4: START,STOP SESSIONS



# STEP 5: MANAGE, SELL PRODUCTS

```
|          Enter to select          |
|-----|
1. Bottled Water - ₱20 (Stock: 30)
2. Snack - ₱35 (Stock: 18)
3. Add Product
4. Edit Product
5. Remove Product
6. Back
Product Name: PANCIT CANTON
Price: 20
Stock: 20

✓ Product added!
Press any key to continue...
```

```
|-----|
|          Enter to select          |
|-----|
1. Bottled Water - ₱20 (Stock: 30)
2. Snack - ₱35 (Stock: 20)
Quantity: 2

✓ Sold! Total: ₱70
Press any key to continue...
```

# STEP 6: TRANSACTION REPORTS

```
=====
TRANSACTIONS REPORT
=====
12/09/2025 22:12 | Product | ₱70 | 2x Snack
12/09/2025 22:11 | Session | ₱0.5 | PC-01 - JB
-----
Total income: ₱70.5

Press any key to continue...
|
```

# **CONCLUSION**

The Pisonet Management System effectively modernizes shop operations, demonstrating strong OOP concepts while providing a practical, functional tool for business owners.

# THANK YOU