Mon-Tues 2013.07.01-02 LL

Finally mastered the autotracking feature of Tracker! (Tutorial page to come.) The basic idea is...
- SHIFT + CTRL + click to set the "template" for what they will search for the match the point of interest in each frame
- Make sure that there is both a "template" image AND a "match" image after your click. Autotracker will not work unless there is a "match" image. I have no idea why... this is what kept tripping me up
- Sometimes, tracker will incorrectly match a frame. When this happens, you have 2 options. SHIFT + click to manual define a point, SHIFT + CTRL + click to redefine the "template". This is useful to keep the autotracking going for the next couple of frames, if the image has changed drastically from its original look as defined in frame 0.
- Make the dotted square (area that the program will search in to find the image) around it large enough to include all positions the point of interest will take on during the course of the video. This way, you don't have to keep stopping and expanding it.

Tracker only seems to save screenshots ("snapshots") of the graphs in 4 file formats: .EPS, .JPG, .GIF, .PNG
I would have preferred if we could save the graphs in vector file formats, so we can zoom in and out and crop parts of the graphs without losing quality. To compensate for this, I used the dual monitors at Mann to expand the graphs as much as possible before "snapshotting" the image and saving it. .EPS is a high quality format that only drawing programs such as Adobe Illustrator can open. .PNG retains the highest quality out of the other 3. Thus, I decided to save all graphs in both file formats.
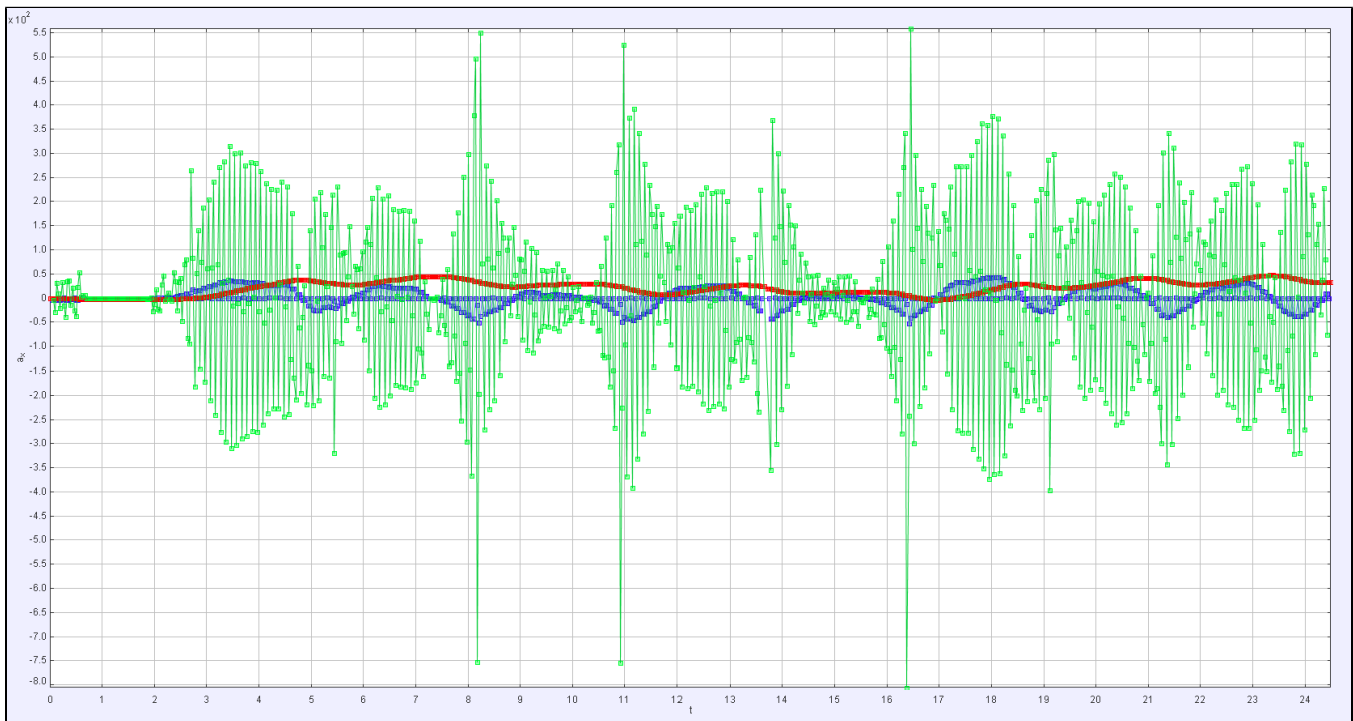
I did video analysis of Rowgometer.

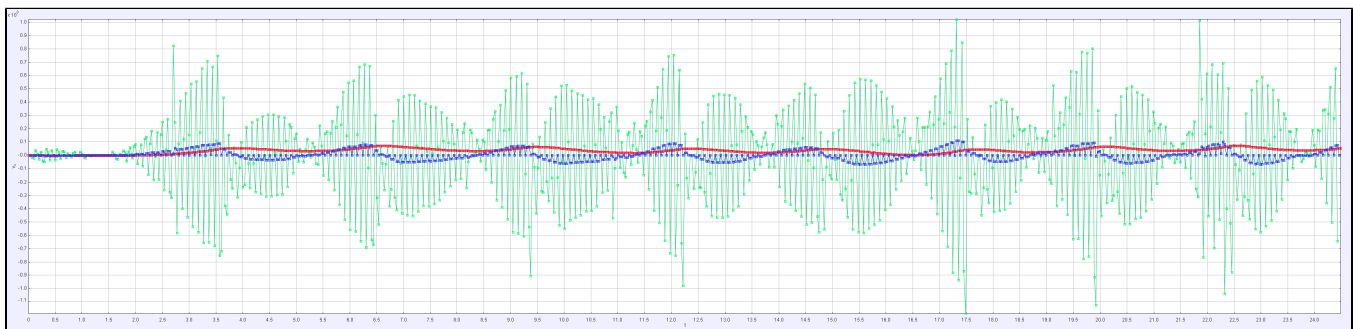*Figure 1: Position (red), velocity (blue), acceleration (green) curves for the erg.*

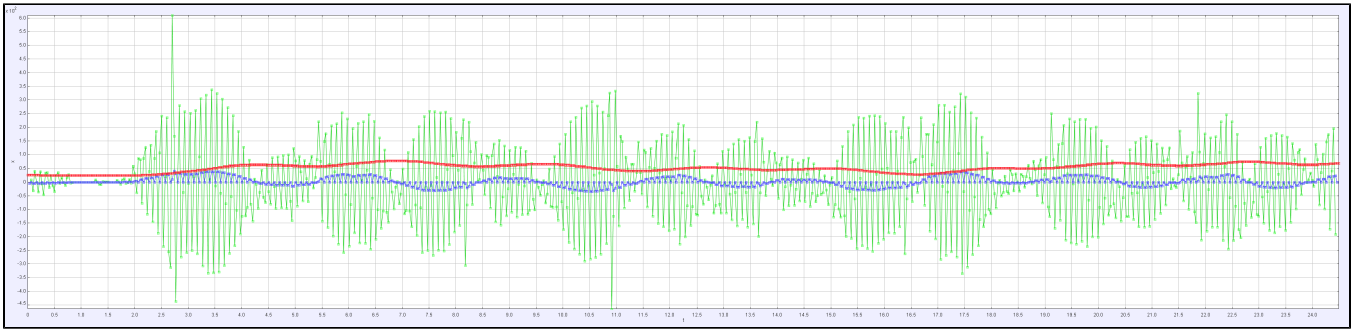*Figure 2: Position (red), velocity (blue), acceleration (green) curves for the handle.*

Figure 3: Position (red), velocity (blue), acceleration (green) curves for the seat.

With so much data, it's difficult to see the relevant information. I noticed that every 3 frames would give the same position data, creating piece-wise functions for each curve, and making things look jagged in the comprehensive view, especially for the acceleration. If I adjusted it so that Tracker only graphed the data for every 3 frames, the curves are a lot smoother.
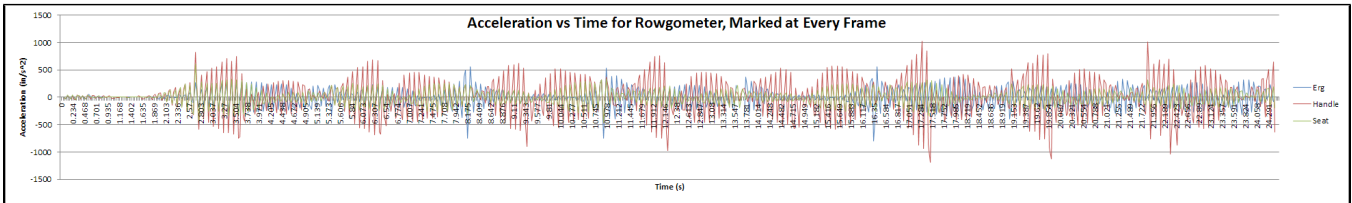

Figure 4: Acceleration vs Time, Marked at Every Frame. Curve is very jagged and it's hard to see what is going on.
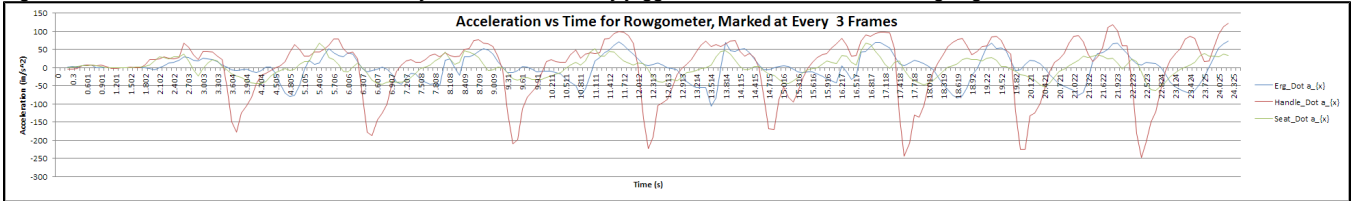

Figure 5: Same graph, but with data only marked at every 3 frames. This looks a lot cleaner and it's easier to see what is going on.