# Level Design Document

Document
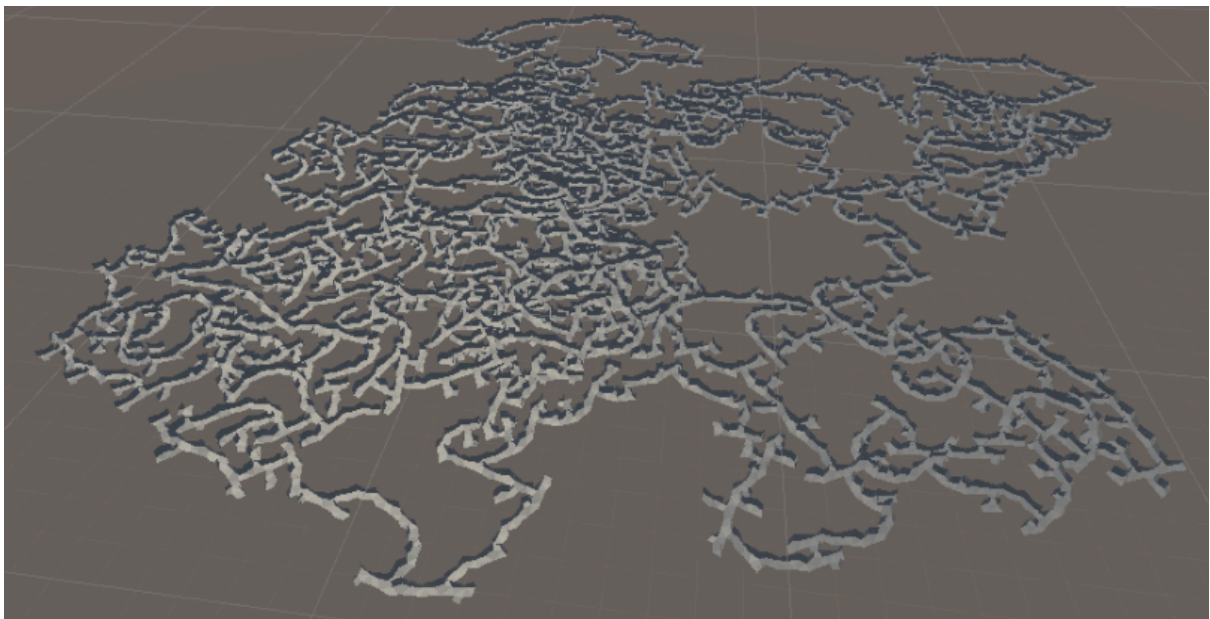
by

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# Table of Content

# 1. Introduction

This document functions as a short overview about the level system, atmosphere and planned biomes. To get a detailed inside, follow the links on the highlighted parts.
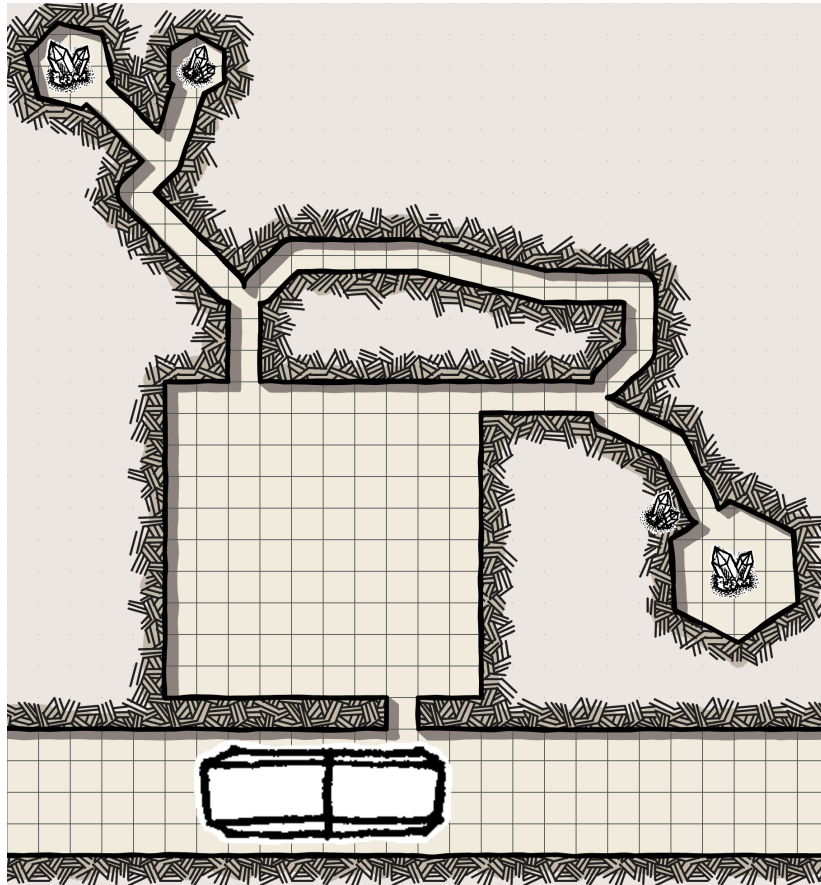
# 2. Level System

Our level system uses random generated levels, built with prefab level segments, ores, artifacts, blueprints and environment.

To restrict our system in size, value and difficulty. We defined several parameters, which sums up to a lucrativeness score.

# 3.  Level Map



# 4.  Atmosphere

As for the general atmosphere, we aim for an oppressive and lonely feeling. To achieve it, light, sound and music are important factors, as is the size and environment of our level segment.

# 5. Biomes

Our game contains three different biomes, with a unique experience and a clear distinction between color, shape and sound design. In addition every biome tells his own history, which forms an important part in the history/story of our game and allows the player a slight hint about his progression.

Each of them introduce a certain amount of mechanics/features/upgrades and a soft planned progress time.

# 6. Old Mines

## 6.1. Introduction

The Old Mines are hardly inspired from caves during the gold rush era. They function as a familiar starting point, which allows us to build a connection to the real world and the impact overmining entails.

## 6.2. Environment

As the Player begins his exploration, each segment contains a wooden support structure and dimmed light source, which suggests a warme and safer feeling. These segments aren't only low on iron ores and crystals, but they also have no chance in higher rarity.

As the player progresses through the tunnel, the support structures and light sources become less, while iron ores, crystals and rarity chance rises. This includes collapsed tunnels, cracking sounds, destroyable walls and small cracks, the player can crouch or crawl through.

## 6.3. Lighting

Each tunnel got a limited light value and specified spawn-chance-curve. This curve tells the placement and amount of spawned light sources.

As for the light source, we use candles and oil lamps, as non-interactive items and crystals as interactive items.

Non-interactive light sources use a warm orange color, while the VIOLACEUM uses a cold bluish color.



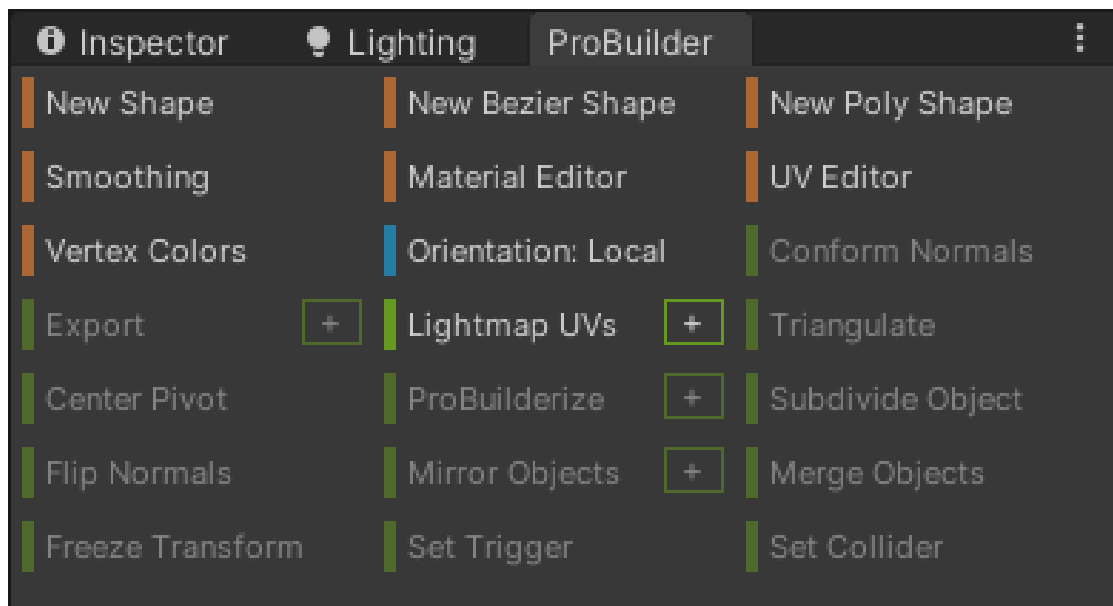shutterstock.com · 214857409

# 7. Level Segment

## 7.1. Introduction

This part is specific for the creation of Level Segments and contains size for segment-entrance and exit, degree for turns and slopes. As min-max size for "Main-Caves".
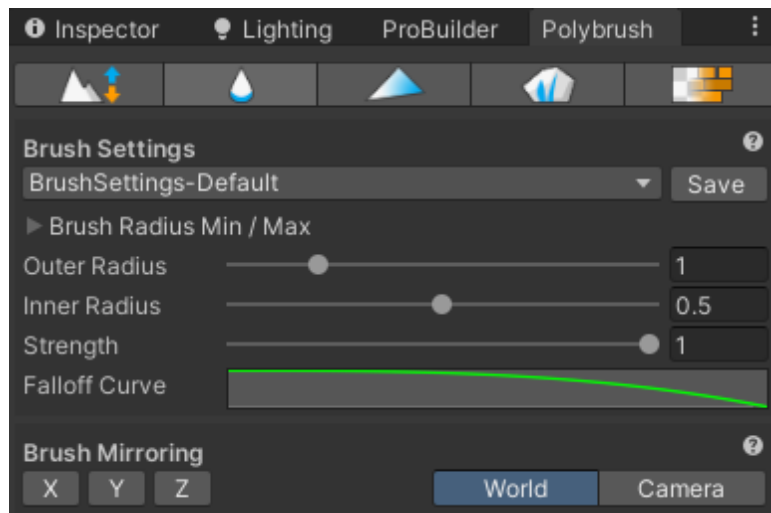
## 7.2. Tools

### 7.2.1. **Probuilder**

ProBuilder is an Unity tool, which gives us the possibility to easily create new shapes and adjust every face, edge and vertice separately.
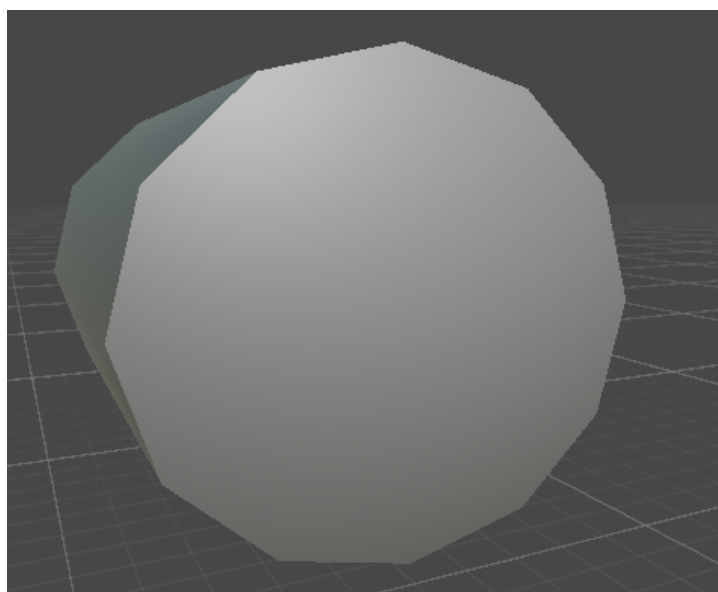
### 7.2.2.   **PolyBrush**

PolyBrush is an Unity tool, which gives us the possibility to use vertex painting on Assets.



## 7.3.   Geometry

Our Segments are based on a 12 sided Cylinder, which we halved, flipped face normals and rotated 90 degree.
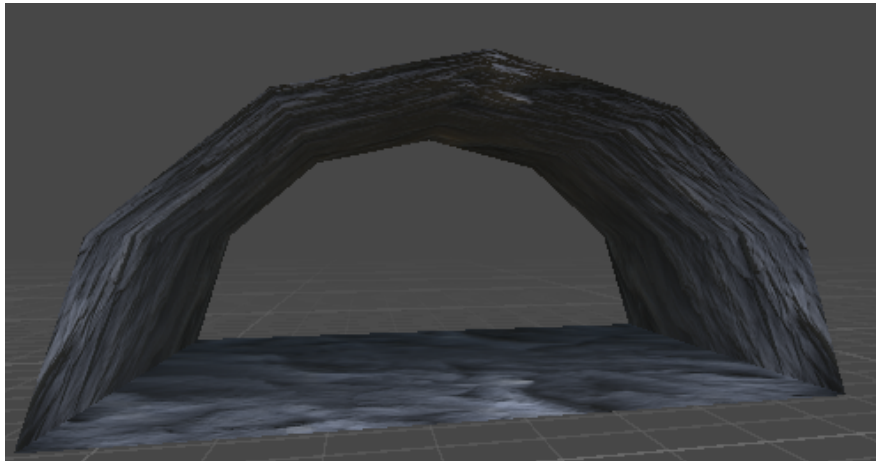 As for the size we used "SizeDude "(1.80m height) for our size reference and ended on X = 8m, Y = 10m, Z = 7.5m.

## 7.4.   Entrance and Exit

To guarantee a seamless tunnel generation, each segment got the same size for the connection points.

We can arrange vertices through activating vertex snapping
(shift + v).



## 7.5.   LinkPoints

LinkPoints are needed for the cave generation as a spawn/connection point for the next segment.

We place them through our custom made system LinkPoint Wizard, which calculates the middle between two vertices.