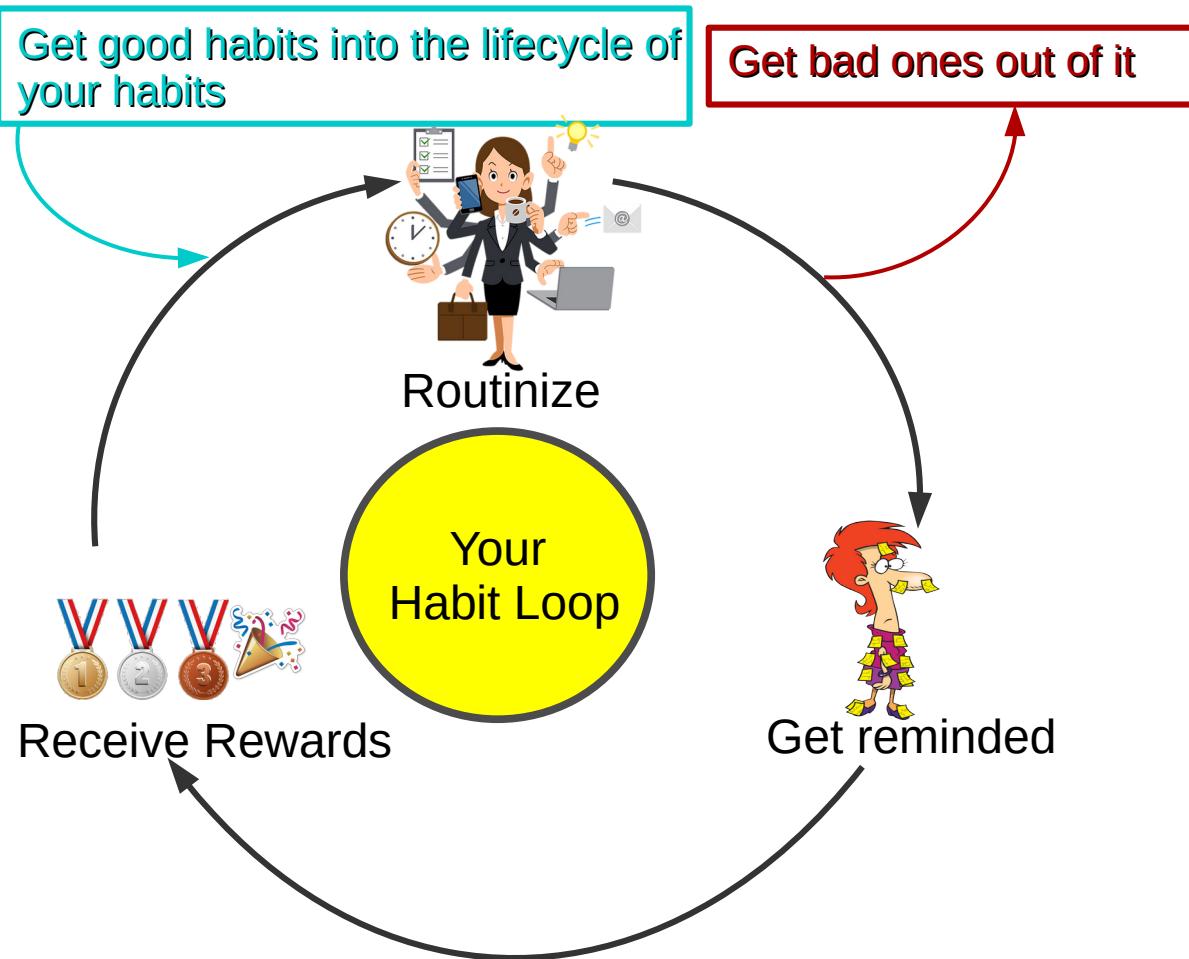
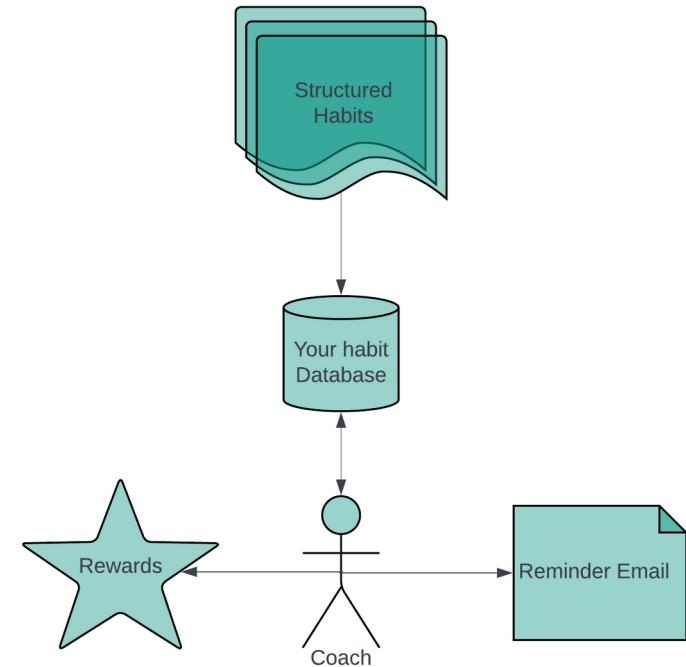


You are struggling with habits ?

# Why you need The Habit Tracker



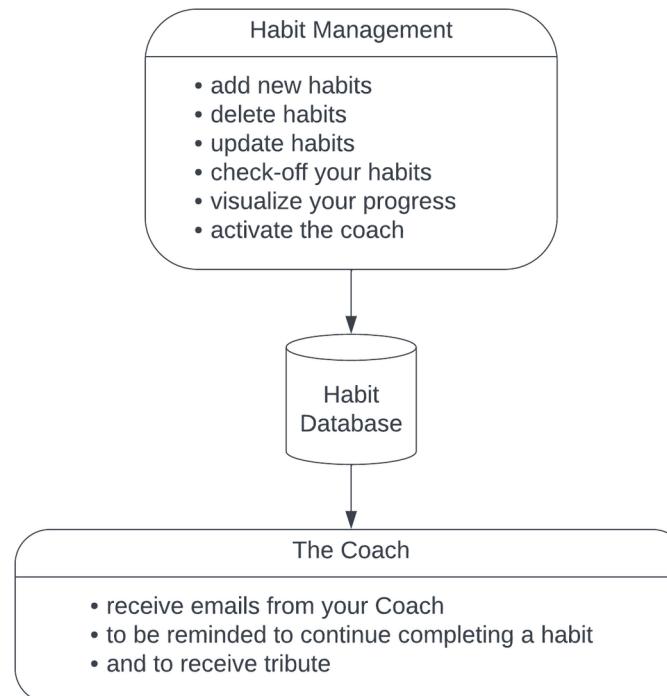
Workflow of Habit tracker



# Get your habits under control

- Create new habits in a well organized manner
- Visualize your progress
- Get help from your personal Habit Coach
- Get rewards for your achievements

All you need for this is the **Habit Tracker**



## implementation notes

On the following slides you will find the technical implementation outline always on the yellow note.

All habits are stored in a database on your computer. The emails are received by using a python package called yagmail and python-crontab, the latter automatically checks your data. The former sends an email to you if necessary (to remind you of an unfinished habit or to congratulate you).

# Features and Components

- In the screenshot below you can see the different functions of the app with their description.

```
Commands
activate-coach      Receive emails from a coach to be reminded to finish your chosen task
add                adds new habit
average-rating-habits   shows for each rating the count of your checked off habits
check-off          check-off a habit you finished today with a rating from 1-5 -> 1 is easy/ 5 is hard
delete             deletes a chosen habit by its ID
easiest-habit       shows you your easiest habit you have managed to do so far
habits-ratings     shows for each rating the count of your checked off habits
hardest-habit      shows you your hardest habit you have managed to do so far
inactivate-coach   Inactivate the Coach for a given ID
longest-streak-id  choose a habit by its ID and check your longest streak
longest-streaks    shows the longest streak for each of your habits
show               shows all habits with details
show-progress      shows the check-off times off all habits and their rating
timeline           shows timeline of a chosen habit with dates and ratings
uncheck-off        uncheck-off a habit you accidentally check-off today
update             updates a chosen habit
update-period      updates the period you want to finish a habit. You can choose between: 'daily' or 'weekly'
```

- You can run the Habit Tracker on the terminal of your PC.

The simple use is demonstrated on the following slides. Commands are highlighted in **green**.

The typer library is used to build the command-line interface (CLIs) with automated help generation (see screenshot) and type hints.

The rich library is used to format text and tables in a more beautiful way, and enabling enhanced console output.

To be able to execute the commands in the terminal at any time and independent of the current working directory, aliases are written to the user .bashrc file in the installation process with the os python package.

# Command Line Interface

- After installation (following the install documentation) the app is ready to use.
- Open a terminal window and all the previously listed commands are available. (You can check them any time with the command “**help**”)

Here we see the simple use of the **show** command, which lists all already existing habits in a table with the most important parameters.

```
[base] philipp@philipp-ZBOX-MI640-MI660-MI620NANO:~/Desktop/Habit-Tracker$ show
```

habit_name	Description	Date_added	Progress	ID	Periodicity
Reading Newspaper	Read the Newspaper every Sunday morning	2023-02-01	12	0	weekly
Running	Go for a 10 km run every Saturday	2023-02-10	12	1	weekly
Studying	Lern, or at least read one topic (relevent for Studying)	2023-02-23	27	2	daily
Walking	Go for a nice long walk	2023-02-24	8	3	weekly
No mobile phone	Turn your phone off for a whole day	2023-03-01	30	4	daily
Yoga	One day a week do some yoga in the evening to relax	2023-03-01	11	5	weekly
Boxing	Join the boxing class once a week	2023-03-05	8	6	weekly
No Smoking	Stop smoking, so no cigarette for every upcoming day (the last one tasted amazing)	2023-05-01	30	7	daily
Vegetables	Start eating more healthy, eat at least one vegetable a day (this makes you a better human for sure)	2023-05-15	16	8	daily
Meet Friends	You are lonely, go out once a week and meet some friends	2023-05-21	3	9	weekly

# Usage Instructions – adding a new habit

- Let's start a new habit, for example "cleaning the bathroom" and see the options available to us.
- We start by simply typing: **add** "name of the habit" "description of the habit"

```
(base) philipp@philipp-ZBOX-MI640-MI660-MI620NANO:~/Desktop/Habit-Tracker$ add "Clean bathroom" "Once a week clean the mirror and the bathtub!"  
adding Clean bathroom, Once a week clean the mirror and the bathtub!
```

- This new habit is automatically set to a "daily" habit but we can change this. First we check the table with **show** to get the ID of the habit and then we set the period to "weekly".

Clean bathroom	Once a week clean the mirror and the bathtub!	2023-06-16	0	10	daily
(base) philipp@philipp-ZBOX-MI640-MI660-MI620NANO:~/Desktop/Habit-Tracker\$ update-period 10 "weekly" Your habit with ID: 10 is successfully set to: weekly✓					

- After it is set to a "weekly" habit we are now able to "check-off" once a week with a rating for the difficulty (1 is easy 5 is hard).

```
(base) philipp@philipp-ZBOX-MI640-MI660-MI620NANO:~/Desktop/Habit-Tracker$ check-off 10 4  
Your Habit Clean bathroom is checked-off ✓  
(base) philipp@philipp-ZBOX-MI640-MI660-MI620NANO:~/Desktop/Habit-Tracker$ check-off 10 4  
Your Habit with ID: 10 is already checked-off for this week ✓
```

.The new habit is stored in the database with the pymysql library.  
Three tables are created in the database: habits, habits\_progress, and activated\_ids.  
For example, the necessary data for the show table is retrieved from the habits table of the database and the check-off data from the habits\_progress table.

# Usage Instructions – Delete a habit

You can also delete habits at any time, change them or undo them if you have unintentionally checked-off the wrong habit. Here we first update the habit, undo the check-off and then delete the habit.

```
(base) philipp@philipp-ZBOX-MI640-MI660-MI620NANO:~/Desktop/Habit-Tracker$ update 10 --description "Once a week clean the mirror!"
Updating 10
(base) philipp@philipp-ZBOX-MI640-MI660-MI620NANO:~/Desktop/Habit-Tracker$ check-off 10 5
Your Habit Clean bathroom is checked-off 
(base) philipp@philipp-ZBOX-MI640-MI660-MI620NANO:~/Desktop/Habit-Tracker$ uncheck-off 10
Your check-off for the habit: Clean bathroom is deleted. Now you have not finished your Habit: Clean bathroom for today ✗
(base) philipp@philipp-ZBOX-MI640-MI660-MI620NANO:~/Desktop/Habit-Tracker$ show
```

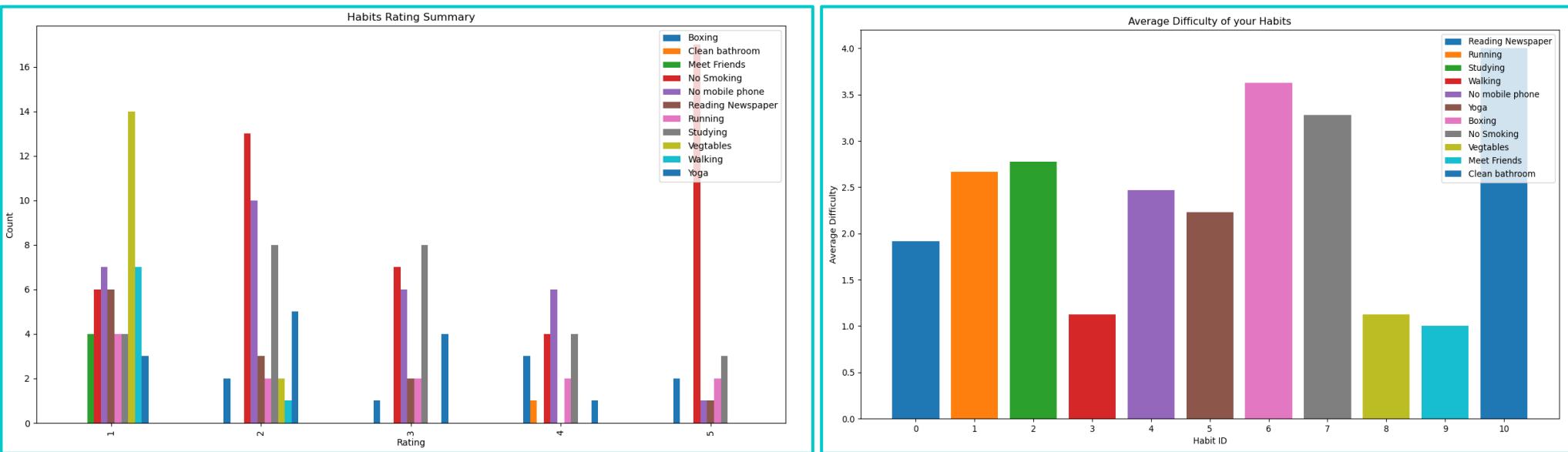
habit_name	Description	Date_added	Progress	ID	Periodicity
Reading Newspaper	Read the Newspaper every Sunday morning	2023-02-01	12	0	weekly
Running	Go for a 10 km run every Saturday	2023-02-10	12	1	weekly
Studying	Lern, or at least read one topic (relevent for Studying)	2023-02-23	27	2	daily
Walking	Go for a nice long walk	2023-02-24	8	3	weekly
No mobile phone	Turn your phone off for a whole day	2023-03-01	30	4	daily
Yoga	One day a week do some yoga in the evening to relax	2023-03-01	11	5	weekly
Boxing	Join the boxing class once a week	2023-03-05	8	6	weekly
No Smoking	Stop smoking, so no cigarette for every upcoming day (the last one tasted amazing)	2023-05-01	30	7	daily
Vegetables	Start eating more healthy, eat at least one vegetable a day (this makes you a better human for sure)	2023-05-15	16	8	daily
Meet Friends	You are lonely, go out once a week and meet some friends	2023-05-21	3	9	weekly
Clean bathroom	Once a week clean the mirror!	2023-06-16	1	10	weekly

```
(base) philipp@philipp-ZBOX-MI640-MI660-MI620NANO:~/Desktop/Habit-Tracker$ delete 10
Try to delete 10...
ID 10 is deleted
(base) philipp@philipp-ZBOX-MI640-MI660-MI620NANO:~/Desktop/Habit-Tracker$ show
```

habit_name	Description	Date_added	Progress	ID	Periodicity
Reading Newspaper	Read the Newspaper every Sunday morning	2023-02-01	12	0	weekly
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Vegetables	Start eating more healthy, eat at least one vegetable a day (this makes you a better human for sure)	2023-05-15	16	8	daily
Meet Friends	You are lonely, go out once a week and meet some friends	2023-05-21	3	9	weekly

# What can we tell you about your habits - Visualization

To get a nice overview of how difficult/easy your habits are you can use the visualization commands like “**average-rating-habits**” or “**habits-ratings**”.



There are other options as well to get an overview of your progress.

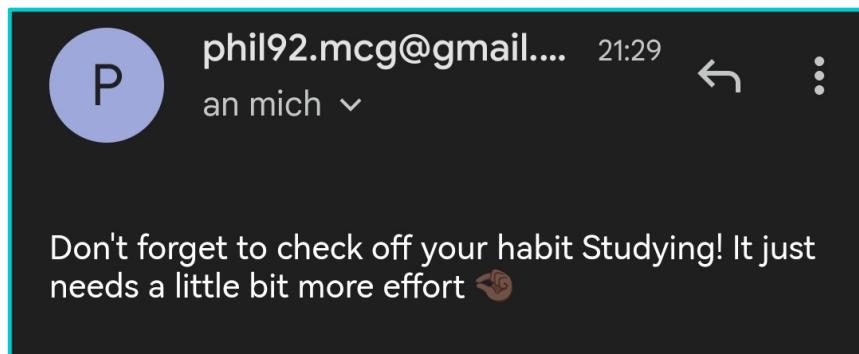
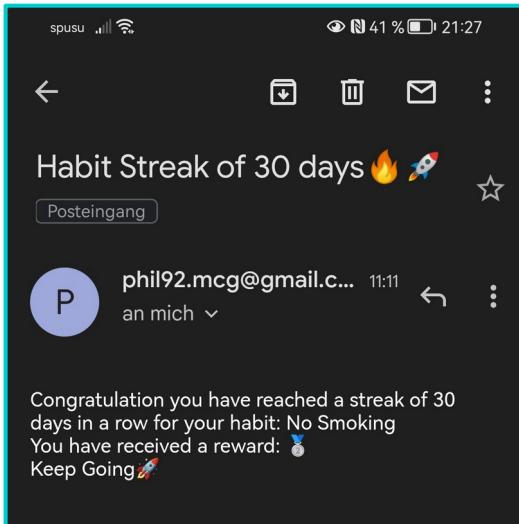
# The Coach

The best thing about the Habit Tracker is the support for you from the coach. When activated, it sends you reminders when you have not checked a daily habit for two days or a weekly habit for one week. The coach also sends you congratulations and a medal when you have managed to stick with it for a long time to reward and motivate you.

- The command “**activate-coach**” needs your email address and the ID of the habit you want to activate.

```
(base) philipp@philipp-ZBOX-MI640-MI660-MI620NANO:~/Desktop/Habit-Tracker$ activate-coach "philipp92.mcguire@gmail.com" "7"  
Coach is successfully activated for your Habit : No Smoking ✓
```

- Once activated you will receive email like this depending on your progress.



The data is retrieved from the database for an activated habit using a cron job.

If there is no entry in the database in the last two days, a reminder email is sent using the yagmail library.

In case of a longer streak a medal is sent as motivation.

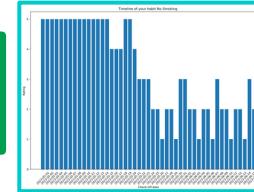
**So start now with the Habit Tracker app and the support of the coach and find out what else you can do with the Habit Tracker.**

# Habit Tracker Summarized

```
philipp@philipp-ZBOX-MI640-MI660-MI620NANO:~/Desktop/Habit-Tracker$ show
```

fast usage via command line

Visualizes progress



Stores habits in organized manner



Habits Database



Support from Coach



Maintains an overview

ID	Description	Last_update	Progress	#	Periodicity
1	Read the Newspaper every Sunday morning	2023-01-01	100%	1	Weekly
2	Exercise for at least one hour	2023-01-01	100%	1	Daily
3	Study for at least one hour	2023-01-01	100%	1	Daily
4	Turn off your phone after a certain hour	2023-01-01	100%	1	Daily
5	Take a walk for 30 minutes every evening	2023-01-01	100%	1	Daily
6	Stop smoking, as it's a bad habit	2023-01-01	100%	1	Once
7	Do yoga for 30 minutes every morning	2023-01-01	100%	1	Daily
8	Meet friends once a week	2023-01-01	100%	1	Weekly
9	Go to bed at the same time every night	2023-01-01	100%	1	Daily
10	Get up earlier by 30 minutes every day	2023-01-01	100%	1	Daily



Good habits are created

Bad habits will be banned



## Summary of most important used packages

typer: A library for building command-line interfaces (CLIs) with automatic help generation and type hints.

rich: A library for rich text and beautiful formatting in the terminal, enabling enhanced console output.

matplotlib: A plotting library for creating 2D visualizations, including line plots, scatter plots, histograms, etc.

datetime: A module for working with dates, times, and time intervals in Python

pandas: A powerful data manipulation and analysis library that provides data structures and functions for handling structured data.

yagmail: A package for sending emails using Gmail, providing a simple and convenient interface.

python-crontab: A library that allows Python scripts to easily create, read, and modify crontab entries, enabling the scheduling of tasks at specified times using cron.

sys: A built-in Python module used for accessing system-specific parameters and functions, including command-line arguments, exiting the program, retrieving interpreter information, modifying the system path, and redirecting standard input/output/error streams.

random: A built-in Python module for generating pseudo-random numbers and performing randomization tasks, such as generating random values, shuffling sequences, and selecting random elements.