Introducing Habit Tracker Backend App

Object Oriented and Functional Programming with Python

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Date: 15/02/2024

Github Link: https://github.com/mhdatheek136/Habit_Tracker.git
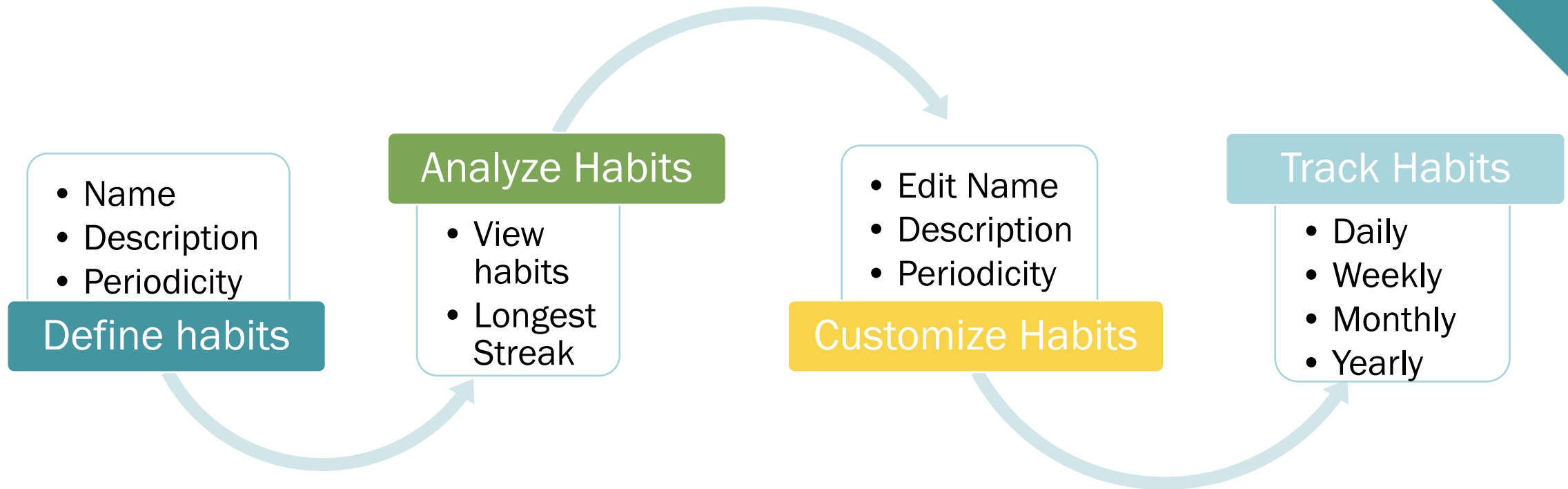
TABLE OF CONTENTS

Introduction

- Building and maintaining good habits is transformative and challenging.

- Recognizing the impact of habits on daily lives, there's a growing demand for effective habit-tracking tools.

- In response, this presentation introduces a Python-backed Habit Tracking App, crafted to empower users on their journey of self-improvement.

About the Habit Tracker

Define habits
- Name
- Description
- Periodicity

Analyze Habits
- View habits
- Longest Streak

Customize Habits
- Edit Name
- Description
- Periodicity

Track Habits
- Daily
- Weekly
- Monthly
- Yearly

Figure 01: Author, own illustration, created with PowerPoint, representing Habit Tracker Functions.

Key Components

main.py
- The main.py file initializes the application.
- It manages user interactions.

habit.py
- Represents the core entity, a habit.
- Utilizes the db.py module to manipulate habit related data.

analytics.py
- This module analyses habit data from the database
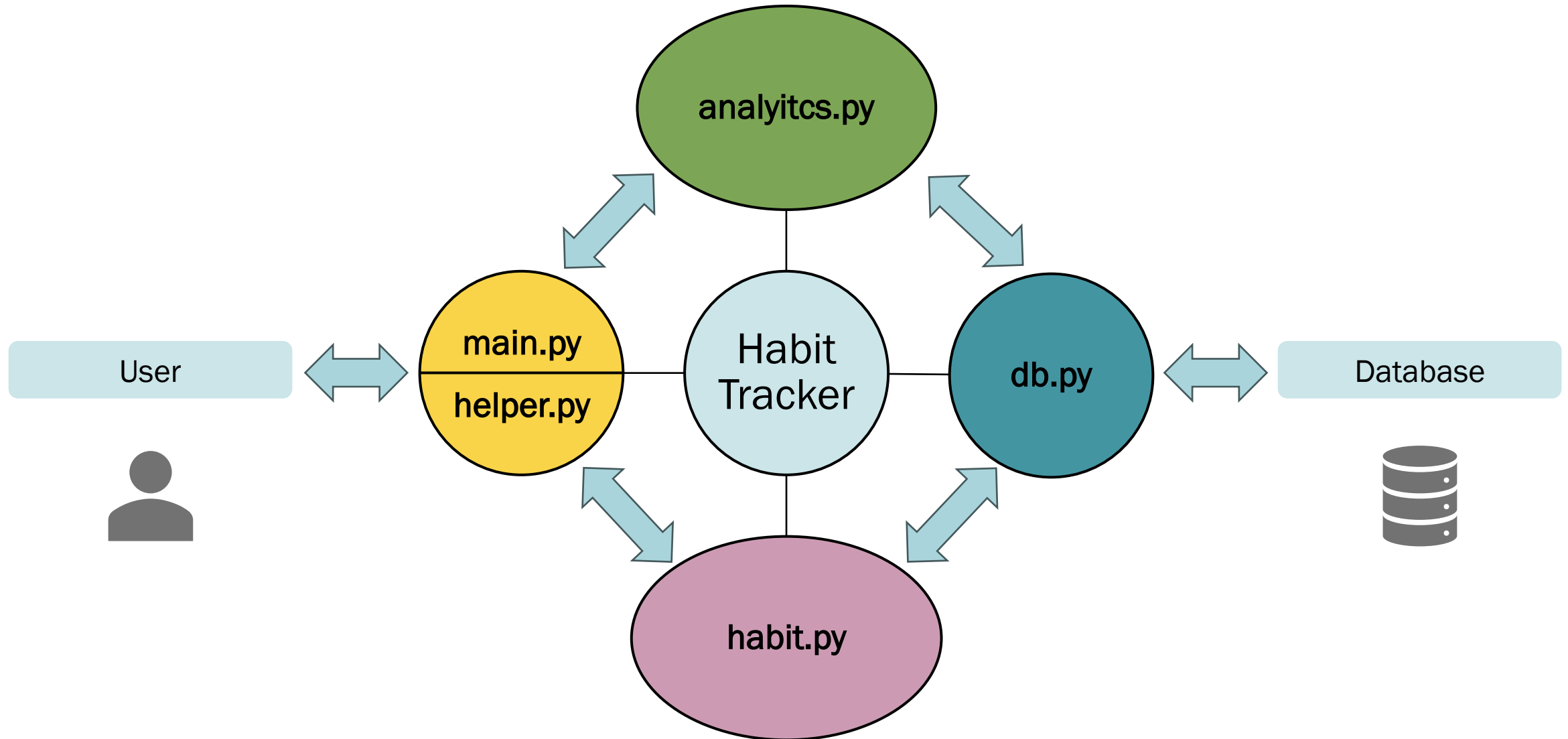- Retrieve insights such as the longest streaks.

db.py
- Responsible for managing the database.
- Handles storage and retrieval of data.

helper.py
- Extension of main.py helping to get user inputs.
- It streamlines the flow of user interactions.

Component Interaction

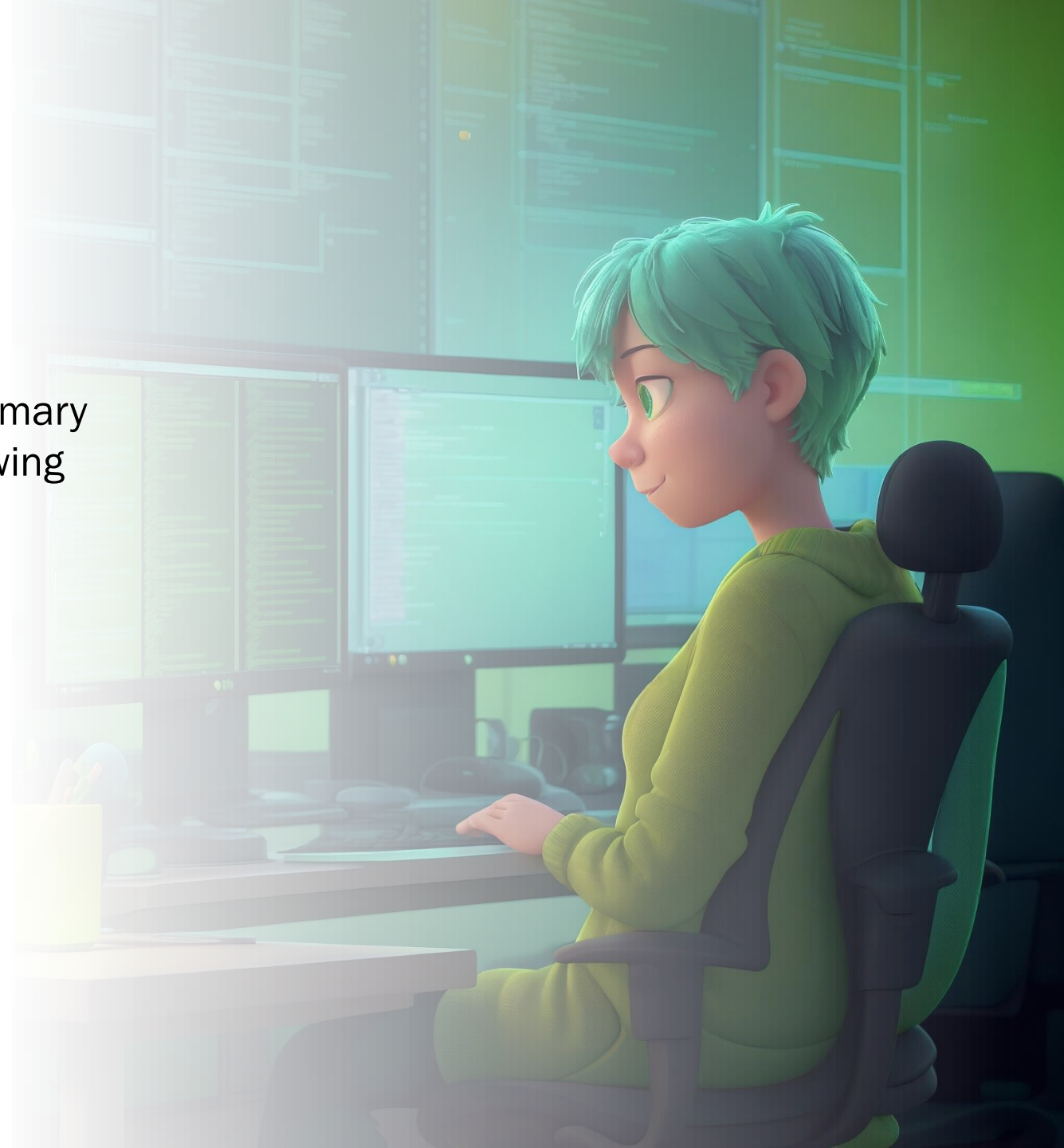Figure 02: Author, own illustration, created with PowerPoint, representing component interaction.

Why Python?

The habit tracker app utilizes Python as its primary programming language, selected for the following reasons:

- Simplicity
- Versatility
- Extensive Libraries
- Rapid Development
- Community Support

Why SQLite?

The decision to employ SQLite as the primary database management system for the habit tracker app was made based on several compelling factors:

- Lightweight Nature
- Zero Configuration
- Cross-Platform Compatibility
- Cost-Effective
- Transaction Support

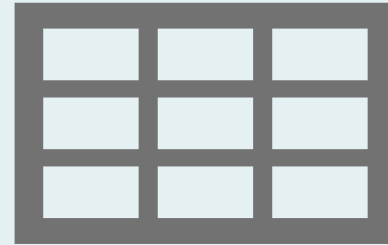# Project Dependencies

pytest

Used for robust testing

pytest~=7.4.4

freezegun

Used for time manipulation in testing

freezegun~=1.4.0

prettytable

Used for tabular data representation

prettytable~=3.9.0

questionary

Used for interactive user prompts

questionary~=2.0.1

```
*** Welcome to the Habit Tracker ***

? Select an option below: (Use arrow keys)

 » Create New Habit
   Delete Existing Habit
   Customize Habit Information
   Check-in Habit
   Analytics
   Exit
```

```
*** Welcome to the Habit Tracker ***

? Select an option below: Create New Habit

? Please Enter the Name of Your Habit: Coding

? Please Select Habit Periodicity Daily

? Please Enter Description for New Habit: Code for 30 mins

? This action will create habit 'coding'. Would you like to continue? (Y/n)
```

User Manual

Please follow the provided GitHub link to download the Habit Tracker:

Link: https://github.com/mhdatheek136/Habit_Tracker.git

Once downloaded, review the README.md file for instructions on getting started with the application. The README.md file typically contains essential information about dependencies, installation steps, and usage guidelines.

Create Habits

Upon initiating the habit tracker, you'll be prompted to create a new habit by providing essential details as illustrated in the accompanying screenshots. Ensure you include the habit's name, periodicity, and a brief description. This information is vital for accurately tracking and managing your habits through the application.

Delete Habits

To remove an existing habit from the Habit Track application, navigate to the available options and choose the "Delete Habit" option. Make sure to select the appropriate habit from the list to proceed with the deletion. This step ensures that you can manage and customize your habit list based on your evolving preferences and goals.

Customize Habits

For personalized habit adjustments, opt for the "Customize Habit" feature within the Habit Track application. Upon selecting this option, you'll gain access to editing the name, periodicity, and description of the chosen habit. This functionality empowers you to tailor your habits according to your evolving preferences.

Check-in Habits

To mark a habit as completed within the Habit Track application, utilize the "Check-in Habit" option. Following this selection, choose the specific habit you have successfully completed from the available list. By doing so, you'll be able to update and acknowledge the completion of the selected habit, allowing the application to accurately track your progress.

View and Analyze Habits

For in-depth analysis and visualization of your habits, navigate to the "Analytics" section within the Habit Track application. Upon selecting this option, you'll be presented with a variety of features as demonstrated in the accompanying screenshots. These features offer diverse options to view and analyze your progress comprehensively. Explore the provided functionalities to gain valuable insights into your habits.

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Your habit-tracking journey has just begun. Stick with it, embrace progress, and watch your habits transform. Here's to your success!