

# Workout Tracker

Measuring and Analyzing Progress in the gym

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# In a nutshell

What is it:

- The Workout Tracker app allows users to log workout data and view that data visually

Why is it important:

- Analyzing workout data allows the user to
  - Tweak their workouts according their progress
    - This prevents being complacent and stuck in plateaus
  - See how far they've come along their lifting journey

# Main Features

- User registration + Login
  - Allows user to save their data for future use and privacy
- Log Workout
  - Allows user to input workout data into database
- Routine Builder
  - Allows user to create a workout program to follow along with while working out
- Database + Progress
  - Allows user to visually see their progress and workout data

# Project Structure

- Language & Framework
  - Python 3.11+
  - Tkinter
    - Ttkbootstrap
- Modular OOP architecture
- JSON-based database

# Data Structures

## **Lists**

- Used to store sequential data like workout logs and exercise entries

## **Queues**

- Employed to process routines in order (e.g. one exercise after another)

## **Dictionaries / Maps**

- Core to organizing user data, progress tracking, and exercise groupings

## **Hierarchies (Trees)**

- Enable structured navigation of exercise categories

## **Visualizations (Graphs)**

- Real-time progress trends are plotted using a charting library for user feedback