Mika Thormann 5465950

Progress report for week 16

Differential Evolution:

I made a second layer of population evaluation. Previously, a bad estimated trajectory was detected, if it did not hit the other side of the table or went below it. Now, a bad starting position, out of reasonable bounds for table tennis also causes this. This led to cases were all individuals of a population get detected as such and their error being set to 10000. In those cases, the algorithm did not produce reasonable results which led to outliers in my benchmark.
Now, I still punish those cases with an error of 10000, but also add an extra penalty on top. Every case that can be detected got a penalty function. Like this, the algorithm was able to work in every of my 100 test trajectories and I reached an average trajectory error of less than 6 with the worst outlier at 37. (testing at 60 fps with speed in 0 to 20 m/s)