

PERSONAL LIFE MANAGEMENT SYSTEM

Major Project Report

Course: CSEG1032 – Programming in C

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Abstract

This project presents a modular Personal Life Management System developed using the C programming language. The system integrates five independent modules: Expense Tracker, Habit Tracker, Health Tracker, Study Tracker, and Reminder Manager. Each module uses file handling for data storage and time functions for automatic timestamping. The project demonstrates modular design, menu-driven programming, reusable functions, and persistent data storage.

Problem Definition

Managing personal activities such as expenses, habits, health logs, study schedules, and reminders often requires multiple tools. The objective of this project is to create a single consolidated C-based program that helps users manage all these activities through an efficient and easy-to-use menu-driven interface with permanent file storage.

System Design

The system follows a modular programming architecture. Each module is stored separately in dedicated .c and .h files. The main menu redirects control to individual modules. Data is stored using text files such as expenses.txt, habits.txt, health.txt, study.txt, and reminders.txt. The design ensures high modularity, easy debugging, and code reusability.

Algorithm

1. Start the program
2. Display main menu options
3. Read user input
4. Redirect to selected module:
 - Expense Tracker
 - Habit Tracker
 - Health Tracker
 - Study Tracker
 - Reminder System
5. Perform operations such as Add, View, or Summary
6. Return to main menu
7. Exit when selected

Flowcharts

Flowchart (text-based representation):

[Start]

```
↓  
[Main Menu]  
↓  
(Select Option?) → Expense → [Expense Menu] → Back  
    → Habit → [Habit Menu] → Back  
    → Health → [Health Menu] → Back  
    → Study → [Study Menu] → Back  
    → Reminder → [Reminder Menu] → Back  
↓  
[Exit]
```

Implementation

The program is implemented in C across multiple modules stored in the /src directory. Each module contains logically separated functions such as addExpense(), viewHabits(), dailySummary(), etc. The /include directory contains corresponding header files. File handling is used to store user data persistently. Time-based functions store dates automatically. The project follows clean modular coding practices.

Testing & Output

The system was tested with several inputs across all modules. Each module performed accurately: - Expenses were added, displayed, and monthly summary generated correctly. - Habits were added and marked completed successfully. - Health logs displayed correct step and calorie data. - Study logs reflected accurate daily summaries. - Reminders displayed properly with title, date, and time. Compilation was done using GCC: gcc src/*.c -I include -o main The program compiled successfully and ran without errors.

Conclusion

The Personal Life Management System successfully meets the requirements of modular C programming. It provides a functional solution for managing day-to-day personal activities while demonstrating file handling, menu-driven logic, and modular design. Possible future enhancements include adding GUI, integrating a database, and enabling cloud-based storage.

References

1. Kernighan, B.W., & Ritchie, D.M. – *The C Programming Language*
2. UPES Major Project Guidelines
3. GCC Documentation and Manual