LOST AND FOUND INVENTORY TRACKER SYSTEM

Group 1 CPE11S1

Finals Project

SY 2025-2026

Presented By :

Djordje Blythe M. Baula

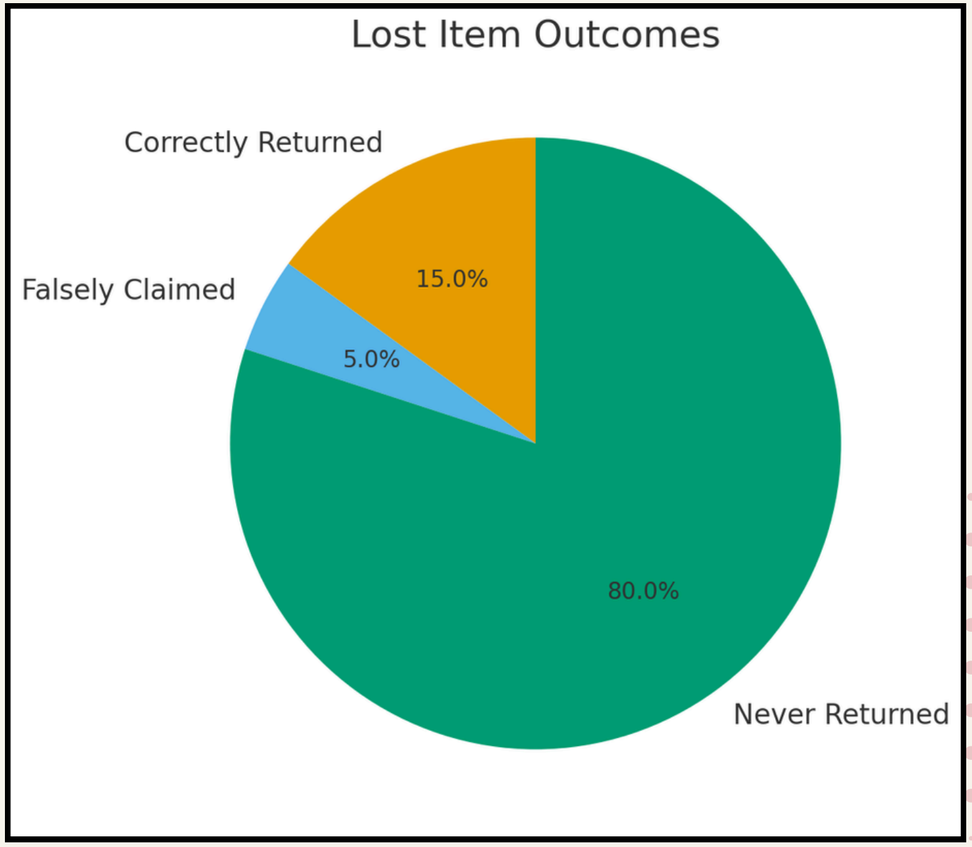
Andrea Mae

James Verano

INTRODUCTION

In school organizations, Lost and Found offices serve as repositories where misplaced items are surrendered and stored for retrieval. However, these offices often face challenges such as disorganization, item mix-ups, and false claims due to a lack of proper management systems and to the complexity of keeping tracks of all ingoing and outgoing items that are in the repositories. (Castro et al., 2022)

As a result, some items are never returned to their rightful owners, diminishing the office's reliability and relevance. (Markham, 2024) To address these issues, a new system is proposed that records all surrendered and claimed items, along with claimant information. This system helps prevent wrongful claims and provides a clear record for resolving ownership disputes when multiple individuals claim the same item.



THE PROJECT

This project aims to address the common challenges faced by different individuals and lost & found offices in terms of managing, tracking and claiming missing / misplaced items.

Engineers have created a digital approach, for logging, categorizing, and tracking all surrendered items and their corresponding claim histories by individuals who are believed to be the owner of the claimed items. This system is called the **Lost & Found Inventory Tracker System (LoFITS)**.

Through the implementation of **LoFITS**, Engineers ensure that this project will be able to address the common challenges such as misplacement, duplication, or false claiming of items.

With the existence of the **LoFITS**, engineers are confident that the system will be able to maintain a detailed log of all items currently in the repository and to also maintain and provide the complete history of all items that have been claimed by an individual, including their personal information to be used for tracking in cases of conflict.

OBJECTIVES

Our main objective is to implement the project **Lost & Found Inventory Tracker System (LoFITS)**, which intends to solve the problem of the people / students in correlation of recovering and keeping track of lost and claimed items that are in the lost & found.

LoFITS aims to improve the efficiency, accuracy, and reliability of managing lost and found items within a school or organizational setting.

This general objective contains different features which implement different purposes:

- **history log of personal information and claimed items** from the Lost & Found Inventory for a secured preventive measure in case of conflict.
- **Item log of what's currently in the Lost & Found System** to keep track of how many items are remaining in the system.
- **Organized collection of items in the lost & found inventory system** to be able to follow through what types of items are in the system. (Accessories / clothes / electronics).

PSEUDOCODE


```
START
    FUNCTION studentLogin()
        DECLARE validIDs = {202501_CPE1, 202501_CP...
        LOOP
            DISPLAY Student Login Menu
            PROMPT "Enter Student ID: " → inputID
            IF inputID == validIDs THEN
                DISPLAY "Login successful! Welcome,
                Student."
                RETURN TRUE
            END IF
        END LOOP
    END FUNCTION
```

Login Function

```
FUNCTION claimItem(section, itemName)
    IF section == "accessories" THEN
        CALL claimFromSection(accessories, accCount,
        itemName, "Accessories")
    ELSE IF section == "electronics" THEN
        CALL claimFromSection(electronics, elecCount
        itemName, "Electronics")
    ELSE IF section == "clothes" THEN
        CALL claimFromSection(clothes, clothCount,
        itemName, "Clothes")
    ELSE
        DISPLAY "Invalid section name."
    END IF
END FUNCTION
```

Item Claim Function

```
FUNCTION displayHistory()
    IF historyCount == 0 THEN
        DISPLAY "(No claimed items)"
    ELSE
        FOR i FROM 0 TO historyCount - 1
            DISPLAY "Gmail: " << history[i].gmail
            DISPLAY "Mobile #: " << history[i].cpnum
            DISPLAY "Item Claimed: "
                    << history[i].itemClaimed
            DISPLAY "Date Claimed: "
                    << history[i].dateClaimed
        END FOR
    END IF
END FUNCTION
```

Claim History Function

```
FUNCTION logItem(section, itemName)
    IF section = "accessories" THEN
        IF accCount < MAX_ITEMS THEN
            ADD itemName to accessories[]
            INCREMENT accCount
        ELSE
            DISPLAY "Accessories section full!"
        END IF

    ELSE IF section = "electronics" THEN
        IF elecCount< MAX_ITEMS THEN
            ADD itemName to electronics[]
            INCREMENT elecCount
        ELSE
            DISPLAY "Electronics section full!"
        END IF

    ELSE IF section = "clothes" THEN
        IF clothCount< MAX_ITEMS THEN
            ADD itemName to clothes[]
            INCREMENT clothCount
        ELSE
            DISPLAY "clothes section full!"
        END IF

    DISPLAY "ITEM added successfully."
END FUNCTION
```

Log an Item Function

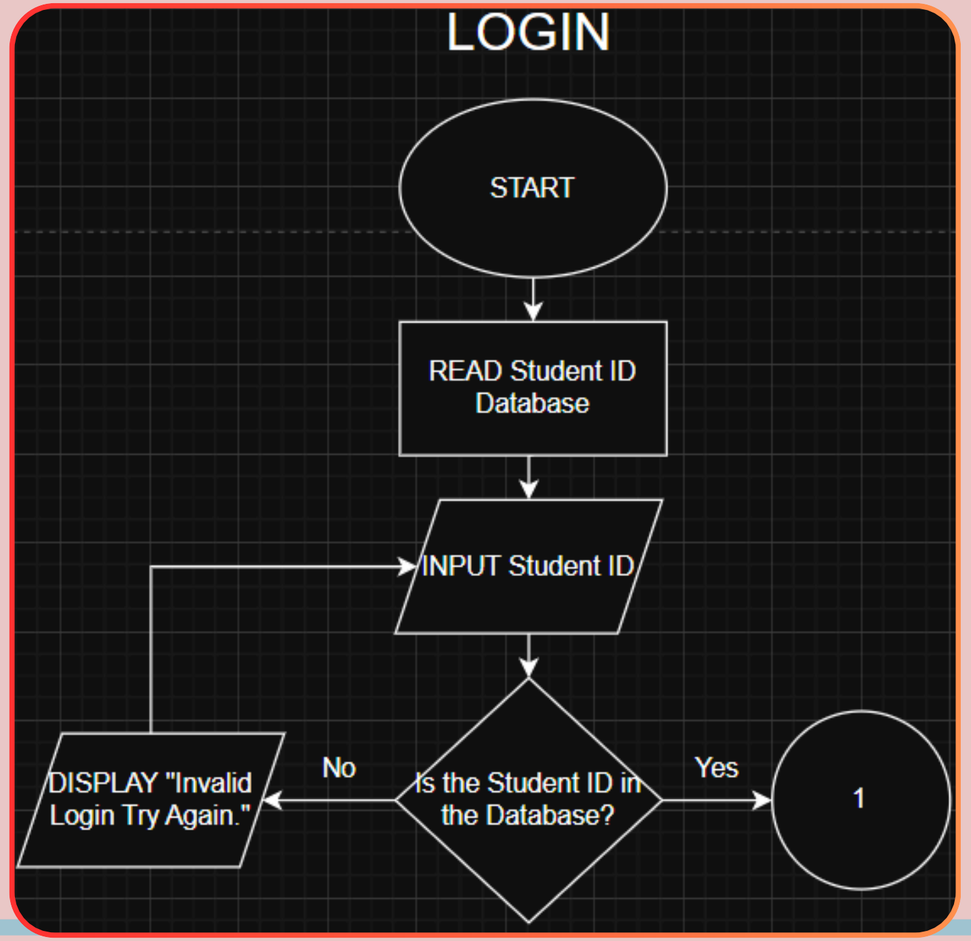
```
FUNCTION displayLogs()
    DISPLAY "Accessories:"
        IF accCount == 0 THEN
            DISPLAY "(no items)"
        ELSE
            FOR i FROM 0 TO accCount - 1
                DISPLAY accessories[i]
            END FOR
        END IF

    DISPLAY "Electronics:"
        IF elecCount== 0 THEN
            DISPLAY "(no items)"
        ELSE
            FOR i FROM 0 TO elecCount - 1
                DISPLAY electronics[i]
            END FOR
        END IF

    DISPLAY "Clothes:"
        IF clothCount == 0 THEN
            DISPLAY "(no items)"
        ELSE
            FOR i FROM 0 TO clothCount - 1
                DISPLAY clothes[i]
            END FOR
        END IF
END FUNCTION
```

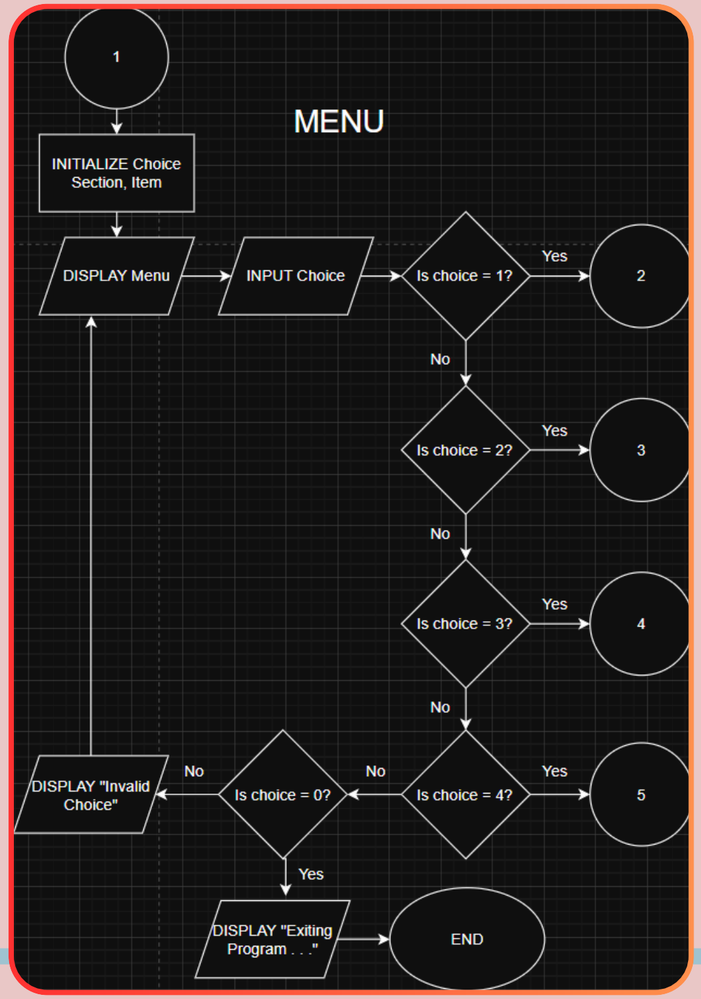
Item Logs Function

```
FUNCTION MAIN()
    CALL studentLogin()
    IF NOT studentLogin() THEN
    TERMINATE PROGRAM
    END IF

CREATE object logger
DECLARE choice, section, item;
DO
    DISPLAY Main Menu
    PROMPT "Choose an option" → choice
        SWITCH(choice)
            Case 1:
                PROMPT "Enter Section: " → section
                PROMPT "Enter Item Name: " → item
                CALL logger.logItem(section, item)

            Case 2:
                PROMPT "Enter Section: " → section
                PROMPT "Enter Item to Claim: " → item
                CALL logger.claimItem(section, item)

            Case 3:
                CALL logger.displayLogs()

            Case 4:
                CALL logger.displayHistory()

            Case 0:
                DISPLAY "Exiting Program..."

            Default:
                DISPLAY "Invalid choice!"
        END SWITCH
WHILE choice is NOT 0
RETURN 0;
END
```

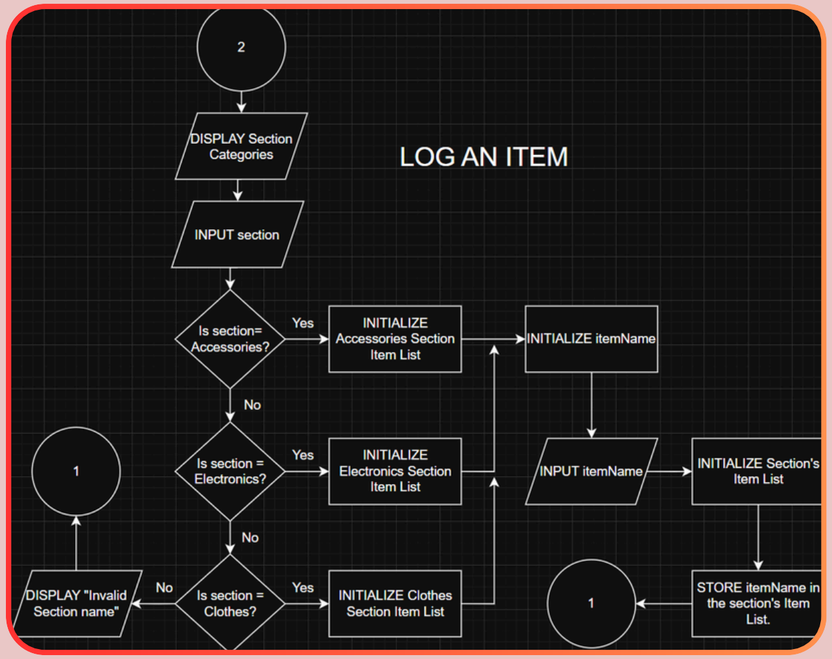
Main Menu Function

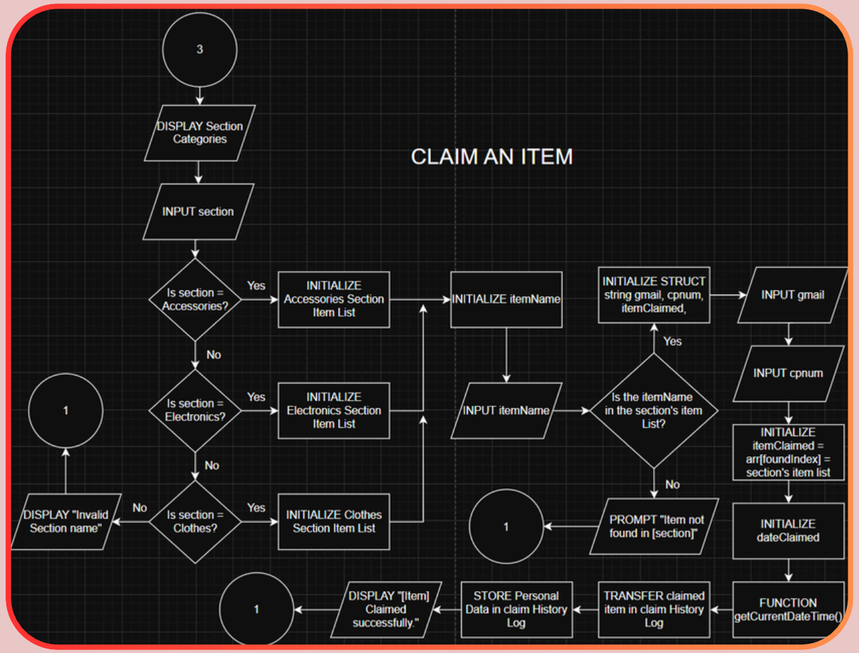
FLOWCHART

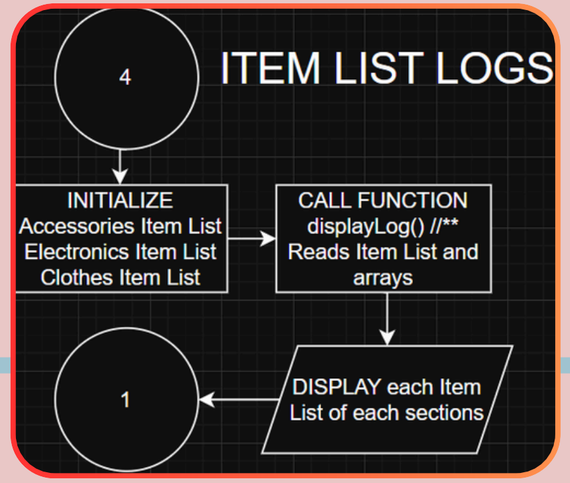

LOGIN
START
READ Student ID Database
INPUT Student ID
Is the Student ID in the Database?
No
DISPLAY "Invalid Login Try Again."
Yes
1

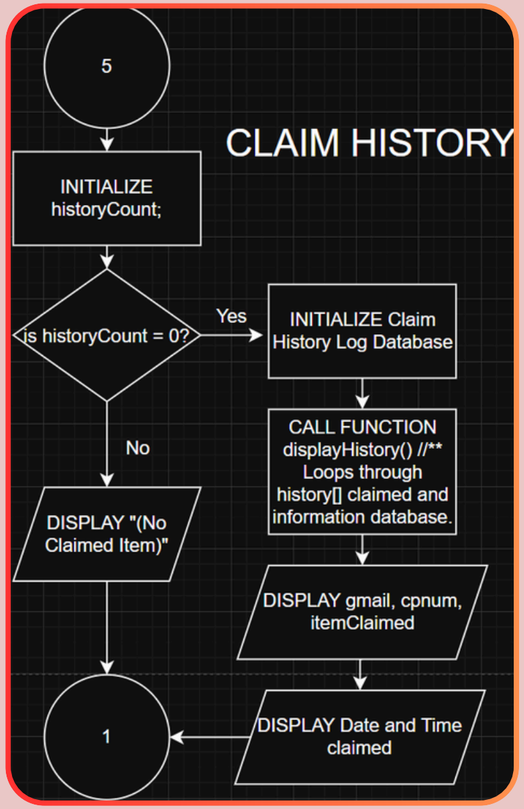

1
MENU
INITIALIZE Choice Section, Item
DISPLAY Menu
INPUT Choice
Is choice = 1?
Yes
2
No
Is choice = 2?
Yes
3
No
Is choice = 3?
Yes
4
No
Is choice = 4?
Yes
5
No
Is choice = 0?
No
DISPLAY "Invalid Choice"
Yes
DISPLAY "Exiting Program . . ."
END

FLOWCHART


2
LOG AN ITEM
DISPLAY Section Categories
INPUT section
Is section= Accessories?
Yes
INITIALIZE Accessories Section Item List
INITIALIZE itemName
No
Is section = Electronics?
Yes
INITIALIZE Electronics Section Item List
INPUT itemName
INITIALIZE Section's Item List
No
1
DISPLAY "Invalid Section name"
No
Is section = Clothes?
Yes
INITIALIZE Clothes Section Item List
1
STORE itemName in the section's Item List.


3
CLAIM AN ITEM
DISPLAY Section Categories
INPUT section
Is section = Accessories?
Yes
INITIALIZE Accessories Section Item List
INITIALIZE itemName
INITIALIZE STRUCT string gmail, cpnum, itemClaimed,
INPUT gmail
No
Is section = Electronics?
Yes
INITIALIZE Electronics Section Item List
INPUT itemName
is the itemName in the section's item List?
Yes
INPUT cpnum
No
INITIALIZE itemClaimed = arr[foundIndex] = section's item list
1
DISPLAY "Invalid Section name"
No
Is section = Clothes?
Yes
INITIALIZE Clothes Section Item List
1
PROMPT "Item not found in [section]"
INITIALIZE dateClaimed
1
DISPLAY "[Item] Claimed successfully."
STORE Personal Data in claim History Log
TRANSFER claimed item in claim History Log
FUNCTION getCurrentDateTime()


4
ITEM LIST LOGS
INITIALIZE Accessories Item List Electronics Item List Clothes Item List
CALL FUNCTION displayLog() //** Reads Item List and arrays
1
DISPLAY each Item List of each sections


5
CLAIM HISTORY
INITIALIZE historyCount;
is historyCount = 0?
Yes
INITIALIZE Claim History Log Database
No
CALL FUNCTION displayHistory() //** Loops through history[] claimed and information database.
DISPLAY "(No Claimed Item)"
DISPLAY gmail, cpnum, itemClaimed
1
DISPLAY Date and Time claimed

CONCLUSION

Overall, the program effectively implements the desired objectives in item management and claim-tracking systems. **The Lost and Found Inventory Tracker System (LoFITS)** successfully achieves all its specific objectives of the program. **LoFITS** was able to address the common challenges such as misplacement, duplication or false claiming of items.

With **LoFITS**, engineers ensure that all problems regarding the challenges of students being unable to retrieve their items back, provides the precise and accurate solution. Especially with LoFITS system of maintaining a detailed log of all items in the repository, and to also provide the complete history of all ingoing and outgoing items in the Lost and Found Inventory, with provided personal informations for items that were claimed that can be used for tracking in case of conflict.

REFERENCES

Castro, E., et. al. (2022, March 10). AUFound: Retrieval of Misplaced Personal Belongings Through Mobile Application and Web-Based Management System Designed for Angeles University Foundation.
https://ieomsociety.org/proceedings/2022istanbul/383.pdf

Markham, A. (2024, May 13). Navigating Security Challenges: Minimizing Loss and Liability with Pixit's Secure Lost and Found Platform.
https://www.pixithq.com/blog/navigating-security-challenges-minimizing-loss-and-liability-with-pixits-secure-lost-and-found-platform

Markham, A. (2024, August 26). The Cost Of Chaos: How A Disorganized Lost And Found Hurts Your Customer Satisfaction
https://www.pixithq.com/blog/the-cost-of-chaos-how-a-disorganized-lost-and-found-hurts-your-customer-satisfaction

Vocabulary.com. (n.d.). Lost-and-found. In Vocabulary.com Dictionary.
https://www.vocabulary.com/dictionary/lost-and-found

THANK YOU