DARWINS' DEMONS MOBILE: EXPANDING THE MARKET FOR EVOLUTIONARY PROCEDURAL CONTENT GENERATION.

FINAL REPORT: Grant Number IF20-003
PRINCIPAL INVESTIGATOR: Barrie Robison
REPORTING PERIOD: July 1, 2019 – January 1, 2021

SUMMARY OF PROJECT ACCOMPLISHMENTS:

Hired lead artist and game developer (Landon Wright).

Hired development team:
Programmers: Lily Mason and Graeme Holliday
Music and Sound: Parker Piedmont
Interface and 2D Art: Aaron Yama
Marketing and Social Media: Savanna Estey

Developed "Darwin's Demons Moblie" into an advanced beta stage. The game is a space shooter that features evolving opponents that are procedurally generated. We can provide copies of the game for Android or Apple devices. A testing version of the game is also playable on Mac or PC desktop computers. The game features 5 ships, more than 50 pieces of upgradable equipment (weapons and defenses), 6 maps, and a soundtrack that evolves along with the enemy population.

Changed the name of the game to "Evolvy Bugs", which captures the more whimsical artistic style of the procedurally generated content.

Registered with Google Play store for sale.
Registered with Apple App store through the UI's account.

Integrated the in-game store page into the app.

Developed the microtransaction business model and are now incorporating it into the game's architecture. These features are the primary remaining content that needs to be developed before release. The delay in development of these features is directly related to the COVID pandemic.

Extensive evolutionary model tuning in collaboration with Kristen Martinet, a PHD student in the Bioinformatics and Computational Biology program. The evolutionary model for procedural content generation is functional and produces game results that are likely to increase replayability.

PLANS POST IGEM:

Complete final play testing.

Complete the integration of the microtransaction model into the Google Play and App store frameworks.

Develop store pages on Google Play and Apple App store.

Release the game on Google Play and App Store with a staggered release strategy. This will allow us to deal with post release bug fixes one platform at a time.

Begin and sustain an advertising and promotion campaign.

SUMMARY OF BUDGET EXPENDITURES:

All funds were expended. We received a no-cost extension because of the complications created by the COVID pandemic. The pandemic substantially disrupted our workflow and caused us to lose several of our student developers.

FACULTY AND STUDENT PARTICIPATION:

One staff (artist/game developer) and five students were directly supported by grant funds during the reporting period. In addition, one graduate student (Kristen Martinet) performed her doctoral rotation in the game studio and supported the development of the evolutionary model.   The graduate student was not supported by the grant. Drs. Barrie Robison and Terry Soule were the primary faculty, but we collaborate with colleagues from Education (3), English (1), VTD (3), Music (1), and Business (1).

Total Student Participants: 6
Total Faculty Participants: 2
Total Staff Participants: 1

PATENTS, COPYRIGHTS, AND CERTIFICATES:

None, but we will file a disclosure with our office of Tech Transfer prior to commercial release.

LISCENSES AND START-UP BUSINESSES:

Should the game sales perform well, we will create an LLC.

INDUSTRY AND PRIVATE PARTNERSHIPS:

None (yet).

ADDITIONAL FUNDING AND BURN RATE:

We have applied for a $1.5 million grant from the National Institutes of Health with our colleagues from the College of Education. We were also part of a large NSF grant that was awarded to study tick borne disease (~$6 million). Approximately $250,000 over the next four years is allocated to the game studio to develop additional games. We are also working on additional proposals for future games that would be licensed to the LLC if formed.

ADDITIONAL INFORMATION:

We are happy to provide builds of the game upon request.