My project proposal is a method to devise a method, using modern computing, to accurately track the biomechanics of a user. The primary applications of this would be involved in resistance based movements involving free weights but would serve as a far superior version of the Fitbit that can help an average person get into higher end fitness or help those who are already knowledgeable about fitness. My motivation for this project is the disappointment with the current fitness technology. In my opinion, devices like the Fitbit are nothing more than overpriced pedometers that drain a user’s smartphone battery. The other functions such as “quick phone control” or “calorie measurements” are either useless for the cost being asked or inaccurate. While increasing one’s steps is a start, real changes in fitness are made through consistent and rigorous activity. One must track the efficiency of how this activity is being performed in order to get the most benefit and in order to ensure its safety. A personal example is tracking the biomechanics of various weight lifting movements, which my proposal will operate off of. The primary goal is to ensure that this proposed software/hardware combination can detect, with relative accuracy, whether a particular weightlifting movement is being performed properly with respect to safety and efficiency. Further adaptions would be the ability to adjust the parameters of “efficiency and safety detection” for various lifters, detect precise metabolic processes by performing the inspected movement, and offering feedback based upon goals entered by the user. The primary challenge is determining a way to intake the user’s biomechanics of a particular movement. Two possible options are, using an adaption of the Smartshirt or simply operating off of a recorded film of the user. The next obstacle is finding a way for a computer to recognize whether proper form is being conducted. However, I believe that this can be solved with relative ease. The computer simply has to generate a model for that movement based upon the user’s leverages and individual anatomy(a case where greater accuracy could be achieved with a Smartshirt Adaption) and then compare that to the film or live footage. If only film is available, then the user would be able to enter some information about their anatomy, and the software would compare it to the input film. The software would provide a rating on the efficiency and safety of the conduction of the movement as well as some tips for improvement.