SMART TASK ORGANIZER

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AGENDA

Aim of the Project 3

Problem Statement 4

Project Description 5

Functionalities 6

Error Handling 11

Code Implementation 12

Results and Outcome 13

Conclusion 14

AIM OF THE PROJECT:

- Develop a goal-tracking system for managing daily and short-term goals.
- Focus on fitness, learning, and hobby goals, with custom short-term goal support.
- Provide a framework to track progress and manage tasks.
- Enhance productivity and organization for users.

PROBLEM STATEMENT:

In today's fast-paced lifestyle, people often struggle with maintaining a balance between fitness, learning, and hobbies. There is a need for an intuitive system that helps users prioritize and track their goals on a daily basis, while also keeping an eye on long-term objectives. Additionally, many goal-tracking systems lack flexibility in goal types or suffer from inefficient progress-tracking mechanisms.

This project aims to address these issues by offering:

- A customizable daily goal schedule that allows users to prioritize tasks.
- The ability to track progress for both daily and short-term goals.
- Feedback mechanisms for completed tasks, ensuring accountability and motivation.

PROJECT DESCRIPTION:

- **Two goal types**: Daily Goals (Fitness, Learning, Hobby) and Short-Term Goals (user-defined with deadlines).
- **Daily Schedule**: Users create a schedule with fitness, learning, and hobby goals, updating progress interactively.
- **Short-Term Goals**: Users set goals with deadlines, tracking progress until completion.
- **Goal Management**: Tasks are managed and congratulated upon completion.
- **Validation**: Ensures correct input for goal priority, progress, and deadlines.
- **Feedback**: Provides clear task completion feedback and supports streamlined task management.

FUNCTIONALITIES

Abstract Classes & Inheritance:

•**Abstract Base Class (Goal)**: Ensures a uniform structure for all goal types. Abstract methods (update_progress, display_status) act as a blueprint, simplifying the addition of new goal types.

Method Overriding & Flexibility

•Subclasses (e.g., FitnessGoal, LearningGoal) override methods like update_progress for tailored behavior while maintaining overall structure, enhancing code reusability and flexibility.

FUNCTIONALITIES

Priority-Based Goal Management

•**Sorting by Priority**: Goals are organized by priority in the daily schedule, ensuring high-priority tasks are addressed first, streamlining focus on key activities.

Static Methods for Validation

•**Validation Logic**: Static methods handle input validation (e.g., progress range, deadline formats), ensuring consistency and reducing code redundancy.

Code Implementation

START → Display the Main Menu

Options:
1: Create Daily Schedule
2: Manage Short-Term Goals
3: Display All Goals
4: Exit

Code Implementation

Option 1: Create Daily Schedule

- Prompt the user for the number of goals they want to schedule for the day.
- For each goal:
  a. Ask the user to select the type of goal (Fitness, Learning, Hobby).
  b. Request the goal's name and priority.
  c. Add the goal to the daily schedule.
- After adding all goals, sort them by priority.
- Prompt the user to input the progress for each goal.
- Check if all tasks have been completed:

  If not all tasks are completed:

  - Ask the user if they want to manage short-term goals or complete pending tasks.
    - If they choose to manage short-term goals, proceed to Option 2.
    - If they choose to complete pending tasks, prompt them to update the progress of incomplete tasks.

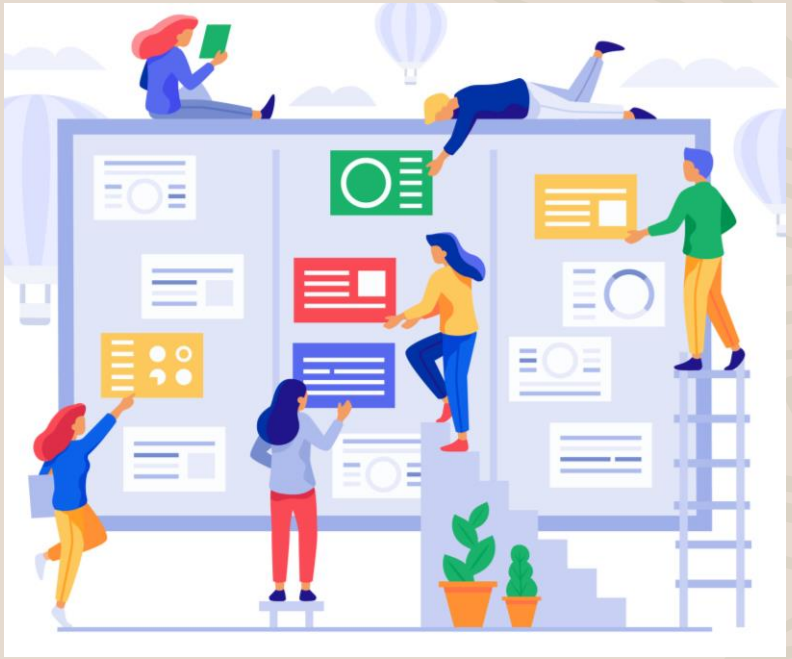
Code Implementation

Option 2: Manage Short-Term Goals
Sub-Options:

- **1: Add a New Short-Term Goal**
  - Request the name and deadline for the short-term goal.
  - Add the new goal to the short-term goals list.
- **2: Update Progress for a Short-Term Goal**
  - Ask for the goal name and new progress.
  - Update the progress of the specified short-term goal.
- **3: Display Short-Term Goals**
  - Show the list of all short-term goals, including their progress and deadlines.

Code Implementation

Option 3: Display All Goals
Display all daily goals and short-term goals, including their progress and status.
Option 4: Exit
End the program.
End the Program



ERROR HANDLING:

The system includes robust error handling mechanisms to ensure smooth operation. Common validation checks and error-handling strategies include:

- **Input Validation:**
  - Progress values are validated to ensure they fall within the range of 0 to 100.
  - Priority values must be between 1 and 5.
  - Date inputs for short-term goals are validated to conform to the YYYY-MM-DD format.

- **Error Messages:** Descriptive error messages are shown to the user when invalid inputs are provided, ensuring they understand the issue and can provide corrected inputs.

- **Exception Handling:** The ValueError exception is used to catch and handle invalid inputs, especially during user input for priority, progress, and date validation.

RESULT AND OUTCOME:

•**Daily Task Management:** Users can create, update, and track daily goals based on fitness, learning, and hobbies. Goals are prioritized and progress is updated interactively.

•**Short-Term Goal Management:** Short-term goals are tracked with deadlines, and users are congratulated when goals are completed.

•**Progress Tracking:** The system tracks progress for all goals, displaying clear statuses for both completed and ongoing tasks.

•**User-Friendly Interface:** The program provides an interactive menu for easy navigation through options for daily scheduling and short-term goal management.

```
PS C:\Users\swathi\OneDrive\Desktop\smart task organizer> python main.py

MAIN MENU:
1. Create Daily Schedule
2. Manage Short-Term Goals
3. Display All Goals
4. Exit
Select an option: 1
How many goals do you want to schedule for today? 2

Select Goal Type:
1. Fitness Goal
2. Learning Goal
3. Hobby Goal
Enter choice: 1
Enter the goal name: exercise
Enter priority (1-5): 2

Select Goal Type:
1. Fitness Goal
2. Learning Goal
3. Hobby Goal
Enter choice: 2
Enter the goal name: oops
Enter priority (1-5): 1
Enter progress for 'oops' (Priority: 1) (0-100): 100

Updated progress for 'oops': 100%


🎉Congratulations! Task oops is completed successfully :)

Enter progress for 'exercise' (Priority: 2) (0-100): 50

Updated progress for 'exercise': 50%

Not all tasks are done. Do you want to manage short-term goals anyway? (yes/no): no
Please complete all pending tasks first.
Enter progress for 'exercise' (Priority: 2) (0-100): 100
```

CONCLUSION:

This goal-tracking system provides a practical solution for managing and prioritizing daily and short-term goals. By incorporating elements of object-oriented programming and user input validation, the system ensures flexibility, ease of use, and consistency in goal management. It is a valuable tool for individuals looking to track their personal productivity in a structured manner. Future improvements could include the addition of long-term goals, integration with calendar applications, and further customization of goals.


THANK YOU