DISTRIBUTION OF THE CITY BUILDINGS USING PERLIN NOISE

- Full city generation requires multiple things to be generated:
  - Street layouts
  - Building densities
  - Traffic simulations
  - Buildings' meshes

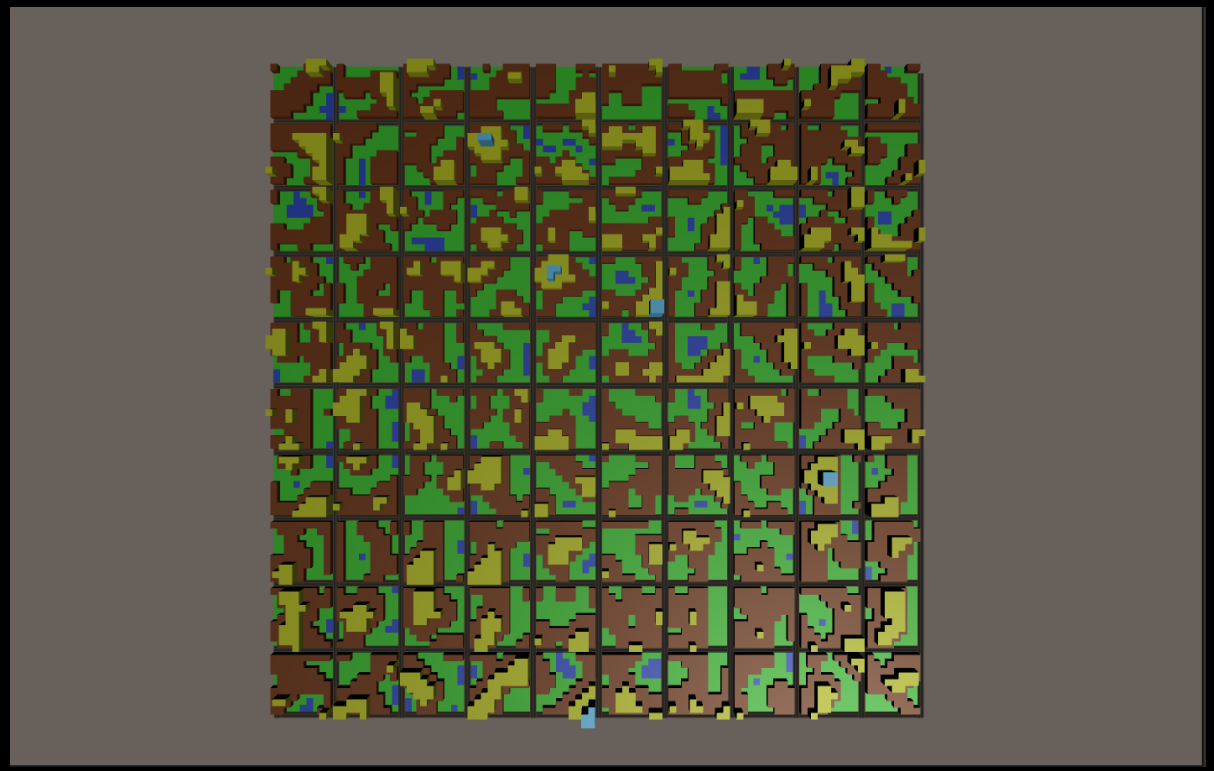
- In my work I've tried to focus on the second point.

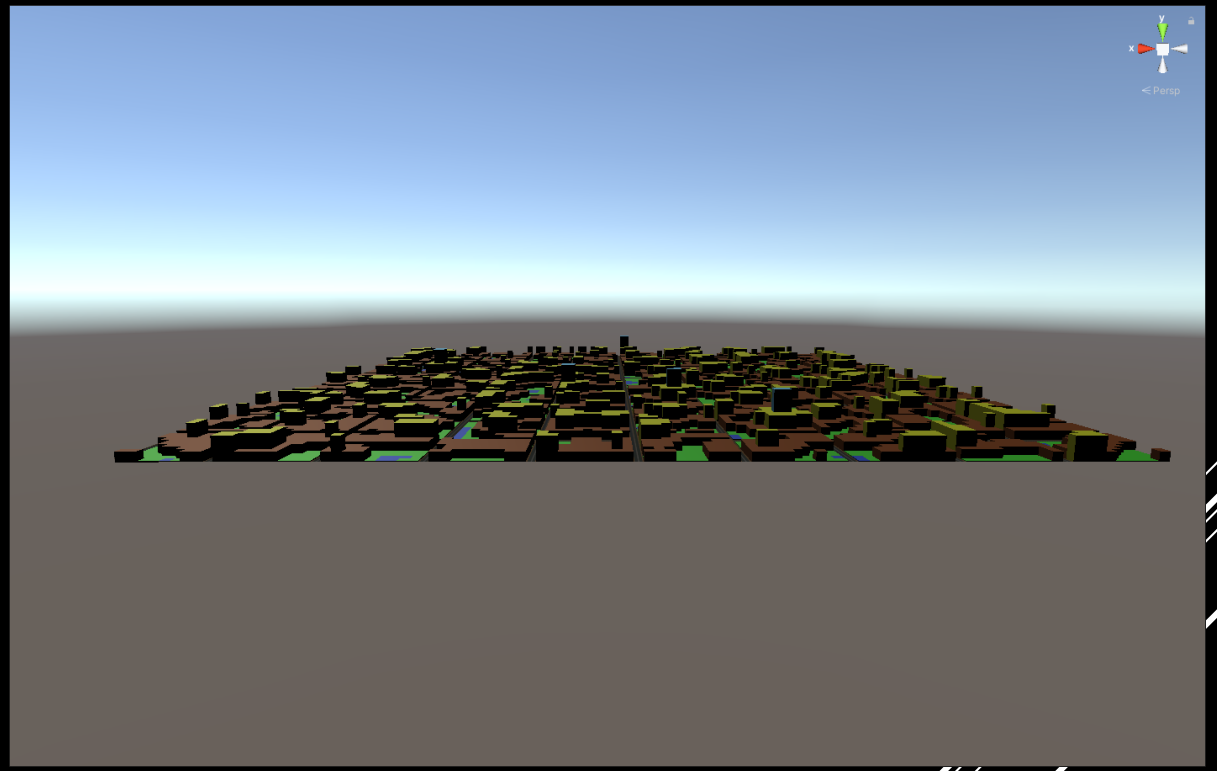
SUBJECT PRESENTATION

PERLIN NOISE IMPLEMENTATION

- Whole space is divided in planes. There are 5 levels of planes:
  1. Water level
  2. Ground level
  3. Small Building
  4. Medium Building
  5. Skyscraper

```
TileNumber = NoiseNumber * maxBuildIdx / maxNoise;
```

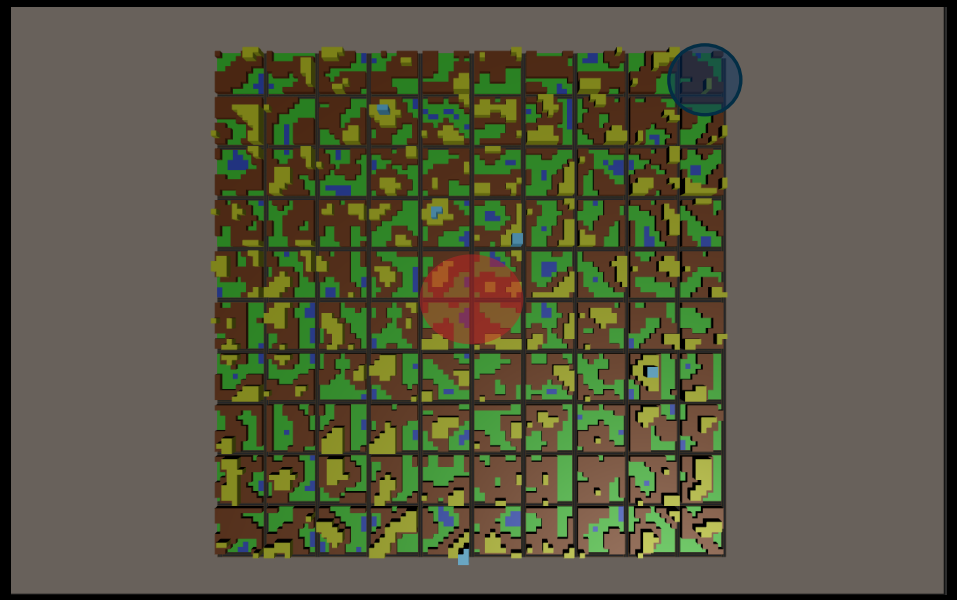




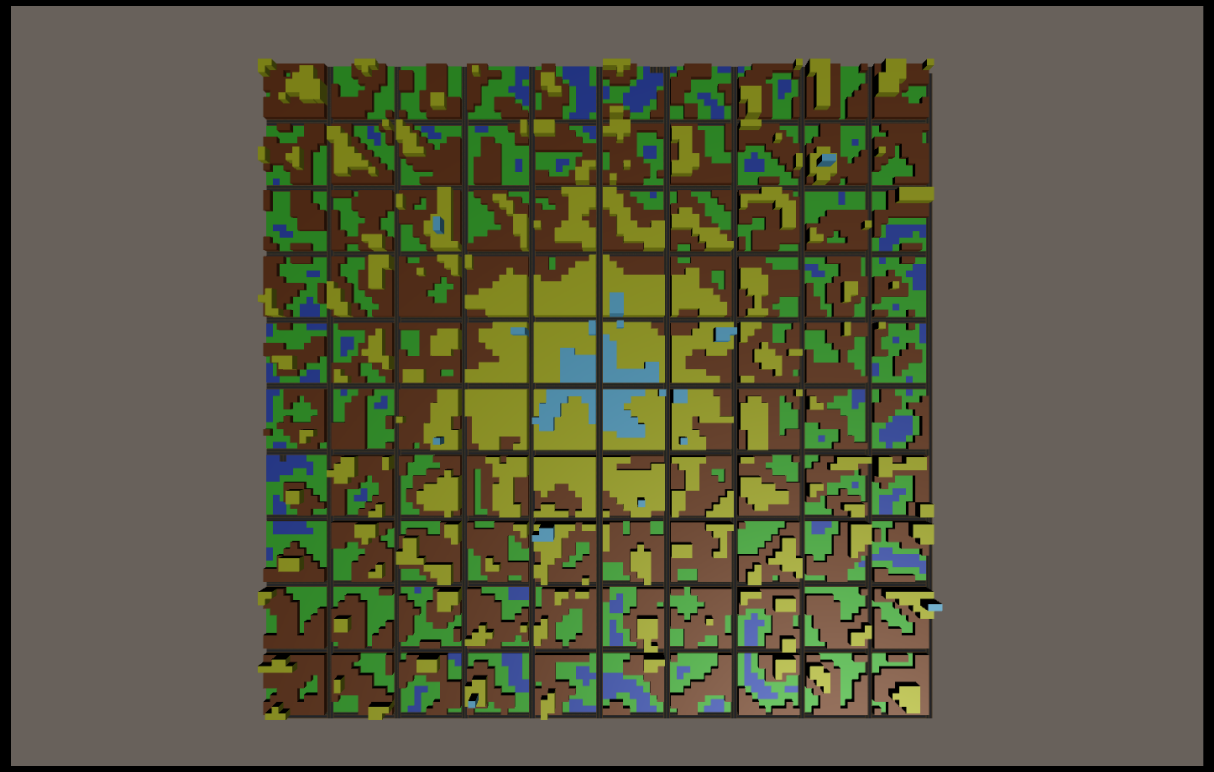
WITHOUT ANY CHANGES TO RANDOM FUNCTION

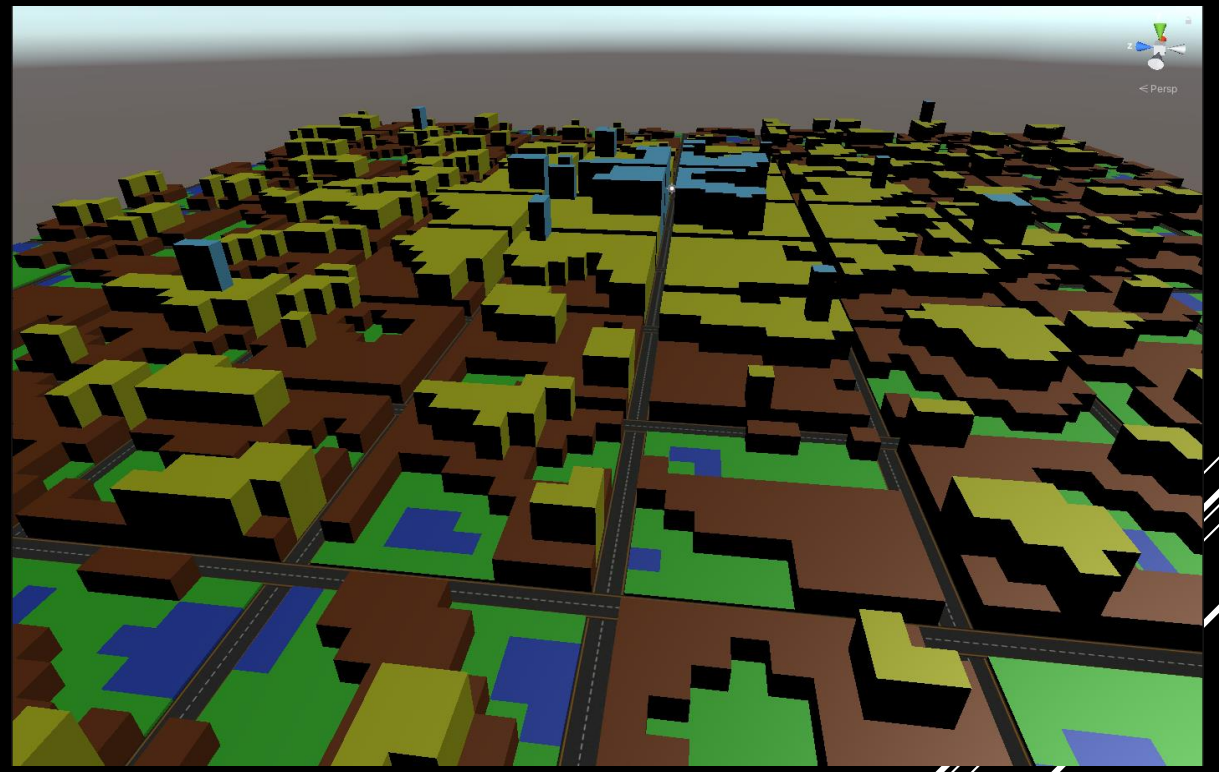
PROPOSITION

- Add a coefficient which will increase the probability of high building appear near to the center.



The coefficient will have lower impact on the edges of the map and higher impact near the center





INCLUDING CENTER COEFFICIENT

DEMONSTRATION

- Building mesh generation (shaders/actual procedural generation)
- Traffic simulation
- Street layouts (Voronoi texture)

THOUGHTS ON THE THINGS TO BE CONSIDERED NEXT

QUESTIONS