sdmay18-04: Animal Locomotion and Behavior Simulated by Genetic Algorithms
Week 9 Report
November 7 - November 13

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
This week, the simulation programmers continued development and testing of the current prototype, and the ML-Agents prototype. Significant progress was made in the conversion to ML-Agents, with the Unity environmental fully set up and functioning properly. However, there is a lot of work still required to implement the agents training process, which is far different than our current training implementation. The web engineers worked on creating fake simulation data to use in the development of the project website, so that website development can continue despite not yet knowing exactly how the simulation and website will communicate.

Pending Issues
It has become clear that using the ML-Agents framework will significantly change the structure of the project, and require a lot of rework. We are not yet sure if this is the route we want to take, but for now we will continue developing both prototypes.

Plans for Upcoming Reporting Period
The simulation engineers plan to work on closing feature work and polishing the current simulation prototype for the end of semester demo, as well as work on getting the ML-Agents prototype to a demonstrable state. The web engineers will also work on finishing up and testing the project website for the demo.

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Rob Quinn	Testing current implementation for stability	1	31
Joe Sogard	Created scripts to generate fake data	1	23
Joe Kuczek	Help Joe come up with fake data	1	25
Luke Oetken	Continued development of ML-Agents prototype, finished setting up Unity environment	5	38
Andrew McKeighan	Finish fitness function	1	23

Kenneth Black	Attempted different learning algorithms for Remi.	2	24.5