Blue House | User Guide & Breakdown

Rendering Statistics

renderer - mantra

average render time - 17 min, 6 sec

image resolution - 1280 x 720

number of lights - 2 (sun & skylight)

geometry complexity - approximately 7,000 polys *(at default building size)*

Sampling

noise value - 0.01

pixel samples - 5 x 5

min/max rays - 4 / 10

diffuse - 2

reflection - 3

User Guide

This tool can be used to easily customize the appearance of the *Blue House* building. Because of the unique split in height and section painted in a different color scheme, the procedural building was divided into three sections from left to right (when facing the balconies). These sections are called *left*, *middle*, and *right*, respectively. A description of the parameter controls on the top level follow below:

levels - Used to control the number of floors, with the ground level remaining the same while the upper level repeats to create each new floor. The roof section is separate and remains on top.

depth - Used to control the depth of the building from the center, with the windows on all levels repeating as space allows. The storefront on the left side of the building is not copied as the depth increases, but shifts to the right to remain in the same corner position.

left unit width - Used to control the width of the left section of the building, adding to the left as the value increases. On the ground level, the small door does not repeat and stays on the left, while the storefront is copied as space allows.

middle unit width - Used to control the width of the middle section of the building, adding to the right as the value increases. The right unit shifts to the right to accommodate the width of the middle unit.

right unit width - Used to control the width of the right section of the building, adding to the right as the value increases.

balcony depth - Used to control the depth of the front balconies. The railings, poles, and supports all adjust as the value changes.

color - Used to adjust the colors of the building. Point color was used so that different sections of the building could share the same material but have different colors.

left wall - left/middle section walls
left detail - left/middle section balcony doors, windows, railings, and poles
right wall - right section walls
right detail - right section doors, windows, railings, and poles
trim - building details, such as balconies, supports, and edging
accent - building railings and ground level doors (excluding right section doors)
concrete - middle/right stairs on ground level

Beyond the Requirements

The minimum requirements for this project was to create a procedural building with width, depth, and height controls. I have gone beyond this by adding the controls for balcony depth and color, as well as split the width control into three separate controls. I have also ensured that the geometry was grouped properly to allow the windows to have a glass material, and I took the time to add texture to the roof.

About the Building

The *Blue House* building is part of a group of buildings known as the *Blue House Cluster,* located in Wan Chai, Hong Kong. The Blue House is a significant cultural building built in the 1920s and was recently refurbished, gaining it the Award of Excellence in the UNESCO Asia-Pacific Awards for Cultural Heritage Conservation in 2017.