PLANNER

Personal Life Management System

University of Petroleum and Energy Studies (UPES)

School of Computer Science

Major Project – *Programming in C (CSEG1032)*

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Abstract:

This project aims to build a **Personal Life Management System** that helps individuals efficiently manage their daily activities, including **expenses, habits, health logs, study progress, and reminders**.
The system is fully menu-driven and implemented using **modular programming in C**, separating each major functionality into different modules.

The project makes use of **file handling**, **structures**, **modular functions**, and **basic date/time operations**.
It allows users to store and track daily records, view summaries, and maintain productivity.

Problem Definition:

In today's lifestyle, students and working individuals struggle to maintain discipline in:

- Expense tracking
- Habit formation
- Health monitoring
- Study hours management
- Remembering events/tasks

There is a need for a **single unified system** that manages all these areas in one place.

The objective of this project is to design a **simple and structured command-line tool** that:

1. Records user data using file storage
2. Provides summaries daily or monthly
3. Helps users monitor their performance
4. Is easy to use, scalable, and modular

System Design:

The system uses a modular architecture: Each module has its own .c and .h files. main.c contains the central menu. Data is stored using text files (e.g., expenses.txt, habits.txt). All modules use reusable functions.

Modules:
- Expense Tracker
- Habit Tracker
- Health Tracker
- Study Tracker
- Reminder System

Algorithm (Overall Program Flow):

i)   Start the program

ii)   Display main menu: Expense Tracker Habit Tracker
      Health Tracker Study Tracker Reminder System
      Exit

iii) Read user choice

iv)   If Expense selected → go to Expense Menu

v)   If Habit selected → go to Habit Menu

vi)   If Health selected → go to Health Menu

vii) If Study selected → go to Study Menu

viii) If Reminder selected → go to Reminder Menu

ix)   Each module performs: Add Data View Data
      Generate Summary

x)   Return to main menu

xi)   If Exit → terminate the program

Flowchart:

Main Menu Flowchart:

```
 START
  |
  v
Display Main Menu
  |
  v
Read User Choice (1–6)
  |
  |--> If 1 → Expense Menu
  |--> If 2 → Habit Menu
  |--> If 3 → Health Menu
  |--> If 4 → Study Menu
  |--> If 5 → Reminder Menu
  |--> If 6 → EXIT
  |
  v
If invalid → Show error → Repeat menu
```

EXPENSE MODULE FLOWCHART

Expense Menu
 |
 v
Show Options (1:Add, 2:View, 3:Summary, 4:Back)
 |
 v
Read Choice
 |
 |--> If 1 → Input item + amount → Save into expenses.txt
 |
 |--> If 2 → Read all records → Display
 |
 |--> If 3 → Filter by current month/year → Calculate total →
Display
 |
 |--> If 4 → Return to Main Menu

Habit Module Flowchart

Habit Menu
 |
 v
Show Options (1:Add, 2:Mark Completed, 3:View, 4:Back)
 |
 v
Read Choice
 |
 |--> If 1 → Input habit name → Save with status "0"
 |
 |--> If 2 → Load all habits → Select one → Change status to "1"
→ Rewrite file
 |
 |--> If 3 → Read habits.txt → Display habit + status
 |
 |--> If 4 → Return back

Health Module Flowchart

```
 Health Menu
  |
  v
Show Options (1:Add, 2:View Log, 3:Today's Summary, 4:Back)
  |
  v
Read Choice
  |
  |--> If 1 → Input steps + calories → Add current date → Save to
file
  |
  |--> If 2 → Read health.txt → Display all entries
  |
  |--> If 3 → Match today's date → Sum steps + calories → Show
summary
  |
  |--> If 4 → Return back
```

Study Module Flowchart

```
Study Menu
 |
 v
Show Options (1:Add, 2:View Log, 3:Today's Summary, 4:Back)
 |
 v
Read Choice
 |
 |--> If 1 → Input subject + hours → Add date → Save to file
 |
 |--> If 2 → Read study.txt → Display all entries
 |
 |--> If 3 → Filter today's date → Add hours → Show summary
 |
 |--> If 4 → Return
```

Reminder Module Flowchart

Reminder Menu
 |
 v
Show Options (1:Add, 2:View, 3:Back)
 |
 v
Read Choice
 |
 |--> If 1 → Input title/date/time → Save to reminders.txt
 |
 |--> If 2 → Read reminders.txt → Display reminders
 |
 |--> If 3 → Return back

Implementation:

All source code is kept inside the /src folder. All header files are kept inside /include.
Every module uses:
- addSomething()
- viewSomething()
- summary()

Testing & Output:

The program was tested with multiple inputs:
- Expense Module: Added expenses Viewed expense list Monthly summary generated correctly.

```
C:\Users\md ejaz>cd PLANNER

C:\Users\md ejaz\PLANNER>main

===== PERSONAL LIFE MANAGEMENT SYSTEM =====
1. Expense Tracker
2. Habit Tracker
3. Health Tracker
4. Study Tracker
5. Reminder System
6. Exit
Enter your choice: 1

--- Expense Tracker ---
1. Add Expense
2. View Expenses
3. Monthly Summary
4. Back
Enter choice: 1
Enter expense name: food
Enter amount: 200
Expense added successfully!

--- Expense Tracker ---
1. Add Expense
2. View Expenses
3. Monthly Summary
4. Back
Enter choice: 2

--- All Expenses ---
food - Γé┤200.00 (Month: 11, Year: 2025)

--- Expense Tracker ---
1. Add Expense
2. View Expenses
3. Monthly Summary
4. Back
Enter choice: 3
```

```
--- Monthly Summary (11/2025) ---
Total expenses: Γé┤200.00

--- Expense Tracker ---
1. Add Expense
2. View Expenses
3. Monthly Summary
4. Back
Enter choice: 4

===== PERSONAL LIFE MANAGEMENT SYSTEM =====
1. Expense Tracker
2. Habit Tracker
3. Health Tracker
4. Study Tracker
5. Reminder System
6. Exit
Enter your choice:
```

- Habit Module: Habits added Marked as completed Verified stored status.

```
===== PERSONAL LIFE MANAGEMENT SYSTEM =====
1. Expense Tracker
2. Habit Tracker
3. Health Tracker
4. Study Tracker
5. Reminder System
6. Exit
Enter your choice: 2

--- Habit Tracker ---
1. Add Habit
2. Mark Habit Completed
3. View All Habits
4. Back
Enter choice: 1
Enter habit name: Running
Habit added successfully!

--- Habit Tracker ---
1. Add Habit
2. Mark Habit Completed
3. View All Habits
4. Back
Enter choice: 2

--- Select Habit to Mark Completed ---
1. Running (Pending)
Enter number: 1
Habit marked as completed!

--- Habit Tracker ---
1. Add Habit
2. Mark Habit Completed
3. View All Habits
4. Back
Enter choice: 3
```

```
--- Habit List ---
Running - Completed

--- Habit Tracker ---
1. Add Habit
2. Mark Habit Completed
3. View All Habits
4. Back
Enter choice: 4

===== PERSONAL LIFE MANAGEMENT SYSTEM =====
1. Expense Tracker
2. Habit Tracker
3. Health Tracker
4. Study Tracker
5. Reminder System
6. Exit
Enter your choice: |
```

- Health Module: Steps & calories logged Full activity log printed.

```
===== PERSONAL LIFE MANAGEMENT SYSTEM =====
1. Expense Tracker
2. Habit Tracker
3. Health Tracker
4. Study Tracker
5. Reminder System
6. Exit
Enter your choice: 3

--- Health Tracker ---
1. Add Health Entry
2. View Health Log
3. Today's Summary
4. Back
Enter choice: 1
Enter steps walked: 8000
Enter calories consumed: 600
Health entry added successfully!

--- Health Tracker ---
1. Add Health Entry
2. View Health Log
3. Today's Summary
4. Back
Enter choice: 2

--- Health Log ---
Steps: 8000 | Calories: 600 | Date: 30-11-2025

--- Health Tracker ---
1. Add Health Entry
2. View Health Log
3. Today's Summary
4. Back
Enter choice: 3
```

```
--- Today's Summary ---
Total Steps: 8000
Total Calories: 600

--- Health Tracker ---
1. Add Health Entry
2. View Health Log
3. Today's Summary
4. Back
Enter choice: 4

===== PERSONAL LIFE MANAGEMENT SYSTEM =====
1. Expense Tracker
2. Habit Tracker
3. Health Tracker
4. Study Tracker
5. Reminder System
6. Exit
Enter your choice: |
```

- Study Module: Study hours added Daily study summary accurate.

```
===== PERSONAL LIFE MANAGEMENT SYSTEM =====
1. Expense Tracker
2. Habit Tracker
3. Health Tracker
4. Study Tracker
5. Reminder System
6. Exit
Enter your choice: 4

--- Study Tracker ---
1. Add Study Session
2. View Study Log
3. Today's Study Summary
4. Back
Enter choice: 1
Enter subject: C
Enter hours studied: 2
Study session added successfully!

--- Study Tracker ---
1. Add Study Session
2. View Study Log
3. Today's Study Summary
4. Back
Enter choice: 2

--- Study Log ---
Subject: C | Hours: 2 | Date: 30-11-2025

--- Study Tracker ---
1. Add Study Session
2. View Study Log
3. Today's Study Summary
4. Back
Enter choice: 3
```

```
--- Today's Study Summary ---
Total Hours Studied: 2

--- Study Tracker ---
1. Add Study Session
2. View Study Log
3. Today's Study Summary
4. Back
Enter choice: 4

===== PERSONAL LIFE MANAGEMENT SYSTEM =====
1. Expense Tracker
2. Habit Tracker
3. Health Tracker
4. Study Tracker
5. Reminder System
6. Exit
Enter your choice: |
```

- Reminder Module: Reminders created Displayed properly.

```
===== PERSONAL LIFE MANAGEMENT SYSTEM =====
1. Expense Tracker
2. Habit Tracker
3. Health Tracker
4. Study Tracker
5. Reminder System
6. Exit
Enter your choice: 5

--- Reminder System ---
1. Add Reminder
2. View All Reminders
3. Back
Enter choice: 1
Enter reminder title: project
Enter date (DD-MM-YYYY): 01-12-2025
Enter time (HH:MM): 2
Reminder added successfully!

--- Reminder System ---
1. Add Reminder
2. View All Reminders
3. Back
Enter choice: 2

--- Reminder List ---
project | 01-12-2025 | 2

--- Reminder System ---
1. Add Reminder
2. View All Reminders
3. Back
Enter choice: 3

===== PERSONAL LIFE MANAGEMENT SYSTEM =====
1. Expense Tracker
2. Habit Tracker
3. Health Tracker
4. Study Tracker
5. Reminder System
6. Exit
Enter your choice: 6
```

Program compiled using: gcc src/*.c -I include -o main

Result:

No crashes
All menus working File handling stable

Conclusion & Future Work:

Conclusion:
The system successfully integrates multiple productivity tools in one modular C program.
It demonstrates effective use of **file handling**, **functions**, **menus**, and **real-time date operations**.

Future Enhancements:
- GUI-based PLANNER app
- Password-protected login
- Graphical statistics
- Cloud syncing

References:

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- Let Us C – Yashavant Kanetkar
- GeeksforGeeks – C File Handling
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- C Language Documentation