📄 PROJECT REPORT

HABIT CONSISTENCY TRACKER

A Daily Habit Monitoring & Score Prediction System

Project Title: Habit Consistency Tracker

Course: Introduction to Problem Solving & Programming

Student Name: Saumya Dixit

Registration no. – 25BAI11460

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Abstract

The Habit Consistency Tracker is a simple Python-based application designed to help users monitor their daily habits and measure how consistent they are over time. This system records daily habit data, calculates consistency scores, and predicts possible habit performance for the upcoming week. The goal is to help students and individuals build discipline and have a measurable method for tracking progress.

The project uses core programming concepts like modular design, file handling, functions, conditional logic, and user input mechanisms, making it ideal for first-year programming students.

Introduction

Maintaining daily habits is crucial for personal growth, yet people often struggle to stay consistent due to lack of tracking.

This project provides a lightweight solution where users can: Add their daily habit completion status.

Track their consistency score. Predict next week's score based on past data .The project also demonstrates how programming can solve everyday problems easily and effectively.

Problem Definition

People often want to build good habits such as reading, exercising, studying, or meditation. However, without a tracking mechanism, most habits fail due to poor discipline or forgetfulness.

Problem:

There is no simple tool for students to measure their daily habit consistency and predict future performance.

Solution:

Create a program that records daily habit data and displays meaningful insights in the form of consistency score and prediction.

Objectives

The Habit Consistency Tracker aims to:

Provide a simple habit entry system.

Store daily habit performance (completed/not completed).

Calculate consistency score.

Predict next week's score based on simple trend logic.

Help users build long-term discipline.

Demonstrate programming fundamentals via a real-world application.

No external libraries required

Algorithm

Algorithm for Adding Habit Data

1. Start

2. Ask user for habit name

3. Ask for completion status (yes/no)

4. Convert yes → 1, no → 0

5. Append data into CSV

6. Stop

Algorithm for Consistency Score

1. Read all habit entries

2. Count total days of a habit

3. Count completed days

4. Calculate:

consistency = (completed_days / total_days) * 100

5. Display score

Algorithm for Prediction

1. Find current consistency percentage

2. Use a simple logic:

next_week = consistency * 0.95 (down) to 1.05 (up)

3. Display predicted score

Implementation

Files Used

main.py – Where menu and user interactions happen

database.py – For reading and writing to habits.csv

habits.csv – Stores daily habit entries

Sample Output

Habit Consistency Tracker

1. Add Daily Habit Data

2. Show Consistency Score

3. Predict Next Week Score

4. Exit

Enter option: 1

Enter habit name: reading

Did you complete it today? (yes/no): yes

Data added successfully!

Enter option: 1

Enter habit name: workout

Did you complete it today? (yes/no): no

Data added successfully!

Enter option: 2

Habit: reading → Consistency: 100%

Habit: workout → Consistency: 0%

Enter option: 3

Predicted next week score for reading: 92%

Predicted next week score for workout: 10%

Enter option: 4

Exiting... Thank you!

11. Testing

Test Case	Input	Expected	Output	Status
Add habit	reading,	yes	Data saved	Pass
Add habit	workout,	no	Data saved	Pass
Show consistency	option 2	100%,	0%	Pass
Predict score	option 3	Predictions	displayed	Pass
Invalid input		Error	message	Pass

Conclusion

The Habit Consistency Tracker successfully helps users measure their daily progress through habit consistency scoring and future predictions. This project demonstrates how basic programming concepts such as functions, file handling, loops, and conditional logic can be applied to create a meaningful real-world application.

It is simple, efficient, and useful for anyone wanting to improve their daily routine.

References

Python Official Documentation

VITyarthi Course Material

Personal understanding & implementation