Fitness Workout Tracker

Organize and Optimize Your Workout

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CIS153 – DATA STRUCTURES
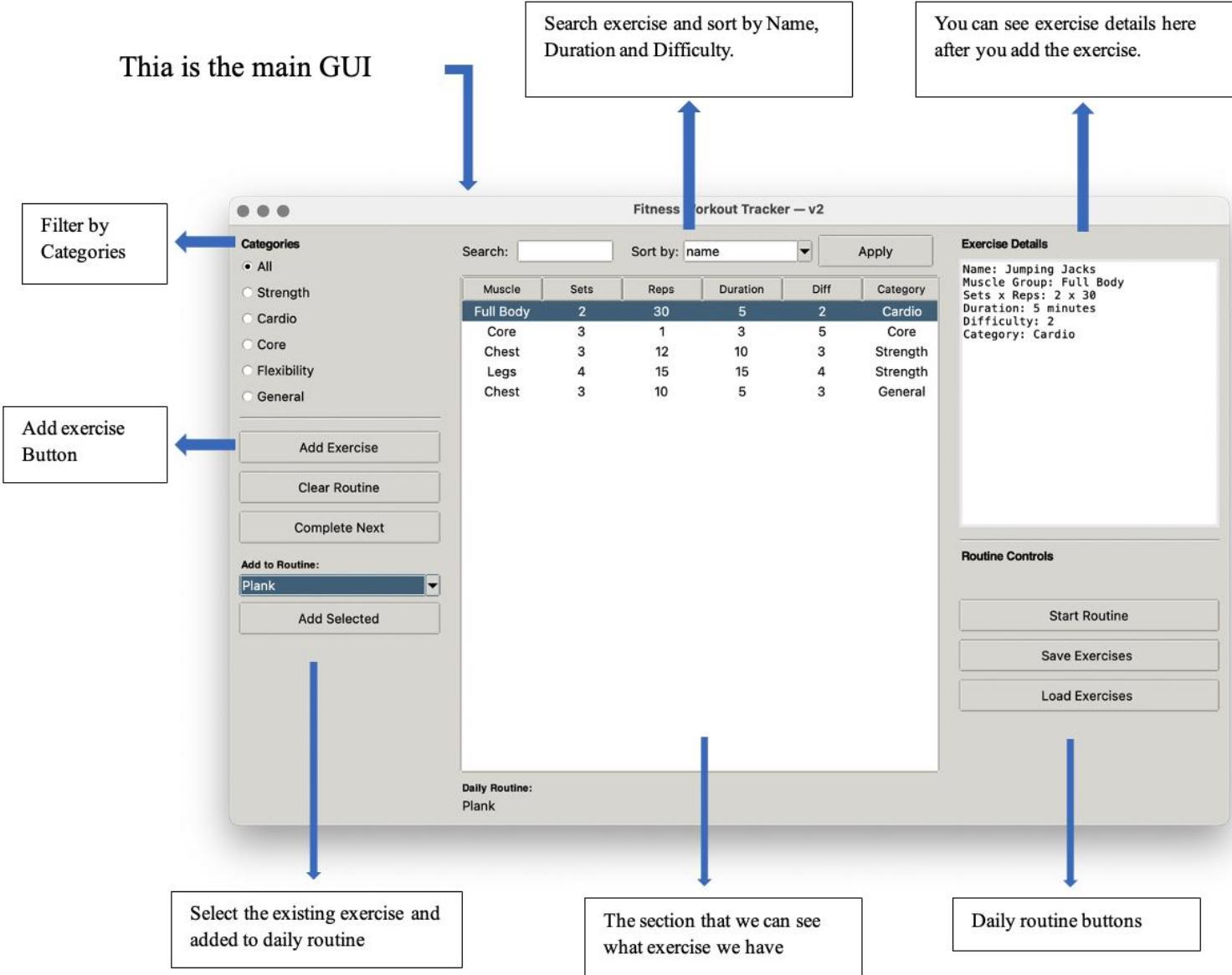
Real world problem

- Many people struggle to maintain a consistent workout routine.

- It's easy to forget which exercises were done, how many sets or reps, or which muscles were worked.

- Without tracking, workouts can become unbalanced, inefficient, or forgotten entirely.

- A digital workout tracker helps users organize exercises, track progress, and plan routines efficiently.

My program, Data Structures and Sort

- **Classes:** Exercise, WorkoutManager, Queue, BST
- **Data Structures:**
  - **Binary Search Tree (BST):** Store exercises by name for fast search and retrieval
  - **Queue:** Track daily workout routine in order exercises should be performed
- **Sorting:** Insertion sort to display exercises by duration or difficulty
- **Additional Features:**
  - Filter by category (Strength, Cardio, Core, Flexibility)
  - Add/edit/delete exercises
  - Save/load exercise list
  - Start routine with progress tracking

Fitness tracker Environment

Thia is the main GUI

Search exercise and sort by Name, Duration and Difficulty.

You can see exercise details here after you add the exercise.

Filter by Categories

Add exercise Button

Select the existing exercise and added to daily routine

The section that we can see what exercise we have

Daily routine buttons

Fitness Workout Tracker — v2

Categories
- All
- Strength
- Cardio
- Core
- Flexibility
- General

Add Exercise
Clear Routine
Complete Next

Add to Routine:
Plank
Add Selected

Search: ___ Sort by: name Apply

Muscle	Sets	Reps	Duration	Diff	Category
Full Body	2	30	5	2	Cardio
Core	3	1	3	5	Core
Chest	3	12	10	3	Strength
Legs	4	15	15	4	Strength
Chest	3	10	5	3	General

Daily Routine:
Plank

Exercise Details
Name: Jumping Jacks
Muscle Group: Full Body
Sets x Reps: 2 x 30
Duration: 5 minutes
Difficulty: 2
Category: Cardio

Routine Controls

Start Routine
Save Exercises
Load Exercises

Sample run of my program

- **Project Summary**
  - Built a Fitness Workout Tracker with exercise management and daily routines.
  - Users can add, sort, filter, and view exercises through a simple GUI.
  - A BST stores exercises, a queue runs the routine in order, and sorting keeps everything organized.
- **Future Versions**
  - Add progress charts and cloud saving.
  - Include motivational messages during workouts.
  - Offer smarter exercise suggestions and more filter options.
  - Connect with fitness trackers or mobile devices.

Link of the Video

▶ Link of the video.

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▶ GitHub link.

https://github.com/codewithrasa/FitnessWorkoutTracker.git