

LogMyMotion

Pretty Lil Leetcoders

The logo for LogMeIn, featuring the text "LogMeIn" in a bold, dark blue font. The "In" is enclosed in a dark blue circle, and a small registered trademark symbol (®) is positioned to the upper right of the circle.

LogMeIn[®]

Problem

- Novice weightlifters often have limited knowledge about safe and proper workout form
 - As a result, many end up getting injured or stagnating in their strength growth
 - Many are too embarrassed to workout in public areas in front of others
- Existing solutions:
 - Personal trainer
 - Hard to arrange consistent sessions
 - \$\$\$
 - Asking a friend
 - Not always available
 - Might not be as knowledgeable
 - Internet
 - Doesn't provide real-time feedback



Our Solution

- Using machine learning to analyze exercise form in real-time
 - Currently analyzing squat form through various cues
 - Squat Depth
 - Shoulder alignment
 - Feet Width
 - Knee Angle (soon)
 - Grip Width (soon)

LogMyMotion

by Pretty Little Leetcoders

Try Now!





Squat Depth:

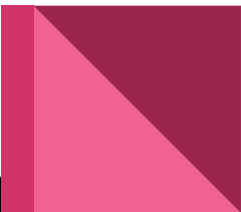
Bad

Shoulder Alignment:

Good

Feet Width:

Good





Squat Depth:

Bad

Shoulder Alignment:

Good

Feet Width:

Good

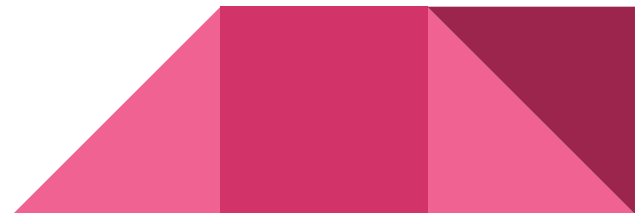
Technologies & Novelty

- PoseNet
 - Real-time human pose estimation in the browser
- ReactJS
 - Front-end Javascript library
- Firebase
 - To store user accounts and user footage
 - Track and maintain timeline of user's progress
- Google Cloud Text-to-Speech
 - Text-to-audio technology that can provide real-time audio feedback
- Provides real-time, dynamic feedback



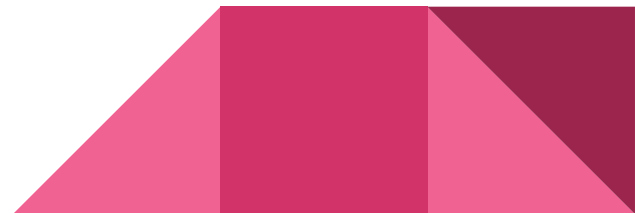
Challenges

- PoseNet
 - Must have proper lighting and clothing that contrasts with background
 - Body key points aren't always detected
 - Camera needs to be set at approximately hip-level
 - Exercise needs to be performed facing the camera
 - Processing all the outputs
 - Can't analyze cues that require a profile view of body
 - Minimal documentation
- ReactJS
 - Familiarizing with syntax
 - Integrating PoseNet with front-end



What's Next : Goals for Q2

- Account Creation & User Authentication
- Provide real-time audio feedback
- Analyze breathing patterns
- Keep track of user progress
- Social Media Integration
- Improve front-end



Questions?

