

Portfolio Assignment: Object Oriented and Functional Programming with Python

By

Anna Jansen von Havighorst – Matriculation Number: 92009036

Course: DLBDSOOFPP01_CF

IU

Tutor: Max Pumperla

For the degree of Bachelor of Science in Computer Science

IU – International University of Applied Sciences

Date: 01 Dec 2024

1 Conception phase

In this portfolio I intend to conceptualize, develop and finalize a habit tracker application in Python using Visual Studio Code. The most important requirement for this app is to be able to create, edit and delete habits and track them with dates, so one can analyze the habits. The user should be able to select habits from a predefined list or create their own habits, which will be either habits that should be ticked off daily or weekly. For the analytical part of the program the user will be able to receive a list of the currently tracked habits, sort habits with the same periodicity, can find out which of the defined habits has the longest run streak as well as the longest run streak for a given habit.

For the application this means we need a class habit, which is going to have a name, a description and a count, which counts how often the habit was carried out. The habit class is going to be stored in an SQLite database table and is going to be connected to a second table that stores the completion dates of the habit which will be connected to the count of the class Habit. For analyzing one's habits the Pandas library will be needed to calculate the streaks of the habit using the dates entered, which will also require the date library.

The user will interact with the application through the Command Line Interface. To make this more user-friendly I am going to use the library click and questionary.

The final application will be provided with test cases so that the user can check if the app installment worked correctly without having to provide their own input data to the program. I also want to use try and except blocks, in order to minimize unnecessary errors because of faulty user input and at the same time let the user know what kind of input is needed to interact with the application as intended.

The figure below roughly illustrates how the application will be set up.

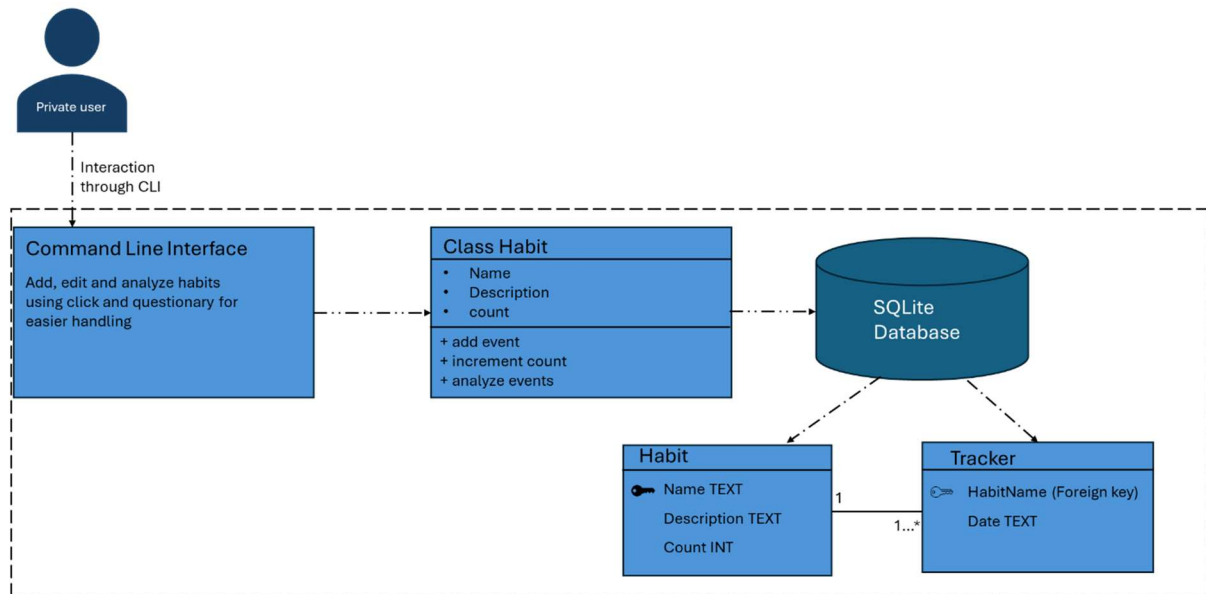


Figure 1: Diagram for the Habit tracker software