

# **AN EVOLUTIONARY APPROACH FOR PROCEDURAL OPPONENT GENERATION IN VIDEO GAMES.**

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

## **SUMMARY OF PROJECT ACCOMPLISHMENTS:**

Hired lead artist and game developer (Landon Wright).

Hired lead programmer (Samantha Heck).

Developed “Project Hastur” into a playable beta 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. We can provide copies of the game for PC, Mac, or Linux platforms.

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 9<sup>th</sup>, 2018) to meet with faculty interested in collaborations, as well as industry representatives from Bioware (a triple A game studio).

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 has been invited to speak about the project at the Eastern Washington University Darwin Day seminar on February 16<sup>th</sup>.

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

## **PLANS FOR THE NEXT REPORTING PERIOD:**

We have been approached by the UI to participate in their crowdfunding platform (U&I Give). Our plans for this campaign are described under “Additional Funding”, below.

Continue to beta test and refine the game mechanics.

Build out 10 more playable game regions, and link them with a migration model.

Develop story elements to support campaign mode.

Release the game on the Steam platform.

File for the formation of an LLC.

Begin and sustain an advertising and promotion campaign, which will coincide with our crowdfunding campaign.

#### **SUMMARY OF BUDGET EXPENDITURES:**

As of Jan 1, 61% of our funds remain. We are on track with regard to our spending projections, as the burn rate for the programmer position will increase from 10 hours per week to 40 hours per week beginning in May 2018.

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

#### **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 six months, 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 have applied for a \$2.6 million grant from the National Science Foundation with our colleagues from the College of Education. We are also working on additional proposals for future games that would be licensed to the LLC.

We have also been approached to participate in the UI's crowdfunding platform, U&I give. Our campaign will launch on Feb 12<sup>th</sup> (Darwin Day), and we seek to raise \$10,000 - \$20,000 in additional funding to support more features for the game. This has the dual benefit of increasing awareness of the game and increasing retail sales. We are currently working with our development officers to identify potential sources of matching funds in the private sector. We view this activity as an opportunity to leverage IGEM funding and produce an even better product than would be possible with IGEM funding alone.

**ADDITIONAL INFORMATION:**

None.