User Manual

This simulator caters towards weightlifters.

First let's cover the different sounds you will hear in the simulator.
- text to speech to let user know their foot placement is incorrect
- a "correct" sound when there is good muscle activation (from correct.wav)
- an "alert" sound when there is bad muscle activation (from alert.wav)
- text to speech to let users know if their form is putting their knee or spine at risk.

The sound files were obtained from freesound.org

There are 3 examples the simulator emulates. "Good muscle activation" button plays the sonification of a json file with data that corresponds to good muscle activation.

"Bad muscle activation" plays the sonification of a json file with data that corresponds to bad muscle activation.

"Injury mode" button plays the sonification of a json file with data that corresponds to a weak spine and a weak knee.When the injury mode is selected, a function lowers the threshold of the values for the spine and knee flag.

Events may also be triggered using the UI controls. They can be triggered before any button is pressed and after you have selected the necessary values, click on the "Update" button.

There is a gain slider to manipulate the amplitude environment and the "correct" sound goes through a reverb. Additionally, when the "alert" sound is played and during text to speech messages, the "correct" sound gets ducked to avoid a messy audio stream.

Some changes were made during development but the JSON data is similar to the design document and as per the design document, all the user scenarios are covered.