Test Plan

To: EC463

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Subject: 2nd Prototype Test Plan

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1 Required Materials

1.0 Hardware

- A computer and mobile phone
- Integrated or connected camera
- Spacious and flat area

1.1 Software

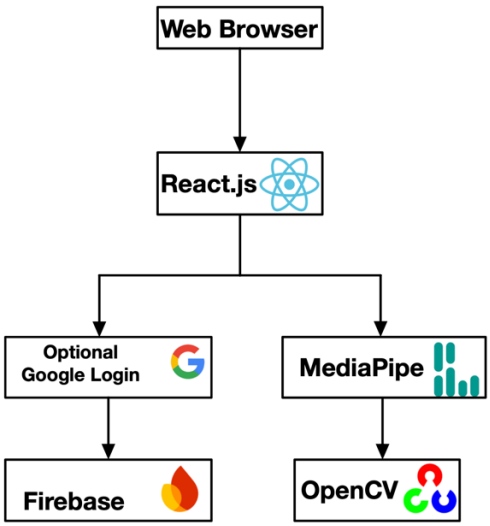
- Internet connection
- Web browser that can run JavaScript

2 Set-up

We have configured our program to be a webapp accessible via the URL which can be found here: https://exersights.web.app/. We have developed several different interactive webpages using HTML, CSS, and JavaScript. The user will click on the URL to launch the program, which will run locally on the client-side.

Once the program is running, the user can navigate between the different pages. The *Home* page simply displays some welcome text and a disclaimer. The *About* page is currently empty, but we plan to put project information on it. The *LogIn/LogOut* button allows users to link a gmail account to the current session. We have incorporated user-saved exercise settings, and plan to add more features involving user accounts in the future.

The *Catalog* page contains all exercise pages we have currently implemented. Navigating to an exercise page will request access to a camera. Once given permission, the center of the page will display the camera feed, the computer vision model, and a feedback/configuration panel. When the user is in frame and attempts the exercise, the panel will display exercise-specific feedback based on joint and limb angles and location. The user can configure the rep count and the exercise settings to adjust the exercise to their liking.



3 Pre-testing Setup Procedure

3.0 Connect one of our laptops and phones to the internet.
3.1 Place the laptop onto a desk or bench, with the integrated webcam facing forward
3.2 Prop phone up on the desk can use a water bottle to keep phone vertical
3.3 Open the URL found here: https://exersights.web.app/

4 Testing Procedure

4.0 Load application and show the different webpages focusing on single page implementation.
4.1 Open an exercise page of testers choice, we suggest squat as it is easiest to demonstrate.
4.2 Enable webcam permissions and demonstrate user login.
4.3 Show the computer vision model landmarks within the webcam feed.
4.4 Have user preform exercise which will demonstrate updated audio and visual feedback.
4.5 Demonstrate new features such as: help section, selectable voice, and video upload.
4.6 Demonstrate exercise program feature
4.7 Demonstrate exercise timer.
4.8 Switch to mobile device and demonstrate how you can add the PWA and once downloaded use without internet.
4.9 Navigate to the contact page and demonstrate new exercises.

5 Measurable Criteria

5.0 The webapp should be able to run from any chosen computer or mobile device.
5.1 Users will be able to navigate through the different pages.
5.2 The computer vision model will accurately detect limb and joint angles, with less than 5^{o} margin of error.
5.3 The feedback and rep count will change in real-time based on the camera feed, with less than 200ms of delay.
5.4 Demonstrate how the user can see visual feedback from at least 5ft