***Cities – the first Sprint***

Generative patch of land with varying terrain height that has a city on it.

Moving camera shows the city.

Directional lighting and shading of the city.

GameWorld holds:

City

Terrain

Water

Sun

b2World

List of entities

Each entity has:

b2Body (userdata points to the entity)

a mesh

altitude angle

methods to get position (2d), angle in x-y plane

update() method

syncs transform from b2Body to mesh

game loop:

b2World.step()

update all entities

renderer.render

Todo:

Add trees (opt. animated) to outside

Create procedural trees

Add some sort of edge

Make day/night seamless

Add sky

Collision handling (entities and buildings) (consider just using jbox2d for this)

Goal for the game:

Survive 14 days?

Make buildings more interesting

**Brainstorm wildly different structures to take up space**

**Menger sponge**

**Pyramid**

**Randomly aligned plane-segments**

**Various 3d regular shapes ()**

**Superformula**

**Langdon’s ant**

**Game of life sim**

**Weird, rising towers**

**3D cutout of noise (simplex or perlin)**

**They can be drastically different heights and extrusions, but should leave walking room for the player**

**If necessary, just subtract walking space around it**

**Unions, intersections, and subtractions of these objects together**

**Just a bunch of lines pointing in a given direction**

**Bug Log**

ArrowHelper pointing down actually points up

Reason: edge case when (direction = directly down) in THREEjs

Time spent: ~3 hours of play/work

CSG not working for some weird reason (has to do with handedness of faces I think)

Mixing simple town generation with voronai

**Bug log**