## sdmay18-04: Animal Locomotion and Behavior Simulated by Genetic Algorithms

Spring Report 1
January 8 - January 26

### 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

The past two weeks our team worked on re-familiarizing ourselves with the project status, and establishing goals for the coming semester. We met to define new responsibilities for all members and make plans for what work we will be focusing on. We also met with our client and advisor to discuss the progress we have made so far and our project goals moving forward.

### Pending Issues

We had discussion with our advisor about whether or not to use neural network learning in our genetic algorithm, and we have yet to decide if this is a direction we want to take.

### Plans for Upcoming Reporting Period

In the next report period we plan to begin development of the animal behavior learning environment. We will also continue working on the locomotion simulation and website development.

### Individual Contributions

| Team Member | Contribution | Bi-Weekly Hours | Total Hours |
|---|---|---|---|
| Rob Quinn | Researched specific use cases of the application for games and animation.<br>Evaluated current architecture as we begin behavioral sim. | 3 | 37 |
| Joe Sogard | Added error handling to php scripts and made more modular for reuse. Created API usage guide for ease of use | 6 | 34 |
| Joe Kuczek | Researched different methods to generate test data/genomes. Incorporated library Chartist.js with basic charts to create a sample frontend. | 3 | 31 |

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| Luke Oetken | Worked on testing and tweaking the locomotion algorithm, planning how to design the behavior learning environment. | 4 | 45 |
| Andrew McKeighan | Cleanup comments and code. | 2 | 28 |
| Kenneth Black | Initial planning for behavior simulation | 2 | 29 |