Mason Manca

CPSC 321

Dr. Bowers

1 November 2022

Project Proposal

For this project, I am going to be using ReactJS as my front end and Node/Express as my back end. The theme is going to be weightlifting, with the database content being composed of exercises with the muscle groups they work respectively. This field is quite controversial surprisingly since some influencers recommend certain exercises entirely over others. My plan is to read the scientific research that investigates the number of muscle fibers activated with each respective movement. This will allow me to do far more analytics on my data, as I can sort them based on the quality of exercise as well as which movements are comprised of multiple muscle groups functioning. Some more functionality I intend on including involves weekly splits of training. The most popular being, push/pull legs and the Arnold (Schwarzenegger) split. After choosing which split the user would like and choosing some exercises they'd want to be included; my program will generate a potential workout plan using their preferred exercises. Each routine will receive a rating depending on the number of muscle fibers activated when performing every exercise. Transactional processing is mostly prevalent in the creation of workout plans, though a user will be able to input new exercises so long as they include all of the details regarding it. Those being muscle groups worked, number of muscle fibers, joint strain, risk of injury, and muscle failure (some exercises should be performed for muscle failure and others, due to safety and effectiveness).