

Level Generator Documentation

1. Introduction

The Level Generator allows developers to easily generate levels within the Unity editor.

It provides a flexible interface for randomizing properties such as the number of elements and their spacing.

This document provides an overview of the key components and functionality of the Level Generator system.

2. Key Components

- **CenterElement**: This is the central Transform object that the level will be generated around.
- **BlockerPrefab**: This is the GameObject that will be instantiated as part of the generated level.
- **AmountElement**: Controls the number of elements generated in the level. You can specify a constant value or randomize between a range.
- **RadiusBetweenBlocks**: Defines the minimum distance between generated elements. You can also randomize this value between two constants.
- **LevelData**: Stores the position data for each block in the level.
- **Width and Length**: Define the size of the spawn area for generating elements.

3. Methods

- **GenerateLevel()**: This method generates a single level based on the current settings. It uses the provided CenterElement and BlockerPrefab to spawn elements.
- **SaveLevelData()**: Saves the current state of the level to LevelData, including the positions of all elements.
- **LoadLevelData()**: Loads previously saved level data and repositions the elements accordingly.
- **ClearExistingBlocks()**: Clears all existing blocks before generating a new level.
- **GenerateMultipleLevels(int numberOfLevels)**: Generates a specified number of levels in sequence,

using the current settings.

4. User Interface

The user interface consists of several fields and options:

- Center Element: Allows the user to select the central Transform for the level.
- Blocker Prefab: Selects the prefab that will be instantiated as elements.
- Amount of Elements: Choose between a constant or random value to determine the number of elements.
- Radius Between Blocks: Choose a constant or random distance between the generated elements.
- Width and Length of Spawn Area: Set the size of the spawn area for elements.
- Generate Level Button: Generates a level based on the current settings.
- Generate Multiple Levels Button: Generates multiple levels using the current settings.

5. Conclusion

The Level Generator is a versatile tool for automating level creation within Unity.

By adjusting the parameters and using the randomization features, developers can quickly create varied and unique levels with minimal effort.