

AN EVOLUTIONARY APPROACH FOR PROCEDURAL OPPONENT GENERATION IN VIDEO GAMES.

FINAL REPORT: Grant Number IF18-004
PRINCIPAL INVESTIGATOR: Barrie Robison
REPORTING PERIOD: July 1, 2017 – July 1, 2018

SUMMARY OF PROJECT ACCOMPLISHMENTS:

Developed “Project Hastur” into a “pre-release” stage. The game is a “tower defense” style game with real time strategy elements. The player must compete a population of evolving aliens that adapt to their individual strategy. The game features 5 fully developed maps alongside “experiment mode”. The 5 maps represent the first “chapter” of the four part story that guides the player through “campaign mode”. The model of the game includes mechanics that involve both subpopulations and migration.

The game is available for PC, Mac, or Linux platforms. We plan to release commercially on Steam this semester. Our planned price point is \$14.99.

Presented the project at the “Artificial Intelligence in Digital Entertainment” conference in Snowbird, UT, October 2017. This presentation led to a seminar invitation to the University of Alberta, where we are scheduled (March 9th, 2018) to meet with faculty interested in collaborations, as well as industry representatives from Bioware (a triple A game studio). This has developed into a full blown collaboration with Dr. Vadim Bulitko’s lab at the University of Alberta. His group visited the UI in May 2018. We are collaborating on

We have now been accepted to present Project Hastur at the 2018 AIIDE conference in Edmonton, AB (November 2018).

Completed the first round of play testing (using UI undergraduate students), which helped us refine the evolutionary model and fix bugs and errors.

Dr. Robison was invited to speak about the project at the Eastern Washington University Darwin Day seminar on February 16th.

We were an exhibitor at the EVO-WIBO meeting (Evolutionary Biologists from Washington, Idaho, British Columbia, and Oregon) in Port Townsend, WA, April 13-15, 2018.

We showcased the game as part of the booth for the Society for the Study of Evolution at the US Science and Engineering Festival in April 2018.

We participated in the UI crowdfunding platform (U&I Give) and earned ~\$2700.

PLANS POST IGEN:

File for the formation of an LLC. We still intend to do this, but we could use more guidance on the implications and pitfalls.

Begin and sustain an advertising and promotion campaign, which will be funded with the proceeds from our crowdfunding campaign.

SUMMARY OF BUDGET EXPENDITURES:

All funds were expended according to the IGEN deadlines.

Detailed reports of our expenditures are attached.

FACULTY AND STUDENT PARTICIPATION:

One staff (artist/game developer) and one student (programmer) position were directly supported by grant funds during the reporting period. However, additional participants in the PROJECT included 16 more undergraduates from Computer Science, Biology, Virtual Technology and Design, Music, English, and Business. Drs. Barrie Robison and Terry Soule are the primary faculty, but we collaborate with colleagues from Education (3), English (1), VTD (3), Music (1), and Business (1).

Total Student Participants: 17

Total Faculty Participants: 11

Total Staff Participants: 1

PATENTS, COPYRIGHTS, AND CERTIFICATES:

None (yet). However, we are currently completing the invention disclosure paperwork through the UI.

LICENSES AND START-UP BUSINESSES:

Our primary aim remains the creation of an LLC that works closely with the UI to license and distribute our games. In the coming year, we seek to recruit help from our business colleagues, the Office of Technology Transfer, and the Idaho Technology Council in forming a start-up company.

INDUSTRY AND PRIVATE PARTNERSHIPS:

None (yet).

ADDITIONAL FUNDING AND BURN RATE:

Our burn rate is described in the attached financial statements.

We applied for a \$2.6 million grant from the National Science Foundation with our colleagues from the College of Education. The grant was not funded, but we are resubmitting this November. We are also working on additional proposals for future games that would be licensed to the LLC.

ADDITIONAL INFORMATION:

None.