sdmay18-04: Physical Character Animation using Machine Learning

Spring Report 7
April 7 - April 20

Team Members

Rob Quinn — *Project lead, Sim lead programmer, client communications*
Joe Sogard — *Web lead, Backend programmer*
Joe Kuczek — *Full stack web, SCRUM master*
Luke Oetken — *Simulation programmer, Machine Learning, Status reporter*
Andrew McKeighan — *Simulation programmer*
Kenneth Black — *Simulation programmer, Machine Learning*

Summary of Progress this Report

For this report period our team focused on finishing up and testing the core features of our project. This included finishing up the website and simulation communication API to get genome data to be displayed on the web. It also included working on converting the simulation model movements to character animations that can be used in a game.
Along with these core components, we also worked on adding new character models to the simulation, in order to demonstrate the versatility of our genetic algorithm. By experimenting with new models, we are also able to see areas of our fitness function that could be improved. We have decided to use a tiger model as the main demonstration for our project presentations next week.
The team also continued to work on small edits to the fitness functions and learning algorithm to get the character movements to look as good as possible and improve the speed of the learning process for our demos next week.

Pending Issues

There are no pending issues for this report.

Plans for Upcoming Reporting Period

As this is the final status report for our project, all main development tasks are complete. However we will continue to test the website and simulation communication before our final presentation next week to ensure everything is working as expected. We will also continue to work on examples to show off our project in the demos, and finish all the project documentation.

Individual Contributions

Team Member	Contribution	Bi-Weekly Hours	Total Hours
Rob Quinn	Added new character models, rigging, testing, checking functionality of modules	9	79
Joe Sogard	Finished api to get genomes from C# to the web	8	74
Joe Kuczek	Worked with Joe to finish displaying simulation data on the web application. Propagated and formatted genome data to front-end charts/graphs. Made slight modifications to Web API in order to make required queries.	8	67
Luke Oetken	Worked on example game, using simulation movements as animations. Worked on finishing project documentation.	8	78
Andrew McKeighan	Worked on mitigating undesirable behaviors and currently adding termination options.	9	59
Kenneth Black	Precision movement with granularity and muscle values, added extra swaps, inversions, and scrambles. Merged with rest of group for final project.	9	65