Q1 CS Project – nacaytunaudtohan

**Title:** Pitaka+: A Financial Tracker App

**Problem Statement:**

* People, including me, sometimes find it hard to manually and accurately track and manage their finances, leading to poor financial decisions such as overbudgeting. A finance tracker and manager is required to record transactions, monitor your money and to make better and more responsible financial decisions.

We are aware of these circumstances:

1. Difficulty in keeping an accurate record of your financial activities.

* Users may forget or misclassify any transactions they make, this can lead to inaccurate finance and budget calculations.

1. Difficulties in making wise and proper financial decisions due to the lack of accurate and precise tracking.

* Without proper tracking of financial actions such as transactions as well as their financial trends, users may struggle to save, budget or set saving goals.

**Project Objectives:**

1. To develop a financial tracker/manager that can accurately and precisely record and categorize incomes and expenses.
2. To provide time-accurate monitoring of said data to help users to reflect and build on their previous financial decisions and activities.
3. To hopefully benefit the user’s financial state by also providing other features that focus on other areas of finance such as budgeting

**Planned Features:**

1. **Check Balance**

* This feature aims to show you your current balance in either your checking or spending account or your savings account.
* Automatically updates after every transaction done in the other features.

1. **Transaction Station**

* Allows user to record financial activities such as income transactions and expense transactions.
* Required inputs include:

1. Date of Transaction: (year – month – day)
2. Account type to be used for transaction (checking/savings)
3. Type of transaction (income/expense)
4. Amount of pesos earned/lost
5. A brief description of the transaction
6. Optional: Physical or image proof of that transaction

* Updates balance automatically after transaction follows through

1. **Transaction Archive**

* Stores all transactions in chronological order
* Displays transaction information in a predefined format(Date of Transaction – short description)
* If possible and if time allows it, there will be a sub-feature where you can filter transactions based on:

1. Transaction Type(income / expense / both)
2. Account Used(savings / checking)
3. Based on date transaction was made
4. **Balance Calculator**

* Helps user figure out time needed to achieve a certain financial goal
* Formula used: (Target Balance) / (Monthly Income – Monthly Expense)
* If not a whole month, it rounds up to days
* Displays error message if expenses exceed income

1. **Currency Converter**

* This aims to convert the amount of pesos you have into a widely-used currency.
* Currencies supported:

1. United States Dollar
2. Euro
3. Japanese Yen
4. British Pound Sterling
5. Australian Dollar
6. Canadian Dollar
7. Singapore Dollar
8. South Korean Won
9. Chinese Yen
10. Hong Kong Dollar
11. Qatari Dirham

**Planned Flow:**

1. User Authentication Phase

* User enters username and password
* If both are correct, then user is granted access to the main program

1. Main Program

Main Menu (gets displayed on loop):

1. Check Balance
2. Transaction Station
3. Transaction Archive
4. Budget Calculator
5. Currency Converter
6. Exit
7. Example Operations:

* Transaction Station: User records 500 pesos income from stipend
* Check Balance: Displays updated checking account of 500 pesos
* Transaction Archive: Shows all income transactions
* Budget Calculator: Calculates that user will earn 10,000 pesos given the income and expenses inputs
* Currency Converter: 500 pesos gets converted to 8.58 USD

1. Exit Phase

* When user chooses to exit program, an exit message will be planned to appear to hopefully close off the program professionally.

**Logic Plan:**

BEGIN PROGRAM "Pitaka+ Financial Tracker"

DISPLAY "Welcome to Pitaka+: Your Financial Management Companion!"

PROMPT "Enter username: "

INPUT username

PROMPT "Enter password: "

INPUT password

IF username == "Lionel" AND password == "12345" THEN

DISPLAY "Access granted. Hello, ", username, "!"

ELSE

DISPLAY "Access denied. Incorrect login details."

END PROGRAM

END IF

// INITIALIZATION

SET checking\_balance ← 0

SET savings\_balance ← 0

CREATE transaction\_archive ← empty list

// MAIN MENU LOOP

REPEAT

DISPLAY "=============================="

DISPLAY "MAIN MENU"

DISPLAY "1. Check Balance"

DISPLAY "2. Transaction Station"

DISPLAY "3. Transaction Archive"

DISPLAY "4. Budget Calculator"

DISPLAY "5. Currency Converter"

DISPLAY "6. Exit"

DISPLAY "=============================="

PROMPT "Enter your choice (1-6): "

INPUT choice

// OPTION 1: CHECK BALANCE

IF choice == 1 THEN

PROMPT "Which balance would you like to check (savings/checking)? "

INPUT account\_type

IF account\_type == "checking" THEN

DISPLAY "Your Checking Account Balance: ₱", checking\_balance

ELSE IF account\_type == "savings" THEN

DISPLAY "Your Savings Account Balance: ₱", savings\_balance

ELSE

DISPLAY "Invalid account type. Please choose again."

END IF

// OPTION 2: TRANSACTION STATION

ELSE IF choice == 2 THEN

DISPLAY "=== Record New Transaction ==="

PROMPT "Enter Year (YYYY): "

INPUT year

PROMPT "Enter Month (MM): "

INPUT month

PROMPT "Enter Day (DD): "

INPUT day

PROMPT "Select Account (checking/savings): "

INPUT account\_type

PROMPT "Is this transaction income or expense? "

INPUT transaction\_type

PROMPT "Enter Amount (₱): "

INPUT amount

PROMPT "Enter Description (e.g., 'Allowance', 'Food'): "

INPUT description

PROMPT "Attach image proof? (yes/no): "

INPUT proof

IF transaction\_type == "income" THEN

IF account\_type == "checking" THEN

checking\_balance ← checking\_balance + amount

ELSE

savings\_balance ← savings\_balance + amount

END IF

ELSE IF transaction\_type == "expense" THEN

IF account\_type == "checking" THEN

checking\_balance ← checking\_balance - amount

ELSE

savings\_balance ← savings\_balance - amount

END IF

END IF

ADD (year, month, day, account\_type, transaction\_type, amount, description) TO transaction\_archive

DISPLAY "Transaction successfully recorded!"

// OPTION 3: TRANSACTION ARCHIVE

ELSE IF choice == 3 THEN

DISPLAY "=== View Transaction Archive ==="

PROMPT "View which type? (income / expense / overall): "

INPUT filter\_type

FOR each transaction IN transaction\_archive DO

IF filter\_type == "overall" OR transaction.transaction\_type == filter\_type THEN

DISPLAY transaction.year, "/", transaction.month, "/", transaction.day, " | ",

transaction.account\_type, " | ", transaction.transaction\_type, " | ₱", transaction.amount, " | ",

transaction.description

END IF

END FOR

// OPTION 4: BUDGET CALCULATOR

ELSE IF choice == 4 THEN

DISPLAY "=== Budget Goal Calculator ==="

PROMPT "Enter Monthly Income: "

INPUT monthly\_income

PROMPT "Enter Monthly Expense: "

INPUT monthly\_expense

PROMPT "Enter Target Balance: "

INPUT target\_balance

net\_income ← monthly\_income - monthly\_expense

IF net\_income <= 0 THEN

DISPLAY "Error: Your expenses exceed or equal your income. Adjust your inputs."

ELSE

months ← target\_balance / net\_income

DISPLAY "Estimated Time to Reach Goal: ", months, " months."

END IF

// OPTION 5: CURRENCY CONVERTER

ELSE IF choice == 5 THEN

DISPLAY "=== Currency Converter ==="

PROMPT "Enter amount in pesos: "

INPUT php\_amount

DISPLAY "Select Target Currency:"

DISPLAY "1. USD 2. EUR 3. JPY 4. GBP 5. AUD"

DISPLAY "6. CAD 7. SGD 8. KRW 9. CNY 10. HKD 11. QTD"

INPUT currency\_choice

SWITCH currency\_choice

CASE 1: rate ← 0.01716 // USD

CASE 2: rate ← 0.01553 // EUR

CASE 3: rate ← 2.74 // JPY

CASE 4: rate ← 0.01372 // GBP

CASE 5: rate ← 0.02712 // AUD

CASE 6: rate ← 0.02341 // CAD

CASE 7: rate ← 0.02340 // SGD

CASE 8: rate ← 22.90 // KRW

CASE 9: rate ← 0.1245 // CNY

CASE 10: rate ← 0.1342 // HKD

CASE 11: rate ← 0.0626 // QTD

DEFAULT: DISPLAY "Invalid currency."; CONTINUE

END SWITCH

converted ← php\_amount \* rate

DISPLAY "₱", php\_amount, " = ", converted, " in selected currency."

// OPTION 6: EXIT

ELSE IF choice == 6 THEN

DISPLAY "Thank you for using Pitaka+. Have a financially smart day!"

EXIT LOOP

ELSE

DISPLAY "Invalid selection. Please try again."

END IF

UNTIL choice == 6

END PROGRAM