

***EE/CprE/SE 492 BIWEEKLY REPORT 6***

***April 4 - April 17***

***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** This week the engine team made final decisions about the deliverables that we’ll have for the final IRP and poster presentations. A few live coding sessions were scheduled, with time set aside to focus on polishing the engine and integrating/completing the necessary parts for the final demo. On the game engine side, additional improvements on the Unity demo were done, with the Unity Playtest being primarily focused on. The playtest itself was uploaded to itch.io to allow for local and simple testing for people to just use a website to connect and play the game.

o **Past week accomplishments**

* Tasman: I primarily focused on researching and understanding how Ben created the engine and how to register and design custom components with the engine using the ENTT library. This is particularly important because this is the connection between new functionality custom to a game, which is our ultimate goal for the project. Since the game engine must be interacted with somehow for game development, this is quite possibly one of the most important portions to clean up and make intuitive.
* Josh: I attended group meetings and began working on implementing polygon reflection as a key step in expanding the tiling. I also started refining the triangulation algorithm to improve its accuracy and performance, aiming for better handling of edge cases and more consistent results
* Ben: More random fixes for different parts of the engine. Refactored more rendering code to a backend agnostic Renderer. Created a Time resource for to track time between frames.
* Lincoln: We had met with prof. Zambrino and were able to get some useful advice on our plans for our poster presentation.
* Cory: Got a euclidean rendering of final demo integrated and accomplished. Fixed minor issues with components of game design that did not integrate well together. Started integration of hyperbolic rectangles in rendering of final demo
* Zach: Fixed issues with seed random growth rate, worked on implemented seed permanence between scenes and maintaining the seed growth rate when transitioning between scenes. Looked into apng to pngs and how they are handled.
* Spencer: Finished up the playtest in Unity. This included adjusting maps, creating and adding cutscenes, adding more shops, adding npcs, adjust inventory UI, adding enemy trap functionality, and some other things.

o **Pending issues**

* Tasman: N/A
* Josh: N/A
* Ben: Need a fix for sprite Z-ordering so that the developer can control what sprite is rendered on top
* Lincoln: N/A
* Cory: rendering a sprite in non euclidean using bens entt is such fun
* Zach: N/A
* Spencer: N/A

o **Individual contributions:**

| *Name* | *Hours This Week* | *Total Cumulative Hours* |
| --- | --- | --- |
| Tasman | 9 | 137.5 |
| Josh | 8 | 138 |
| Ben | 22 | 178 |
| Lincoln | 10 | 109 |
| Cory | 30 | 150 |
| Zach | 9 | 107.5 |
| Spencer | 27 | 177 |

o **Plans for the upcoming week**

* Tasman: Continue to understand the work that Ben did to prepare for and work on final deliverables.
* Josh: Begin Integration of hyperbolic rectangles
* Ben: Integration of Josh’s hyperbolic rectangles
* Lincoln: Playtests should be starting soon, so getting into contact with our playtesters in our next step.
* Cory: Continue to work on integration of hyperbolic rectangles in given app rendering system
* Zach: Look into sprites for the non-euclidean rendering, work on deliverables, maybe start porting if shaders get finished.
* Spencer: Send playtest out and work on final deliverables.