A Procedural, Minimal Input, Natural Terrain Plug-in for Blender

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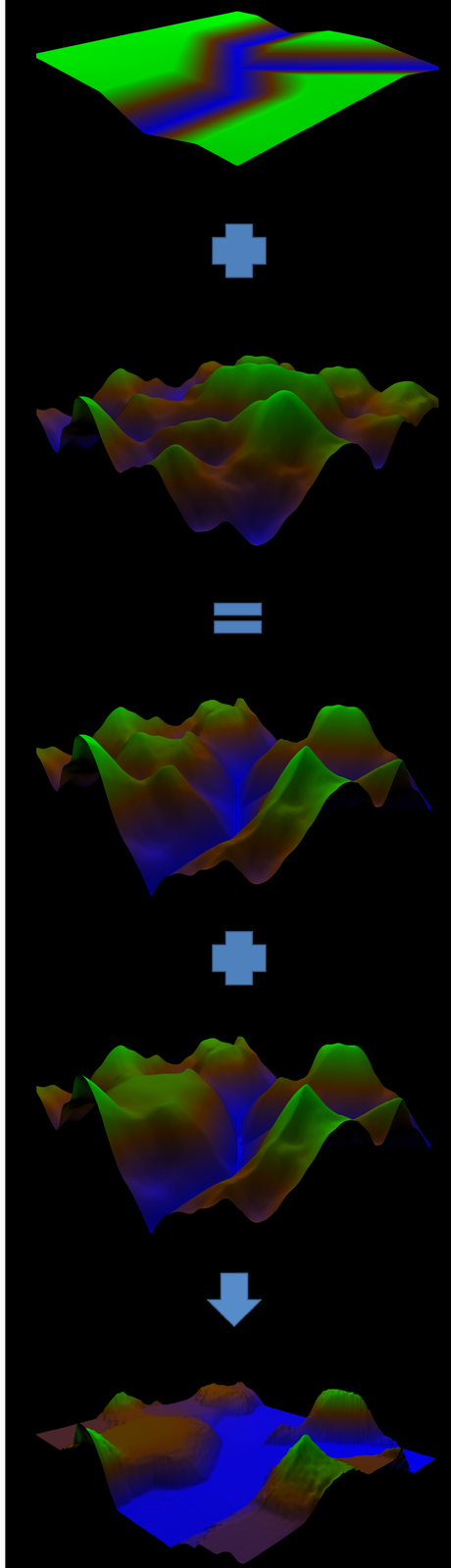


River path generation

Simple predefined paths, to be expanded on to create river networks using Squig curves [Prusinkiewics et al. 1993].

Fractional Brownian Motion

Reproducible noise function synthesized from sampling multiple frequencies of a noise generator [Musgrave et al. 1989].

Base terrain with river

Interpolation based on a radius of influence of the river paths.

Flattening

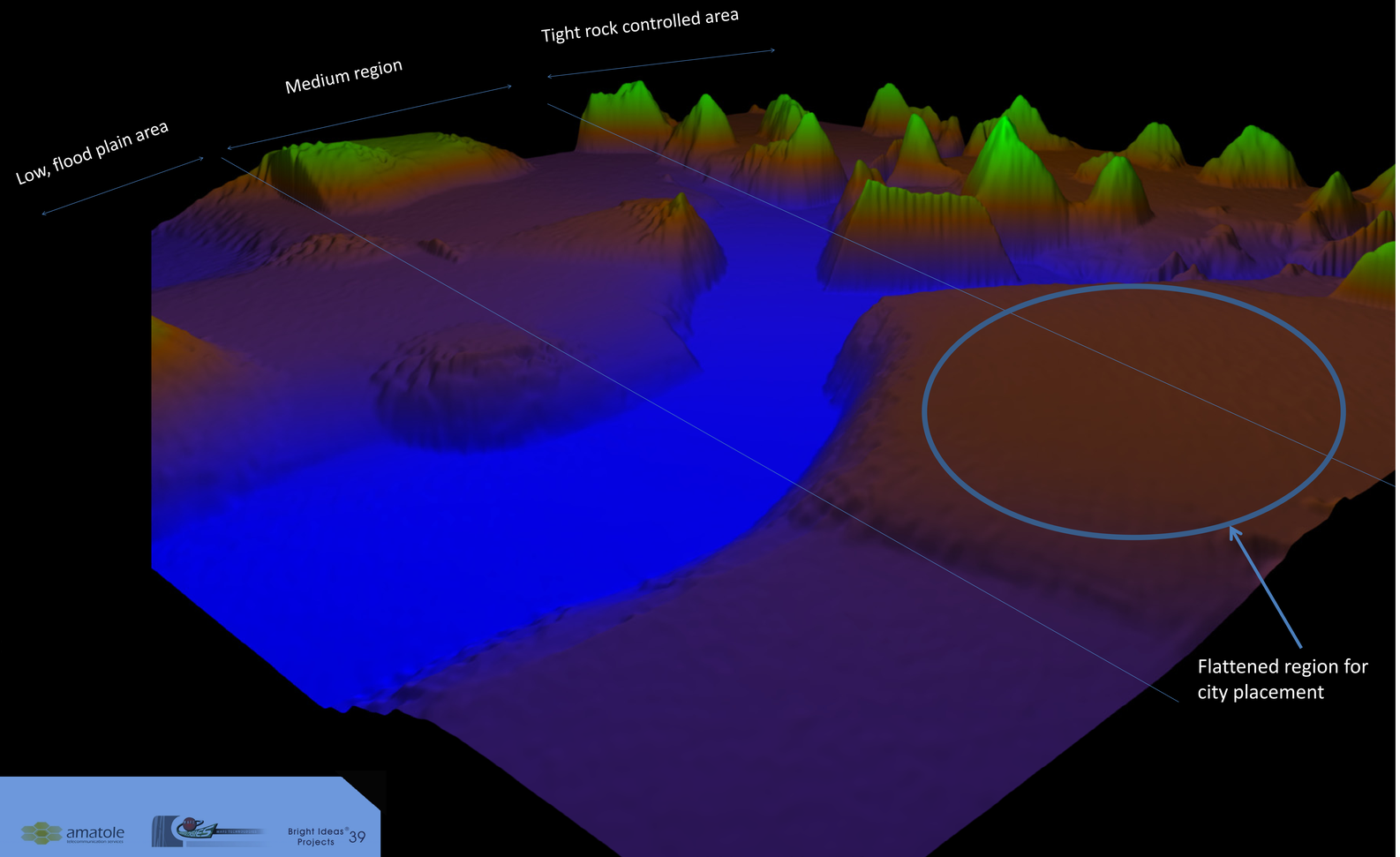
Flatten regions of terrain, via configurable parameters of position and radius.

Hydraulic erosion

Time-based erosion method using rain, which gathers sediment and distributes it based on proportional height differences [Musgrave et al. 1989].

Objective: To create a procedural method, capable of generating massive, realistic terrain, configurable with minimal controls in the context of a Text-To-Scene converter.

Method and Results: Using Fractional Brownian Motion as a base, regions are defined to be features (such as rivers). These are combined and hydraulically eroded (see sequence to the left)



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