

***EE/CprE/SE 492 BIWEEKLY REPORT 5***

***March 14 - April 3***

***Group number: Team #37 - sdmay25-37***

***Project title: Non-Euclidean Game***

***Client: Josh Deaton***

***Advisor: Dr. Joseph Zambreno***

***Team Members/Role:***

***Tasman Grinnell Project Manager/Rendering Engine Engineer***

***Josh Deaton Rendering Engine Lead***

***Ben Johnson Rendering Engine Engineer***

***Cory Roth Rendering Engine & Game Design Engineer***

***Spencer Thiele Game Design Lead***

***Zach Rapoza Game Design Engineer***

***Lincoln Kness Game Design Engineer***

o **Weekly Summary - The engine team generally made progress in getting the engine ready for integration with the game design team. Josh found more issues with the shaders, but made progress on the shaders themselves. The game design team prepared the demo for our Advisor meeting on 4/4, sufficiently planning and preparing the Unity demo for a play test. Additionally, the teams have been collaborating more to prepare for the integration, which will be occurring after the platest.**

o **Past weeks’ accomplishments**

* Tasman: In the past weeks, I found the sound library SoLoud, which is perfect for our use. The only issue has been that to build/integrate the library, a niche lua scripting tool is required. Therefore, I have been looking into alternatives. In the meantime, I’ve been preparing to help Ben with general system integration by looking into the entt library that we’re currently using as the Entity-Component-System. This is primarily to prepare for the integration with the game that will occur beginning (maybe) next week, after the playtesting is finished.
* Josh: Discovered issues with the square tiling I had made previously. Read through other niche code repositories which create hyperbolic art and use them to help create a central (p,q) gon to generate the tiling. Discovered glm does matrix multiply backwards and fix the pertaining issues. Created code that can triangulate the central p-gon.
* Ben: Developed a “system” handler to allow developers to configure how code is run through the engine. Modularized the entire existing engine by turning it into configurable plugins. Performed a lot of cleanup of various parts of the engine. Implemented automatic texture packing. Created a simple demo game to show to the Game Dev team.
* Lincoln: Finished the document and form to give to the playtesters, as well as did some final touches on the unity playtest.
* Cory: Implemented Tile Mapping Features for render engine and made hopefully compatible with the rest of the engine. Working on finishing playtesting.
* Zach: Worked on implementing scaling based on the resolution. Fixed issues with seed spawning.
* Spencer: Completed the game for the playtest. This included sprite rendering order, sprite layering for clothes, adding a message system above the players head, adjusting seed functionality for planting anywhere, redesigning the forest map, adding 5 new NPCs with dialog and scripts, adding 3 new shops, creating cutscenes for death/start, adding a pause menu, creating a pause menu graphic, etc.

o **Pending issues**

* Tasman: LUA script issues with building the SoLoud Library.
* Josh: Issues with reflection of the central p-gon across different edges to form the motif. Need to integrate textures on these features
* Ben: N/A
* Lincoln: N/A
* Cory:N/A
* Zach: Scaling based on resolution
* Spencer: NA

o **Individual contributions:**

| *Name* | *Hours These Weeks* | *Total Cumulative Hours* |
| --- | --- | --- |
| Tasman | 10 | 128.5 |
| Josh | 35 | 130 |
| Ben | 42 | 156 |
| Lincoln | 10 | 99 |
| Cory | 12 | 120 |
| Zach | 12 | 98.5 |
| Spencer | 50 | 150 |

o **Plans for the upcoming week**

* Tasman: Continue working on the SoLoud Library issues and prepare further for helping Ben and the rest of the team.
* Josh: Work on reflection of the p-gon to tile the hyperbolic space. Need to work on state updating such that new tiles can be loaded.
* Ben: Continue to do as much work as possible to put the engine in a state that is ready for development. Help the Game Dev team integrate their demo into the engine.
* Lincoln: Prepare for the coming playtests and take notes during the meeting with Zambreno.
* Cory: Work with design team detailing the demo we will have and begin integration. Also work on if determining if we will need to buffer tiles when rendering for performance
* Zach: Finish prepping for play tests, and start working on developing for the engine.
* Spencer: Refine our playtesting questionnaire and create a functional build of the project to ship out. Rescope the game concept for the demo in our engine. Begin development on the demo in our engine.