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beeg bröther Sports Timer
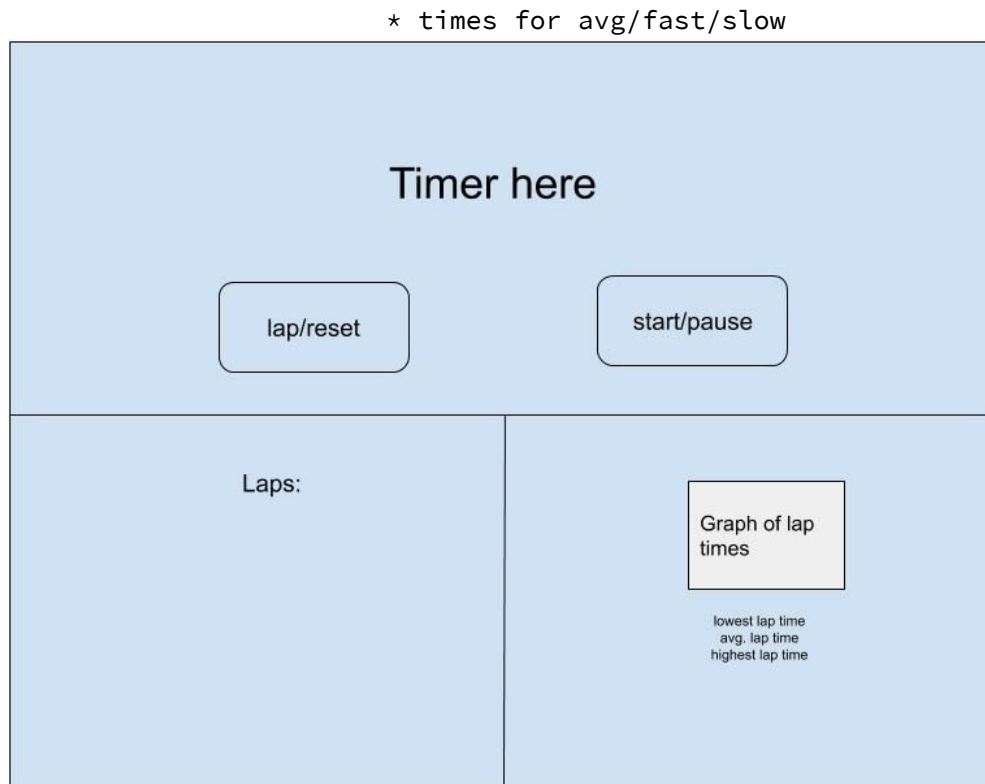
Functions:

- Stopwatch with pausing and reset functionality
- Table of laps
    - Current lap time displayed in top cell of table
- Graph of lap times
    - Updates every time new lap is finished
    - Displays in a small area that is easy to read at a glance
- Dynamically updating lap statistics
    - Average lap time
    - Fastest lap time
    - Slowest lap time

UI Goals:

- Our goal was to have a relatively simple timer that was easy to use and informative
- Simple statistics that are useful
- Able to see all the laps but display most recent ones on screen
- Obvious where current time and lap time are

UI Design:

- Initial layout design:

```
- one main vbox to contain:
      * one vbox to contain:
        - timer with stretches
        - hbox with start/stop
      * one hbox containing:
        - Label/List for laps
        - vbox to contain:
          ~ ??? for matplotlib
          ~ Label for stats

- main
      * timer
      * hbox for timer buttons
      * hbox:
            * lap table
            * vbox:
                  * matplotlib graph
                  * hbox:
                        * labels for avg/fast/slow
```

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```
* times for avg/fast/slow
```

Timer here

lap/reset

start/pause

Laps:

Graph of lap
times

lowest lap time
avg. lap time
highest lap time

Designated Sections:

Evan:
- Layout design and planning, timer logic and improving visual quality

Hersh:
- Timer logic and basic statistics plotting

Adam:
- Lap table logic and lap inputting

App Structure:

The counter is placed in a thread that is locked and acquired when the pause and resume buttons are pressed. The logic behind the buttons is placed in a set of helper functions that remove and add the correct buttons, and the statistics, graph, and lap table logic is done when the lap button is clicked.

What We Didn't Get To:
- Debug the current lap timer issue on macs (it works on windows and linux)
- Coloring in the fastest and slowest lap on table
- Personalization options:
  - Color schemes
  - Window sizes

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- Keybinds
  - Start/stop governed by spacebar
  - Laps done via L or other keys
- Reduce the lag that happens when lap key pressed
- Scrolling graph
  - New values are added on and old values are removed