

Creating a Habit Tracking App (Abstract)

Finalization phase

DLBDSOOFPP01 - Object Oriented and Functional Programming with Python

B.Sc. Data science

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Abstract

This program is made to help people form healthy habits and keep track of their progress. During this project, I made a Python application to track habits. It has a simple command-line interface that enables users to interact with it by choosing commands. This program makes a habit class that has the name of the object, how often it happens, when it was made, when it was last done, and how many times it has been done.

A database class also stores and retrieves habit data using the lightweight and speedy SQLite3 database. Data for habits, completions, and streaks should all be included in their respective tables. I made this application more interactive and user-friendly by combining Python input syntax with the Questionary and termcolor modules. To complete a habit, users must first pick the "Mark habit as complete" option at any time they would prefer.

The program has an analytics module that provides a comprehensive view of habits as well as all relevant information. A single habit status option allows users to view extra details about each habit, such as streaks and a prompt that indicates if the habit was completed within the time limit. Streaks analysis displays the current and longest streaks for each habit, and the habit completions command displays all dates and times of habit completions in the previous week and month, allowing the user to see which habit has been the most challenging. Finally, the Pytest package is used to create test cases to ensure that the code functions as intended.

What went well and what didn't?

Since this was my first time working on a Python programming project, I had a lot of problems figuring out the appropriate methods for creating this application. But after spending a lot of time in programming classes, reading books, and surfing the web, I decided it was time to dive deep into the code and make sure each function of this app worked the way it was supposed to. Even though it was hard for me to build this app correctly, it was a great way to find out what I could and could

not do. It also forced me to set aside time to learn about all aspects of app programming. It was frustrating when I got stuck developing certain functionalities. Nevertheless, I learned to ask questions in developer groups and read more documentation to understand how to utilize useful Python modules and libraries.

What pitfalls did you detect that you didn't foresee?

My application, I believe, is quite basic and lacks any distinguishing traits. But I see this effort as my first step into the realm of programming, and I see how much more I need to learn. Many of my challenges throughout the project's growth stemmed from my lack of knowledge and expertise. For the sake of this project, I believe I should consider certain future goals, such as calculating habit periodicity based on calendar weeks, months, and years rather than just assuming day, week, and month as 1, 7, and 30 days. Moreover, I believe I should learn a web development framework in order to design the GUI for my apps and online forms in order to interact with clients. Another thing I need to learn is how to utilize the Pandas, NumPy, and Matplotlib libraries to create more complex features, effectively analyze user data, and present it with fascinating graphs and charts.

What features did you build into the application that you're most proud of and that add value to the overall product?

This program just establishes the basic capabilities that a habit tracker application needs. After all, I made every effort to provide an informative CLI and a decent user experience, and I attempted to minimize errors as much as possible while interacting with the program. In addition, I tried to apply best practices and algorithms to the application's features, as well as its system architecture and logic.

Link to GitHub repository:

[mohamadsolouki/IU-habit-tracker: A python habit tracking app CLI \(github.com\)](https://github.com/mohamadsolouki/IU-habit-tracker)